



**A. Lanfranco
& Associates Inc.**

Environmental Consultants

Prepared for

METRO VANCOUVER

Metrotower III

4515 Central Boulevard

Burnaby, BC V5H 0C6

WASTE-TO-ENERGY FACILITY

Appendices of Emissions Testing Report

April/May 2026 Survey

Second Quarter 2026

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APPENDIX – A

QUALITY ASSURANCE / QUALITY CONTROL RESULTS

Quality assurance / quality control (QA/QC) is divided into four categories: administration, preparation, testing, and analysis. The following sections detail results found for the above four categories.

Administration:

- All field, process, and analytical data was reviewed to ensure data integrity and accuracy.
- Duplicate proof of draft and final report, including data entry, conducted.

Preparation:

- All glassware cleaned
- Blank samples of reagents collected.

Testing:

- Stack diameter and absence of cyclonic flow confirmed
- Calibrated magnehelic used for all velocity measurements
- All trains past pre- and post- leak checks.
- Isokinetics all within $100\% \pm 10\%$.

Analysis:

- Trace Metals and Mercury analysis conducted at Element Labs, Surrey, B.C.
- Acid Gases (HF/HCl/NH₃) analysis conducted at Element Labs in Surrey, B.C.
- Nitrous Oxide (N₂O) analysis conducted at Bureau Veritas in Mississauga, ON.
- Volatile Organic Compounds (VOC) analysis conducted at ALS Environmental in Simi Valley, CA.
- Particulate analysis conducted at A. Lanfranco and Associates Inc., Surrey, BC.
- Chain of Custody protocols followed for all samples.
- Acceptable blank values for all sample types. All samples blank corrected.

Sample Type	Blank Value		
Second Quarter 2026	Unit 1	Unit 2	Unit 3
Filter	0.5 mg	0.2 mg	0.2 mg
Front Half Washings	-0.1 mg	-0.5 mg	0.5 mg
Mercury Front	<0.02 ug	<0.02 ug	<0.02 ug
Mercury Back	<0.16 ug	<0.17 ug	<0.17 ug
Trace Metals Front *	<59.5 ug	<41.0 ug	<52.7 ug
Trace Metals Back*	<45.8 ug	<37.7 ug	<46.2 ug
Ammonia	67.7 ug	<2.3 ug	<2.8 ug
Fluoride	<60 ug	<40 ug	<50 ug
Chloride	<100 ug	<70 ug	<80 ug

Sum of all reported elements except Hg*

APPENDIX - B

CALCULATIONS

Appendix B Calculations

The following sections show the equations and define the variables that were used for this survey. The equations are organized in three sections. Equations 1-11 were used to calculate particulate concentration at standard conditions on a dry basis. Equations 12-26 were used to sample within the $100 \pm 10\%$ isokinetic variation and to confirm that sampling meets this isokinetic variation threshold. Equations 27-29 were used to calculate the volumetric flowrate of the stack flue gas.

App B.1 Contaminant Concentration Calculations

$$c = \frac{m}{V_{std}} \quad \text{Equation 1}$$

$$m_{part} = m_{filter} + m_{pw} \quad \text{Equation 2}$$

$$m_i = m_{ana,i} - m_{blank} \quad \text{Equation 3}$$

$$V_{std} = \frac{V_{std(imp)}}{35.315} \quad \text{Equation 4}$$

$$V_{std(imp)} = \frac{V_{samp} \times y \times P_m \times (T_{std} + 459.67)}{P_{std} \times (T_{m(ave)} + 459.67)} \quad \text{Equation 5}$$

$$V_{samp} = V_{final} - V_{init} \quad \text{Equation 6}$$

$$P_m = P_B + \frac{\Delta H_{ave}}{13.6} \quad \text{Equation 7}$$

$$\Delta H_{ave} = \frac{1}{n} \sum_{i=1}^n \Delta H_{i(act)}, \text{ where } n = \text{the number of points} \quad \text{Equation 8}$$

$$OC = \frac{20.9 - \%O_{2c}}{20.9 - \%O_{2m}} \quad \text{Equation 9}$$

$$\%O_{2m} = \frac{1}{n} \sum_{i=1}^n \%O_{2i}, \text{ where } n = \text{the number of } O_2 \text{ measurements} \quad \text{Equation 10}$$

$$\%CO_{2m} = \frac{1}{n} \sum_{i=1}^n \%CO_{2i}, \text{ where } n = \text{the number of } CO_2 \text{ measurements} \quad \text{Equation 11}$$

Appendix B Calculations

Where,

c	= Contaminant concentration
m	= Contaminant mass
m_i	= Net analytical mass (mg, ng, or μg)
$m_{ana,i}$	= Analytical mass (mg, ng, or μg)
m_{blank}	= Blank analytical mass (mg, ng, or μg)
m_{part}	= Total particulate mass (mg)
m_{filter}	= Net particulate gain from filter (mg)
m_{pw}	= Net particulate gain from probe wash (mg)
$V_{std(imp)}$	= Sample volume at standard conditions (ft^3)
V_{std}	= Sample volume at standard conditions (m^3)
V_{samp}	= Sample volume at actual conditions (ft^3)
V_{final}	= Final gas meter reading (ft^3)
V_{init}	= Initial gas meter reading (ft^3)
T_{std}	= Standard temperature (68 °F)
T_m	= Gas meter temperature (°F)
$T_{m(ave)}$	= Average gas meter temperature (°F)
P_m	= Absolute meter pressure (inches of Hg)
P_B	= Barometric pressure (inches of Hg)
ΔH_{ave}	= Average of individual point orifice pressures (inches of H_2O)
$\Delta H_{i(act)}$	= Individual recorded point orifice pressures (inches of H_2O)
OC	= Oxygen correction factor (dimensionless)
$\%O_{2c}$	= Oxygen concentration to correct to (% dry basis)
$\%O_{2m}$	= Average measured stack gas oxygen concentration (% dry basis)
$\%CO_{2m}$	= Average measured stack gas oxygen concentration (% dry basis)

Equation 1 is the general concentration calculation used for all contaminants. The contaminant mass, m , is the net analytic mass for the given contaminant. For particulate, m is the sum of the mass contributed from probe washing and filter particulate.

Appendix B Calculations

App B.2 Isokinetic Variation Calculations

$$\Delta H_i = \frac{2.62 \times 10^7 \times c_p \times A_n \times (1 - B_{wo}) \times M_D \times (T_m + 459.67) \times \Delta p_i}{k_o \times M_w \times (T_{stk} + 459.67)} \quad \text{Equation 12}$$

$$R_m = 85.49 \times c_p \times \sqrt{\Delta p_i} \times \sqrt{\frac{(T_{stk_i} + 459.67)}{M_w \times P_B}} \times 60 \times A_n \times \frac{(T_{m_i} + 459.67) \times (1 - B_{wo})}{(T_{stk_i} + 459.67) \times y} \quad \text{Equation 13}$$

$$A_n = \pi \left(\frac{d_n}{24} \right)^2 \quad \text{Equation 14}$$

$$M_w = M_D \times (1 - B_{wo}) + 18 \times B_{wo} \quad \text{Equation 15}$$

$$M_D = 0.44 \times \%CO_2 + 0.32 \times \%O_2 + 0.28 \times (100 - \%CO_2 - \%O_2) \quad \text{Equation 16}$$

$$T_{stk} = \frac{1}{n} \sum_{i=1}^n T_{stk_i}, \text{ where } n = \text{the number of points} \quad \text{Equation 17}$$

$$B_{wo} = \frac{V_{cond}}{V_{cond} + V_{std(imp)}} \quad \text{Equation 18}$$

$$V_{cond} = 0.04707 \times V_{gain} \quad \text{Equation 19}$$

$$Iso = \frac{1}{n} \sum_{i=1}^n Iso_i, \text{ where } n = \text{the number of points} \quad \text{Equation 20}$$

$$Iso_i = \frac{v_{nzi}}{v_i} \quad \text{Equation 21}$$

$$v_i = 85.49 \times c_p \times \sqrt{\Delta p_i} \times \sqrt{\frac{(T_{stk_i} + 459.67)}{(P_{stk} \times M_w)}} \quad \text{Equation 22}$$

$$v_{nzi} = \frac{(V_i - V_{i-1}) \times y \times (T_{stk_i} + 459.67) \times (P_B + \frac{\Delta H_{i(act)}}{13.6})}{A_n \times t_i \times 60 \times (T_{m(i)} + 459.67) \times P_{stk} \times (1 - B_{wo})} \quad \text{Equation 23}$$

$$P_{stk} = P_B + \frac{P_g}{13.6} \quad \text{Equation 24}$$

Appendix B Calculations

$$v_{stk} = \frac{1}{n} \sum_{i=1}^n v_i, \text{ where } n = \text{the number of points}$$

Equation 25

$$v_{nz} = \frac{1}{n} \sum_{i=1}^n v_{nzi}, \text{ where } n = \text{the number of points}$$

Equation 26

Where,

A_n	= Nozzle area (ft ²)
d_n	= Diameter of nozzle (inches)
c_p	= Pitot coefficient (dimensionless)
Δp_i	= Individual point differential pressures (inches of H ₂ O)
T_{stk}	= Average flue gas temperature (°F), second subscript i, indicates individual point measurements
$\Delta H_{i(act)}$	= Calculated individual point orifice pressures (inches of H ₂ O)
P_g	= Stack Static pressure (inches of H ₂ O)
P_{stk}	= Absolute stack pressure (inches of Hg)
M_w	= Wet gas molecular weight (g/gmol)
M_D	= Dry gas molecular weight (g/gmol)
%CO ₂	= Stack gas carbon dioxide concentration (% dry basis)
%O ₂	= Stack gas oxygen concentration (% dry basis)
B_{wo}	= Stack gas water vapour, proportion by volume
V_{cond}	= Total volume of water vapor collected, corrected to standard conditions (ft ³)
V_{gain}	= Condensate gain of impinger contents (mL)
P_{std}	= Standard pressure (29.92 inches of Hg)
V_{stk}	= Average flue gas velocity (ft/sec)
v_i	= Individual point flue gas velocity (ft/sec)
v_{nz}	= Average velocity at nozzle(ft/sec)
v_{nzi}	= Individual point velocity at nozzle(ft/sec)
ISO_i	= Individual point isokinetic variation (%)
ISO	= Average isokinetic variation (%)
R_m	= Isokinetic sampling rate (ft ³ /min)

App B.3 Volumetric Flowrate Calculations

$$Q_S = Q_A \times \frac{(T_{Std} + 459.67)}{(T_{Stk} + 459.67)} \times \frac{P_{Stk}}{P_{Std}} \quad \text{Equation 27}$$

$$Q_A = \frac{v_{stk} \times 60 \times A_{stk}}{35.315} \quad \text{Equation 28}$$

$$A_{stk} = \pi \left(\frac{d}{24} \right)^2 \quad \text{Equation 29}$$

Where,

Q_A	= Actual flowrate (Am^3/min)
Q_S	= Flowrate (m^3/min) at standard conditions on a dry basis
A_{stk}	= Area of stack (ft^2)
d	= Diameter of stack (inches)

APPENDIX - C

LABORATORY RESULTS

Appendix C - Particulate Analysis

Client: Metro Vancouver
Source: Units 1, 2, and 3
Sample Date: April 28 - May 1, 2026
Location: WTE (Burnaby, B.C)

A. Lanfranco & Associates Standard Operating Procedure:

SOP 1.2.1 Gravimetric determination of total particulate matter

Filter Collection:

Test #	Initial (grams)	Final (grams)	Net Difference (grams)	Blank Adjusted (grams)
Unit 1 Run 1	0.4341	0.4341	0.0000	0.0001
Unit 1 Run 2	0.4350	0.4348	-0.0002	ND
Unit 1 Run 3	0.4356	0.4358	0.0002	0.0003
Unit 1 Blank	0.4310	0.4309	-0.0001	
Unit 2 Run 1	0.4347	0.4404	0.0057	0.0058
Unit 2 Run 2	0.4324	0.4373	0.0049	0.0050
Unit 2 Run 3	0.4303	0.4346	0.0043	0.0044
Unit 2 Blank	0.4334	0.4333	-0.0001	
Unit 3 Run 1	0.4485	0.4538	0.0053	0.0054
Unit 3 Run 2	0.4489	0.4548	0.0059	0.0060
Unit 3 Run 3	0.4396	0.4442	0.0046	0.0047
Unit 3 Blank	0.4486	0.4485	-0.0001	

Front Half Washings:

Test #	Initial (grams)	Final (grams)	Net Difference (grams)	Blank Adjusted (grams)
Unit 1 Run 1	113.3316	113.3312	-0.0004	0.0010
Unit 1 Run 2	117.7209	117.7204	-0.0005	0.0009
Unit 1 Run 3	120.1346	120.1337	-0.0009	0.0005
Unit 1 Blank	117.6309	117.6295	-0.0014	
Unit 2 Run 1	122.9344	122.9359	0.0015	0.0030
Unit 2 Run 2	104.4501	104.4512	0.0011	0.0026
Unit 2 Run 3	126.9793	126.9793	0.0000	0.0015
Unit 2 Blank	129.1997	129.1982	-0.0015	
Unit 3 Run 1	108.2432	108.2445	0.0013	0.0027
Unit 3 Run 2	118.7198	118.7210	0.0012	0.0026
Unit 3 Run 3	128.7026	128.7020	-0.0006	0.0008
Unit 3 Blank	119.9626	119.9612	-0.0014	

Task	Unit	Personnel	Date	Quality Control	Y/N
Filter Recovery:	Unit 1	J. Ching	Apr 29-30, 2026	Adequate PW volume:	Y
	Unit 2	L. Agassiz	Apr 30 - May 1, 2026	No sample leakage:	Y
	Unit 3	J. Ching	Apr 28-29, 2026	Filter not compromised:	Y
PW Initial Analysis:	Unit 1	J. Ching	04-May-26		
	Unit 2	J. Ching	04-May-26		
	Unit 3	J. Ching	04-May-26		
PW, Filter Final Analysis:	Unit 1	J. Ching	06-May-26		
	Unit 2	J. Ching	06-May-26		
	Unit 3	J. Ching	06-May-26		
Data Entered to Computer:	All	L. Agassiz	04-Jun-26		

Comments:

No problems encountered in sample analysis.

Report Transmission Cover Page

Bill To: A. Lanfranco & Associates #101, 9488 - 189 Street Surrey, BC, Canada V4N 4W7	Project ID: Metro Vancouver WTE Project Name: Filter Reagent Blanks P.O.: Proj. Acct. code:	Lot ID: 1893242 Control Number: Date Received: May 7, 2026 Date Reported: May 29, 2026 Report Number: 3263952 Report Type: Final Report
Attn: Missy Sampled By: Company:		

Contact	Company	Address
Mark Lanfranco	A. Lanfranco & Associates	#101, 9488 - 189 Street Surrey, BC V4N 4W7 Phone: (604) 881-2582 Fax: (604) 881-2581 Email: mark.lanfranco@alanfranco.com
<u>Delivery</u>	<u>Format</u>	<u>Deliverables</u>
Email	PDF	COA / COC
Email	PDF	COC / Test Report
Email	PDF	Invoice
Missy	A. Lanfranco & Associates	#101, 9488 - 189 Street Surrey, BC V4N 4W7 Phone: (604) 881-2582 Fax: (604) 881-2581 Email: missy@alanfranco.com
<u>Delivery</u>	<u>Format</u>	<u>Deliverables</u>
Email	PDF	Invoice

Analytical Report

Bill To: A. Lanfranco & Associates
#101, 9488 - 189 Street
Surrey, BC, Canada
V4N 4W7
Attn: Missy
Sampled By:
Company:

Project ID: Metro Vancouver WTE
Project Name: Filter Reagent Blanks
P.O.:
Proj. Acct. code:

Lot ID: **1893242**
Control Number:
Date Received: May 7, 2026
Date Reported: May 29, 2026
Report Number: 3263952
Report Type: Final Report

		Reference Number	1893242-1	1893242-2	1893242-3
		Sample Date	Apr 27, 2026	Apr 27, 2026	Apr 27, 2026
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	Reagent Blank Unit 1 Container 1 (filter) / 20.2 °C	Reagent Blank Unit 2 Container 1 (filter) / 20.2 °C	Reagent Blank Unit 3 Container 1 (filter) / 20.2 °C
		Matrix	Stack Samples	Stack Samples	Stack Samples
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Front Half Metals Fraction 1A					
Aluminum	µg	<30	<30	<30	5
Antimony	µg	<80	<80	<80	15
Arsenic	µg	<20	<20	<20	3.5
Cadmium	µg	<2	<2	<2	0.5
Chromium	µg	<5	<5	<5	1
Cobalt	µg	<5	<5	<5	1
Copper	µg	6	8	7	1
Lead	µg	<20	<20	<20	4
Manganese	µg	<2	<2	<2	0.5
Nickel	µg	<10	<10	<10	2.5
Phosphorus	µg	<30	<30	<30	5
Selenium	µg	<80	<80	<80	15
Tellurium	µg	<200	<200	<200	35
Thallium	µg	<30	<30	<30	5
Vanadium	µg	<10	<10	<10	2
Zinc	µg	6	6	7	0.5
Mercury by CVAA					
Mercury	As Tested	µg/L	<0.20	<0.20	0.2
Dilution Factor	As Tested		1	1	1
Volume	Sample	mL	250	250	250
Volume	aliquot volume	mL	25	25	25
Volume	Final	mL	40	40	40
Mercury	Fraction 1B	µg/sample	<0.080	<0.080	<0.080

Approved by:



Reena Sharma
Operations Chemist

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).

Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

Methodology and Notes

Bill To:	A. Lanfranco & Associates	Project ID:	Metro Vancouver WTE	Lot ID:	1893242
	#101, 9488 - 189 Street	Project Name:	Filter Reagent Blanks	Control Number:	
	Surrey, BC, Canada	P.O.:		Date Received:	May 7, 2026
	V4N 4W7	Proj. Acct. code:		Date Reported:	May 29, 2026
Attn:	Missy			Report Number:	3263952
Sampled By:				Report Type:	Final Report
Company:					

Method of Analysis

Method Name	Reference	Method	Date Analysis Started	Location
Mercury in Air (VAN) - 1B	EMC	* Metals Emissions from Stationary Sources, 29	May 26, 2026	Element Vancouver
Metals in Stack Samples - Front half (VAN)	EMC	* Metals Emissions from Stationary Sources, 29	May 22, 2026	Element Vancouver

** Reference Method Modified*

References

EMC Emission Measurement Center of EPA

Please direct any inquiries regarding this report to our Client Services group.

Results relate only to samples as submitted.

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

CERTIFICATE OF ANALYSIS

Work Order	: BU2601477		
Amendment	: 1		
Client	: A. Lanfranco & Associates Inc.	Laboratory	: ALS Environmental - Burlington
Contact	: Mark Lanfranco	Account Manager	: Brent Mack
Address	: Unit # 101 9488 - 189 St Surrey British Columbia Canada V4N 4W7	Address	: 1435 Norjohn Court, Unit 1 Burlington ON Canada L7L 0E6
Telephone	: 604 881 2582	E-mail	: Brent.Mack@ALSGlobal.com
Project	: Veolia - Metro Vancouver WTE	Telephone	: 778-370-3279
PO	: ----	Date Samples Received	: 20-May-2026 08:20
C-O-C number	: ----	Date Analysis Commenced	: 21-May-2026
Sampler	: Louis Agassiz	Issue Date	: 01-Jun-2026 11:22
Site	: ----		
Quote number	: Standing Offer		
No. of samples received	: 3		
No. of samples analysed	: 3		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Gamini Nadu	Analyst	Inorganics, Burlington, Ontario
Philip Elder	Technical Manager	Inorganics, Burlington, Ontario



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key: CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.
LOR: Limit of Reporting (detection limit).

Unit	Description
L	litres
µg/L	micrograms per litre

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

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

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Workorder Comments

Amendment 1 (01/06/2026): This report has been amended following changes to the analytical data reported. The quality system is being utilised to resolve this issue. The specific data affected includes omission of miscalculated EC252 (ug/Sample) fields due to system errors;



Analytical Results

Sub-Matrix: Impinger
 (Matrix: Air)

Client sample ID					Unit #1 Gas Blank	Unit #2 Gas Blank	Unit #3 Gas Blank	----	----
Client sampling date / time					29-Apr-2026 00:00	30-Apr-2026 00:00	28-Apr-2026 00:00	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	BU2601477-001	BU2601477-002	BU2601477-003	----	----
					Result	Result	Result	----	----
Physical Tests									
Volume, impinger	n/a	EF003.I/BU	0.0010	L	0.0980	0.137	0.120	----	----
Inorganics									
Chloride, average	16887-00-6	E252/BU	470	µg/L	<470	530	<470	----	----
Chloride, replicate 1	16887-00-6	E252/BU	470	µg/L	<470	530	<470	----	----
Chloride, replicate 2	16887-00-6	E252/BU	470	µg/L	<470	530	<470	----	----
Fluoride, average	----	E252/BU	310	µg/L	<310	<310	<310	----	----
Fluoride, replicate 1	----	E252/BU	310	µg/L	<310	<310	<310	----	----
Fluoride, replicate 2	----	E252/BU	310	µg/L	<310	<310	<310	----	----
Hydrogen fluoride, replicate 1	7664-39-3	E252/BU	330	µg/L	<330	<330	<330	----	----
Hydrogen fluoride, replicate 2	7664-39-3	E252/BU	330	µg/L	<330	<330	<330	----	----
Hydrogen fluoride, average	7664-39-3	E252/BU	330	µg/L	<330	<330	<330	----	----
Hydrogen chloride, replicate 1	7647-01-0	E252/BU	480	µg/L	<480	540	<480	----	----
Hydrogen chloride, replicate 2	7647-01-0	E252/BU	480	µg/L	<480	540	<480	----	----
Hydrogen chloride, average	7647-01-0	E252/BU	480	µg/L	<480	540	<480	----	----

Please refer to the General Comments section for an explanation of any qualifiers detected.

Quality Control Interpretive Report

Work Order : **BU2601477**

Amendment : **1**

Client : A. Lanfranco & Associates Inc.

Contact : Mark Lanfranco

Address : Unit # 101 9488 - 189 St
Surrey BC Canada V4N 4W7

Telephone : 604 881 2582

Project : Veolia - Metro Vancouver WTE

PO : ----

C-O-C number : ----

Sampler : Louis Agassiz

Site : ----

Quote number : Standing Offer

No. of samples received : 3

No. of samples analysed : 3

Laboratory : ALS Environmental - Burlington

Account Manager : Brent Mack

Address : 1435 Norjohn Court, Unit 1
Burlington Ontario Canada L7L 0E6

Telephone : 778-370-3279

Date Samples Received : 20-May-2026 08:20

Issue Date : 01-Jun-2026 11:22

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.



Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Laboratory Control Sample Duplicate (LCSD) outliers occur
- No Matrix Spike outliers occur.
- No Matrix Spike Duplicate (MSD) outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and/or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: Air

Evaluation: ✖ = Holding time exceedance; ✔ = Within Holding Time

Analyte Group : Analytical Method	ALS Sample ID	QC Lot	Method	Sampling Date	Extraction / Preparation				Analysis			
Container					Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
						Rec	Actual			Rec	Actual	
Client sample ID												
Inorganics : Ion Chromatography Analysis (M26/26A Anions)												
M26/A: HDPE (0.1N H2SO4)												
Unit #1 Gas Blank	001	2601307	E252	30-Apr-2026	21-May-2026	28 days	21 days	✓	21-May-2026	28 days	21 days	✓
Unit #2 Gas Blank	002	2601307	E252	01-May-2026	21-May-2026	28 days	20 days	✓	21-May-2026	28 days	20 days	✓
Unit #3 Gas Blank	003	2601307	E252	29-Apr-2026	21-May-2026	28 days	22 days	✓	21-May-2026	28 days	22 days	✓
Physical Tests : Stack Emission Impinger volume (L)												
M26/A: HDPE (0.1N H2SO4)												
Unit #1 Gas Blank	001		EF003.I	30-Apr-2026	----	----	----		21-May-2026	----	----	
Unit #2 Gas Blank	002		EF003.I	01-May-2026	----	----	----		21-May-2026	----	----	
Unit #3 Gas Blank	003		EF003.I	29-Apr-2026	----	----	----		21-May-2026	----	----	

Rec. HT: ALS recommended hold time (see units).



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: Air

Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method / Lab	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Ion Chromatography Analysis (M26/26A Anions)	E252 / BU	2601307	1	3	33.3	5.0	✔
Laboratory Control Samples (LCS)							
Ion Chromatography Analysis (M26/26A Anions)	E252 / BU	2601307	1	3	33.3	5.0	✔
Method Blanks (MB)							
Ion Chromatography Analysis (M26/26A Anions)	E252 / BU	2601307	1	3	33.3	5.0	✔
Matrix Spikes (MS)							
Ion Chromatography Analysis (M26/26A Anions)	E252 / BU	2601307	1	3	33.3	5.0	✔



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

<i>Analytical Methods</i>	<i>Method / Lab</i>	<i>Matrix</i>	<i>Method Reference</i>	<i>Method Descriptions</i>
Ion Chromatography Analysis (M26/26A Anions)	EC252 ALS Environmental - Burlington	Air	unit conversion	Convert mg/L to mg/sample
Stack Emission Impinger volume (L)	EF003.I ALS Environmental - Burlington	Air		Volume of impinger contents is measured in the laboratory for use in later calculations.
<i>Preparation Methods</i>	<i>Method / Lab</i>	<i>Matrix</i>	<i>Method Reference</i>	<i>Method Descriptions</i>
Prep for Ion Chromatography Analysis (M26/26A Anions)	EP252 ALS Environmental - Burlington	Air	USEPA Methods 26 and 26A	Client supplied liquid samples are split and buffered (acidic media) then sub-sampled (or sub-sampled directly for basic media) for IC analysis.



QUALITY CONTROL REPORT

Work Order : **BU2601477****Amendment** : **1**

Client : A. Lanfranco & Associates Inc.

Contact : Mark Lanfranco

Address : Unit # 101 9488 - 189 St
Surrey BC Canada V4N 4W7

Telephone : 604 881 2582

Project : Veolia - Metro Vancouver WTE

PO : ----

C-O-C number : ----

Sampler : Louis Agassiz

Site : ----

Quote number : Standing Offer

No. of samples received : 3

No. of samples analysed : 3

Laboratory : ALS Environmental - Burlington

Account Manager : Brent Mack

Address : 1435 Norjohn Court, Unit 1
Burlington ON Canada L7L 0E6

Telephone : 778-370-3279

Date Samples Received : 20-May-2026 08:20

Date Analysis Commenced : 21-May-2026

Issue Date : 01-Jun-2026 11:22

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Gamini Nadu	Analyst	Burlington Inorganics, Burlington, Ontario
Philip Elder	Technical Manager	Burlington Inorganics, Burlington, Ontario



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key:

- Anonymous=Refers to samples which are not part of this work order, but which formed part of the QC process lot.
- CAS Number=Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
- DQO=Data Quality Objective.
- LOR=Limit of Reporting (detection limit).
- RPD=Relative Percent Difference
- # =Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.



Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test specific).

Sub-Matrix: Impinger

Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Inorganics(QC Lot: 2601307)											
BU2601477-001	Unit #1 Gas Blank	Chloride, average	16887-00-6	E252	0.47	mg/L	<470 µg/L	<0.47	0	Diff <2x LOR	---
		Chloride, replicate 1	16887-00-6	E252	0.47	mg/L	<470 µg/L	<0.47	0	Diff <2x LOR	---
		Chloride, replicate 2	16887-00-6	E252	0.47	mg/L	<470 µg/L	<0.47	0	Diff <2x LOR	---
		Fluoride, average	----	E252	0.31	mg/L	<310 µg/L	<0.31	0	Diff <2x LOR	---
		Fluoride, replicate 1	----	E252	0.31	mg/L	<310 µg/L	<0.31	0	Diff <2x LOR	---
		Fluoride, replicate 2	----	E252	0.31	mg/L	<310 µg/L	<0.31	0	Diff <2x LOR	---

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Air

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Inorganics(QC Lot: 2601307)						
Chloride, average	16887-00-6	E252	0.47	mg/L	<0.47	----
Chloride, replicate 1	16887-00-6	E252	0.47	mg/L	<0.47	----
Chloride, replicate 2	16887-00-6	E252	0.47	mg/L	<0.47	----
Fluoride, average	----	E252	0.31	mg/L	<0.31	----
Fluoride, replicate 1	----	E252	0.31	mg/L	<0.31	----
Fluoride, replicate 2	----	E252	0.31	mg/L	<0.31	----



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Air

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Inorganics(QC Lot: 2601307)									
Chloride, average	16887-00-6	E252	0.47	mg/L	15 mg/L	103	90.0	110	----
Chloride, replicate 1	16887-00-6	E252	0.47	mg/L	15 mg/L	103	90.0	110	----
Chloride, replicate 2	16887-00-6	E252	0.47	mg/L	15 mg/L	102	90.0	110	----
Fluoride, average	----	E252	0.31	mg/L	10 mg/L	107	90.0	110	----
Fluoride, replicate 1	----	E252	0.31	mg/L	10 mg/L	107	90.0	110	----
Fluoride, replicate 2	----	E252	0.31	mg/L	10 mg/L	107	90.0	110	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for

Sub-Matrix: Impinger

					Matrix Spike (MS) Report				
					Spike		Recovery (%)	Recovery (%)	
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High
Inorganics(QC Lot: 2601307)									
BU2601477-001	Unit #1 Gas Blank	Chloride, average	16887-00-6	E252	15.2 mg/L	15 mg/L	102	90.0	110
		Chloride, replicate 1	16887-00-6	E252	15.1 mg/L	15 mg/L	101	90.0	110
		Chloride, replicate 2	16887-00-6	E252	15.2 mg/L	15 mg/L	101	90.0	110
		Fluoride, average	----	E252	9.84 mg/L	10 mg/L	98.4	90.0	110
		Fluoride, replicate 1	----	E252	9.83 mg/L	10 mg/L	98.3	90.0	110
		Fluoride, replicate 2	----	E252	9.84 mg/L	10 mg/L	98.4	90.0	110



www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Chain of Custody (COC) / Analytical Request Form

Affix ALS barcode label here
(lab use only)

COC Number:

Environmental Division
Burlington
Work Order Reference
BU2601477

Contact and company name below will appear on the final report

Report Format / Distribution

Select Service Level Below - Contact your AM

Company: A. Lanfranco and Associates Inc.

Select Report Format: ☒ PDF ☐ EXCEL ☐ EDD (DIGITAL)

Regular RI ☐ Standard TAT if received by

Contact: Mark Lanfranco

Quality Control (QC) Report with Report ☐ YES ☐ NO

4 day (P4-20%) ☐ 1 Busin

Phone: 604-881-2582

☐ Compare Results to Client's on Report - provide details below if box checked

3 day (P3-25%) ☐ Same Da

Company address below will appear on the final report

Select Distribution: ☒ EMAIL ☐ MAIL ☐ FAX

2 day (P2-50%) ☒ LABORAT

Street: Unit 101 9488 189 St

Email 1 or Fax mark.lanfranco@alainfranco.com

EMERGENCY Same Da (Laborat)

City/Province: Surrey, BC

Email 2 louis.agassiz@alainfranco.com

Date and Time Required for all EAP TATs:

Postal Code: V4N 4V7

Email 3

For tests that can not be performed according to the service box

Invoice To: Same as Report To

Invoice Distribution

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

Company: ☒ YES ☐ NO

Select Invoice Distribution: ☐ EMAIL ☐ MAIL ☐ FAX

Contact:

Email 1 or Fax

Analysis Request

Project Information

Oil and Gas Required Fields (client use)

ALS Account # / Quote #:

AFC/Coast Center

PO#

Job #: Vedica - Metro Vancouver WTE

Major/minor Code:

Routing Code:

PO / AFE:

Requisitioner:

LSD:

Location:

ALS Lab Work Order # (lab use only):

ALS Contact: Robert Chlm

Sampler: LA

ALS Sample # (lab use only) Sample Identification and/or Coordinates (This description will appear on the report)

Date (dd-mm-yy)

Time (hh:mm)

Sample Type

NUMBER OF CONTAINERS

SAMPLES ON HOLD

SUSPECTED HAZARD (see Special Instructions)

Unit #1 Gas Blank (Volume = 129 ml)

30-Apr-26

Air

1 P2 P2

Unit #2 Gas Blank (Volume = 137 ml)

1-May-26

Air

1 P2 P2

Unit #3 Gas Blank (Volume = 128 ml)

29-Apr-26

Air

1 P2 P2

Drinking Water (DW) Samples (client use)

Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)

Are samples taken from a Regulated DW System?

☐ YES ☐ NO

Are samples for human consumption / use?

☐ YES ☒ NO

Please report ug/sample using the sample volumes listed in the sample identification. These samples were collected by EPA Method 26 - Determination of Hydrogen Halide and Halogen Emissions from Stationary Sources. Association with: 0-1A H2SO4

SHIPMENT RELEASE (client use)

INITIAL SHIPMENT RECEPTION (lab use only)

7.9°C

INITIAL COOLER TEMPERATURES °C

FINAL COOLER TEMPERATURES °C

Released by:

Date:

Time:

Received by: A. Agassiz

Date: 20-May-2026

Time: 11:20

Received by: [Signature]

Date: May 19

Time: 11:30

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

ALS 2018 FORM

CERTIFICATE OF ANALYSIS

Work Order	: BU2601476		
Amendment	: 1		
Client	: A. Lanfranco & Associates Inc.	Laboratory	: ALS Environmental - Burlington
Contact	: Mark Lanfranco	Account Manager	: Brent Mack
Address	: Unit # 101 9488 - 189 St Surrey British Columbia Canada V4N 4W7	Address	: 1435 Norjohn Court, Unit 1 Burlington ON Canada L7L 0E6
Telephone	: 604 881 2582	E-mail	: Brent.Mack@ALSGlobal.com
Project	: Veolia - Metro Vancouver WTE	Telephone	: 778-370-3279
PO	: ----	Date Samples Received	: 20-May-2026 08:20
C-O-C number	: ----	Date Analysis Commenced	: 21-May-2026
Sampler	: Louis Agassiz	Issue Date	: 01-Jun-2026 11:11
Site	: ----		
Quote number	: Standing Offer		
No. of samples received	: 9		
No. of samples analysed	: 9		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Gamini Nadu	Analyst	Inorganics, Burlington, Ontario
Sabir Ahmed	Analyst	Inorganics, Burlington, Ontario



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key: CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.
LOR: Limit of Reporting (detection limit).

Unit	Description
L	litres
µg/L	micrograms per litre

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

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

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Workorder Comments

Amendment 1 (01/06/2026): This report has been amended following changes to the analytical data reported. The quality system is being utilised to resolve this issue. The specific data affected includes omission of miscalculated EC252 (ug/Sample) fields due to system errors;



Analytical Results

Sub-Matrix: Impinger
 (Matrix: Air)

					Client sample ID	Unit #1 Gas Run 1 ----	Unit #1 Gas Run 2 ----	Unit #1 Gas Run 3 ----	Unit #2 Gas Run 1 ----	Unit #2 Gas Run 2 ----
Client sampling date / time						29-Apr-2026 00:00	29-Apr-2026 00:00	29-Apr-2026 00:00	30-Apr-2026 00:00	30-Apr-2026 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit		BU2601476-001	BU2601476-002	BU2601476-003	BU2601476-004	BU2601476-005
						Result	Result	Result	Result	Result
Physical Tests										
Volume, impinger	n/a	EF003.I/BU	0.0010	L		0.110	0.142	0.169	0.169	0.142
Inorganics										
Chloride, average	16887-00-6	E252/BU	470	µg/L		<470	<470	<470	<470	<470
Chloride, replicate 1	16887-00-6	E252/BU	470	µg/L		<470	<470	<470	<470	<470
Chloride, replicate 2	16887-00-6	E252/BU	470	µg/L		<470	<470	<470	<470	<470
Fluoride, average	----	E252/BU	310	µg/L		<310	<310	<310	<310	<310
Fluoride, replicate 1	----	E252/BU	310	µg/L		<310	<310	<310	<310	<310
Fluoride, replicate 2	----	E252/BU	310	µg/L		<310	<310	<310	<310	<310
Hydrogen fluoride, replicate 1	7664-39-3	E252/BU	330	µg/L		<330	<330	<330	<330	<330
Hydrogen fluoride, replicate 2	7664-39-3	E252/BU	330	µg/L		<330	<330	<330	<330	<330
Hydrogen fluoride, average	7664-39-3	E252/BU	330	µg/L		<330	<330	<330	<330	<330
Hydrogen chloride, replicate 1	7647-01-0	E252/BU	480	µg/L		<480	<480	<480	<480	<480
Hydrogen chloride, replicate 2	7647-01-0	E252/BU	480	µg/L		<480	<480	<480	<480	<480
Hydrogen chloride, average	7647-01-0	E252/BU	480	µg/L		<480	<480	<480	<480	<480

Please refer to the General Comments section for an explanation of any qualifiers detected.



Analytical Results

Sub-Matrix: Impinger
 (Matrix: Air)

					Client sample ID	Unit #2 Gas Run 3	Unit #3 Gas Run 1	Unit #3 Gas Run 2	Unit #3 Gas Run 3	
					Client sampling date / time	----	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		BU2601476-006	BU2601476-007	BU2601476-008	BU2601476-009	----
						Result	Result	Result	Result	----
Physical Tests										
Volume, impinger	n/a	EF003.I/BU	0.0010	L		0.142	0.137	0.132	0.132	----
Inorganics										
Chloride, average	16887-00-6	E252/BU	470	µg/L		<470	<470	<470	<470	----
Chloride, replicate 1	16887-00-6	E252/BU	470	µg/L		<470	<470	<470	<470	----
Chloride, replicate 2	16887-00-6	E252/BU	470	µg/L		<470	<470	<470	<470	----
Fluoride, average	----	E252/BU	310	µg/L		<310	<310	<310	<310	----
Fluoride, replicate 1	----	E252/BU	310	µg/L		<310	<310	<310	<310	----
Fluoride, replicate 2	----	E252/BU	310	µg/L		<310	<310	<310	<310	----
Hydrogen fluoride, replicate 1	7664-39-3	E252/BU	330	µg/L		<330	<330	<330	<330	----
Hydrogen fluoride, replicate 2	7664-39-3	E252/BU	330	µg/L		<330	<330	<330	<330	----
Hydrogen fluoride, average	7664-39-3	E252/BU	330	µg/L		<330	<330	<330	<330	----
Hydrogen chloride, replicate 1	7647-01-0	E252/BU	480	µg/L		<480	<480	<480	<480	----
Hydrogen chloride, replicate 2	7647-01-0	E252/BU	480	µg/L		<480	<480	<480	<480	----
Hydrogen chloride, average	7647-01-0	E252/BU	480	µg/L		<480	<480	<480	<480	----

Please refer to the General Comments section for an explanation of any qualifiers detected.

Quality Control Interpretive Report

Work Order : **BU2601476**

Amendment : **1**

Client : A. Lanfranco & Associates Inc.

Contact : Mark Lanfranco

Address : Unit # 101 9488 - 189 St
Surrey BC Canada V4N 4W7

Telephone : 604 881 2582

Project : Veolia - Metro Vancouver WTE

PO : ----

C-O-C number : ----

Sampler : Louis Agassiz

Site : ----

Quote number : Standing Offer

No. of samples received : 9

No. of samples analysed : 9

Laboratory : ALS Environmental - Burlington

Account Manager : Brent Mack

Address : 1435 Norjohn Court, Unit 1
Burlington Ontario Canada L7L 0E6

Telephone : 778-370-3279

Date Samples Received : 20-May-2026 08:20

Issue Date : 01-Jun-2026 11:11

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.



Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Laboratory Control Sample Duplicate (LCSD) outliers occur
- No Matrix Spike outliers occur.
- No Matrix Spike Duplicate (MSD) outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and/or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: Air

Evaluation: ✖ = Holding time exceedance; ✔ = Within Holding Time

Analyte Group : Analytical Method	ALS Sample ID	QC Lot	Method	Sampling Date	Extraction / Preparation				Analysis			
Container					Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
Client sample ID						Rec	Actual			Rec	Actual	
Inorganics : Ion Chromatography Analysis (M26/26A Anions)												
M26/A: HDPE (0.1N H2SO4)												
Unit #1 Gas Run 1	001	2601302	E252	30-Apr-2026	21-May-2026	28 days	21 days	✓	21-May-2026	28 days	21 days	✓
Unit #1 Gas Run 2	002	2601302	E252	30-Apr-2026	21-May-2026	28 days	21 days	✓	21-May-2026	28 days	21 days	✓
Unit #1 Gas Run 3	003	2601302	E252	30-Apr-2026	21-May-2026	28 days	21 days	✓	21-May-2026	28 days	21 days	✓
Unit #2 Gas Run 1	004	2601302	E252	01-May-2026	21-May-2026	28 days	20 days	✓	21-May-2026	28 days	20 days	✓
Unit #2 Gas Run 2	005	2601302	E252	01-May-2026	21-May-2026	28 days	20 days	✓	21-May-2026	28 days	20 days	✓
Unit #2 Gas Run 3	006	2601302	E252	01-May-2026	21-May-2026	28 days	20 days	✓	21-May-2026	28 days	20 days	✓
Unit #3 Gas Run 1	007	2601302	E252	29-Apr-2026	21-May-2026	28 days	22 days	✓	21-May-2026	28 days	22 days	✓
Unit #3 Gas Run 2	008	2601302	E252	29-Apr-2026	21-May-2026	28 days	22 days	✓	21-May-2026	28 days	22 days	✓
Unit #3 Gas Run 3	009	2601302	E252	29-Apr-2026	21-May-2026	28 days	22 days	✓	21-May-2026	28 days	22 days	✓
Physical Tests : Stack Emission Impinger volume (L)												
M26/A: HDPE (0.1N H2SO4)												
Unit #1 Gas Run 1	001		EF003.I	30-Apr-2026	----	----	----		21-May-2026	----	----	
Unit #1 Gas Run 2	002		EF003.I	30-Apr-2026	----	----	----		21-May-2026	----	----	



Matrix: Air

Evaluation: ✖ = Holding time exceedance; ✔ = Within Holding Time

Analyte Group : Analytical Method					Extraction / Preparation				Analysis			
Container					Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
Client sample ID						Rec	Actual			Rec	Actual	
Physical Tests : Stack Emission Impinger volume (L)												
M26/A: HDPE (0.1N H2SO4)												
Unit #1 Gas Run 3	003		EF003.I	30-Apr-2026	----	----	----		21-May-2026	----	----	
Unit #2 Gas Run 1	004		EF003.I	01-May-2026	----	----	----		21-May-2026	----	----	
Unit #2 Gas Run 2	005		EF003.I	01-May-2026	----	----	----		21-May-2026	----	----	
Unit #2 Gas Run 3	006		EF003.I	01-May-2026	----	----	----		21-May-2026	----	----	
Unit #3 Gas Run 1	007		EF003.I	29-Apr-2026	----	----	----		21-May-2026	----	----	
Unit #3 Gas Run 2	008		EF003.I	29-Apr-2026	----	----	----		21-May-2026	----	----	
Unit #3 Gas Run 3	009		EF003.I	29-Apr-2026	----	----	----		21-May-2026	----	----	

Rec. HT: ALS recommended hold time (see units).



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: Air

Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method / Lab	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Ion Chromatography Analysis (M26/26A Anions)	E252 / BU	2601302	1	9	11.1	5.0	✔
Laboratory Control Samples (LCS)							
Ion Chromatography Analysis (M26/26A Anions)	E252 / BU	2601302	1	9	11.1	5.0	✔
Method Blanks (MB)							
Ion Chromatography Analysis (M26/26A Anions)	E252 / BU	2601302	1	9	11.1	5.0	✔
Matrix Spikes (MS)							
Ion Chromatography Analysis (M26/26A Anions)	E252 / BU	2601302	1	9	11.1	5.0	✔



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

<i>Analytical Methods</i>	<i>Method / Lab</i>	<i>Matrix</i>	<i>Method Reference</i>	<i>Method Descriptions</i>
Ion Chromatography Analysis (M26/26A Anions)	EC252 ALS Environmental - Burlington	Air	unit conversion	Convert mg/L to mg/sample
Stack Emission Impinger volume (L)	EF003.I ALS Environmental - Burlington	Air		Volume of impinger contents is measured in the laboratory for use in later calculations.
<i>Preparation Methods</i>	<i>Method / Lab</i>	<i>Matrix</i>	<i>Method Reference</i>	<i>Method Descriptions</i>
Prep for Ion Chromatography Analysis (M26/26A Anions)	EP252 ALS Environmental - Burlington	Air	USEPA Methods 26 and 26A	Client supplied liquid samples are split and buffered (acidic media) then sub-sampled (or sub-sampled directly for basic media) for IC analysis.



QUALITY CONTROL REPORT

Work Order : **BU2601476****Amendment** : **1**

Client : A. Lanfranco & Associates Inc.

Contact : Mark Lanfranco

Address : Unit # 101 9488 - 189 St
Surrey BC Canada V4N 4W7

Telephone : 604 881 2582

Project : Veolia - Metro Vancouver WTE

PO : ----

C-O-C number : ----

Sampler : Louis Agassiz

Site : ----

Quote number : Standing Offer

No. of samples received : 9

No. of samples analysed : 9

Laboratory : ALS Environmental - Burlington

Account Manager : Brent Mack

Address : 1435 Norjohn Court, Unit 1
Burlington ON Canada L7L 0E6

Telephone : 778-370-3279

Date Samples Received : 20-May-2026 08:20

Date Analysis Commenced : 21-May-2026

Issue Date : 01-Jun-2026 11:11

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Gamini Nadu	Analyst	Burlington Inorganics, Burlington, Ontario
Sabir Ahmed	Analyst	Burlington Inorganics, Burlington, Ontario



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key:

- Anonymous=Refers to samples which are not part of this work order, but which formed part of the QC process lot.
- CAS Number=Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
- DQO=Data Quality Objective.
- LOR=Limit of Reporting (detection limit).
- RPD=Relative Percent Difference
- # =Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.



Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test specific).

Sub-Matrix: Impinger

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Inorganics(QC Lot: 2601302)											
BU2601476-001	Unit #1 Gas Run 1	Chloride, average	16887-00-6	E252	0.47	mg/L	<470 µg/L	<0.47	0	Diff <2x LOR	---
		Chloride, replicate 1	16887-00-6	E252	0.47	mg/L	<470 µg/L	<0.47	0	Diff <2x LOR	---
		Chloride, replicate 2	16887-00-6	E252	0.47	mg/L	<470 µg/L	<0.47	0	Diff <2x LOR	---
		Fluoride, average	----	E252	0.31	mg/L	<310 µg/L	<0.31	0	Diff <2x LOR	---
		Fluoride, replicate 1	----	E252	0.31	mg/L	<310 µg/L	<0.31	0	Diff <2x LOR	---
		Fluoride, replicate 2	----	E252	0.31	mg/L	<310 µg/L	<0.31	0	Diff <2x LOR	---

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Air

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Inorganics(QC Lot: 2601302)						
Chloride, average	16887-00-6	E252	0.47	mg/L	<0.47	----
Chloride, replicate 1	16887-00-6	E252	0.47	mg/L	<0.47	----
Chloride, replicate 2	16887-00-6	E252	0.47	mg/L	<0.47	----
Fluoride, average	----	E252	0.31	mg/L	<0.31	----
Fluoride, replicate 1	----	E252	0.31	mg/L	<0.31	----
Fluoride, replicate 2	----	E252	0.31	mg/L	<0.31	----



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Air

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Inorganics(QC Lot: 2601302)									
Chloride, average	16887-00-6	E252	0.47	mg/L	15 mg/L	101	90.0	110	----
Chloride, replicate 1	16887-00-6	E252	0.47	mg/L	15 mg/L	100	90.0	110	----
Chloride, replicate 2	16887-00-6	E252	0.47	mg/L	15 mg/L	100	90.0	110	----
Fluoride, average	----	E252	0.31	mg/L	10 mg/L	104	90.0	110	----
Fluoride, replicate 1	----	E252	0.31	mg/L	10 mg/L	104	90.0	110	----
Fluoride, replicate 2	----	E252	0.31	mg/L	10 mg/L	105	90.0	110	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for

Sub-Matrix: Impinger

					Matrix Spike (MS) Report				
					Spike		Recovery (%)	Recovery (%)	
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High
Inorganics(QC Lot: 2601302)									
BU2601476-001	Unit #1 Gas Run 1	Chloride, average	16887-00-6	E252	15.3 mg/L	15 mg/L	102	90.0	110
		Chloride, replicate 1	16887-00-6	E252	14.9 mg/L	15 mg/L	99.7	90.0	110
		Chloride, replicate 2	16887-00-6	E252	15.0 mg/L	15 mg/L	100	90.0	110
		Fluoride, average	----	E252	10.0 mg/L	10 mg/L	100	90.0	110
		Fluoride, replicate 1	----	E252	10.1 mg/L	10 mg/L	101	90.0	110
		Fluoride, replicate 2	----	E252	10.0 mg/L	10 mg/L	100	90.0	110



www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here
(lab use only)

COC Num:

Environmental Division
Burlington
Work Order Reference
BU2601476

Contact and company name below will appear on the final report

Report Format / Distribution

Select Service Level Below - Contact you

(lab use only)

Company: A. Lanfranco and Associates Inc.

Select Report Format: ☒ PDF ☐ EXCEL ☐ EDD (DIGITAL)

Regular (R) ☐ Standard TAT (if receiv

Contact: Mark Lanfranco

Quality Control (QC) Report with Report ☐ YES ☐ NO

4 day (P4-20%) ☐ 1 Bi

Phone: 604-881-2582

☐ Compare Results to Criteria on Report - provide details below if box checked

3 day (P3-25%) ☐ 1 Bi

Company address below will appear on the final report

Select Distribution: ☒ EMAIL ☐ MAIL ☐ FAX

2 day (P2-50%) ☒ 1 Bi

Street: Unit 101 9488 189 St

Email 1 or Fax mark.lanfranco@alfranco.com

EMERGENCY (Lab)

City/Province: Surrey, BC

Email 2 louis.agassiz@alfranco.com

Date and Time Required for all E&P TATs:

Postal Code: V4N 4V7

Email 3

For users that can not be performed according to the serv

Invoice To: Same as Report To

Invoice Distribution ☒ YES ☐ NO

Telephone: + 1 905 381 3111

Company: Copy of Invoice with Report

Select Invoice Distribution: ☐ EMAIL ☐ MAIL ☐ FAX

Contact: Project Information

Email 1 or Fax

ALS Account # / Quote #:

Email 2

Job #: Vedlia - Metro Vancouver WTE

Oil and Gas Required Fields (client use)

PO / AFE:

AFECost Center: PO#

LSD:

Major/Minor Code: Routing Code:

ALS Lab Work Order # (lab use only):

Requisitioner: Location:

ALS Sample # (lab use only)

ALS Contact: Robert Chin

Sample Identification and/or Coordinates (this description will appear on the report)

Sampler: LA

Unit #1 Gas Run 1 (Volume = 116 ml)

Date (dd-mm-yy)

Time (hh:mm)

Sample Type

Unit #1 Gas Run 2 (Volume = 129 ml)

30-Apr-26

Air

Unit #1 Gas Run 3 (Volume = 153 ml)

30-Apr-26

Air

Unit #2 Gas Run 1 (Volume = 152 ml)

1-May-26

Air

Unit #2 Gas Run 2 (Volume = 159 ml)

1-May-26

Air

Unit #2 Gas Run 3 (Volume = 130 ml)

1-May-26

Air

Unit #3 Gas Run 1 (Volume = 134 ml)

29-Apr-26

Air

Unit #3 Gas Run 2 (Volume = 128 ml)

29-Apr-26

Air

Unit #3 Gas Run 3 (Volume = 128 ml)

29-Apr-26

Air

Drinking Water (DW) Samples (client use)

Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)

Are samples taken from a Regulated DW System?

☐ YES ☒ NO

Are samples for human consumption/ use?

☐ YES ☒ NO

SHIPMENT RELEASE (client use)

Released by: AARAN BURTON

Date: 20-May-2016

Time: 11:20

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

NUMBER OF CONTAINERS

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

SAMPLES ON HOLD

SUSPECTED HAZARD (see Special Instructions)

Sample Condition as Received (lab use only)

Frozen ☐ Ice Packs ☒ Ice Cubes ☐ Cooling Initiated ☐

Initial Cooler Temperatures °C

Final Cooler Temperatures °C

Final Shipment Reception (lab use only)

Date: May 19

Time: 11:30

DATE THIS FORM

Report Transmission Cover Page

Bill To: A. Lanfranco & Associates #101, 9488 - 189 Street Surrey, BC, Canada V4N 4W7	Project ID: Metro Vancouver WTE Project Name: Metals and Hg Samples P.O.: Proj. Acct. code:	Lot ID: 1893250 Control Number: Date Received: May 7, 2026 Date Reported: Jun 1, 2026 Report Number: 3263963 Report Type: Final Report
Attn: Missy Sampled By: Company:		

Contact	Company	Address
Mark Lanfranco	A. Lanfranco & Associates	#101, 9488 - 189 Street Surrey, BC V4N 4W7 Phone: (604) 881-2582 Fax: (604) 881-2581 Email: mark.lanfranco@alanfranco.com
<u>Delivery</u>	<u>Format</u>	<u>Deliverables</u>
Email	PDF	COA / COC
Email	PDF	COC / Test Report
Email	PDF	Invoice
Missy	A. Lanfranco & Associates	#101, 9488 - 189 Street Surrey, BC V4N 4W7 Phone: (604) 881-2582 Fax: (604) 881-2581 Email: missy@alanfranco.com
<u>Delivery</u>	<u>Format</u>	<u>Deliverables</u>
Email	PDF	Invoice

Analytical Report

Bill To: A. Lanfranco & Associates
#101, 9488 - 189 Street
Surrey, BC, Canada
V4N 4W7
Attn: Missy
Sampled By:
Company:

Project ID: Metro Vancouver WTE
Project Name: Metals and Hg Samples
P.O.:
Proj. Acct. code:

Lot ID: **1893250**
Control Number:
Date Received: May 7, 2026
Date Reported: Jun 1, 2026
Report Number: 3263963
Report Type: Final Report

	Reference Number	1893250-1	1893250-2	1893250-3	
	Sample Date	Apr 29, 2026	Apr 30, 2026	Apr 30, 2026	
	Sample Time	NA	NA	NA	
	Sample Location				
	Sample Description	Unit 1 Run 1 (MV Unit 1 R1 + 4 Bottles) / 20.2 °C	Unit 1 Run 2 (MV Unit 1 R2 + 4 Bottles) / 20.2 °C	Unit 1 Run 3 (MV Unit 1 Run 3 + 4 Bottles) / 20.2 °C	
	Matrix	Stack Samples	Stack Samples	Stack Samples	
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Front Half Metals Fraction 1A					
Aluminum	µg	<30	30	<30	5
Antimony	µg	<80	<80	<80	15
Arsenic	µg	<20	<20	<20	3.5
Cadmium	µg	<2	<2	<2	0.5
Chromium	µg	<5	<5	<5	1
Cobalt	µg	<5	<5	<5	1
Copper	µg	9	9	8	1
Lead	µg	<20	<20	<20	4
Manganese	µg	<2	<2	<2	0.5
Nickel	µg	<10	<10	<10	2.5
Phosphorus	µg	30	30	30	5
Selenium	µg	<80	<80	<80	15
Tellurium	µg	<200	<200	<200	35
Thallium	µg	<30	<30	<30	5
Vanadium	µg	<10	<10	<10	2
Zinc	µg	20	25	25	0.5
Back Half Metals Fraction 2A					
Aluminum	µg	40	80	80	5
Antimony	µg	<60	<70	<60	15
Arsenic	µg	<20	<20	<20	3.5
Cadmium	µg	<2	<2	<2	0.5
Chromium	µg	<4	<4	5	1
Cobalt	µg	<4	<4	<4	1
Copper	µg	7	6	5	1
Lead	µg	<20	<20	<20	4
Manganese	µg	<2	<2	3	0.5
Nickel	µg	<10	<10	<10	2.5
Phosphorus	µg	2170	2260	4480	5
Selenium	µg	<60	<70	<60	15
Tellurium	µg	<200	<200	<200	35
Thallium	µg	<20	<20	<20	5
Vanadium	µg	<9	<9	<9	2
Zinc	µg	4	6	10	0.5
Volume	Sample	mL	666	618	688
Volume	aliquot volume	mL	616	568	638
Mercury by CVAA					
Mercury	As Tested	µg/L	<0.20	<0.20	<0.20

Analytical Report

Bill To: A. Lanfranco & Associates
#101, 9488 - 189 Street
Surrey, BC, Canada
V4N 4W7
Attn: Missy
Sampled By:
Company:

Project ID: Metro Vancouver WTE
Project Name: Metals and Hg Samples
P.O.:
Proj. Acct. code:

Lot ID: **1893250**
Control Number:
Date Received: May 7, 2026
Date Reported: Jun 1, 2026
Report Number: 3263963
Report Type: Final Report

Reference Number	1893250-1	1893250-2	1893250-3
Sample Date	Apr 29, 2026	Apr 30, 2026	Apr 30, 2026
Sample Time	NA	NA	NA
Sample Location			
Sample Description	Unit 1 Run 1 (MV Unit 1 R1 + 4 Bottles) / 20.2 °C	Unit 1 Run 2 (MV Unit 1 R2 + 4 Bottles) / 20.2 °C	Unit 1 Run 3 (MV Unit 1 Run 3 + 4 Bottles) / 20.2 °C
Matrix	Stack Samples	Stack Samples	Stack Samples

Analyte	Units	Results	Results	Results	Nominal Detection Limit
Mercury by CVAA - Continued					
Dilution Factor	As Tested	1	1	1	
Volume	Sample	mL	250	250	
Volume	aliquot volume	mL	25	25	
Volume	Final	mL	40	40	
Mercury	Fraction 1B	µg/sample	<0.080	<0.080	
Mercury	As Tested	µg/L	0.38	<0.20	0.2
Dilution Factor	As Tested	1	1	1	
Volume	Sample	mL	666	618	
Volume	aliquot volume	mL	5.0	5.0	
Volume	Final	mL	50	50	
Mercury	Fraction 2B	µg/sample	2.5	<1.2	
Mercury	As Tested	µg/L	<0.20	<0.20	0.2
Dilution Factor	As Tested	1	1	1	
Volume	Sample	mL	100	101	
Volume	aliquot volume	mL	25	25	
Volume	Final	mL	40	40	
Mercury	Fraction 3A	µg/sample	<0.032	<0.032	
Mercury	As Tested	µg/L	0.45	<0.20	0.2
Dilution Factor	As Tested	1	1	1	
Volume	Sample	mL	1000	500	
Volume	aliquot volume	mL	25	25	
Volume	Final	mL	40	40	
Mercury	Fraction 3B	µg/sample	0.71	<0.16	
Mercury	As Tested	µg/L	<0.20	<0.20	0.2
Dilution Factor	As Tested	1	1	1	
Volume	Sample	mL	200	200	
Volume	aliquot volume	mL	25	25	
Volume	Final	mL	40	40	
Mercury	Fraction 3C	µg/sample	<0.064	<0.064	

Analytical Report

Bill To: A. Lanfranco & Associates
#101, 9488 - 189 Street
Surrey, BC, Canada
V4N 4W7
Attn: Missy
Sampled By:
Company:

Project ID: Metro Vancouver WTE
Project Name: Metals and Hg Samples
P.O.:
Proj. Acct. code:

Lot ID: **1893250**
Control Number:
Date Received: May 7, 2026
Date Reported: Jun 1, 2026
Report Number: 3263963
Report Type: Final Report

	Reference Number	1893250-4	1893250-5	1893250-6	
	Sample Date	Apr 30, 2026	May 01, 2026	May 01, 2026	
	Sample Time	NA	NA	NA	
	Sample Location				
	Sample Description	Unit 2 Run 1 (MW R1 + 4 Bottles) / 20.2 °C	Unit 2 Run 2 (MW R2 + 4 Bottles) / 20.2 °C	Unit 2 Run 3 (MW Run 3 + 4 Bottles) / 20.2 °C	
	Matrix	Stack Samples	Stack Samples	Stack Samples	
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Front Half Metals Fraction 1A					
Aluminum	µg	30	<30	30	5
Antimony	µg	<80	<80	<80	15
Arsenic	µg	<20	<20	<20	3.5
Cadmium	µg	<2	<2	<2	0.5
Chromium	µg	<5	<5	<5	1
Cobalt	µg	<5	<5	<5	1
Copper	µg	10	10	10	1
Lead	µg	<20	<20	<20	4
Manganese	µg	<2	<2	<2	0.5
Nickel	µg	<10	<10	<10	2.5
Phosphorus	µg	30	30	30	5
Selenium	µg	<80	<80	<80	15
Tellurium	µg	<200	<200	<200	35
Thallium	µg	<30	<30	<30	5
Vanadium	µg	<10	<10	<10	2
Zinc	µg	110	79	92	0.5
Back Half Metals Fraction 2A					
Aluminum	µg	370	100	30	5
Antimony	µg	<60	<60	<60	15
Arsenic	µg	<20	<10	<20	3.5
Cadmium	µg	<2	<2	<2	0.5
Chromium	µg	<4	7	<4	1
Cobalt	µg	<4	<4	<4	1
Copper	µg	9	8	6	1
Lead	µg	<20	<20	<20	4
Manganese	µg	3	<2	<2	0.5
Nickel	µg	<10	<10	<10	2.5
Phosphorus	µg	2180	4470	2100	5
Selenium	µg	<60	<60	<60	15
Tellurium	µg	<200	<100	<200	35
Thallium	µg	<20	<20	<20	5
Vanadium	µg	<9	<8	<9	2
Zinc	µg	8	7	9	0.5
Volume	Sample	mL	727	718	659
Volume	aliquot volume	mL	677	688	609
Mercury by CVAA					
Mercury	As Tested	µg/L	<0.20	<0.20	<0.20

Analytical Report

Bill To: A. Lanfranco & Associates #101, 9488 - 189 Street Surrey, BC, Canada V4N 4W7	Project ID: Metro Vancouver WTE Project Name: Metals and Hg Samples P.O.: Proj. Acct. code:	Lot ID: 1893250 Control Number: Date Received: May 7, 2026 Date Reported: Jun 1, 2026 Report Number: 3263963 Report Type: Final Report
Attn: Missy		
Sampled By:		
Company:		

		Reference Number	1893250-4	1893250-5	1893250-6
		Sample Date	Apr 30, 2026	May 01, 2026	May 01, 2026
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	Unit 2 Run 1 (MW R1 + 4 Bottles) / 20.2 °C	Unit 2 Run 2 (MW R2 + 4 Bottles) / 20.2 °C	Unit 2 Run 3 (MW Run 3 + 4 Bottles) / 20.2 °C
		Matrix	Stack Samples	Stack Samples	Stack Samples
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Mercury by CVAA - Continued					
Dilution Factor	As Tested	1	1	1	
Volume	Sample	mL 250	250	250	
Volume	aliquot volume	mL 25	25	25	
Volume	Final	mL 40	40	40	
Mercury	Fraction 1B	µg/sample <0.080	<0.080	<0.080	
Mercury	As Tested	µg/L 0.23	0.21	<0.20	0.2
Dilution Factor	As Tested	1	1	1	
Volume	Sample	mL 727	718	659	
Volume	aliquot volume	mL 5.0	5.0	5.0	
Volume	Final	mL 50	50	50	
Mercury	Fraction 2B	µg/sample 1.7	1.5	<1.3	
Mercury	As Tested	µg/L <0.20	<0.20	<0.20	0.2
Dilution Factor	As Tested	1	1	1	
Volume	Sample	mL 102	99	97	
Volume	aliquot volume	mL 25	25	25	
Volume	Final	mL 40	40	40	
Mercury	Fraction 3A	µg/sample <0.033	<0.032	<0.031	
Mercury	As Tested	µg/L 0.23	0.23	<0.20	0.2
Dilution Factor	As Tested	1	1	1	
Volume	Sample	mL 1000	1000	1000	
Volume	aliquot volume	mL 25	25	25	
Volume	Final	mL 40	40	40	
Mercury	Fraction 3B	µg/sample 0.38	0.37	<0.32	
Mercury	As Tested	µg/L <0.20	<0.20	<0.20	0.2
Dilution Factor	As Tested	1	1	1	
Volume	Sample	mL 200	200	200	
Volume	aliquot volume	mL 25	25	25	
Volume	Final	mL 40	40	40	
Mercury	Fraction 3C	µg/sample <0.064	<0.064	<0.064	

Analytical Report

Bill To: A. Lanfranco & Associates
#101, 9488 - 189 Street
Surrey, BC, Canada
V4N 4W7

Attn: Missy

Sampled By:

Company:

Project ID: Metro Vancouver WTE
Project Name: Metals and Hg Samples
P.O.:
Proj. Acct. code:

Lot ID: **1893250**
Control Number:
Date Received: May 7, 2026
Date Reported: Jun 1, 2026
Report Number: 3263963
Report Type: Final Report

Reference Number	1893250-7	1893250-8	1893250-9
Sample Date	Apr 28, 2026	Apr 29, 2026	Apr 29, 2026
Sample Time	NA	NA	NA
Sample Location			
Sample Description	Unit 3 Run 1 (MB1 + 4 Bottles) / 20.2 °C	Unit 3 Run 2 (MET E2 + 4 Bottles) / 20.2 °C	Unit 3 Run 3 (MV U3 R3+ 4 Bottles) / 20.2 °C

		Matrix	Stack Samples	Stack Samples	Stack Samples	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Front Half Metals Fraction 1A						
Aluminum		µg	40	<30	<30	5
Antimony		µg	<80	<80	<80	15
Arsenic		µg	<20	<20	<20	3.5
Cadmium		µg	<2	<2	<2	0.5
Chromium		µg	<5	<5	<5	1
Cobalt		µg	<5	<5	<5	1
Copper		µg	10	20	10	1
Lead		µg	<20	<20	<20	4
Manganese		µg	3	<2	<2	0.5
Nickel		µg	<10	<10	<10	2.5
Phosphorus		µg	<30	30	<30	5
Selenium		µg	<80	<80	<80	15
Tellurium		µg	<200	<200	<200	35
Thallium		µg	<30	<30	<30	5
Vanadium		µg	<10	<10	<10	2
Zinc		µg	97	78	79	0.5
Back Half Metals Fraction 2A						
Aluminum		µg	30	90	80	5
Antimony		µg	<60	<60	<60	15
Arsenic		µg	<20	<20	<20	3.5
Cadmium		µg	<2	<2	<2	0.5
Chromium		µg	<4	5	6	1
Cobalt		µg	<4	<4	<4	1
Copper		µg	6	9	8	1
Lead		µg	<20	<20	<20	4
Manganese		µg	<2	<2	<2	0.5
Nickel		µg	<10	<10	<10	2.5
Phosphorus		µg	2160	4310	4470	5
Selenium		µg	<60	<60	<60	15
Tellurium		µg	<200	<200	<200	35
Thallium		µg	<20	<20	<20	5
Vanadium		µg	<9	<9	<9	2
Zinc		µg	10	7	8	0.5
Volume	Sample	mL	693	683	660	
Volume	aliquot volume	mL	643	633	610	
Mercury by CVAA						
Mercury	As Tested	µg/L	<0.20	<0.20	<0.20	0.2

Analytical Report

Bill To: A. Lanfranco & Associates
#101, 9488 - 189 Street
Surrey, BC, Canada
V4N 4W7
Attn: Missy
Sampled By:
Company:

Project ID: Metro Vancouver WTE
Project Name: Metals and Hg Samples
P.O.:
Proj. Acct. code:

Lot ID: **1893250**
Control Number:
Date Received: May 7, 2026
Date Reported: Jun 1, 2026
Report Number: 3263963
Report Type: Final Report

		Reference Number	1893250-7	1893250-8	1893250-9
		Sample Date	Apr 28, 2026	Apr 29, 2026	Apr 29, 2026
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	Unit 3 Run 1 (MB1 + 4 Bottles) / 20.2 °C	Unit 3 Run 2 (MET E2 + 4 Bottles) / 20.2 °C	Unit 3 Run 3 (MV U3 R3+ 4 Bottles) / 20.2 °C
		Matrix	Stack Samples	Stack Samples	Stack Samples
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Mercury by CVAA - Continued					
Dilution Factor	As Tested	1	1	1	
Volume	Sample	mL 250	250	250	
Volume	aliquot volume	mL 25	25	25	
Volume	Final	mL 40	40	40	
Mercury	Fraction 1B	µg/sample <0.080	<0.080	<0.080	
Mercury	As Tested	µg/L <0.20	0.22	<0.20	0.2
Dilution Factor	As Tested	1	1	1	
Volume	Sample	mL 693	683	660	
Volume	aliquot volume	mL 5.0	5.0	5.0	
Volume	Final	mL 50	50	50	
Mercury	Fraction 2B	µg/sample <1.4	1.5	<1.3	
Mercury	As Tested	µg/L <0.20	<0.20	<0.20	0.2
Dilution Factor	As Tested	1	1	1	
Volume	Sample	mL 101	100	103	
Volume	aliquot volume	mL 25	25	25	
Volume	Final	mL 40	40	40	
Mercury	Fraction 3A	µg/sample <0.032	<0.032	<0.033	
Mercury	As Tested	µg/L <0.20	0.24	<0.20	0.2
Dilution Factor	As Tested	1	1	1	
Volume	Sample	mL 1000	500	500	
Volume	aliquot volume	mL 25	25	25	
Volume	Final	mL 40	40	40	
Mercury	Fraction 3B	µg/sample <0.32	0.19	<0.16	
Mercury	As Tested	µg/L <0.20	<0.20	<0.20	0.2
Dilution Factor	As Tested	1	1	1	
Volume	Sample	mL 200	200	200	
Volume	aliquot volume	mL 25	25	25	
Volume	Final	mL 40	40	40	
Mercury	Fraction 3C	µg/sample <0.064	<0.064	<0.064	

Approved by:



Rachel Eden, B. Sc.
Operations Manager

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).

Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

Methodology and Notes

Bill To: A. Lanfranco & Associates
#101, 9488 - 189 Street
Surrey, BC, Canada
V4N 4W7

Attn: Missy

Sampled By:

Company:

Project ID: Metro Vancouver WTE
Project Name: Metals and Hg Samples
P.O.:
Proj. Acct. code:

Lot ID: **1893250**
Control Number:
Date Received: May 7, 2026
Date Reported: Jun 1, 2026
Report Number: 3263963
Report Type: Final Report

Method of Analysis

Method Name	Reference	Method	Date Analysis Started	Location
Mercury in Air (VAN) - 1B	EMC	* Metals Emissions from Stationary Sources, 29	May 26, 2026	Element Vancouver
Mercury in Air (VAN) - 2B	EMC	* Metals Emissions from Stationary Sources, 29	May 26, 2026	Element Vancouver
Mercury in Air (VAN) - 3A	EMC	* Metals Emissions from Stationary Sources, 29	May 26, 2026	Element Vancouver
Mercury in Air (VAN) - 3B	EMC	* Metals Emissions from Stationary Sources, 29	May 26, 2026	Element Vancouver
Mercury in Air (VAN) - 3C	EMC	* Metals Emissions from Stationary Sources, 29	May 26, 2026	Element Vancouver
Metals in Stack Samples - Back half (VAN)	EMC	* Metals Emissions from Stationary Sources, 29	May 22, 2026	Element Vancouver
Metals in Stack Samples - Front half (VAN)	EMC	* Metals Emissions from Stationary Sources, 29	May 22, 2026	Element Vancouver

* Reference Method Modified

References

EMC Emission Measurement Center of EPA

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Report Transmission Cover Page

Bill To: A. Lanfranco & Associates
#101, 9488 - 189 Street
Surrey, BC, Canada
V4N 4W7
Attn: Missy
Sampled By:
Company:

Project ID: Metro Vancouver WTE
Project Name: Field Blanks
P.O.:
Proj. Acct. code:

Lot ID: **1893251**
Control Number:
Date Received: May 7, 2026
Date Reported: Jun 1, 2026
Report Number: 3263964
Report Type: Final Report

Contact	Company	Address
Mark Lanfranco	A. Lanfranco & Associates	#101, 9488 - 189 Street Surrey, BC V4N 4W7 Phone: (604) 881-2582 Fax: (604) 881-2581 Email: mark.lanfranco@alanfranco.com
<u>Delivery</u>	<u>Format</u>	<u>Deliverables</u>
Email	PDF	COA / COC
Email	PDF	COC / Test Report
Email	PDF	Invoice
Missy	A. Lanfranco & Associates	#101, 9488 - 189 Street Surrey, BC V4N 4W7 Phone: (604) 881-2582 Fax: (604) 881-2581 Email: missy@alanfranco.com
<u>Delivery</u>	<u>Format</u>	<u>Deliverables</u>
Email	PDF	Invoice

Analytical Report

Bill To: A. Lanfranco & Associates #101, 9488 - 189 Street Surrey, BC, Canada V4N 4W7	Project ID: Metro Vancouver WTE Project Name: Field Blanks P.O.: Proj. Acct. code:	Lot ID: 1893251 Control Number: Date Received: May 7, 2026 Date Reported: Jun 1, 2026 Report Number: 3263964 Report Type: Final Report
Attn: Missy		
Sampled By:		
Company:		

	Reference Number	1893251-1	1893251-2	1893251-3	
	Sample Date	Apr 30, 2026	May 01, 2026	Apr 29, 2026	
	Sample Time	NA	NA	NA	
	Sample Location				
	Sample Description	Field Blank Unit 1 (Unit 1 BLK + 4 Bottles) / 20.2 °C	Field Blank Unit 2 (MV BLK + 4 Bottles) / 20.2 °C	Field Blank Unit 3 (BLK MD + 4 Bottles) / 20.2 °C	
	Matrix	Stack Samples	Stack Samples	Stack Samples	
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Front Half Metals Fraction 1A					
Aluminum	µg	<30	<30	<30	5
Antimony	µg	<80	<80	<80	15
Arsenic	µg	<20	<20	<20	3.5
Cadmium	µg	<2	<2	<2	0.5
Chromium	µg	<5	<5	<5	1
Cobalt	µg	<5	<5	<5	1
Copper	µg	7	7	5	1
Lead	µg	<20	<20	<20	4
Manganese	µg	<2	<2	<2	0.5
Nickel	µg	<10	<10	<10	2.5
Phosphorus	µg	<30	<30	<30	5
Selenium	µg	<80	<80	<80	15
Tellurium	µg	<200	<200	<200	35
Thallium	µg	<30	<30	<30	5
Vanadium	µg	<10	<10	<10	2
Zinc	µg	8	6	5	0.5
Back Half Metals Fraction 2A					
Aluminum	µg	40	40	40	5
Antimony	µg	<70	<70	<70	15
Arsenic	µg	<20	<20	<20	3.5
Cadmium	µg	<2	<2	<2	0.5
Chromium	µg	5	5	5	1
Cobalt	µg	<5	<5	<5	1
Copper	µg	8	6	9	1
Lead	µg	<20	<20	<20	4
Manganese	µg	4	<2	<2	0.5
Nickel	µg	<10	<10	<10	2.5
Phosphorus	µg	4060	4110	4190	5
Selenium	µg	<70	<70	<70	15
Tellurium	µg	<200	<200	<200	35
Thallium	µg	<20	<20	<20	5
Vanadium	µg	<10	<10	<10	2
Zinc	µg	5	5	5	0.5
Volume	Sample	mL	304	281	296
Volume	aliquot volume	mL	254	231	246
Mercury by CVAA					
Mercury	As Tested	µg/L	<0.20	<0.20	<0.20

Analytical Report

Bill To: A. Lanfranco & Associates
#101, 9488 - 189 Street
Surrey, BC, Canada
V4N 4W7

Attn: Missy

Sampled By:

Company:

Project ID: Metro Vancouver WTE
Project Name: Field Blanks
P.O.:
Proj. Acct. code:

Lot ID: **1893251**
Control Number:
Date Received: May 7, 2026
Date Reported: Jun 1, 2026
Report Number: 3263964
Report Type: Final Report

		Reference Number	1893251-1	1893251-2	1893251-3
		Sample Date	Apr 30, 2026	May 01, 2026	Apr 29, 2026
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	Field Blank Unit 1 (Unit 1 BLK + 4 Bottles) / 20.2 °C	Field Blank Unit 2 (MV BLK + 4 Bottles) / 20.2 °C	Field Blank Unit 3 (BLK MD + 4 Bottles) / 20.2 °C
		Matrix	Stack Samples	Stack Samples	Stack Samples
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Mercury by CVAA - Continued					
Dilution Factor	As Tested	1	1	1	
Volume	Sample	mL 250	250	250	
Volume	aliquot volume	mL 25	25	25	
Volume	Final	mL 40	40	40	
Mercury	Fraction 1B	µg/sample <0.080	<0.080	<0.080	
Mercury	As Tested	µg/L <0.20	<0.20	<0.20	0.2
Dilution Factor	As Tested	1	1	1	
Volume	Sample	mL 304	281	296	
Volume	aliquot volume	mL 5.0	5.0	5.0	
Volume	Final	mL 50	50	50	
Mercury	Fraction 2B	µg/sample <0.61	<0.56	<0.59	
Mercury	As Tested	µg/L <0.20	<0.20	<0.20	0.2
Dilution Factor	As Tested	1	1	1	
Volume	Sample	mL 106	114	99	
Volume	aliquot volume	mL 25	25	25	
Volume	Final	mL 40	40	40	
Mercury	Fraction 3A	µg/sample <0.034	<0.036	<0.032	
Mercury	As Tested	µg/L <0.20	<0.20	<0.20	0.2
Dilution Factor	As Tested	1	1	1	
Volume	Sample	mL 500	500	500	
Volume	aliquot volume	mL 25	25	25	
Volume	Final	mL 40	40	40	
Mercury	Fraction 3B	µg/sample <0.16	<0.16	<0.16	
Mercury	As Tested	µg/L <0.20	<0.20	<0.20	0.2
Dilution Factor	As Tested	1	1	1	
Volume	Sample	mL 200	200	200	
Volume	aliquot volume	mL 25	25	25	
Volume	Final	mL 40	40	40	
Mercury	Fraction 3C	µg/sample <0.064	<0.064	<0.064	

Approved by:



Rachel Eden, B. Sc.
Operations Manager

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).

Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

Methodology and Notes

Bill To: A. Lanfranco & Associates
#101, 9488 - 189 Street
Surrey, BC, Canada
V4N 4W7

Attn: Missy

Sampled By:

Company:

Project ID: Metro Vancouver WTE
Project Name: Field Blanks
P.O.:
Proj. Acct. code:

Lot ID: **1893251**
Control Number:
Date Received: May 7, 2026
Date Reported: Jun 1, 2026
Report Number: 3263964
Report Type: Final Report

Method of Analysis

Method Name	Reference	Method	Date Analysis Started	Location
Mercury in Air (VAN) - 1B	EMC	* Metals Emissions from Stationary Sources, 29	May 26, 2026	Element Vancouver
Mercury in Air (VAN) - 2B	EMC	* Metals Emissions from Stationary Sources, 29	May 26, 2026	Element Vancouver
Mercury in Air (VAN) - 3A	EMC	* Metals Emissions from Stationary Sources, 29	May 26, 2026	Element Vancouver
Mercury in Air (VAN) - 3B	EMC	* Metals Emissions from Stationary Sources, 29	May 26, 2026	Element Vancouver
Mercury in Air (VAN) - 3C	EMC	* Metals Emissions from Stationary Sources, 29	May 26, 2026	Element Vancouver
Metals in Stack Samples - Back half (VAN)	EMC	* Metals Emissions from Stationary Sources, 29	May 22, 2026	Element Vancouver
Metals in Stack Samples - Front half (VAN)	EMC	* Metals Emissions from Stationary Sources, 29	May 22, 2026	Element Vancouver

* Reference Method Modified

References

EMC Emission Measurement Center of EPA

Please direct any inquiries regarding this report to our Client Services group.

Results relate only to samples as submitted.

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Report Transmission Cover Page

Bill To: A. Lanfranco & Associates #101, 9488 - 189 Street Surrey, BC, Canada V4N 4W7	Project ID: Metro Vancouver WTE Project Name: Reagent Blanks P.O.: Proj. Acct. code:	Lot ID: 1893252 Control Number: Date Received: May 7, 2026 Date Reported: Jun 1, 2026 Report Number: 3263965 Report Type: Final Report
Attn: Missy Sampled By: Company:		

Contact	Company	Address
Mark Lanfranco	A. Lanfranco & Associates	#101, 9488 - 189 Street Surrey, BC V4N 4W7 Phone: (604) 881-2582 Fax: (604) 881-2581 Email: mark.lanfranco@alanfranco.com
<u>Delivery</u>	<u>Format</u>	<u>Deliverables</u>
Email	PDF	COA / COC
Email	PDF	COC / Test Report
Email	PDF	Invoice
Missy	A. Lanfranco & Associates	#101, 9488 - 189 Street Surrey, BC V4N 4W7 Phone: (604) 881-2582 Fax: (604) 881-2581 Email: missy@alanfranco.com
<u>Delivery</u>	<u>Format</u>	<u>Deliverables</u>
Email	PDF	Invoice

Analytical Report

Bill To: A. Lanfranco & Associates
#101, 9488 - 189 Street
Surrey, BC, Canada
V4N 4W7
Attn: Missy
Sampled By:
Company:

Project ID: Metro Vancouver WTE
Project Name: Reagent Blanks
P.O.:
Proj. Acct. code:

Lot ID: **1893252**
Control Number:
Date Received: May 7, 2026
Date Reported: Jun 1, 2026
Report Number: 3263965
Report Type: Final Report

		Reference Number	1893252-1	1893252-2	1893252-3
		Sample Date	Apr 27, 2026	Apr 27, 2026	Apr 27, 2026
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	Reagent Blank Unit 1 / 20.2 °C	Reagent Blank Unit 2 / 20.2 °C	Reagent Blank Unit 3 / 20.2 °C
		Matrix	Stack Samples	Stack Samples	Stack Samples
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Front Half Metals Fraction 1A					
Aluminum	µg	<30	<30	<30	5
Antimony	µg	<80	<80	<80	15
Arsenic	µg	<20	<20	<20	3.5
Cadmium	µg	<2	<2	<2	0.5
Chromium	µg	<5	<5	<5	1
Cobalt	µg	<5	<5	<5	1
Copper	µg	8	8	8	1
Lead	µg	<20	<20	<20	4
Manganese	µg	<2	<2	<2	0.5
Nickel	µg	<10	<10	<10	2.5
Phosphorus	µg	<30	<30	<30	5
Selenium	µg	<80	<80	<80	15
Tellurium	µg	<200	<200	<200	35
Thallium	µg	<30	<30	<30	5
Vanadium	µg	<10	<10	<10	2
Zinc	µg	3	4	4	0.5
Back Half Metals Fraction 2A					
Aluminum	µg	40	40	40	5
Antimony	µg	<80	<80	<80	15
Arsenic	µg	<20	<20	<20	3.5
Cadmium	µg	<3	<3	<3	0.5
Chromium	µg	<5	6	<5	1
Cobalt	µg	<5	<5	<5	1
Copper	µg	7	9	8	1
Lead	µg	<20	<20	<20	4
Manganese	µg	<3	<3	<3	0.5
Nickel	µg	<10	<10	<10	2.5
Phosphorus	µg	3970	4090	4150	5
Selenium	µg	<80	<80	<80	15
Tellurium	µg	<200	<200	<200	35
Thallium	µg	<30	<30	<30	5
Vanadium	µg	<10	<10	<10	2
Zinc	µg	8	5	4	0.5
Volume	Sample	mL	205	207	206
Volume	aliquot volume	mL	155	157	156
Mercury by CVAA					
Mercury	As Tested	µg/L	<0.20	<0.20	<0.20
Dilution Factor	As Tested		1	1	1

Analytical Report

Bill To: A. Lanfranco & Associates
#101, 9488 - 189 Street
Surrey, BC, Canada
V4N 4W7
Attn: Missy
Sampled By:
Company:

Project ID: Metro Vancouver WTE
Project Name: Reagent Blanks
P.O.:
Proj. Acct. code:

Lot ID: **1893252**
Control Number:
Date Received: May 7, 2026
Date Reported: Jun 1, 2026
Report Number: 3263965
Report Type: Final Report

		Reference Number	1893252-1	1893252-2	1893252-3
		Sample Date	Apr 27, 2026	Apr 27, 2026	Apr 27, 2026
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	Reagent Blank Unit 1 / 20.2 °C	Reagent Blank Unit 2 / 20.2 °C	Reagent Blank Unit 3 / 20.2 °C
		Matrix	Stack Samples	Stack Samples	Stack Samples
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Mercury by CVAA - Continued					
Volume	Sample	mL	250	250	250
Volume	aliquot volume	mL	25	25	25
Volume	Final	mL	40	40	40
Mercury	Fraction 1B	µg/sample	<0.080	<0.080	<0.080
Mercury	As Tested	µg/L	<0.20	<0.20	<0.20
Dilution Factor	As Tested		1	1	1
Volume	Sample	mL	205	207	206
Volume	aliquot volume	mL	5.0	5.0	5.0
Volume	Final	mL	50	50	50
Mercury	Fraction 2B	µg/sample	<0.41	<0.41	<0.41
Mercury	As Tested	µg/L	<0.20	<0.20	<0.20
Dilution Factor	As Tested		1	1	1
Volume	Sample	mL	98	97	98
Volume	aliquot volume	mL	25	25	25
Volume	Final	mL	40	40	40
Mercury	Fraction 3A	µg/sample	<0.031	<0.031	<0.032
Mercury	As Tested	µg/L	<0.20	<0.20	<0.20
Dilution Factor	As Tested		1	1	1
Volume	Sample	mL	500	500	500
Volume	aliquot volume	mL	25	25	25
Volume	Final	mL	40	40	40
Mercury	Fraction 3B	µg/sample	<0.16	<0.16	<0.16
Mercury	As Tested	µg/L	<0.20	<0.20	<0.20
Dilution Factor	As Tested		1	1	1
Volume	Sample	mL	200	200	200
Volume	aliquot volume	mL	25	25	25
Volume	Final	mL	40	40	40
Mercury	Fraction 3C	µg/sample	<0.064	<0.064	<0.064

Approved by:



Rachel Eden, B. Sc.
Operations Manager

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).

Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

Methodology and Notes

Bill To: A. Lanfranco & Associates
#101, 9488 - 189 Street
Surrey, BC, Canada
V4N 4W7

Attn: Missy

Sampled By:

Company:

Project ID: Metro Vancouver WTE
Project Name: Reagent Blanks
P.O.:
Proj. Acct. code:

Lot ID: **1893252**
Control Number:
Date Received: May 7, 2026
Date Reported: Jun 1, 2026
Report Number: 3263965
Report Type: Final Report

Method of Analysis

Method Name	Reference	Method	Date Analysis Started	Location
Mercury in Air (VAN) - 1B	EMC	* Metals Emissions from Stationary Sources, 29	May 28, 2026	Element Vancouver
Mercury in Air (VAN) - 2B	EMC	* Metals Emissions from Stationary Sources, 29	May 26, 2026	Element Vancouver
Mercury in Air (VAN) - 3A	EMC	* Metals Emissions from Stationary Sources, 29	May 26, 2026	Element Vancouver
Mercury in Air (VAN) - 3B	EMC	* Metals Emissions from Stationary Sources, 29	May 26, 2026	Element Vancouver
Mercury in Air (VAN) - 3C	EMC	* Metals Emissions from Stationary Sources, 29	May 26, 2026	Element Vancouver
Metals in Stack Samples - Back half (VAN)	EMC	* Metals Emissions from Stationary Sources, 29	May 22, 2026	Element Vancouver
Metals in Stack Samples - Front half (VAN)	EMC	* Metals Emissions from Stationary Sources, 29	May 22, 2026	Element Vancouver

* Reference Method Modified

References

EMC Emission Measurement Center of EPA

Please direct any inquiries regarding this report to our Client Services group.

Results relate only to samples as submitted.

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

Report Transmission Cover Page

Bill To: A. Lanfranco & Associates
#101, 9488 - 189 Street
Surrey, BC, Canada
V4N 4W7
Attn: Missy
Sampled By:
Company:

Project ID: Metro Vancouver WTE
Project Name: HF/HCI Blanks
P.O.:
Proj. Acct. code:

Lot ID: **1893123**
Control Number:
Date Received: May 7, 2026
Date Reported: May 15, 2026
Report Number: 3263803
Report Type: Final Report

Contact	Company	Address
Mark Lanfranco	A. Lanfranco & Associates	#101, 9488 - 189 Street Surrey, BC V4N 4W7 Phone: (604) 881-2582 Fax: (604) 881-2581 Email: mark.lanfranco@alanfranco.com
<u>Delivery</u>	<u>Format</u>	<u>Deliverables</u>
Email	PDF	COA / COC
Email	PDF	COC / Test Report
Email	PDF	Invoice
Missy	A. Lanfranco & Associates	#101, 9488 - 189 Street Surrey, BC V4N 4W7 Phone: (604) 881-2582 Fax: (604) 881-2581 Email: missy@alanfranco.com
<u>Delivery</u>	<u>Format</u>	<u>Deliverables</u>
Email	PDF	Invoice

Notes To Clients:

- Reduction of analytical volume was necessary for anion analysis due to matrix effects in lot 1893123. Detection limits are adjusted accordingly.

Analytical Report

Bill To: A. Lanfranco & Associates #101, 9488 - 189 Street Surrey, BC, Canada V4N 4W7	Project ID: Metro Vancouver WTE Project Name: HF/HCl Blanks P.O.: Proj. Acct. code:	Lot ID: 1893123 Control Number: Date Received: May 7, 2026 Date Reported: May 15, 2026 Report Number: 3263803 Report Type: Final Report
Attn: Missy Sampled By: Company:		

		Reference Number	1893123-1	1893123-2	1893123-3
		Sample Date	Apr 30, 2026	May 01, 2026	Apr 29, 2026
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	Unit #1 Gas Blank / 20.2 °C	Unit #2 Gas Blank / 20.2 °C	Unit #3 Gas Blank / 20.2 °C
		Matrix	Stack Samples	Stack Samples	Stack Samples
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Air Quality					
Ammonium - N	As Tested	µg/L	51	136	167
Dilution Factor	As Tested		1.00	1.00	1.00
Sample Volume	Sample volume	mL	129	137	128
Ammonium - N		µg/sample	6.6	18.6	21.4

Approved by:



Rachel Eden, B. Sc.
Operations Manager

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).

Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

Terms and Conditions: <https://www.element.com/terms/terms-and-conditions>

Methodology and Notes

Bill To: A. Lanfranco & Associates #101, 9488 - 189 Street Surrey, BC, Canada V4N 4W7	Project ID: Metro Vancouver WTE Project Name: HF/HCl Blanks P.O.: Proj. Acct. code:	Lot ID: 1893123 Control Number: Date Received: May 7, 2026 Date Reported: May 15, 2026 Report Number: 3263803 Report Type: Final Report
Attn: Missy Sampled By: Company:		

Method of Analysis

Method Name	Reference	Method	Date Analysis Started	Location
Ammonium in Impingers	APHA	* Automated Phenate Method, 4500-NH3 G <i>* Reference Method Modified</i>	May 13, 2026	Element Edmonton - Roper Road

References

APHA Standard Methods for the Examination of Water and Wastewater

Comments:

- Reduction of analytical volume was necessary for anion analysis due to matrix effects in lot 1893123. Detection limits are adjusted accordingly.

Please direct any inquiries regarding this report to our Client Services group.

Results relate only to samples as submitted.

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

Report Transmission Cover Page

Bill To: A. Lanfranco & Associates
#101, 9488 - 189 Street
Surrey, BC, Canada
V4N 4W7
Attn: Missy
Sampled By:
Company:

Project ID: Metro Vancouver WTE
Project Name: HF/HCI Samples
P.O.:
Proj. Acct. code:

Lot ID: **1893114**
Control Number:
Date Received: May 7, 2026
Date Reported: May 15, 2026
Report Number: 3263791
Report Type: Final Report

Contact	Company	Address
Mark Lanfranco	A. Lanfranco & Associates	#101, 9488 - 189 Street Surrey, BC V4N 4W7 Phone: (604) 881-2582 Fax: (604) 881-2581 Email: mark.lanfranco@alanfranco.com
<u>Delivery</u>	<u>Format</u>	<u>Deliverables</u>
Email	PDF	COA / COC
Email	PDF	COC / Test Report
Email	PDF	Invoice
Missy	A. Lanfranco & Associates	#101, 9488 - 189 Street Surrey, BC V4N 4W7 Phone: (604) 881-2582 Fax: (604) 881-2581 Email: missy@alanfranco.com
<u>Delivery</u>	<u>Format</u>	<u>Deliverables</u>
Email	PDF	Invoice

Notes To Clients:

- Reduction of analytical volume was necessary for anion analysis due to matrix effects in lot 1893114. Detection limits are adjusted accordingly.

Analytical Report

Bill To: A. Lanfranco & Associates #101, 9488 - 189 Street Surrey, BC, Canada V4N 4W7	Project ID: Metro Vancouver WTE Project Name: HF/HCI Samples P.O.: Proj. Acct. code:	Lot ID: 1893114 Control Number: Date Received: May 7, 2026 Date Reported: May 15, 2026 Report Number: 3263791 Report Type: Final Report
Attn: Missy Sampled By: Company:		

		Reference Number	1893114-1	1893114-2	1893114-3	
		Sample Date	Apr 30, 2026	Apr 30, 2026	Apr 30, 2026	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	Unit # 1 Gas Run 1 / 20.2 °C	Unit # 1 Gas Run 2 / 20.2 °C	Unit # 1 Gas Run 3 / 20.2 °C	
		Matrix	Stack Samples	Stack Samples	Stack Samples	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Air Quality						
Ammonium - N	As Tested	µg/L	510	652	631	25
Dilution Factor	As Tested		1.00	1.00	1.00	
Sample Volume	Sample volume	mL	113	139	153	
Ammonium - N		µg/sample	57.6	90.6	96.5	

Analytical Report

Bill To: A. Lanfranco & Associates #101, 9488 - 189 Street Surrey, BC, Canada V4N 4W7	Project ID: Metro Vancouver WTE Project Name: HF/HCI Samples P.O.: Proj. Acct. code:	Lot ID: 1893114 Control Number: Date Received: May 7, 2026 Date Reported: May 15, 2026 Report Number: 3263791 Report Type: Final Report
Attn: Missy		
Sampled By:		
Company:		

		Reference Number	1893114-4	1893114-5	1893114-6
		Sample Date	May 01, 2026	May 01, 2026	May 01, 2026
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	Unit # 2 Gas Run 1 / 20.2 °C	Unit # 2 Gas Run 2 / 20.2 °C	Unit # 2 Gas Run 3 / 20.2 °C
		Matrix	Stack Samples	Stack Samples	Stack Samples
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Air Quality					
Ammonium - N	As Tested	µg/L	333	187	57
Dilution Factor	As Tested		1.00	1.00	1.00
Sample Volume	Sample volume	mL	152	159	130
Ammonium - N		µg/sample	50.6	29.7	7.4

Analytical Report

Bill To: A. Lanfranco & Associates
#101, 9488 - 189 Street
Surrey, BC, Canada
V4N 4W7
Attn: Missy
Sampled By:
Company:

Project ID: Metro Vancouver WTE
Project Name: HF/HCI Samples
P.O.:
Proj. Acct. code:

Lot ID: **1893114**
Control Number:
Date Received: May 7, 2026
Date Reported: May 15, 2026
Report Number: 3263791
Report Type: Final Report

		Reference Number	1893114-7	1893114-8	1893114-9
		Sample Date	Apr 29, 2026	Apr 29, 2026	Apr 29, 2026
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	Unit # 3 Gas Run 1 / 20.2 °C	Unit # 3 Gas Run 2 / 20.2 °C	Unit # 3 Gas Run 3 / 20.2 °C
		Matrix	Stack Samples	Stack Samples	Stack Samples
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Air Quality					
Ammonium - N	As Tested	µg/L	450	3410	1480
Dilution Factor	As Tested	1.00	1.00	1.00	
Sample Volume	Sample volume	mL	134	128	128
Ammonium - N		µg/sample	60.3	436	189

Approved by:



Rachel Eden, B. Sc.
Operations Manager

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).

Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

Methodology and Notes

Bill To:	A. Lanfranco & Associates	Project ID:	Metro Vancouver WTE	Lot ID:	1893114
	#101, 9488 - 189 Street	Project Name:	HF/HCI Samples	Control Number:	
	Surrey, BC, Canada	P.O.:		Date Received:	May 7, 2026
	V4N 4W7	Proj. Acct. code:		Date Reported:	May 15, 2026
Attn:	Missy			Report Number:	3263791
Sampled By:				Report Type:	Final Report
Company:					

Method of Analysis

Method Name	Reference	Method	Date Analysis Started	Location
Ammonium in Impingers	APHA	* Automated Phenate Method, 4500-NH3 G	May 13, 2026	Element Edmonton - Roper Road
* Reference Method Modified				

References

APHA	Standard Methods for the Examination of Water and Wastewater
------	--

Comments:

- Reduction of analytical volume was necessary for anion analysis due to matrix effects in lot 1893114. Detection limits are adjusted accordingly.

Please direct any inquiries regarding this report to our Client Services group.

Results relate only to samples as submitted.

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



LABORATORY REPORT

May 28, 2026

Mark Lanfranco
A. Lanfranco and Associates Inc.
Unit 101 - 9488 189 St.
Surrey, BC V4N 4W7

RE: Metro Vancouver WTE

Dear Mark:

Enclosed are the results of the samples submitted to our laboratory on May 18, 2026. For your reference, these analyses have been assigned our service request number P2601896.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

ALS | Environmental

9:09 pm, May 28, 2026

Sue Anderson
Project Manager



Client: A. Lanfranco and Associates Inc.
Project: Metro Vancouver WTE

Service Request No: P2601896

CASE NARRATIVE

The samples were received intact under chain of custody on May 18, 2026 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

C3 through C6 Hydrocarbons, Methane, Ethene and Ethane Analysis

The samples were analyzed by modified EPA Method TO-3 for C3 through >C6 hydrocarbons and methane, ethene and ethane using a gas chromatograph equipped with a flame ionization detector (FID). This procedure is described in laboratory SOP VOA-TO3C1C6. This method is included on the laboratory's DoD-ELAP scope of accreditation; however, it is not part of the NELAP or AIHA-LAP, LLC accreditation.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.



CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	https://dec.alaska.gov/spar/csp/lab-approval/list-of-approved-labs	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	https://internet.deq.louisiana.gov/portal/divisions/lelap/accredited-laboratories	203013
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtm	CA012627
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	006-999-456
New Jersey DEP (NELAP)	https://dep.nj.gov/dsr/oqa/certified-laboratories/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oklahoma DEQ (NELAP)	labaccreditation.deq.ok.gov/labaccreditation/	2207
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration only)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413
Utah DOH (NELAP)	https://uphl.utah.gov/certifications/environmental-laboratory-certification/	CA01627
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: A. Lanfranco and Associates Inc.
Project ID: Metro Vancouver WTE

Service Request: P2601896

Date Received: 5/18/2026
Time Received: 09:22

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfi1 (psig)	TO-3 Modified - Cl C6+ Can	
								TO-3 Modified - Cl C6+ Can	TO-3 Modified - MEPP Can
MV WTE UNIT 1 RUN #1	P2601896-001	Air	4/30/2026	10:48	SC01956	-3.11	3.71	X	X
MV WTE UNIT 1 RUN #2	P2601896-002	Air	4/30/2026	11:53	SC02321	-2.95	3.74	X	X
MV WTE UNIT 1 RUN #3	P2601896-003	Air	4/30/2026	12:59	SC00651	-3.08	3.61	X	X
MV WTE UNIT 3 RUN #1	P2601896-004	Air	4/30/2026	11:35	SC02301	-3.38	3.83	X	X
MV WTE UNIT 3 RUN #2	P2601896-005	Air	4/30/2026	12:39	SC01561	-3.11	3.82	X	X
MV WTE UNIT 3 RUN #3	P2601896-006	Air	4/30/2026	13:48	SC02340	-4.17	3.84	X	X



Air - Chain of Custody Record & Analytical Service Request

Page 1 of 1

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

P2601896

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No.

Company Name & Address (Reporting Information) A. Lanfranco & Associates Inc. Unit 101 9488 189 Street, Surrey, BC, V4N 4W7				Project Name Metro Vancouver WTE					ALS Contact:		Comments e.g. Actual Preservative or specific instructions
Project Manager Mark Lanfranco				Project Number					Analysis Method		
Phone 604 881 2582				P.O. # / Billing Information Bill to Account					TO-15 (list on file)		
Fax				Sampler (Print & Sign) Liam Forrer							
Email Address for Result Reporting mark.lanfranco@alanfranco.com											
Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure *Hg	Canister End Pressure *Hg/psig	Sample Volume			
MV WTE UNIT 1 RUN #1	1	30-Apr	9:48 - 10:48	SC01956	0A02283	-30	-7	6L	X		
MV WTE UNIT 1 RUN #2	2	30-Apr	10:53 - 11:53	SC02321	0A02283	-30	-7	6L	X		
MV WTE UNIT 1 RUN #3	3	30-Apr	11:59 - 12:59	SC00651	0A02283	-29	-7	6L	X		
MV WTE UNIT 3 RUN #1	4	29-Apr	10:35 - 11:35	SC02301	0A002263	-30	-10	6L	X		
MV WTE UNIT 3 RUN #2	5	29-Apr	11:39 - 12:39	SC01561	0A002263	-29	-8	6L	X		
MV WTE UNIT 3 RUN #3	6	29-Apr	12:48 - 13:48	SC02340	0A002263	-28	-10	6L	X		
Report Tier Levels - please select											Project Requirements (MRLs, QAPP)
Tier I - Results (Default if not specified) _____ Tier III (Results + QC & Calibration Summaries) _____ Tier II (Results + QC Summaries) _____ Tier IV (Data Validation Package) 10% Surcharge _____											
Relinquished by: (Signature)				Date:	Time:	EDD required Yes / No Type: _____ Units: _____		Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT			
Relinquished by: (Signature)				Date:	Time:	Received by: (Signature)		Date:	Time:		
Relinquished by: (Signature)				Date:	Time:	Received by: (Signature)		Date:	Time:	Cooler / Blank Temperature _____ °C	

ALS Environmental **Sample Acceptance Check Form**

Client: A. Lanfranco and Associates Inc. Work order: P2601896
 Project: Metro Vancouver WTE
 Sample(s) received on: 5/18/2026 Date opened: 5/18/2026 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

- | | Yes | No | N/A |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1 Were sample containers properly marked with client sample ID? | ☒ | ☐ | ☐ |
| 2 Did sample containers arrive in good condition? | ☒ | ☐ | ☐ |
| 3 Were chain-of-custody papers used and filled out? | ☒ | ☐ | ☐ |
| 4 Did sample container labels and/or tags agree with custody papers? | ☒ | ☐ | ☐ |
| 5 Was sample volume received adequate for analysis? | ☒ | ☐ | ☐ |
| 6 Are samples within specified holding times? | ☒ | ☐ | ☐ |
| 7 Was proper temperature (thermal preservation) of cooler at receipt adhered to? | ☐ | ☐ | ☒ |
| 8 Were custody seals on outside of cooler/Box/Container? | ☐ | ☒ | |
| Location of seal(s)? _____ Sealing Lid? | ☐ | ☐ | ☒ |
| Were signature and date included? | ☐ | ☐ | ☒ |
| Were seals intact? | ☐ | ☐ | ☒ |
| 9 Do containers have appropriate preservation , according to method/SOP or Client specified information? | ☐ | ☐ | ☒ |
| Is there a client indication that the submitted samples are pH preserved? | ☐ | ☐ | ☒ |
| Were VOA vials checked for presence/absence of air bubbles? | ☐ | ☐ | ☒ |
| Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it? | ☐ | ☐ | ☒ |
| 10 Tubes: Are the tubes capped and intact? | ☐ | ☐ | ☒ |
| 11 Badges: Are the badges properly capped and intact? | ☐ | ☐ | ☒ |
| Are dual bed badges separated and individually capped and intact? | ☐ | ☐ | ☒ |
| 12 Lab Notification: Analyst and PM were alerted of Short HT or RUSH samples? | ☐ | ☐ | ☒ |
| 13 Client Notification: Client has been notified regarding HT exceedances and/or other CoC discrepancies? | ☐ | ☐ | ☒ |

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2601896-001.01	6.0 L Source Can					
P2601896-002.01	6.0 L Source Can					
P2601896-003.01	6.0 L Source Can					
P2601896-004.01	6.0 L Source Can					
P2601896-005.01	6.0 L Source Can					
P2601896-006.01	6.0 L Source Can					
P2601896-007.01	6.0 L Source Can					Return Canister

Explain any discrepancies: (include lab sample ID numbers): _____
 The analysis stated on the coc is incorrect, the correct analysis is TO-3.

 Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: A. Lanfranco and Associates Inc.

Client Sample ID: MV WTE UNIT 1 RUN #1

Client Project ID: Metro Vancouver WTE

ALS Project ID: P2601896

ALS Sample ID: P2601896-001

Test Code: EPA TO-3 Modified

Instrument ID: HP5890 II/GC8/FID

Analyst: Stephanie Reynoso

Sampling Media: 6.0 L Summa Canister

Test Notes:

Container ID: SC01956

Date Collected: 4/30/26

Date Received: 5/18/26

Date Analyzed: 5/26/26

Volume(s) Analyzed: 1.0 ml(s)

Initial Pressure (psig): -3.11 Final Pressure (psig): 3.71

Container Dilution Factor: 1.59

Compound	Result ppmV	MRL ppmV	Data Qualifier
C ₃ as Propane	ND	1.6	
C ₄ as n-Butane	ND	1.6	
C ₅ as n-Pentane	ND	1.6	
C ₆ as n-Hexane	ND	9.5	
C ₆ + as n-Hexane	ND	1.6	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: A. Lanfranco and Associates Inc.

Client Sample ID: MV WTE UNIT 1 RUN #2

Client Project ID: Metro Vancouver WTE

ALS Project ID: P2601896

ALS Sample ID: P2601896-002

Test Code: EPA TO-3 Modified

Instrument ID: HP5890 II/GC8/FID

Analyst: Stephanie Reynoso

Sampling Media: 6.0 L Summa Canister

Test Notes:

Container ID: SC02321

Date Collected: 4/30/26

Date Received: 5/18/26

Date Analyzed: 5/26/26

Volume(s) Analyzed: 1.0 ml(s)

Initial Pressure (psig): -2.95 Final Pressure (psig): 3.74

Container Dilution Factor: 1.57

Compound	Result ppmV	MRL ppmV	Data Qualifier
C ₃ as Propane	ND	1.6	
C ₄ as n-Butane	ND	1.6	
C ₅ as n-Pentane	ND	1.6	
C ₆ as n-Hexane	ND	9.4	
C ₆ + as n-Hexane	ND	1.6	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: A. Lanfranco and Associates Inc.

Client Sample ID: MV WTE UNIT 1 RUN #3

Client Project ID: Metro Vancouver WTE

ALS Project ID: P2601896

ALS Sample ID: P2601896-003

Test Code: EPA TO-3 Modified

Instrument ID: HP5890 II/GC8/FID

Analyst: Stephanie Reynoso

Sampling Media: 6.0 L Summa Canister

Test Notes:

Container ID: SC00651

Date Collected: 4/30/26

Date Received: 5/18/26

Date Analyzed: 5/26/26

Volume(s) Analyzed: 1.0 ml(s)

Initial Pressure (psig): -3.08 Final Pressure (psig): 3.61

Container Dilution Factor: 1.58

Compound	Result ppmV	MRL ppmV	Data Qualifier
C ₃ as Propane	ND	1.6	
C ₄ as n-Butane	ND	1.6	
C ₅ as n-Pentane	ND	1.6	
C ₆ as n-Hexane	ND	9.5	
C ₆ + as n-Hexane	ND	1.6	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: A. Lanfranco and Associates Inc.

Client Sample ID: MV WTE UNIT 3 RUN #1

Client Project ID: Metro Vancouver WTE

ALS Project ID: P2601896

ALS Sample ID: P2601896-004

Test Code: EPA TO-3 Modified

Instrument ID: HP5890 II/GC8/FID

Analyst: Stephanie Reynoso

Sampling Media: 6.0 L Summa Canister

Test Notes:

Container ID: SC02301

Date Collected: 4/30/26

Date Received: 5/18/26

Date Analyzed: 5/26/26

Volume(s) Analyzed: 1.0 ml(s)

Initial Pressure (psig): -3.38

Final Pressure (psig): 3.83

Container Dilution Factor: 1.64

Compound	Result ppmV	MRL ppmV	Data Qualifier
C ₃ as Propane	ND	1.6	
C ₄ as n-Butane	ND	1.6	
C ₅ as n-Pentane	ND	1.6	
C ₆ as n-Hexane	ND	9.8	
C ₆ + as n-Hexane	ND	1.6	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: A. Lanfranco and Associates Inc.

Client Sample ID: MV WTE UNIT 3 RUN #2

Client Project ID: Metro Vancouver WTE

ALS Project ID: P2601896

ALS Sample ID: P2601896-005

Test Code: EPA TO-3 Modified

Instrument ID: HP5890 II/GC8/FID

Analyst: Stephanie Reynoso

Sampling Media: 6.0 L Summa Canister

Test Notes:

Container ID: SC01561

Date Collected: 4/30/26

Date Received: 5/18/26

Date Analyzed: 5/26/26

Volume(s) Analyzed: 1.0 ml(s)

Initial Pressure (psig): -3.11 Final Pressure (psig): 3.82

Container Dilution Factor: 1.60

Compound	Result ppmV	MRL ppmV	Data Qualifier
C ₃ as Propane	ND	1.6	
C ₄ as n-Butane	ND	1.6	
C ₅ as n-Pentane	ND	1.6	
C ₆ as n-Hexane	ND	9.6	
C ₆ + as n-Hexane	ND	1.6	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: A. Lanfranco and Associates Inc.

Client Sample ID: MV WTE UNIT 3 RUN #3

Client Project ID: Metro Vancouver WTE

ALS Project ID: P2601896

ALS Sample ID: P2601896-006

Test Code: EPA TO-3 Modified

Instrument ID: HP5890 II/GC8/FID

Analyst: Stephanie Reynoso

Sampling Media: 6.0 L Summa Canister

Test Notes:

Container ID: SC02340

Date Collected: 4/30/26

Date Received: 5/18/26

Date Analyzed: 5/26/26

Volume(s) Analyzed: 1.0 ml(s)

Initial Pressure (psig): -4.17 Final Pressure (psig): 3.84

Container Dilution Factor: 1.76

Compound	Result ppmV	MRL ppmV	Data Qualifier
C ₃ as Propane	ND	1.8	
C ₄ as n-Butane	ND	1.8	
C ₅ as n-Pentane	ND	1.8	
C ₆ as n-Hexane	ND	1.1	
C ₆ + as n-Hexane	ND	1.8	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: A. Lanfranco and Associates Inc.

Client Sample ID: Method Blank

Client Project ID: Metro Vancouver WTE

ALS Project ID: P2601896

ALS Sample ID: P260526-MB

Test Code: EPA TO-3 Modified

Instrument ID: HP5890 II/GC8/FID

Analyst: Stephanie Reynoso

Sampling Media: 6.0 L Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 5/26/26

Volume(s) Analyzed: 1.0 ml(s)

Compound	Result ppmV	MRL ppmV	Data Qualifier
C ₃ as Propane	ND	1.0	
C ₄ as n-Butane	ND	1.0	
C ₅ as n-Pentane	ND	1.0	
C ₆ as n-Hexane	ND	6.0	
C ₆ + as n-Hexane	ND	1.0	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 1

Client: A. Lanfranco and Associates Inc.

Client Sample ID: Duplicate Lab Control Sample

Client Project ID: Metro Vancouver WTE

ALS Project ID: P2601896

ALS Sample ID: P260526-DLCS

Test Code: EPA TO-3 Modified

Instrument ID: HP5890 II/GC8/FID

Analyst: Stephanie Reynoso

Sampling Media: 6.0 L Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 5/26/26

Volume(s) Analyzed: NA ml(s)

Compound	Spike Amount	Result		% Recovery		ALS	RPD	RPD	Data
	LCS / DLCS ppmV	LCS ppmV	DLCS ppmV	LCS	DLCS	Acceptance Limits			
Propane	1,000	1,110	1,100	111	110	92-120	0.9	6	
n-Butane	1,000	1,120	1,110	112	111	91-121	0.9	6	
n-Pentane	1,000	1,090	1,080	109	108	89-118	0.9	6	
n-Hexane	1,000	1,140	1,120	114	112	92-125	2	6	

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: A. Lanfranco and Associates Inc.

Client Sample ID: MV WTE UNIT 1 RUN #1

Client Project ID: Metro Vancouver WTE

ALS Project ID: P2601896

ALS Sample ID: P2601896-001

Test Code: EPA TO-3 Modified

Instrument ID: HP5890A/GC10/FID/TCD

Analyst: Stephanie Reynoso

Sampling Media: 6.0 L Summa Canister

Test Notes:

Container ID: SC01956

Date Collected: #####

Date Received: #####

Date Analyzed: 5/27/26

Volume(s) Analyzed: 0.50 ml(s)

Initial Pressure (psig): -3.11 **Final Pressure (psig):** 3.71

Container Dilution Factor: 1.59

CAS #	Compound	Result mg/m ³	MRL mg/m ³	Result ppmV	MRL ppmV	Data Qualifier
74-82-8	Methane	ND	2.1	ND	3.2	
74-85-1	Ethene	ND	1.1	ND	0.95	
74-84-0	Ethane	ND	1.2	ND	0.95	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: A. Lanfranco and Associates Inc.

Client Sample ID: MV WTE UNIT 1 RUN #2

Client Project ID: Metro Vancouver WTE

ALS Project ID: P2601896

ALS Sample ID: P2601896-002

Test Code: EPA TO-3 Modified

Instrument ID: HP5890A/GC10/FID/TCD

Analyst: Stephanie Reynoso

Sampling Media: 6.0 L Summa Canister

Test Notes:

Container ID: SC02321

Date Collected: #####

Date Received: #####

Date Analyzed: 5/27/26

Volume(s) Analyzed: 0.50 ml(s)

Initial Pressure (psig): -2.95 **Final Pressure (psig):** 3.74

Container Dilution Factor: 1.57

CAS #	Compound	Result mg/m ³	MRL mg/m ³	Result ppmV	MRL ppmV	Data Qualifier
74-82-8	Methane	ND	2.1	ND	3.1	
74-85-1	Ethene	ND	1.1	ND	0.94	
74-84-0	Ethane	ND	1.2	ND	0.94	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: A. Lanfranco and Associates Inc.

Client Sample ID: MV WTE UNIT 1 RUN #3

Client Project ID: Metro Vancouver WTE

ALS Project ID: P2601896

ALS Sample ID: P2601896-003

Test Code: EPA TO-3 Modified

Instrument ID: HP5890A/GC10/FID/TCD

Analyst: Stephanie Reynoso

Sampling Media: 6.0 L Summa Canister

Test Notes:

Container ID: SC00651

Date Collected: #####

Date Received: #####

Date Analyzed: 5/27/26

Volume(s) Analyzed: 0.50 ml(s)

Initial Pressure (psig): -3.08 **Final Pressure (psig):** 3.61

Container Dilution Factor: 1.58

CAS #	Compound	Result mg/m ³	MRL mg/m ³	Result ppmV	MRL ppmV	Data Qualifier
74-82-8	Methane	ND	2.1	ND	3.2	
74-85-1	Ethene	ND	1.1	ND	0.95	
74-84-0	Ethane	ND	1.2	ND	0.95	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: A. Lanfranco and Associates Inc.

Client Sample ID: MV WTE UNIT 3 RUN #1

Client Project ID: Metro Vancouver WTE

ALS Project ID: P2601896

ALS Sample ID: P2601896-004

Test Code: EPA TO-3 Modified

Instrument ID: HP5890A/GC10/FID/TCD

Analyst: Stephanie Reynoso

Sampling Media: 6.0 L Summa Canister

Test Notes:

Container ID: SC02301

Date Collected: #####

Date Received: #####

Date Analyzed: 5/27/26

Volume(s) Analyzed: 0.50 ml(s)

Initial Pressure (psig): -3.38 **Final Pressure (psig):** 3.83

Container Dilution Factor: 1.64

CAS #	Compound	Result mg/m ³	MRL mg/m ³	Result ppmV	MRL ppmV	Data Qualifier
74-82-8	Methane	ND	2.2	ND	3.3	
74-85-1	Ethene	ND	1.1	ND	0.98	
74-84-0	Ethane	ND	1.2	ND	0.98	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: A. Lanfranco and Associates Inc.

Client Sample ID: MV WTE UNIT 3 RUN #2

Client Project ID: Metro Vancouver WTE

ALS Project ID: P2601896

ALS Sample ID: P2601896-005

Test Code: EPA TO-3 Modified

Instrument ID: HP5890A/GC10/FID/TCD

Analyst: Stephanie Reynoso

Sampling Media: 6.0 L Summa Canister

Test Notes:

Container ID: SC01561

Date Collected: #####

Date Received: #####

Date Analyzed: 5/27/26

Volume(s) Analyzed: 0.50 ml(s)

Initial Pressure (psig): -3.11 **Final Pressure (psig):** 3.82

Container Dilution Factor: 1.60

CAS #	Compound	Result mg/m ³	MRL mg/m ³	Result ppmV	MRL ppmV	Data Qualifier
74-82-8	Methane	ND	2.1	ND	3.2	
74-85-1	Ethene	ND	1.1	ND	0.96	
74-84-0	Ethane	ND	1.2	ND	0.96	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: A. Lanfranco and Associates Inc.

Client Sample ID: MV WTE UNIT 3 RUN #3

Client Project ID: Metro Vancouver WTE

ALS Project ID: P2601896

ALS Sample ID: P2601896-006

Test Code: EPA TO-3 Modified

Instrument ID: HP5890A/GC10/FID/TCD

Analyst: Stephanie Reynoso

Sampling Media: 6.0 L Summa Canister

Test Notes:

Container ID: SC02340

Date Collected: #####

Date Received: #####

Date Analyzed: 5/27/26

Volume(s) Analyzed: 0.50 ml(s)

Initial Pressure (psig): -4.17 **Final Pressure (psig):** 3.84

Container Dilution Factor: 1.76

CAS #	Compound	Result mg/m ³	MRL mg/m ³	Result ppmV	MRL ppmV	Data Qualifier
74-82-8	Methane	ND	2.3	ND	3.5	
74-85-1	Ethene	ND	1.2	ND	1.1	
74-84-0	Ethane	ND	1.3	ND	1.1	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: A. Lanfranco and Associates Inc.

Client Sample ID: Method Blank

Client Project ID: Metro Vancouver WTE

ALS Project ID: P2601896

ALS Sample ID: P260527-MB

Test Code: EPA TO-3 Modified

Instrument ID: HP5890A/GC10/FID/TCD

Analyst: Stephanie Reynoso

Sampling Media: 6.0 L Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 5/27/26

Volume(s) Analyzed: 0.50 ml(s)

CAS #	Compound	Result mg/m ³	MRL mg/m ³	Result ppmV	MRL ppmV	Data Qualifier
74-82-8	Methane	ND	1.3	ND	2.0	
74-85-1	Ethene	ND	0.69	ND	0.60	
74-84-0	Ethane	ND	0.74	ND	0.60	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 1

Client: A. Lanfranco and Associates Inc.

Client Sample ID: Duplicate Lab Control Sample

Client Project ID: Metro Vancouver WTE

ALS Project ID: P2601896

ALS Sample ID: P260527-DLCS

Test Code: EPA TO-3 Modified

Instrument ID: HP5890A/GC10/FID/TCD

Analyst: Stephanie Reynoso

Sampling Media: 6.0 L Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 5/27/26

Volume(s) Analyzed: NA ml(s)

CAS #	Compound	Spike Amount	Result		% Recovery		ALS	RPD	RPD	Data
		LCS / DLCS	LCS	DLCS	LCS	DLCS	Acceptance			
		ppmV	ppmV	ppmV			Limits		Limit	Qualifier
74-82-8	Methane	7.79	7.00	7.19	90	92	70-130	2	15	
74-85-1	Ethene	7.74	6.80	6.99	88	90	70-130	2	15	
74-84-0	Ethane	7.68	6.99	7.17	91	93	70-130	2	15	



LABORATORY REPORT

May 28, 2026

Mark Lanfranco
A. Lanfranco and Associates Inc.
Unit 101 - 9488 189 St.
Surrey, BC V4N 4W7

RE: Metro Vancouver WTE

Dear Mark:

Enclosed are the results of the samples submitted to our laboratory on May 18, 2026. For your reference, these analyses have been assigned our service request number P2601900.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

ALS | Environmental

By Sue Anderson at 2:57 pm, May 28, 2026

Sue Anderson
Project Manager



Client: A. Lanfranco and Associates Inc.
Project: Metro Vancouver WTE

Service Request No: P2601900

CASE NARRATIVE

The samples were received intact under chain of custody on May 18, 2026 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

C3 through C6 Hydrocarbons, Methane, Ethene and Ethane Analysis

The samples were analyzed by modified EPA Method TO-3 for C3 through >C6 hydrocarbons and methane, ethene and ethane using a gas chromatograph equipped with a flame ionization detector (FID). This procedure is described in laboratory SOP VOA-TO3C1C6. This method is included on the laboratory's DoD-ELAP scope of accreditation; however, it is not part of the NELAP or AIHA-LAP, LLC accreditation.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.



CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	https://dec.alaska.gov/spar/csp/lab-approval/list-of-approved-labs	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	https://internet.deq.louisiana.gov/portal/divisions/lalap/accredited-laboratories	203013
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtm	CA012627
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	006-999-456
New Jersey DEP (NELAP)	https://dep.nj.gov/dsr/oqa/certified-laboratories/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oklahoma DEQ (NELAP)	labaccreditation.deq.ok.gov/labaccreditation/	2207
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration only)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413
Utah DOH (NELAP)	https://uphl.utah.gov/certifications/environmental-laboratory-certification/	CA01627
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: A. Lanfranco and Associates Inc.
Project ID: Merto Vancouver WTE

Service Request: P2601900

Date Received: 5/18/2026
Time Received: 09:22

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	TO-3 Modified - Cl C6+ Can	TO-3 Modified - MEPP Can
MV WTE UNIT 2 RUN #1	P2601900-001	Air	4/30/2026	12:12	SC00304	-2.82	4.00	X	X
MV WTE UNIT 2 RUN #2	P2601900-002	Air	4/30/2026	13:15	SC02183	-3.76	4.11	X	X



Air - Chain of Custody Record & Analytical Service Request

Page 1 of 1

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No. **P2601900**

Company Name & Address (Reporting Information) A. Lanfranco & Associates Inc. Unit 101 9488 189 Street, Surrey, BC, V4N 4W7				Project Name Metro Vancouver WTE					ALS Contact:		Comments e.g. Actual Preservative or specific instructions	
				Project Number					Analysis Method			
Project Manager Mark Lanfranco				P.O. # / Billing Information Bill to Account					TO-15 (list on file)			
Phone 604 881 2582 Fax				Sampler (Print & Sign) Liam Forrer								
Email Address for Result Reporting mark.lanfranco@alanfranco.com												
Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure *Hg	Canister End Pressure *Hg/psig	Sample Volume				
MV WTE UNIT 2 RUN #1	1	30-Apr	11:12 - 12:12	SC00304	OA00133	-28.5	-2	6L	X			
MV WTE UNIT 2 RUN #2	2	30-Apr	12:15 - 13:15	SC02183	OA00133	-24.2	-7	6L	X			
Report Tier Levels - please select Tier I - Results (Default if not specified) _____ Tier III (Results + QC & Calibration Summaries) _____ Tier II (Results + QC Summaries) _____ Tier IV (Data Validation Package) 10% Surcharge _____ Relinquished by: (Signature) _____ Date: _____ Time: _____ Relinquished by: (Signature) HLX Date: _____ Time: _____										EDD required Yes / No Type: _____ Units: _____ Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT Received by: (Signature) HLX Date: _____ Time: _____ Received by: (Signature) _____ Date: 5-18-26 Time: 0922		Project Requirements (MRLs, QAPP) Cooler / Blank Temperature _____ °C

ALS Environmental
Sample Acceptance Check Form

Client: A. Lanfranco and Associates Inc. Work order: P2601900
Project: Mertro Vancouver WTE
Sample(s) received on: 5/18/2026 Date opened: 5/18/2026 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

- | | Yes | No | N/A |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1 Were sample containers properly marked with client sample ID? | ☒ | ☐ | ☐ |
| 2 Did sample containers arrive in good condition? | ☒ | ☐ | ☐ |
| 3 Were chain-of-custody papers used and filled out? | ☒ | ☐ | ☐ |
| 4 Did sample container labels and/or tags agree with custody papers? | ☒ | ☐ | ☐ |
| 5 Was sample volume received adequate for analysis? | ☒ | ☐ | ☐ |
| 6 Are samples within specified holding times? | ☒ | ☐ | ☐ |
| 7 Was proper temperature (thermal preservation) of cooler at receipt adhered to? | ☐ | ☐ | ☒ |
| 8 Were custody seals on outside of cooler/Box/Container? | ☐ | ☒ | |
| Location of seal(s)? _____ Sealing Lid? | ☐ | ☐ | ☒ |
| Were signature and date included? | ☐ | ☐ | ☒ |
| Were seals intact? | ☐ | ☐ | ☒ |
| 9 Do containers have appropriate preservation , according to method/SOP or Client specified information? | ☐ | ☐ | ☒ |
| Is there a client indication that the submitted samples are pH preserved? | ☐ | ☐ | ☒ |
| Were VOA vials checked for presence/absence of air bubbles? | ☐ | ☐ | ☒ |
| Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it? | ☐ | ☐ | ☒ |
| 10 Tubes: Are the tubes capped and intact? | ☐ | ☐ | ☒ |
| 11 Badges: Are the badges properly capped and intact? | ☐ | ☐ | ☒ |
| Are dual bed badges separated and individually capped and intact? | ☐ | ☐ | ☒ |
| 12 Lab Notification: Analyst and PM were alerted of Short HT or RUSH samples? | ☐ | ☐ | ☒ |
| 13 Client Notification: Client has been notified regarding HT exceedances and/or other CoC discrepancies? | ☐ | ☐ | ☒ |

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2601900-001.01	6.0 L Source Can					
P2601900-002.01	6.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers): _____

Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: A. Lanfranco and Associates Inc.

Client Sample ID: MV WTE UNIT 2 RUN #1

Client Project ID: Merto Vancouver WTE

ALS Project ID: P2601900

ALS Sample ID: P2601900-001

Test Code: EPA TO-3 Modified

Instrument ID: HP5890 II/GC8/FID

Analyst: Stephanie Reynoso

Sampling Media: 6.0 L Summa Canister

Test Notes:

Container ID: SC00304

Date Collected: 4/30/26

Date Received: 5/18/26

Date Analyzed: 5/20/26

Volume(s) Analyzed: 1.0 ml(s)

Initial Pressure (psig): -2.82 Final Pressure (psig): 4.00

Container Dilution Factor: 1.57

Compound	Result ppmV	MRL ppmV	Data Qualifier
C ₃ as Propane	ND	1.6	
C ₄ as n-Butane	ND	1.6	
C ₅ as n-Pentane	ND	1.6	
C ₆ as n-Hexane	ND	9.4	
C ₆ + as n-Hexane	ND	1.6	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: A. Lanfranco and Associates Inc.

Client Sample ID: MV WTE UNIT 2 RUN #2

Client Project ID: Merto Vancouver WTE

ALS Project ID: P2601900

ALS Sample ID: P2601900-002

Test Code: EPA TO-3 Modified

Instrument ID: HP5890 II/GC8/FID

Analyst: Stephanie Reynoso

Sampling Media: 6.0 L Summa Canister

Test Notes:

Container ID: SC02183

Date Collected: 4/30/26

Date Received: 5/18/26

Date Analyzed: 5/20/26

Volume(s) Analyzed: 1.0 ml(s)

Initial Pressure (psig): -3.76 Final Pressure (psig): 4.11

Container Dilution Factor: 1.72

Compound	Result ppmV	MRL ppmV	Data Qualifier
C ₃ as Propane	ND	1.7	
C ₄ as n-Butane	ND	1.7	
C ₅ as n-Pentane	ND	1.7	
C ₆ as n-Hexane	ND	10	
C ₆ + as n-Hexane	ND	1.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: A. Lanfranco and Associates Inc.

Client Sample ID: Method Blank

Client Project ID: Mertro Vancouver WTE

ALS Project ID: P2601900

ALS Sample ID: P260520-MB

Test Code: EPA TO-3 Modified

Instrument ID: HP5890 II/GC8/FID

Analyst: Stephanie Reynoso

Sampling Media: 6.0 L Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 5/20/26

Volume(s) Analyzed: 1.0 ml(s)

Compound	Result ppmV	MRL ppmV	Data Qualifier
C ₃ as Propane	ND	1.0	
C ₄ as n-Butane	ND	1.0	
C ₅ as n-Pentane	ND	1.0	
C ₆ as n-Hexane	ND	6.0	
C ₆ + as n-Hexane	ND	1.0	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 1

Client: A. Lanfranco and Associates Inc.

Client Sample ID: Duplicate Lab Control Sample

Client Project ID: Merto Vancouver WTE

ALS Project ID: P2601900

ALS Sample ID: P260520-DLCS

Test Code: EPA TO-3 Modified

Instrument ID: HP5890 II/GC8/FID

Analyst: Stephanie Reynoso

Sampling Media: 6.0 L Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 5/20/26

Volume(s) Analyzed: NA ml(s)

Compound	Spike Amount	Result		% Recovery		ALS	RPD	RPD	Data
	LCS / DLCS ppmV	LCS ppmV	DLCS ppmV	LCS	DLCS	Acceptance Limits			
Propane	1,000	1,070	1,100	107	110	92-120	3	6	
n-Butane	1,000	1,080	1,110	108	111	91-121	3	6	
n-Pentane	1,000	1,050	1,070	105	107	89-118	2	6	
n-Hexane	1,000	1,090	1,120	109	112	92-125	3	6	

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: A. Lanfranco and Associates Inc.

Client Sample ID: MV WTE UNIT 2 RUN #1

Client Project ID: Merto Vancouver WTE

ALS Project ID: P2601900

ALS Sample ID: P2601900-001

Test Code: EPA TO-3 Modified

Instrument ID: HP5890A/GC10/FID/TCD

Analyst: Stephanie Reynoso

Sampling Media: 6.0 L Summa Canister

Test Notes:

Container ID: SC00304

Date Collected: 4/30/26

Date Received: 5/18/26

Date Analyzed: 5/27/26

Volume(s) Analyzed: 0.50 ml(s)

Initial Pressure (psig): -2.82 Final Pressure (psig): 4.00

Container Dilution Factor: 1.57

CAS #	Compound	Result mg/m ³	MRL mg/m ³	Result ppmV	MRL ppmV	Data Qualifier
74-82-8	Methane	ND	2.1	ND	3.1	
74-85-1	Ethene	ND	1.1	ND	0.94	
74-84-0	Ethane	ND	1.2	ND	0.94	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: A. Lanfranco and Associates Inc.

Client Sample ID: MV WTE UNIT 2 RUN #2

Client Project ID: Merto Vancouver WTE

ALS Project ID: P2601900

ALS Sample ID: P2601900-002

Test Code: EPA TO-3 Modified

Instrument ID: HP5890A/GC10/FID/TCD

Analyst: Stephanie Reynoso

Sampling Media: 6.0 L Summa Canister

Test Notes:

Container ID: SC02183

Date Collected: 4/30/26

Date Received: 5/18/26

Date Analyzed: 5/27/26

Volume(s) Analyzed: 0.50 ml(s)

Initial Pressure (psig): -3.76 Final Pressure (psig): 4.11

Container Dilution Factor: 1.72

CAS #	Compound	Result mg/m ³	MRL mg/m ³	Result ppmV	MRL ppmV	Data Qualifier
74-82-8	Methane	ND	2.3	ND	3.4	
74-85-1	Ethene	ND	1.2	ND	1.0	
74-84-0	Ethane	ND	1.3	ND	1.0	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: A. Lanfranco and Associates Inc.

Client Sample ID: Method Blank

Client Project ID: Merto Vancouver WTE

ALS Project ID: P2601900

ALS Sample ID: P260527-MB

Test Code: EPA TO-3 Modified

Instrument ID: HP5890A/GC10/FID/TCD

Analyst: Stephanie Reynoso

Sampling Media: 6.0 L Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 5/27/26

Volume(s) Analyzed: 0.50 ml(s)

CAS #	Compound	Result mg/m ³	MRL mg/m ³	Result ppmV	MRL ppmV	Data Qualifier
74-82-8	Methane	ND	1.3	ND	2.0	
74-85-1	Ethene	ND	0.69	ND	0.60	
74-84-0	Ethane	ND	0.74	ND	0.60	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 1

Client: A. Lanfranco and Associates Inc.

Client Sample ID: Duplicate Lab Control Sample

Client Project ID: Merto Vancouver WTE

ALS Project ID: P2601900

ALS Sample ID: P260527-DLCS

Test Code: EPA TO-3 Modified

Instrument ID: HP5890A/GC10/FID/TCD

Analyst: Stephanie Reynoso

Sampling Media: 6.0 L Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 5/27/26

Volume(s) Analyzed: NA ml(s)

CAS #	Compound	Spike Amount	Result		% Recovery		ALS	RPD	RPD	Data
		LCS / DLCS	LCS	DLCS	LCS	DLCS	Acceptance			
		ppmV	ppmV	ppmV			Limits		Limit	Qualifier
74-82-8	Methane	7.79	7.00	7.19	90	92	70-130	2	15	
74-85-1	Ethene	7.74	6.80	6.99	88	90	70-130	2	15	
74-84-0	Ethane	7.68	6.99	7.17	91	93	70-130	2	15	



Your Project #: MVWTE
Site#: C623831
Site Location: BURNABY, BC
Your C.O.C. #: C623832-ONTV-01-01

Attention: Shanaz Akbar

Bureau Veritas
4606 Canada Way
Burnaby, BC
CANADA V5G 1K5

Report Date: 2026/05/15
Report #: R8741949
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C647915

Received: 2026/05/02, 12:44

Sample Matrix: Tedlar Bag
Samples Received: 8

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Nitrous Oxide	8	N/A	2026/05/05	CAM SOP-00203	GC/ECD

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, EPA, APHA or the Quebec Ministry of Environment.

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 #: MVWTE
Site#: C623831
Site Location: BURNABY, BC
Your C.O.C. #: C623832-ONTV-01-01

Attention: Shanaz Akbar

Bureau Veritas
4606 Canada Way
Burnaby, BC
CANADA V5G 1K5

Report Date: 2026/05/15
Report #: R8741949
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C647915

Received: 2026/05/02, 12:44

Encryption Key

Julian Tong
Project Manager Assistant
15 May 2026 12:30:47

Please direct all questions regarding this Certificate of Analysis to:
Julian Tong, Project Manager Assistant
Email: Julian.Tong@bureauveritas.com
Phone# (905) 817-5700

=====

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Bureau Veritas Job #: C647915
Report Date: 2026/05/15

Bureau Veritas
Client Project #: MVWTE
Site Location: BURNABY, BC

COMPRESSED GAS PARAMETERS (TEDLAR BAG)

Bureau Veritas ID		BCJR66	BCJR66	BCJR67	BCJR68		
Sampling Date		2026/04/30 10:48	2026/04/30 10:48	2026/04/30 11:35	2026/04/30 12:59		
COC Number		C623832-ONTV-01-01	C623832-ONTV-01-01	C623832-ONTV-01-01	C623832-ONTV-01-01		
	UNITS	UNIT 1 BAG 1	UNIT 1 BAG 1 Lab-Dup	UNIT 1 BAG 2	UNIT 1 BAG 3	RDL	QC Batch

Gas							
Nitrous Oxide	ppmv	3.4	3.4	2.7	4.2	0.1	A150535
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							
Lab-Dup = Laboratory Initiated Duplicate							

Bureau Veritas ID		BCJR69	BCJR71	BCJR72	BCJR73		
Sampling Date		2026/04/30 11:02	2026/04/30 13:13	2026/04/30 11:35	2026/04/30 12:39		
COC Number		C623832-ONTV-01-01	C623832-ONTV-01-01	C623832-ONTV-01-01	C623832-ONTV-01-01		
	UNITS	UNIT 2 BAG1	UNIT 2 BAG 3	UNIT 3 BAG 1	UNIT 3 BAG 2	RDL	QC Batch

Gas							
Nitrous Oxide	ppmv	3.0	4.0	2.0	3.6	0.1	A150535
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							

Bureau Veritas ID		BCJR74		
Sampling Date		2026/04/30 13:48		
COC Number		C623832-ONTV-01-01		
	UNITS	UNIT 3 BAG 3	RDL	QC Batch
Gas				
Nitrous Oxide	ppmv	5.3	0.1	A150535
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



Bureau Veritas Job #: C647915
Report Date: 2026/05/15

Bureau Veritas
Client Project #: MVWTE
Site Location: BURNABY, BC

TEST SUMMARY

Bureau Veritas ID: BCJR66
Sample ID: UNIT 1 BAG 1
Matrix: Tedlar Bag

Collected: 2026/04/30
Shipped:
Received: 2026/05/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Nitrous Oxide	GC/ECD	A150535	N/A	2026/05/05	Satvinder Bhathal

Bureau Veritas ID: BCJR66 Dup
Sample ID: UNIT 1 BAG 1
Matrix: Tedlar Bag

Collected: 2026/04/30
Shipped:
Received: 2026/05/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Nitrous Oxide	GC/ECD	A150535	N/A	2026/05/05	Satvinder Bhathal

Bureau Veritas ID: BCJR67
Sample ID: UNIT 1 BAG 2
Matrix: Tedlar Bag

Collected: 2026/04/30
Shipped:
Received: 2026/05/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Nitrous Oxide	GC/ECD	A150535	N/A	2026/05/05	Satvinder Bhathal

Bureau Veritas ID: BCJR68
Sample ID: UNIT 1 BAG 3
Matrix: Tedlar Bag

Collected: 2026/04/30
Shipped:
Received: 2026/05/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Nitrous Oxide	GC/ECD	A150535	N/A	2026/05/05	Satvinder Bhathal

Bureau Veritas ID: BCJR69
Sample ID: UNIT 2 BAG1
Matrix: Tedlar Bag

Collected: 2026/04/30
Shipped:
Received: 2026/05/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Nitrous Oxide	GC/ECD	A150535	N/A	2026/05/05	Satvinder Bhathal

Bureau Veritas ID: BCJR71
Sample ID: UNIT 2 BAG 3
Matrix: Tedlar Bag

Collected: 2026/04/30
Shipped:
Received: 2026/05/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Nitrous Oxide	GC/ECD	A150535	N/A	2026/05/05	Satvinder Bhathal

Bureau Veritas ID: BCJR72
Sample ID: UNIT 3 BAG 1
Matrix: Tedlar Bag

Collected: 2026/04/30
Shipped:
Received: 2026/05/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Nitrous Oxide	GC/ECD	A150535	N/A	2026/05/05	Satvinder Bhathal



Bureau Veritas Job #: C647915
Report Date: 2026/05/15

Bureau Veritas
Client Project #: MVWTE
Site Location: BURNABY, BC

TEST SUMMARY

Bureau Veritas ID: BCJR73
Sample ID: UNIT 3 BAG 2
Matrix: Tedlar Bag

Collected: 2026/04/30
Shipped:
Received: 2026/05/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Nitrous Oxide	GC/ECD	A150535	N/A	2026/05/05	Satvinder Bhathal

Bureau Veritas ID: BCJR74
Sample ID: UNIT 3 BAG 3
Matrix: Tedlar Bag

Collected: 2026/04/30
Shipped:
Received: 2026/05/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Nitrous Oxide	GC/ECD	A150535	N/A	2026/05/05	Satvinder Bhathal



Bureau Veritas Job #: C647915
Report Date: 2026/05/15

Bureau Veritas
Client Project #: MVWTE
Site Location: BURNABY, BC

GENERAL COMMENTS

Nitrous Oxide Analysis: The samples were analysed 5 days after the date of sampling. The recommended holding time is 2 days.

Results relate only to the items tested.



Bureau Veritas Job #: C647915
Report Date: 2026/05/15

QUALITY ASSURANCE REPORT

Bureau Veritas
Client Project #: MWTE
Site Location: BURNABY, BC

QC Batch	Parameter	Date	Method Blank		RPD	
			Value	UNITS	Value (%)	QC Limits
A150535	Nitrous Oxide	2026/05/05	<0.1	ppmv	NC	N/A
N/A = Not Applicable						
Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.						
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.						
NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference $\leq 2 \times \text{RDL}$).						



BUREAU
VERITAS

Bureau Veritas Job #: C647915

Report Date: 2026/05/15

Bureau Veritas

Client Project #: MVWTE

Site Location: BURNABY, BC

VALIDATION SIGNATURE PAGE

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

Tom Mitchell, B.Sc, Supervisor, Compressed Gases

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2026/05/02 12:44

Sent to: Bureau Veritas Campobello
6740 Campobello Road
Mississauga, ON, L5N 2L8
Tel: (905) 817-5700

BUREAU VERITAS INTERLAB CHAIN OF CUSTODY RECORD

Page 01 of 01

COC # C623831-ONTV-01-01



REPORT INFORMATION										ANALYSIS REQUESTED										Job Barcode Label																													
Bureau Veritas 4606 Canada Way, Burnaby, British Columbia, V5G 1K5 Contact Name: Shanaz Akbar Email: Shanaz.Akbar@bureauveritas.com, Customersolutionswest@bureauveritas.com Phone: C623831																																																	
BV Project #: C623831																																																	
Client Invoice To: A. LANFRANCO & ASSOCIATES INC. (1301)																																																	
Client Report To: A. LANFRANCO & ASSOCIATES INC. (1301)																																																	
#	SAMPLE ID	MATRIX	DATE SAMPLED (YYYY/MM/DD)	TIME SAMPLED (HH:MM)	SAMPLER INITIALS	# CONT.	Incl. on Report? Yes / No	ADDITIONAL SAMPLE INFORMATION																																									
1	EEF723-UNIT 1 BAG 1	AIR	2026/04/30	10:48		1	X	(P: 01)																																									
2	EEF724-UNIT 2 BAG 2	AIR	2026/04/30	11:35		1	X	(P: 01)																																									
3	EEF725-UNIT 1 BAG 3	AIR	2026/04/30	12:59		1	X	(P: 01)																																									
4	EEF726-UNIT 2 BAG 1	AIR	2026/04/30	11:02		1	X	(P: 01)																																									
5	EEF727-UNIT 2 BAG 2	AIR	2026/04/30	12:12		1	X	(P: 01)																																									
6	EEF728-UNIT 2 BAG 3	AIR	2026/04/30	13:13		1	X	(P: 01)																																									
7	EEF729-UNIT 3 BAG 1	AIR	2026/04/30	11:35		1	X	(P: 01)																																									
8	EEF730-UNIT 3BAG 2	AIR	2026/04/30	12:39		1	X	(P: 01)																																									
9	EEF731-UNIT 3BAG 3	AIR	2026/04/30	13:48		1	X	(P: 01)																																									
10																																																	
SITE LOCATION:										SPECIAL INSTRUCTIONS										REQUIRED EDDs										TURNAROUND TIME																			
BURNABY, BC										Please inform Bureau Veritas immediately if you are not accredited for the requested test(s) or the hold time is approaching. **Please return a copy of this form with the report.**										National Excel (N001)										☐ Rush Required 2026/05/19 Date Required Please inform us if rush charges will be incurred.																			
PROJECT #:																																																	
MWTE																																																	
PO/A/E, TASK ORDER/SERVICE ORDER, LINE ITEM:																																																	
COOLER ID:										COOLER ID:										RECEIVING LAB USE ONLY																													
Custody Seal Present										YES NO Temp: (°C)										Bureau Veritas Job #																													
Custody Seal Intact										YES NO Temp: (°C)																																							
Cooling Media Present										YES NO Temp: (°C)																																							
RELINQUISHED BY: (SIGN & PRINT)										DATE: (YYYY/MM/DD)										RECEIVED BY: (SIGN & PRINT)										DATE: (YYYY/MM/DD)										TIME: (HH:MM)									
1. DAWHAN GILL										2026/05/01										1. S. J. Sullivan										2026/05/02										12:44									

Invoice Information

Invoice Information		Report Information (if differs from invoice)		Project Information		Turnaround Time (TAT) Required	
Company :	A. Lanfranco & Associates	Company:		Quotation		☒ 5 - 7 Days Regular (Most analyses)	
Contact Name:	Mark Lanfranco	Contact Name:		P.O. #/AFE#:			
Address:	Unit 101 - 9488 189 Street, Surrey, BC	Address:		Project #:	MVWTE	☐ Same Day ☐ 2 Days	Rush TAT (surcharges will be applied)
	PC: V4N4W7	PC:		Site Location:	Burnaby, BC	☐ 1 Day ☐ 3-4 Days	
Phone/Fax:	604-881-2582	Phone/Fax:		Site #:		Date Required: _____	
Email:	mark.lanfranco@alanfranco.com	Email:		Copies:		Rush Confirmation #:	

Laboratory Use Only

[illegible]

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Relinquished by: (Signature/ Print)	Date (yyyy/mm/dd):	Time (hh:mm):	Received by: (Signature/ Print)	Date (yyyy/mm/dd):	Time (hh:mm):	BV Job #
M Lanfranco	2026-05-01	16:00				

COC-1020

BBY FCD-00077/9

APPENDIX - D

COMPUTER GENERATED RESULTS

Client: Metro Vancouver
Jobsite: WTE (Burnaby, BC)
Source: Unit 1

Date: 29-Apr-26
Run: 1 - Particulate / Metals
Run Time: 10:50 - 12:53

Concentrations:

Particulate	0.44 mg/dscm	0.00019 gr/dscf
	0.26 mg/Acm	0.00011 gr/Acf
	0.35 mg/dscm (@ 11% O2)	0.00015 gr/dscf (@ 11% O2)

Emission Rates:

Particulate	0.028 Kg/hr	0.062 lb/hr
--------------------	-------------	-------------

Flue Gas Characteristics:

Flow	1056 dscm/min	37294 dscf/min
	17.60 dscm/sec	622 dscf/sec
	1828 Acm/min	64558 Acf/min

Velocity	11.962 m/sec	39.24 f/sec
-----------------	--------------	-------------

Temperature	149.0 oC	300.2 oF
--------------------	----------	----------

Moisture	14.8 %
-----------------	--------

Gas Analysis	8.5 % O2
	10.6 % CO2

30.038 Mol. Wt (g/gmole) Dry
28.252 Mol. Wt (g/gmole) Wet

Sample Parameters:

Sample Volume	2.4867 dscm	87.818 dscf
Sample Time	120.0 minutes	
Isokineticity	105.1 %	

*** Standard Conditions:** Metric: 20 deg C, 101.325 kPa
Imperial: 68 deg F, 29.92 in.Hg

Client: Metro Vancouver
Jobsite: WTE (Burnaby, BC)
Source: Unit 1

Date: 29-Apr-26
Run: 1 - Particulate / Metals
Run Time: 08:30 - 10:34

Control Unit (Y) 0.9604
 Nozzle Diameter (in.) 0.3063
 Pitot Factor 0.8512
 Baro. Press. (in. Hg) 30.24
 Static Press. (in. H2O) -13.80
 Stack Height (ft) 30
 Stack Diameter (in.) 70.90
 Stack Area (sq.ft.) 27.417
 Minutes Per Reading 5.0
 Minutes Per Point 5.0

Collection:
 Filter (grams) 0.00010
 Washings (grams) 0.00100
Total (grams) 0.00110

Gas Analysis (Vol. %):
 CO2 O2
 Traverse 1 10.67 8.40
 Traverse 2 10.57 8.57
10.62 8.48

Condensate Collection:
 Impinger 1 206.0
 Impinger 2 73.0
 Impinger 3 17.0
 Impinger 4 12.0
 Impinger 5 3.0
 Impinger 6 1.0
 Gel **13.0**
Gain (grams) 325.0

Traverse / Point	Time (min.)	Dry Gas Meter (ft3)	Pitot ^P (in. H2O)	Orifice ^H (in. H2O)	Dry Gas Temperature Inlet (oF)	Dry Gas Temperature Outlet (oF)	Vacuum (in. Hg.)	Stack Temp. (oF)	Wall Dist. (in.)	Isokin. (%)
Traverse 1	0.0	45.115								
1	5.0	48.440	0.25	1.38	64	64	3	294	1.5	105.0
2	10.0	51.690	0.24	1.32	65	65	3	300	4.7	104.9
3	15.0	55.000	0.25	1.37	65	65	3	302	8.4	104.9
4	20.0	58.170	0.23	1.26	65	65	3	304	12.5	104.8
5	25.0	61.420	0.24	1.32	66	66	3	303	17.7	104.9
6	30.0	64.740	0.25	1.37	66	66	3	303	25.2	105.0
7	35.0	69.060	0.42	2.31	68	68	4.5	302	45.6	105.2
8	40.0	73.440	0.43	2.37	69	69	4.5	302	53.2	105.3
9	45.0	77.840	0.43	2.39	70	70	4.5	299	58.3	105.3
10	50.0	82.190	0.42	2.33	71	71	4.5	300	62.5	105.2
11	55.0	86.500	0.41	2.28	72	72	4.5	300	66.1	105.3
12	60.0	90.810	0.41	2.29	73	73	4.5	300	69.4	105.1
Traverse 2	0.0	90.810								
1	5.0	94.040	0.23	1.28	73	73	3.5	300	1.5	104.9
2	10.0	97.350	0.24	1.34	74	74	3.5	299	4.7	105.0
3	15.0	100.730	0.25	1.40	74	74	3.5	299	8.4	105.1
4	20.0	104.370	0.29	1.62	74	74	3.5	300	12.5	105.2
5	25.0	108.070	0.30	1.68	74	74	3.5	300	17.7	105.1
6	30.0	111.890	0.32	1.79	74	74	3.5	300	25.2	105.1
7	35.0	116.000	0.37	2.07	74	74	4	299	45.6	105.2
8	40.0	120.060	0.36	2.01	75	75	4	301	53.2	105.3
9	45.0	124.000	0.34	1.90	75	75	4	300	58.3	105.0
10	50.0	128.000	0.35	1.96	75	75	4	299	62.5	105.0
11	55.0	131.890	0.33	1.85	75	75	4	300	66.1	105.2
12	60.0	135.730	0.32	1.80	76	76	4	299	69.4	105.2
Average:			0.320	1.779	71.1	71.1	3.8	300.2		105.1

Client: Metro Vancouver
Jobsite: WTE (Burnaby, B.C.)
Source: Unit 1

Date: 30-Apr-26
Run: 2 - Particulate / Metals
Run Time: 09:30 - 11:31

Concentrations:

Particulate	0.38 mg/dscm	0.00017 gr/dscf
	0.22 mg/Acm	0.00010 gr/Acf
	0.33 mg/dscm (@ 11% O2)	0.00014 gr/dscf (@ 11% O2)

Emission Rates:

Particulate	0.025 Kg/hr	0.056 lb/hr
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Flue Gas Characteristics:

Flow	1104 dscm/min	38993 dscf/min
	18.40 dscm/sec	650 dscf/sec
	1911 Acm/min	67480 Acf/min

Velocity	12.503 m/sec	41.02 f/sec
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Temperature	149.4 oC	301.0 oF
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Moisture	14.1 %
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Gas Analysis	9.5 % O2
	10.3 % CO2
	30.021 Mol. Wt (g/gmole) Dry 28.329 Mol. Wt (g/gmole) Wet

Sample Parameters:

Sample Volume	2.4939 dscm	88.073 dscf
Sample Time	120.0 minutes	
Isokineticity	102.8 %	

*** Standard Conditions:** Metric: 20 deg C, 101.325 kPa
 Imperial: 68 deg F, 29.92 in.Hg

Client: Metro Vancouver
Jobsite: WTE (Burnaby, B.C)
Source: Unit 1

Date: 30-Apr-26
Run: 2 - Particulate / Metals
Run Time: 09:30 - 11:31

Control Unit (Y) 0.9604
 Nozzle Diameter (in.) 0.3034
 Pitot Factor 0.8437
 Baro. Press. (in. Hg) 30.07
 Static Press. (in. H2O) -14.50
 Stack Height (ft) 30
 Stack Diameter (in.) 70.90
 Stack Area (sq.ft.) 27.417
 Minutes Per Reading 5.0
 Minutes Per Point 5.0

Collection:
 Filter (grams) 0.00005
 Washings (grams) 0.00090
Total (grams) 0.00095

Gas Analysis (Vol. %):
 CO2 O2
 Traverse 1 10.50 9.32
 Traverse 2 10.00 9.73

Condensate Collection:
 Impinger 1 204.0
 Impinger 2 65.0
 Impinger 3 16.0
 Impinger 4 5.0
 Impinger 5 1.0
 Impinger 6 0.0
 Gel **15.5**
Gain (grams) 306.5

10.25 9.53

Traverse / Point	Time (min.)	Dry Gas Meter (ft3)	Pitot ΔP (in. H2O)	Orifice ΔH (in. H2O)	Dry Gas Temperature Inlet (oF)	Dry Gas Temperature Outlet (oF)	Vacuum (in. Hg.)	Stack Temp. (oF)	Wall Dist. (in.)	Isokin. (%)
Traverse 1	0.0	136.275								
1	5.0	139.700	0.29	1.45	65	65	3	300	1.5	102.5
2	10.0	143.200	0.30	1.50	66	66	3	301	4.7	102.9
3	15.0	146.800	0.32	1.60	67	67	3	303	8.4	102.4
4	20.0	150.520	0.34	1.72	67	67	3	302	12.5	102.6
5	25.0	154.200	0.33	1.66	68	68	3	302	17.7	102.9
6	30.0	158.150	0.38	1.91	68	68	3	303	25.2	103.0
7	35.0	162.260	0.41	2.07	69	69	3	300	45.6	102.8
8	40.0	166.520	0.44	2.22	70	70	3	301	53.2	102.8
9	45.0	170.980	0.48	2.43	71	71	3	300	58.3	102.8
10	50.0	174.960	0.38	1.93	72	72	3	299	62.5	102.8
11	55.0	178.800	0.36	1.83	72	72	3	300	66.1	101.9
12	60.0	182.590	0.34	1.75	73	73	3	299	69.4	103.2
Traverse 2	0.0	182.590								
1	5.0	185.960	0.27	1.37	74	74	3	300	1.5	102.8
2	10.0	189.390	0.28	1.43	75	75	3	300	4.7	102.5
3	15.0	193.050	0.32	1.63	77	77	3	302	8.4	102.1
4	20.0	197.050	0.38	1.94	77	77	3	301	12.5	102.4
5	25.0	201.280	0.42	2.15	77	77	3	300	17.7	103.0
6	30.0	205.540	0.43	2.22	78	78	3	299	25.2	102.3
7	35.0	209.580	0.38	1.96	80	80	3	300	45.6	102.8
8	40.0	213.520	0.36	1.85	81	81	3	302	53.2	102.9
9	45.0	217.510	0.37	1.90	82	82	3	303	58.3	102.7
10	50.0	221.170	0.31	1.59	82	82	3	304	62.5	102.9
11	55.0	224.820	0.29	1.49	82	82	3	303	66.1	106.0
12	60.0	228.150	0.26	1.35	82	82	3	299	69.4	101.9
Average:			0.352	1.790	74.0	74.0	3.0	301.0		102.8

Client: Metro Vancouver
Jobsite: WTE (Burnaby, B.C.)
Source: Unit 1

Date: 30-Apr-26
Run: 3 - Particulate / Metals
Run Time: 11:52 - 13:53

Concentrations:

Particulate	0.3 mg/dscm	0.0001 gr/dscf
	0.2 mg/Acm	0.0001 gr/Acf
	0.3 mg/dscm (@ 11% O2)	0.0001 gr/dscf (@ 11% O2)

Emission Rates:

Particulate	0.021 Kg/hr	0.047 lb/hr
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Flue Gas Characteristics:

Flow	1119 dscm/min	39522 dscf/min
	18.65 dscm/sec	659 dscf/sec
	1946 Acm/min	68728 Acf/min

Velocity	12.734 m/sec	41.78 f/sec
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Temperature	151.6 oC	304.8 oF
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Moisture	14.1 %
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Gas Analysis	10.4 % O2
	9.3 % CO2

29.911 Mol. Wt (g/gmole) Dry
28.237 Mol. Wt (g/gmole) Wet

Sample Parameters:

Sample Volume	2.5174 dscm	88.902 dscf
Sample Time	120.0 minutes	
Isokineticity	102.4 %	

*** Standard Conditions:** Metric: 20 deg C, 101.325 kPa
Imperial: 68 deg F, 29.92 in.Hg

Client:	Metro Vancouver	Date:	30-Apr-26
Jobsite:	WTE (Burnaby, B.C)	Run:	3 - Particulate / Metals
Source:	Unit 1	Run Time:	11:52 - 13:53

Control Unit (Y)	0.9604	Collection:	Gas Analysis (Vol. %):	Condensate Collection:
Nozzle Diameter (in.)	0.3034	Filter (grams) 0.00030	CO2 O2	Impinger 1 215.0
Pitot Factor	0.8437	Washings (grams) 0.00050	9.17 10.57	Impinger 2 75.0
Baro. Press. (in. Hg)	30.07	Traverse 1	9.50 10.31	Impinger 3 2.0
Static Press. (in. H2O)	-14.50	Traverse 2		Impinger 4 0.0
Stack Height (ft)	30			Impinger 5 0.0
Stack Diameter (in.)	70.90			Impinger 6 0.0
Stack Area (sq.ft.)	27.417			Gel 17.0
Minutes Per Reading	5.0			Gain (grams) 309.0
Minutes Per Point	5.0			
			9.33 10.44	

Traverse / Point	Time (min.)	Dry Gas Meter (ft3)	Pitot ΔP (in. H2O)	Orifice ΔH (in. H2O)	Dry Gas Temperature Inlet (oF)	Dry Gas Temperature Outlet (oF)	Vacuum (in. Hg.)	Stack Temp. (oF)	Wall Dist. (in.)	Isokin. (%)
Traverse 1	0.0	228.800								
1	5.0	232.390	0.30	1.55	81	81	3	301	1.5	102.4
2	10.0	236.040	0.31	1.59	81	81	3	303	4.7	102.6
3	15.0	239.850	0.34	1.74	81	81	3	305	8.4	102.4
4	20.0	243.950	0.39	2.00	82	82	3	306	12.5	102.9
5	25.0	248.050	0.41	2.11	82	82	3	304	17.7	100.2
6	30.0	252.430	0.45	2.30	81	81	3	306	25.2	102.6
7	35.0	256.540	0.40	2.04	81	81	4	308	45.6	102.1
8	40.0	260.880	0.44	2.25	81	81	4	307	53.2	102.8
9	45.0	265.430	0.49	2.50	81	81	4	307	58.3	102.2
10	50.0	269.580	0.40	2.05	82	82	4	306	62.5	102.8
11	55.0	273.620	0.38	1.95	82	82	4	304	66.1	102.5
12	60.0	277.160	0.29	1.50	82	82	4	299	69.4	102.4
Traverse 2	0.0	277.160								
1	5.0	280.700	0.29	1.50	83	83	5	302	1.5	102.4
2	10.0	284.290	0.30	1.54	83	83	5	305	4.7	102.3
3	15.0	288.100	0.34	1.75	83	83	5	306	8.4	102.1
4	20.0	292.200	0.39	2.01	84	84	5	305	12.5	102.4
5	25.0	296.400	0.41	2.11	83	83	5	306	17.7	102.6
6	30.0	300.650	0.42	2.16	84	84	5	307	25.2	102.5
7	35.0	304.820	0.40	2.06	85	85	5	307	45.6	102.8
8	40.0	308.880	0.38	1.96	84	84	5	305	53.2	102.7
9	45.0	312.720	0.34	1.75	84	84	4	307	58.3	102.8
10	50.0	316.320	0.30	1.54	84	84	4	306	62.5	102.5
11	55.0	319.800	0.28	1.44	84	84	4	304	66.1	102.4
12	60.0	323.030	0.24	1.25	85	85	4	299	69.4	102.1
Average:			0.362	1.860	82.6	82.6	4.1	304.8		102.4

Client: Metro Vancouver
Jobsite: WTE (Burnaby,B.C)
Source: Unit 1

Sample Type: HF, HCl, NH ₃				
Parameter		Test 1	Test 2	Test 3
Test Date		30-Apr-26	30-Apr-26	30-Apr-26
Test Time		09:48 - 10:48	10:53 - 11:53	11:59 - 12:59
Test Duration	(min.)	60	60	60
Baro. Press.	(in. Hg)	30.07	30.07	30.07
DGM Factor	(Y)	0.9955	0.9955	0.9955
Initial Reading	(m ³)	687.730	688.076	688.386
Final Reading	(m ³)	688.074	688.385	688.689
Temp. Outlet	(Avg. oF)	66.0	69.5	72.0
Orifice Press.	(ΔH in.H ₂ O)	0.50	0.50	0.50
Gas Volume	(Sm ³)	0.346	0.308	0.301
HF	(mg)	0.019	0.021	0.025
HCl	(mg)	0.028	0.031	0.037
NH ₃	(mg)	0.062	0.102	0.109
Oxygen	(Vol. %)	8.5	9.5	10.4
HF	(mg/Sm ³)	0.055	0.068	0.083
HF	(mg/Sm ³ @ 11% O ₂)	0.044	0.059	0.078
HCl	(mg/Sm ³)	0.081	0.101	0.123
HCl	(mg/Sm ³ @ 11% O ₂)	0.065	0.088	0.116
NH ₃	(mg/Sm ³)	0.179	0.331	0.363
NH ₃	(mg/Sm ³ @ 11% O ₂)	0.143	0.288	0.343
Moisture	(Vol. %)	14.1	14.1	14.1

Tstd. (oF)	68	Pstd. (in. Hg)	29.92
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Client: Metro Vancouver
Jobsite: WTE (Burnaby, B.C)
Source: Unit 2

Date: 30-Apr-26
Run: 1 - Particulate / Metals
Run Time: 11:10 - 13:14

Concentrations:

Particulate	3.3 mg/dscm	0.0014 gr/dscf
	1.9 mg/Acm	0.0008 gr/Acf
	2.8 mg/dscm (@ 11% O2)	0.0012 gr/dscf (@ 11% O2)

Emission Rates:

Particulate	0.230 Kg/hr	0.508 lb/hr
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Flue Gas Characteristics:

Flow	1173 dscm/min	41410 dscf/min
	19.54 dscm/sec	690 dscf/sec
	2052 Acm/min	72481 Acf/min

Velocity	13.430 m/sec	44.06 f/sec
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Temperature	154.7 oC	310.4 oF
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Moisture	13.7 %
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Gas Analysis	9.4 % O2
	10.2 % CO2

30.003 Mol. Wt (g/gmole) Dry
28.353 Mol. Wt (g/gmole) Wet

Sample Parameters:

Sample Volume	2.6879 dscm	94.922 dscf
Sample Time	120.0 minutes	
Isokineticity	102.3 %	

*** Standard Conditions:**

Metric:	20 deg C, 101.325 kPa
Imperial:	68 deg F, 29.92 in.Hg

Client:	Metro Vancouver	Date:	30-Apr-26
Jobsite:	WTE (Burnaby, B.C)	Run:	1 - Particulate / Metals
Source:	Unit 2	Run Time:	11:10 - 13:14

Control Unit (Y)	0.9807	Collection: Filter (grams) 0.00580 Washings (grams) 0.00300 Total (grams) 0.00880	Gas Analysis (Vol. %):		Condensate Collection:		
Nozzle Diameter (in.)	0.3063		CO2	O2	Impinger 1	228.0	
Pitot Factor	0.8512		Traverse 1 Traverse 2	10.17	9.3	Impinger 2	69.0
Baro. Press. (in. Hg)	30.10			10.2	9.47	Impinger 3	3.0
Static Press. (in. H2O)	-16.00					Impinger 4	5.0
Stack Height (ft)	30				Impinger 5	3.0	
Stack Diameter (in.)	70.90				Impinger 6	1.0	
Stack Area (sq.ft.)	27.417				Gel	12.5	
Minutes Per Reading	5.0		10.17	9.40	Gain (grams)	321.5	
Minutes Per Point	5.0						

Traverse / Point	Time (min.)	Dry Gas Meter (ft3)	Pitot ^P (in. H2O)	Orifice ^H (in. H2O)	Dry Gas Temperature Inlet (oF)	Outlet (oF)	Vacuum (in. Hg.)	Stack Temp. (oF)	Wall Dist. (in.)	Isokin. (%)
Traverse 1	0.0	242.025								
1	5.0	245.210	0.25	1.34	66	66	5	307	1.5	102.1
2	10.0	248.520	0.27	1.45	67	67	5	308	4.7	102.0
3	15.0	251.830	0.27	1.44	67	67	5	309	8.4	102.1
4	20.0	255.320	0.30	1.60	67	67	5	309	12.5	102.1
5	25.0	258.700	0.28	1.50	68	68	5	310	17.7	102.2
6	30.0	262.140	0.29	1.55	68	68	5	310	25.2	102.3
7	35.0	266.710	0.51	2.73	69	69	6	310	45.6	102.5
8	40.0	271.320	0.52	2.78	69	69	6	311	53.2	102.5
9	45.0	275.800	0.49	2.63	70	70	6	311	58.3	102.4
10	50.0	280.290	0.49	2.64	71	71	6	310	62.5	102.4
11	55.0	284.700	0.47	2.53	72	72	6	310	66.1	102.4
12	60.0	289.020	0.45	2.43	73	73	6	309	69.4	102.3
Traverse 2	0.0	289.020								
1	5.0	293.680	0.52	2.82	74	74	7	308	1.5	102.5
2	10.0	298.480	0.55	2.99	75	75	7	309	4.7	102.5
3	15.0	303.190	0.53	2.87	75	75	7	310	8.4	102.5
4	20.0	307.760	0.50	2.71	75	75	7	311	12.5	102.5
5	25.0	312.290	0.49	2.65	76	76	7	312	17.7	102.5
6	30.0	316.870	0.50	2.71	77	77	7	314	25.2	102.5
7	35.0	320.810	0.37	2.01	77	77	6	313	45.6	102.3
8	40.0	324.580	0.34	1.84	76	76	6	313	53.2	102.2
9	45.0	328.230	0.32	1.73	75	75	6	312	58.3	102.1
10	50.0	331.650	0.28	1.51	75	75	6	312	62.5	102.2
11	55.0	335.130	0.29	1.57	75	75	6	311	66.1	102.2
12	60.0	338.490	0.27	1.46	75	75	6	311	69.4	102.2
Average:			0.398	2.145	72.2	72.2	6.0	310.4		102.3

Client: Metro Vancouver
Jobsite: WTE (Burnaby, B.C)
Source: Unit 2

Date: 1-May-26
Run: 2 - Particulate / Metals
Run Time: 09:25 - 11:26

Concentrations:

Particulate	3.19 mg/dscm	0.00139 gr/dscf
	1.82 mg/Acm	0.00080 gr/Acf
	2.91 mg/dscm (@ 11% O2)	0.00127 gr/dscf (@ 11% O2)

Emission Rates:

Particulate	0.210 Kg/hr	0.462 lb/hr
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Flue Gas Characteristics:

Flow	1097 dscm/min	38743 dscf/min
	18.28 dscm/sec	646 dscf/sec
	1917 Acf/min	67712 Acf/min

Velocity	12.546 m/sec	41.16 f/sec
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Temperature	152.0 oC	305.6 oF
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Moisture	13.7 %
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Gas Analysis	10.1 % O2 9.8 % CO2
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29.975 Mol. Wt (g/gmole) Dry
28.333 Mol. Wt (g/gmole) Wet

Sample Parameters:

Sample Volume	2.3860 dscm	84.263 dscf
Sample Time	120.0 minutes	
Isokineticity	102.5 %	

*** Standard Conditions:** Metric: 20 deg C, 101.325 kPa
Imperial: 68 deg F, 29.92 in.Hg

Client:	Metro Vancouver	Date:	1-May-26
Jobsite:	WTE (Burnaby, B.C)	Run:	2 - Particulate / Metals
Source:	Unit 2	Run Time:	09:25 - 11:26

Control Unit (Y)	0.9807	Collection:		Gas Analysis (Vol. %):		Condensate Collection:	
Nozzle Diameter (in.)	0.3034	Filter (grams)	0.00500	CO2	O2	Impinger 1	180.0
Pitot Factor	0.8437	Washings (grams)	0.00260	9.8	10.00	Impinger 2	72.0
Baro. Press. (in. Hg)	29.95		Traverse 1	9.8	10.10	Impinger 3	7.0
Static Press. (in. H2O)	-16.0		Traverse 2			Impinger 4	5.0
Stack Height (ft)	30	Total (grams) 0.00760				Impinger 5	2.0
Stack Diameter (in.)	70.90					Impinger 6	1.0
Stack Area (sq.ft.)	27.417					Gel	17.5
Minutes Per Reading	5.0			9.83	10.05	Gain (grams)	284.5
Minutes Per Point	5.0						

Traverse / Point	Time (min.)	Dry Gas Meter (ft3)	Pitot ΔP (in. H2O)	Orifice ΔH (in. H2O)	Dry Gas Temperature Inlet (oF)	Dry Gas Temperature Outlet (oF)	Vacuum (in. Hg.)	Stack Temp. (oF)	Wall Dist. (in.)	Isokin. (%)
Traverse 1	0.0	339.640								
1	5.0	343.640	0.40	2.07	67	67	3	292	1.5	102.9
2	10.0	347.720	0.42	2.16	67	67	3	298	4.7	102.8
3	15.0	351.650	0.39	2.01	68	68	3	297	8.4	102.5
4	20.0	355.740	0.43	2.18	68	68	3	310	12.5	102.5
5	25.0	359.770	0.42	2.12	67	67	4	311	17.7	102.4
6	30.0	363.620	0.38	1.92	68	68	4	310	25.2	102.6
7	35.0	367.160	0.32	1.62	69	69	4	311	45.6	102.6
8	40.0	370.560	0.29	1.49	70	70	4	300	53.2	102.5
9	45.0	374.120	0.32	1.64	71	71	5	306	58.3	102.4
10	50.0	377.580	0.30	1.53	72	72	5	308	62.5	102.7
11	55.0	380.920	0.28	1.43	72	72	5	306	66.1	102.5
12	60.0	384.200	0.27	1.39	72	72	5	303	69.4	102.3
Traverse 2	0.0	384.200								
1	5.0	387.300	0.24	1.24	73	73	4	304	1.5	102.4
2	10.0	390.530	0.26	1.34	74	74	4	306	4.7	102.5
3	15.0	393.800	0.27	1.39	74	74	4	307	8.4	101.9
4	20.0	397.220	0.29	1.49	75	75	4	308	12.5	102.7
5	25.0	400.580	0.28	1.44	76	76	4	309	17.7	102.5
6	30.0	403.950	0.28	1.44	77	77	4	308	25.2	102.6
7	35.0	408.320	0.47	2.43	78	78	5	309	45.6	102.8
8	40.0	412.750	0.48	2.49	79	79	5	306	53.2	102.7
9	45.0	417.040	0.45	2.33	79	79	5	308	58.3	102.9
10	50.0	421.200	0.43	2.23	80	80	5	309	62.5	101.9
11	55.0	425.280	0.41	2.12	79	79	4	308	66.1	102.4
12	60.0	429.020	0.34	1.78	79	79	4	301	69.4	102.6
Average:			0.351	1.803	73.1	73.1	4.2	305.6		102.5

Client: Metro Vancouver
Jobsite: WTE (Burnaby, B.C)
Source: Unit 2

Date: 1-May-26
Run: 3 - Particulate / Metals
Run Time: 11:38 - 13:40

Concentrations:

Particulate	2.3 mg/dscm	0.0010 gr/dscf
	1.3 mg/Acm	0.0006 gr/Acf
	2.0 mg/dscm (@ 11% O2)	0.0009 gr/dscf (@ 11% O2)

Emission Rates:

Particulate	0.16 Kg/hr	0.346 lb/hr
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Flue Gas Characteristics:

Flow	1125 dscm/min	39714 dscf/min
	18.74 dscm/sec	662 dscf/sec
	1961 Acm/min	69251 Acf/min

Velocity	12.831 m/sec	42.10 f/sec
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Temperature	151.2 oC	304.1 oF
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Moisture	13.7 %
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Gas Analysis	9.5 % O2
	10.3 % CO2

30.019 Mol. Wt (g/gmole) Dry
28.374 Mol. Wt (g/gmole) Wet

Sample Parameters:

Sample Volume	2.5347 dscm	89.514 dscf
Sample Time	120.0 minutes	
Isokineticity	102.6 %	

*** Standard Conditions:**

Metric:	20 deg C, 101.325 kPa
Imperial:	68 deg F, 29.92 in.Hg

Date: 1-May-26
Run: 3 - Particulate / Metals
Run Time: 11:38 - 13:40

Condensate Collection:	
Impinger 1	219.0
Impinger 2	62.0
Impinger 3	5.0
Impinger 4	1.0
Impinger 5	0.0
Impinger 6	0.0
Gel	14.5
Gain (grams)	301.5

A. Lanfranco and Associates Inc. (604-881-2582)

Client: Metro Vancouver
Jobsite: WTE (Burnaby,B.C)
Source: Unit 2

Sample Type: HF, HCl, NH ₃				
Parameter		Test 1	Test 2	Test 3
Test Date		1-May-26	1-May-26	1-May-26
Test Time		09:52 - 10:52	11:15 - 12:15	12:20 - 13:20
Test Duration	(min.)	60	60	60
Baro. Press.	(in. Hg)	29.95	29.95	29.95
DGM Factor	(Y)	0.9955	1.0215	1.0215
Initial Reading	(m ³)	688.6907	284.6645	284.7972
Final Reading	(m ³)	688.9084	284.7958	284.9192
Temp. Outlet	(Avg. oF)	65.0	62.0	64.0
Orifice Press.	(ΔH in.H2O)	0.50	0.50	0.50
Gas Volume	(Sm ³)	0.218	0.136	0.126
HF	(mg)	0.025	0.026	0.021
HCl	(mg)	0.037	0.038	0.031
NH ₃	(mg)	0.039	0.013	0.009
Oxygen	(Vol. %)	9.4	10.1	9.5
HF	(mg/Sm ³)	0.114	0.191	0.169
HF	(mg/Sm ³ @ 11% O2)	0.098	0.174	0.146
HCl	(mg/Sm ³)	0.168	0.283	0.250
HCl	(mg/Sm ³ @ 11% O2)	0.145	0.258	0.216
NH ₃	(mg/Sm ³)	0.178	0.099	0.071
NH ₃	(mg/Sm ³ @ 11% O2)	0.153	0.091	0.062
Moisture (isokinetic)	(Vol. %)	13.7	13.7	13.7

*Wet Basis Calculated on moisture from isokinetic tests
Tstd. (oF) 68

Pstd. (in. Hg) 29.92

Client: Metro Vancouver
Jobsite: WTE (Burnaby, B.C.)
Source: Unit 3

Date: 28-Apr-26
Run: 1 - Particulate / Metals
Run Time: 11:44 - 13:46

Concentrations:

Particulate	2.85 mg/dscm	0.00125 gr/dscf
	1.66 mg/Acm	0.00073 gr/Acf
	2.68 mg/dscm (@ 11% O2)	0.00117 gr/dscf (@ 11% O2)

Emission Rates:

Particulate	0.218 Kg/hr	0.481 lb/hr
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Flue Gas Characteristics:

Flow	1275 dscm/min	45042 dscf/min
	21.26 dscm/sec	751 dscf/sec
	2190 Acm/min	77340 Acf/min

Velocity	14.330 m/sec	47.01 f/sec
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Temperature	145.8 oC	294.5 oF
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Moisture	13.2 %
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Gas Analysis	10.4 % O2 9.5 % CO2
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29.935 Mol. Wt (g/gmole) Dry
28.359 Mol. Wt (g/gmole) Wet

Sample Parameters:

Sample Volume	2.8416 dscm	100.352 dscf
Sample Time	120.0 minutes	
Isokineticity	101.4 %	

*** Standard Conditions:** Metric: 20 deg C, 101.325 kPa
Imperial: 68 deg F, 29.92 in.Hg

Client: Metro Vancouver
Jobsite: WTE (Burnaby, B.C.)
Source: Unit 3

Date: 28-Apr-26
Run: 1 - Particulate / Metals
Run Time: 11:44 - 13:46

Control Unit (Y)	0.9807	Collection:	Gas Analysis (Vol. %):	Condensate Collection:
Nozzle Diameter (in.)	0.3034	Filter (grams) 0.00540	CO2 O2	Impinger 1 181.0
Pitot Factor	0.8437	Washings (grams) 0.00270	9.50 10.50	Impinger 2 103.0
Baro. Press. (in. Hg)	30.09	Traverse 1	9.50 10.27	Impinger 3 21.0
Static Press. (in. H2O)	-19.00	Traverse 2		Impinger 4 6.0
Stack Height (ft)	30			Impinger 5 1.0
Stack Diameter (in.)	70.90			Impinger 6 0.0
Stack Area (sq.ft.)	27.417			Gel 12.5
Minutes Per Reading	5.0			Gain (grams) 324.5
Minutes Per Point	5.0			

Traverse / Point	Time (min.)	Dry Gas Meter (ft3)	Pitot ΔP (in. H2O)	Orifice ΔH (in. H2O)	Dry Gas Temperature Inlet (oF)	Dry Gas Temperature Outlet (oF)	Vacuum (in. Hg.)	Stack Temp. (oF)	Wall Dist. (in.)	Isokin. (%)
Traverse 1	0.0	942.713								
1	5.0	946.820	0.45	2.24	58	58	4	292	1.5	101.4
2	10.0	951.220	0.52	2.58	59	59	4	298	4.7	101.4
3	15.0	955.880	0.58	2.88	60	60	5	298	8.4	101.6
4	20.0	960.590	0.59	2.94	61	61	5	297	12.5	101.5
5	25.0	965.420	0.62	3.09	62	62	6	299	17.7	101.5
6	30.0	970.220	0.61	3.04	62	62	6	297	25.2	101.6
7	35.0	974.430	0.47	2.36	63	63	6	295	45.6	101.0
8	40.0	978.350	0.40	2.01	63	63	6	293	53.2	101.7
9	45.0	982.120	0.37	1.87	63	63	6	291	58.3	101.5
10	50.0	985.770	0.35	1.76	63	63	6	294	62.5	101.3
11	55.0	989.380	0.34	1.71	64	64	5	292	66.1	101.3
12	60.0	992.730	0.29	1.47	64	64	5	288	69.4	101.4
Traverse 2	0.0	992.730								
1	5.0	996.140	0.30	1.52	64	64	5	287	1.5	101.5
2	10.0	999.660	0.32	1.62	65	65	5	289	4.7	101.4
3	15.0	1003.550	0.39	1.99	66	66	5	288	8.4	101.3
4	20.0	1007.580	0.42	2.12	67	67	5	295	12.5	101.4
5	25.0	1011.800	0.46	2.33	68	68	6	293	17.7	101.2
6	30.0	1016.080	0.47	2.39	68	68	6	291	25.2	101.4
7	35.0	1020.980	0.62	3.14	68	68	6	295	45.6	101.6
8	40.0	1025.720	0.58	2.92	68	68	6	298	53.2	101.7
9	45.0	1030.420	0.57	2.86	69	69	6	302	58.3	101.8
10	50.0	1034.850	0.51	2.56	68	68	6	301	62.5	101.5
11	55.0	1039.150	0.48	2.42	68	68	5	298	66.1	101.3
12	60.0	1043.230	0.43	2.18	69	69	5	296	69.4	101.2
Average:			0.464	2.333	64.6	64.6	5.4	294.5		101.4

Client: Metro Vancouver
Jobsite: WTE (Burnaby, B.C.)
Source: Unit 3

Date: 29-Apr-26
Run: 2 - Particulate / Metals
Run Time: 10:27 - 12:28

Concentrations:

Particulate	3.13 mg/dscm	0.00137 gr/dscf
	1.80 mg/Acm	0.00079 gr/Acf
	2.91 mg/dscm (@ 11% O2)	0.00127 gr/dscf (@ 11% O2)

Emission Rates:

Particulate	0.226 Kg/hr	0.498 lb/hr
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Flue Gas Characteristics:

Flow	1203 dscm/min	42489 dscf/min
	20.05 dscm/sec	708 dscf/sec
	2094 Acm/min	73967 Acf/min

Velocity	13.705 m/sec	44.96 f/sec
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Temperature	149.5 oC	301.1 oF
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Moisture	13.8 %
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Gas Analysis	10.3 % O2
	9.6 % CO2

29.943 Mol. Wt (g/gmole) Dry
28.296 Mol. Wt (g/gmole) Wet

Sample Parameters:

Sample Volume	2.7488 dscm	97.072 dscf
Sample Time	120.0 minutes	
Isokineticity	104.0 %	

*** Standard Conditions:** Metric: 20 deg C, 101.325 kPa
 Imperial: 68 deg F, 29.92 in.Hg

Date: 29-Apr-26
Run: 2 - Particulate / Metals
Run Time: 10:27 - 12:28

Traverse / Point	Time (min.)	Dry Gas Meter	Pitot ΔP	Orifice ΔH (in. H2O)	Dry Gas Temperature		Vacuum (in. Hg.)	Stack Temp. (oF)	Wall Dist. (in.)	Isokin. (%)
		(min.)	(in. H2O)		Inlet (oF)	Outlet (oF)				
Traverse 1	0.0	43.610								
1	5.0	46.980	0.29	1.52	60	60	5	285	1.5	103.3
2	10.0	50.420	0.30	1.56	61	61	5	292	4.7	104.0
3	15.0	53.700	0.28	1.45	61	61	5	296	8.4	102.8
4	20.0	57.120	0.30	1.55	62	62	5	302	12.5	103.8
5	25.0	60.640	0.32	1.65	63	63	5	303	17.7	103.4
6	30.0	64.020	0.29	1.50	64	64	5	302	25.2	104.0
7	35.0	68.290	0.46	2.39	65	65	6	300	45.6	104.2
8	40.0	72.690	0.49	2.54	65	65	6	301	53.2	104.1
9	45.0	77.300	0.54	2.80	65	65	6	302	58.3	104.0
10	50.0	82.100	0.58	3.02	66	66	6	299	62.5	104.2
11	55.0	86.720	0.54	2.83	66	66	6	295	66.1	103.6
12	60.0	91.100	0.48	2.53	67	67	6	291	69.4	103.6
Traverse 2	0.0	91.100								
1	5.0	95.380	0.46	2.40	68	68	6	302	1.5	104.0
2	10.0	99.980	0.53	2.75	68	68	6	305	4.7	104.4
3	15.0	104.750	0.57	2.97	69	69	6	304	8.4	104.2
4	20.0	109.600	0.59	3.07	69	69	6	305	12.5	104.2
5	25.0	114.540	0.61	3.17	69	69	6	305	17.7	104.4
6	30.0	118.880	0.47	2.45	70	70	6	305	25.2	104.1
7	35.0	123.140	0.45	2.35	71	71	6	306	45.6	104.3
8	40.0	127.120	0.39	2.04	72	72	6	306	53.2	104.4
9	45.0	130.780	0.33	1.73	73	73	5	306	58.3	104.1
10	50.0	134.380	0.32	1.67	72	72	5	308	62.5	104.3
11	55.0	137.880	0.30	1.57	73	73	5	306	66.1	104.3
12	60.0	141.190	0.27	1.42	73	73	5	300	69.4	103.6
Average:			0.423	2.205	67.2	67.2	5.6	301.1		104.0

Client: Metro Vancouver
Jobsite: WTE(Burnaby,B.C)
Source: Unit 3

Date: 29-Apr-26
Run: 3 - Particulate / Metals
Run Time: 12:53 - 14:54

Concentrations:

Particulate	2.01 mg/dscm	0.00088 gr/dscf
	1.16 mg/Acm	0.00051 gr/Acf
	1.93 mg/dscm (@ 11% O2)	0.00084 gr/dscf (@ 11% O2)

Emission Rates:

Particulate	0.145 Kg/hr	0.320 lb/hr
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Flue Gas Characteristics:

Flow	1204 dscm/min	42532 dscf/min
	20.07 dscm/sec	709 dscf/sec
	2091 Acn/min	73848 Acf/min

Velocity	13.683 m/sec	44.89 f/sec
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Temperature	151.3 oC	304.3 oF
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Moisture	13.2 %
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Gas Analysis	10.6 % O2 9.3 % CO2
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29.904 Mol. Wt (g/gmole) Dry
28.332 Mol. Wt (g/gmole) Wet

Sample Parameters:

Sample Volume	2.7371 dscm	96.661 dscf
Sample Time	120.0 minutes	
Isokineticity	103.4 %	

*** Standard Conditions:** Metric: 20 deg C, 101.325 kPa
Imperial: 68 deg F, 29.92 in.Hg

Client: Metro Vancouver
Jobsite: WTE(Burnaby,B.C)
Source: Unit 3

Date: 29-Apr-26
Run: 3 - Particulate / Metals
Run Time: 12:53 - 14:54

Control Unit (Y)	0.9807	Collection:	Gas Analysis (Vol. %):	Condensate Collection:
Nozzle Diameter (in.)	0.3034	Filter (grams) 0.00470	CO2 O2	Impinger 1 187.0
Pitot Factor	0.8437	Washings (grams) 0.00080	Traverse 1 9.33 10.43	Impinger 2 92.0
Baro. Press. (in. Hg)	30.14		Traverse 2 9.17 10.8	Impinger 3 17.0
Static Press. (in. H2O)	-19.00	Total (grams) 0.00550		Impinger 4 3.0
Stack Height (ft)	30			Impinger 5 1.0
Stack Diameter (in.)	70.90			Impinger 6 0.0
Stack Area (sq.ft.)	27.417			Gel 12.5
Minutes Per Reading	5.0		9.25 10.60	Gain (grams) 312.5
Minutes Per Point	5.0			

Traverse / Point	Time (min.)	Dry Gas Meter (ft3)	Pitot ΔP (in. H2O)	Orifice ΔH (in. H2O)	Dry Gas Inlet (oF)	Dry Gas Temperature Outlet (oF)	Vacuum (in. Hg.)	Stack Temp. (oF)	Wall Dist. (in.)	Isokin. (%)
Traverse 1	0.0	142.855								
1	5.0	146.150	0.27	1.41	70	70	5	302	1.5	103.2
2	10.0	149.580	0.29	1.52	71	71	5	304	4.7	103.6
3	15.0	152.820	0.26	1.36	71	71	5	304	8.4	103.3
4	20.0	156.360	0.31	1.62	72	72	5	305	12.5	103.3
5	25.0	159.840	0.30	1.57	70	70	5	303	17.7	103.5
6	30.0	163.440	0.32	1.67	70	70	5	303	25.2	103.7
7	35.0	167.850	0.48	2.51	71	71	5	304	45.6	103.8
8	40.0	172.330	0.50	2.61	71	71	5	305	53.2	103.4
9	45.0	176.900	0.52	2.71	71	71	5	306	58.3	103.5
10	50.0	181.690	0.57	2.98	72	72	5	306	62.5	103.5
11	55.0	186.400	0.55	2.88	72	72	5	305	66.1	103.5
12	60.0	190.760	0.47	2.47	72	72	5	300	69.4	103.2
Traverse 2	0.0	190.760								
1	5.0	195.180	0.48	2.53	73	73	5	302	1.5	103.5
2	10.0	199.780	0.52	2.73	74	74	5	304	4.7	103.5
3	15.0	204.630	0.58	3.04	74	74	5	305	8.4	103.5
4	20.0	209.580	0.60	3.15	75	75	5	306	12.5	103.7
5	25.0	214.600	0.62	3.25	75	75	5	307	17.7	103.6
6	30.0	218.880	0.45	2.35	73	73	5	306	25.2	103.7
7	35.0	223.050	0.43	2.25	73	73	6	306	45.6	103.4
8	40.0	226.930	0.37	0.19	74	74	6	305	53.2	102.9
9	45.0	230.650	0.34	1.78	74	74	5	305	58.3	103.3
10	50.0	234.200	0.31	1.63	74	74	5	305	62.5	103.2
11	55.0	237.640	0.29	1.52	74	74	4	304	66.1	103.3
12	60.0	241.030	0.28	1.48	75	75	4	300	69.4	103.2
Average:			0.421	2.134	72.5	72.5	5.0	304.3		103.4

Client: Metro Vancouver
Jobsite: WTE (Burnaby,B.C)
Source: Unit 3

Sample Type: HF, HCl, NH ₃				
Parameter		Test 1	Test 2	Test 3
Test Date		29-Apr-26	29-Apr-26	29-Apr-26
Test Time		10:35 - 11:35	11:55 - 12:55	13:05 - 14:05
Test Duration	(min.)	60	60	60
Baro. Press.	(in. Hg)	30.14	30.14	30.14
DGM Factor	(Y)	0.9955	0.9955	0.9955
Initial Reading	(m ³)	686.8320	686.9560	687.3292
Final Reading	(m ³)	686.9551	687.3262	687.7280
Temp. Outlet	(Avg. oF)	64.0	71.0	70.5
Orifice Press.	(ΔH in.H ₂ O)	0.30	0.50	0.30
Gas Volume	(Sm ³)	0.12448	0.36960	0.39833
HF	(mg)	0.021	0.020	0.020
HCl	(mg)	0.032	0.031	0.031
NH ₃	(mg)	0.047	0.504	0.204
Oxygen	(Vol. %)	10.4	10.3	10.6
HF	(mg/Sm ³)	0.172	0.055	0.051
HF	(mg/Sm ³ @ 11% O ₂)	0.162	0.051	0.049
HCl	(mg/Sm ³)	0.260	0.084	0.078
HCl	(mg/Sm ³ @ 11% O ₂)	0.245	0.078	0.075
NH ₃	(mg/Sm ³)	0.380	1.36	0.512
NH ₃	(mg/Sm ³ @ 11% O ₂)	0.358	1.27	0.492
Moisture (isokinetic)	(Vol. %)	13.2	13.8	13.2

*Wet Basis Calculated on moisture from isokinetic tests
Tstd. (oF) 68

Pstd. (in. Hg) 29.92

Client: Metro Vancouver
Jobsite: WTE (Burnaby,B.C)

Parameter: N₂O

Molecular Weight: 44.00 grams/mol **Reportable Detection**
Lab Detection Limit: 0.1 ppm **Limit:** 0.18 mg/Sm³

Sample ID	Date	Time	N ₂ O ppm	N ₂ O mg/Sm ³	N ₂ O mg/Sm ³ @ 11% O ₂
Unit 1 - Run 1	30-Apr-26	09:48 - 10:48	3.40	6.22	4.97
Unit 1 - Run 2	30-Apr-26	10:53 - 11:53	2.70	4.94	4.31
Unit 1 - Run 3	30-Apr-26	13:03 - 14:03	4.20	7.69	7.28
Average					5.52
Unit 2 - Run 1	30-Apr-26	10:02 - 11:02	3.00	5.49	4.73
Unit 2 - Run 2	30-Apr-26	11:12 - 12:12	3.40	6.22	5.68
Unit 2 - Run 3	30-Apr-26	12:13 - 13:13	4.00	7.32	6.35
Average					5.59
Unit 3 - Run 1	29-Apr-26	10:35 - 11:35	2.00	3.66	3.45
Unit 3 - Run 2	29-Apr-26	11:39 - 12:39	3.60	6.59	6.13
Unit 3 - Run 3	29-Apr-26	12:48 - 13:48	5.30	9.70	9.03
Average					6.20

Date:	30-Apr-26			30-Apr-26			29-Apr-26		
	Unit 1			Unit 2			Unit 3		
	Run 1	Run 2	Run 3	Run 1	Run 2	Run 3	Run 1	Run 2	Run 3
Test Times:	09:48 - 10:48	10:53 - 11:53	11:59 - 12:59	11:12 - 12:12	12:15 - 13:15	No Run - Bad Canister	10:35 - 11:35	11:39 - 12:35	12:48 - 11:48
Methane (ppmv)	ND	ND	ND	ND	ND	N/A	ND	ND	ND
Ethane (ppmv)	ND	ND	ND	ND	ND	N/A	ND	ND	ND
Ethene (ppmv)	ND	ND	ND	ND	ND	N/A	ND	ND	ND
C3 as Propane (ppmv)	ND	ND	ND	ND	ND	N/A	ND	ND	ND
C4 as n-Butane (ppmv)	ND	ND	ND	ND	ND	N/A	ND	ND	ND
C5 as n-Pentane (ppmv)	ND	ND	ND	ND	ND	N/A	ND	ND	ND
C6 as n-Hexane (ppmv)	ND	ND	ND	ND	ND	N/A	ND	ND	ND
C6+ as n-Hexane (ppmv)	ND	ND	ND	ND	ND	N/A	ND	ND	ND

Detection Limits:

Methane	3.2	3.1	3.2	3.1	3.4	N/A	3.3	3.2	3.5
Ethane	0.95	0.94	0.95	0.94	1.0	N/A	0.98	0.96	1.1
Ethene	0.95	0.94	0.95	0.94	1.0	N/A	0.98	0.96	1.1
C3 as Propane	1.6	1.6	1.6	1.6	1.7	N/A	1.6	1.6	1.8
C4 as n-Butane	1.6	1.6	1.6	1.6	1.7	N/A	1.6	1.6	1.8
C5 as n-Pentane	1.6	1.6	1.6	1.6	1.7	N/A	1.6	1.6	1.8
C6 as n-Hexane	9.5	9.4	9.5	9.4	10.0	N/A	9.8	9.6	11.0
C6+	1.6	1.6	1.6	1.6	1.7	N/A	1.6	1.6	1.8

Using 1/2 DL Convention

Sample Date:	30-Apr-26			30-Apr-26			29-Apr-26		
	Unit 1			Unit 2			Unit 3		
	Run 1	Run 2	Run 3	Run 1	Run 2	Run 3	Run 1	Run 2	Run 3
Test Times:	09:48 - 10:48	10:53 - 11:53	11:59 - 12:59	11:12 - 12:12	12:15 - 13:15	No Run - Bad Canister	10:35 - 11:35	11:39 - 12:35	12:48 - 11:48
Methane (ppm)	1.60	1.55	1.60	1.55	1.70	N/A	1.65	1.60	1.75
Ethane (ppm)	0.48	0.47	0.48	0.47	0.50	N/A	0.49	0.48	0.55
Ethene (ppm)	0.48	0.47	0.48	0.47	0.50	N/A	0.49	0.48	0.55
C3 as Propane (ppm)	0.80	0.80	0.80	0.80	0.85	N/A	0.80	0.80	0.90
C4 as n-Butane (ppm)	0.80	0.80	0.80	0.80	0.85	N/A	0.80	0.80	0.90
C5 as n-Pentane (ppm)	0.80	0.80	0.80	0.80	0.85	N/A	0.80	0.80	0.90
C6 as n-Hexane (ppm)	4.75	4.70	4.75	4.70	5.00	N/A	4.90	4.80	5.50
C6+ as n-Hexane (ppm)	0.80	0.80	0.80	0.80	0.85	N/A	0.80	0.80	0.90

Methane (mg/m³ as CH₄)	1.07	1.03	1.07	1.03	1.13	N/A	1.10	1.07	1.17
Ethane (mg/m³ as CH₄)	0.32	0.31	0.32	0.31	0.33	N/A	0.33	0.32	0.37
Ethene (mg/m³ as CH₄)	0.32	0.31	0.32	0.31	0.33	N/A	0.33	0.32	0.37
C3 as Propane (mg/m³ as CH₄)	0.53	0.53	0.53	0.53	0.57	N/A	0.53	0.53	0.60
C4 as n-Butane (mg/m³ as CH₄)	0.53	0.53	0.53	0.53	0.57	N/A	0.53	0.53	0.60
C5 as n-Pentane (mg/m³ as CH₄)	0.53	0.53	0.53	0.53	0.57	N/A	0.53	0.53	0.60
C6 as n-Hexane (mg/m³ as CH₄)	3.17	3.14	3.17	3.14	3.34	N/A	3.27	3.20	3.67
C6+ as n-Hexane (mg/m³ as CH₄)	0.53	0.53	0.53	0.53	0.57	N/A	0.53	0.53	0.60

Total mg/Sm³ @11% O₂ as CH₄	5.86	4.89	4.94	5.37	5.42	0.00	4.57	5.06	5.53
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All data is corrected to standard conditions (S) of 20 °C, 101.325 kPa (dry) unless otherwise noted.

APPENDIX - E

FIELD DATA SHEETS

CLIENT: Veolia MV. WTE					NOZZLE G3121		DIAMETER, IN. 0.2063		IMPINGER		INITIAL	FINAL	TOTAL GAIN		
SOURCE: Unit 1					PROBE 741		Cp 0.8512		VOLUMES	(mL)	(mL)	(mL)			
PARAMETER / RUN No Metals Partic Run 1					PORT LENGTH 7"					Imp. #1	0	206			
DATE 29 Apr 2026					STATIC PRESSURE, IN. H2O -13.8					Imp. #2	100	173			
OPERATOR:					STACK DIAMETER					Imp. #3	100	117			
CONTROL UNIT CAE AC1					STACK HEIGHT					Imp. #4	0	12			
Y 0.9604										Imp. #5	100	103			
ΔH@ 1011										Imp. #6	100	101			
BAROMETRIC PRESSURE, IN. Hg 30.24					INITIAL LEAK TEST 0.001@15"					Upstream Diameters					
ASSUMED MOISTURE, Bw 12.0%					FINAL LEAK TEST 0.001@15"					Downstream Diameters					
										Testo 3					
Point	Clock Time	Dry Gas Meter ft³	Pitot ΔP IN. H₂O	Orifice ΔH IN. H₂O	Temperature °F					Pump Vac. IN. Hg	Fyrites				
					Dry Gas Outlet	Stack	Probe	Box	Impinger Exit		CO₂ Vol. %	O₂ Vol. %			
	1030	43.115													
1		48.44	0.25	1.38	64	294	253	252	57	3					
2		51.69	0.24	1.32	65	300									
3		55.00	0.25	1.37	65	302	253	254	56	3	11.0	8.0			
4		58.17	0.23	1.26	65	304									
5		61.42	0.24	1.32	66	303	255	253	56	3					
6		64.74	0.25	1.37	66	303									
7		69.08	0.42	2.31	68	302	256	254	56	4.0	10.5	8.5			
8		73.44	0.43	2.37	69	302									
9		77.84	0.43	2.39	70	299	252	254	55	4.5	10.5	8.7			
10		82.19	0.42	2.33	71	300									
11		86.50	0.41	2.28	72	300	251	253	56	4.5					
12		90.81	0.41	2.29	73	300									
1		94.04	0.23	1.28	73	300	254	256	57	3.5					
2		97.35	0.24	1.34	74	299									
3		100.73	0.25	1.40	74	299	257	255	56	3.5	10.5	8.7			
4		104.37	0.29	1.62	74	300									
5		108.07	0.30	1.68	74	300	255	254	55	3.5					
6		111.89	0.32	1.79	74	300									
7		116.00	0.37	2.07	74	299	252	254	53	4.0	10.8	8.2			
8		120.06	0.36	2.01	75	301									
9		124.40	0.34	1.90	75	300	253	254	53	4.0					
10		128.00	0.35	1.96	75	299									
11		131.89	0.33	1.85	75	300	254	254	53	4.0	10.4	8.8			
12	1253	135.70	0.32</												

[illegible]

METRO VANCOUVER WTE - BURNABY B.C.					NOZZLE	DIAMETER, IN.					IMPINGER	INITIAL	FINAL	TOTAL GAIN	
SOURCE					PROBE	Cp					VOLUMES	(mL)	(mL)	(mL)	
PARAMETER / RUN No					PORT LENGTH					Imp. #1					
DATE					STATIC PRESSURE, IN. H2O					Imp. #2					
OPERATOR:					STACK DIAMETER					Imp. #3					
CONTROL UNIT					STACK HEIGHT					Imp. #4					
Y										Imp. #5					
ΔH@										Imp. #6					
BAROMETRIC PRESSURE, IN. Hg					INITIAL LEAK TEST					Imp. #7					
ASSUMED MOISTURE, Bw					FINAL LEAK TEST					Imp. #8					
										Test #3					
Point	Clock Time	Dry Gas Meter ft ³	Pitot ΔP IN. H ₂ O	Orifice ΔH IN. H ₂ O	Temperature °F					Pump Vac. IN. Hg	Fyrites				
					Dry Gas Outlet	Stack	Probe	Box	Impinger Exit		CO ₂ Vol. %	O ₂ Vol. %			
	11:52	228.800													
1		232.39	0.30	1.55	81	301	247	256	45	3					
2	10	236.04	0.37	1.57	81	303									
3		239.85	0.34	1.74	81	305	259	260	47	3	9.0	10.94			
4	20	243.95	0.39	2.00	81	306									
5		248.05	0.41	2.11	82	304	258	259	49	3					
6	30	252.43	0.45	2.30	81	306									
7		256.59	0.40	2.04	81	308	253	254	51	4	9.0	10.47			
8	40	260.88	0.44	2.25	81	307									
9		265.43	0.49	2.50	81	307	254	255	52	4					
10	50	269.58	0.40	2.05	82	306									
11		273.67	0.38	1.95	82	304	253	256	50	4	9.5	10.29			
12	60	277.16	0.29	1.50	82	299									
1		280.70	0.29	1.50	83	302	253	255	52	5					
2	10	284.29	0.30	1.54	83	305					9.0	10.91			
3		288.10	0.39	1.75	83	306	254	253	46	5					
4	20	292.20	0.39	2.01	84	305									
5		296.40	0.41	2.11	83	306	256	252	44	5					
6	30	300.65	0.42	2.16	84	307									
7		304.82	0.40	2.06	83	307	253	253	45	5	9.5	10.14			
8	40	308.88	0.38	1.96	84	305									
9		312.72	0.39	1.75	84	307	251	250	46	4					
10	50	316.37	0.30	1.54	84	306									
11		319.80	0.28	1.44	84	304	253	251	48	4	10.0	9.89			
12	13:53	323.05	0.29	1.25	85	294									

4A

CLIENT: Veolia					NOZZLE G-3121		DIAMETER, IN. 0.3063		IMPINGER		INITIAL	FINAL	TOTAL GAIN	
SOURCE: Unit 2					PROBE 7A-1		Cp 0.0812		VOLUMES		(mL)	(mL)	(mL)	
PARAMETER / RUN No Partic / Metals Run 1					PORT LENGTH					Imp. #1		0	228	
DATE 30 Apr 2026					STATIC PRESSURE, IN. H2O -16"					Imp. #2		100	189	
OPERATOR: LA CWO					STACK DIAMETER					Imp. #3		100	103	
CONTROL UNIT CAR 024					STACK HEIGHT					Imp. #4		0	5	
Y 0.9907										Imp. #5		100	103	
ΔH@ 1.844										Imp. #6		100	101	
BAROMETRIC PRESSURE, IN. Hg 30.10					INITIAL LEAK TEST 0.001215"					Upstream Diameters				
ASSUMED MOISTURE, Bw 14%					FINAL LEAK TEST 0.002015"					Downstream Diameters				
Test 4														
Point	Clock Time	Dry Gas Meter ft ³	Pitot ΔP IN. H2O	Orifice ΔH IN. H2O	Temperature °F					Pump Vac. IN. Hg	Fyrites			
					Dry Gas Outlet	Stack	Probe	Box	Impinger Exit		CO ₂ Vol. %	O ₂ Vol. %		
1	1110	242.025	0.25	1.34	66	307	231	234	53	5				
2		248.52	0.27	1.45	67	308	231	234	53	5	10.0	9.5		
3		251.83	0.27	1.44	67	309	232	233	52	5				
4		255.32	0.30	1.60	67	309	232	233	52	5				
5		258.70	0.28	1.50	68	310	233	235	52	5				
6		262.14	0.29	1.55	68	310	231	235	52	5	10.0	9.5		
7		266.71	0.31	1.73	69	310	231	235	52	6				
8		271.32	0.32	1.78	69	311	232	234	53	6				
9		275.90	0.49	2.63	70	311	232	234	53	6				
10		280.29	0.49	2.64	71	310	231	235	53	6	10.5	9.0		
11		284.70	0.47	2.83	72	310	231	235	53	6				
12		289.02	0.45	2.43	73	309								
1		293.68	0.52	2.82	74	308	231	237	52	7				
2		298.48	0.53	2.99	75	309					10.0	9.7		
3		303.19	0.53	2.87	75	310	231	236	52	7	10.0	9.7		
4		307.76	0.50	2.71	76	311								
5		312.29	0.49	2.65	76	312	232	235	52	7				
6		316.97	0.30	2.71	77	314					10.5	9.0		
7		320.81	0.37	2.01	77	313	233	234	52	6				
8		324.58	0.34	1.84	76	313								
9		328.23	0.32	1.73	75	312	234	235	52	6				
10		331.65	0.28	1.51	75	312					10.0	9.7		
11		335.13	0.29	1.57	75	311	233	235	52	6				
12	1314	338.49	0.27	1.46	75	311								

LA

METRO VANCOUVER WTE - BURNABY B.C.					NOZZLE	G-304	DIAMETER, IN.	0.3034	IMPINGER	INITIAL	FINAL	TOTAL GAIN			
					PROBE	F.B	Cp	0.8437	VOLUMES	(mL)	(mL)	(mL)			
SOURCE Unit #2									Imp. #1	180	180	180			
PARAMETER / RUN No Metals/Particulate / R-2					PORT LENGTH				Imp. #2	100	172	72			
DATE May 1st, 2026					STATIC PRESSURE, IN. H2O -16"				Imp. #3	100	107	7			
OPERATOR: DS + JG					STACK DIAMETER 70.96"				Imp. #4	0	5	5			
CONTROL UNIT CAE 024 Y 0.9807					STACK HEIGHT 30.0'				Imp. #5	100	102	2			
									Imp. #6	150	101	1			
BAROMETRIC PRESSURE, IN. Hg 29.95					INITIAL LEAK TEST 0.003 @ 15"				Imp. #7	200g					
ASSUMED MOISTURE, Bw 14%					FINAL LEAK TEST 0.004 @ 15"				Imp. #8						
									Tests #4						
Point	Clock Time	Dry Gas Meter ft ³	Pitot ΔP IN. H ₂ O	Orifice ΔH IN. H ₂ O	Temperature °F					Pump Vac. IN. Hg	Fyrites				
					Dry Gas Outlet	Stack	Probe	Box	Impinger Exit		CO ₂ Vol. %	O ₂ Vol. %			
1		339.640													
2	10	343.64	0.40	2.07	67	292	248	244	52	3					
3		347.72	0.42	2.16	67	292					9.5	10.0			
4	20	351.65	0.39	2.01	68	297	246	252	50	3					
5		355.74	0.43	2.18	68	310									
6	30	359.77	0.42	2.17	67	311	263	253	48	4					
7		363.62	0.38	1.97	68	310									
8	40	367.16	0.37	1.62	69	311	249	252	46	4	10.0	9.9			
9		370.56	0.29	1.49	70	300									
10	50	374.12	0.32	1.64	71	306	251	250	48	5					
11		377.58	0.30	1.53	72	308									
12	60	380.92	0.28	1.43	72	306	251	251	49	5	10.0	10.1			
		384.20	0.24	1.39	72	303									
1		387.30	0.24	1.24	73	304	250	250	50	4					
2	10	390.53	0.26	1.34	74	306					9.5	10.6			
3		393.80	0.27	1.39	74	307	251	250	52	4					
4	20	397.22	0.29	1.49	75	308									
5		400.58	0.28	1.44	76	309	249	251	48	4					
6	30	403.95	0.28	1.44	77	308					9.5	10.2			
7		408.37	0.47	2.43	78	309	250	249	49	5					
8	40	412.95	0.48	2.49	79	306									
9		417.04	0.45	2.33	79	308	252	250	46	5	10.5	9.5			
10	50	421.20	0.43	2.23	80	309									
11		425.28	0.41	2.17	79	308	248	251	47	4					
12	1126	429.02	0.34	1.78	79	301									

4

METRO VANCOUVER WTE - BURNABY B.C.					NOZZLE	DIAMETER, IN.		IMPINGER	INITIAL	FINAL	TOTAL GAIN				
					PROBE	Cp		VOLUMES	(mL)	(mL)	(mL)				
SOURCE									Imp. #1						
PARAMETER / RUN No					PORT LENGTH				Imp. #2						
DATE					STATIC PRESSURE, IN. H2O				Imp. #3						
OPERATOR:					STACK DIAMETER				Imp. #4						
CONTROL UNIT					STACK HEIGHT				Imp. #5						
									Imp. #6						
BAROMETRIC PRESSURE, IN. Hg					INITIAL LEAK TEST				Imp. #7						
ASSUMED MOISTURE, Bw					FINAL LEAK TEST				Imp. #8						
									Test #4						
Point	Clock Time	Dry Gas Meter ft ³	Pitot ΔP IN. H ₂ O	Orifice ΔH IN. H ₂ O	Temperature °F					Pump Vac. IN. Hg	Fyrites				
					Dry Gas Outlet	Stack	Probe	Box	Impinger Exit		CO ₂ Vol. %	O ₂ Vol. %			
	11:38	429.310													
1		433.54	0.43	2.77	80	293	233	249	45	5					
2	10	437.85	0.43	2.36	81	302					10.0	10.0			
3		442.25	0.47	2.45	83	308	240	241	47	5					
4	20	446.47	0.49	2.70	82	305									
5		450.44	0.39	2.04	82	306	260	258	50	5					
6	30	454.50	0.40	2.09	81	304					10.5	9.5			
7		458.25	0.34	1.78	82	303	248	249	52	5					
8	40	461.78	0.30	1.57	82	303									
9		465.48	0.33	1.73	83	303	249	248	54	4					
10	50	469.02	0.30	1.57	83	306					10.0	9.7			
11		472.48	0.29	1.51	83	308	250	250	46	4					
12	60	475.96	0.29	1.53	83	301									
1		479.32	0.27	1.42	82	302	248	249	47	5					
2	10	482.79	0.29	1.52	83	303					10.5	9.5			
3		486.26	0.29	1.52	83	304	247	248	49	5					
4	20	489.85	0.31	1.63	83	304									
5		493.38	0.30	1.57	82	305	248	249	50	5					
6	30	496.85	0.29	1.52	82	304					10.5	9.1			
7		501.35	0.49	2.53	81	305	248	249	51	6					
8	40	505.88	0.50	2.60	80	306									
9		510.30	0.48	2.49	80	307	249	248	50	6					
10	50	514.59	0.45	2.34	80	306					11.0	9.0			
11		518.63	0.40	2.08	80	307	248	249	48	6					
12	1:40	522.93	0.35	1.84	81	300									

Client MU WTL Y LMU-A 9955
 Source Unit #3 Cp
 Parameter GAS Pbar 30.14 Static -19
 Date 28 April 26 Operator JG, Ben
 Stack Dia 70.90 Down Up

Leak Check	Run 1	Run 2	Run 3
Initial	<u>1.0001</u>	<u>1.0001</u>	<u>1.0001</u>
Final	<u>1.0001</u>	<u>1.0001</u>	<u>1.0001</u>

Test No.	Time (hhmm)	DGM Volume (cu ft) / (m³)	Temperature (°F)		Imp. Vol. (mL)	ΔP IN. H ₂ O		
			DGM Outlet	Stack		R1	R2	R3
1	10:35	686.8320	57	302				
2	11:35	686.9551	71	302				
	11:39	686.9560	68	301				
3	12:39	687.3262	74	301				
	12:48	687.3292	69	302				
	13:48	687.7280	72	302				

Client MU WTE Y LMU-A 9955
 Source Unit #1 Cp
 Parameter GAS Pbar 30.07 Static -14
 Date 30 April 26 Operator JG, Ben
 Stack Dia 70.90 Down Up

Leak Check	Run 1	Run 2	Run 3
Initial	<u>1.0001</u>	<u>1.0001</u>	<u>1.0001</u>
Final	<u>1.0001</u>	<u>1.0001</u>	<u>1.0001</u>

Test No.	Time (hhmm)	DGM Volume (cu ft) / (m³)	Temperature (°F)		Imp. Vol. (mL)	ΔP IN. H ₂ O		
			DGM Outlet	Stack		R1	R2	R3
1	9:48	687.7301	62	300				
2	10:48	688.0742	70	300				
	10:53	688.0764	67	301				
3	11:53	688.3852	72	301				
	11:59	688.3862	70					
	12:59	688.6994	74					

Client MU WTE Y Lmu-A, 9955
 Source Unit # 2 Cp _____
 Parameter GAS Pbar 29.95 Static -16
 Date 1 MAY 20 Operator SG
 Stack Dia 72.90 Down _____ Up _____

Client _____ Y _____
 Source _____ Cp _____
 Parameter _____ Pbar _____ Static _____
 Date _____ Operator _____
 Stack Dia _____ Down _____ Up _____

4A

Leak Check	Run 1	Run 2	Run 3
Initial	<u>10001</u>	<u>10001</u>	<u>10001</u>
Final	<u>10001</u>	<u>10001</u>	<u>10001</u>

Leak Check	Run 1	Run 2	Run 3
Initial			
Final			

Test No.	Time (hhmm)	DGM Volume (cu ft) / (m³)	Temperature (°F)		Imp. Vol. (mL)	ΔP IN. H₂O		
			DGM Outlet	Stack		R1	R2	R3
1	<u>9:52</u>	<u>689.6907</u>	<u>60</u>	<u>309</u>				
2	<u>10:52</u>	<u>688.9084</u>	<u>70</u>	<u>309</u>				
	<u>10:56</u>	<u>688.9092</u>	<u>68</u>	<u>308</u>				
3	<u>11:56</u>	<u>689.0401</u>	<u>72</u>	<u>308</u>				
	<u>12:02</u>	<u>689.0412</u>	<u>69</u>	<u>308</u>				
	<u>13:02</u>	<u>689.1770</u>	<u>73</u>	<u>308</u>				

Test No.	Time (hhmm)	DGM Volume (cu ft) / (m³)	Temperature (°F)		Imp. Vol. (mL)	ΔP IN. H₂O		
			DGM Outlet	Stack		R1	R2	R3
1								
2								
3								

LA

Client

MU WTE

Source

Unit #3

Date

29 April 26

	Run 1	Run 2	Run 3	Run 4	Run 5
Pbar (in. Hg)	30.14	30.14	30.14		
Canister Number	SC02801	SC01561	SC02340		
Controller Number	0A002263	CA000263	0A002263		
Gauge Number	NA	NA	NA		
Initial: Start Time	10:35	11:39	12:48		
Flask Vac. (in. Hg)	-30	-29	-28		
Final: End Time	11:35	12:35	13:48		
Flask Vac. (in. Hg)	-10	-8	-10		

Source

Unit #1

Date

30 April 26

	Run 1	Run 2	Run 3	Run 4	Run 5
Pbar (in. Hg)	30.07	30.07	30.07		
Canister Number	SC01956	SC02321	SC00651		
Controller Number	0A02283	0A02283	0A02283		
Gauge Number	N/A	N/A	N/A		
Initial: Start Time	9:48	10:53	11:59		
Flask Vac. (in. Hg)	-30	-30	-29		
Final: End Time	10:48	11:53	12:59		
Flask Vac. (in. Hg)	-7	-7	-7		

Source

Date

	Run 1	Run 2	Run 3	Run 4	Run 5
Pbar (in. Hg)					
Canister Number					
Controller Number					
Gauge Number					
Initial: Start Time					
Flask Vac. (in. Hg)					
Final: End Time					
Flask Vac. (in. Hg)					

Source

Date

	Run 1	Run 2	Run 3	Run 4	Run 5
Pbar (in. Hg)					
Canister Number					
Controller Number					
Gauge Number					
Initial: Start Time					
Flask Vac. (in. Hg)					
Final: End Time					
Flask Vac. (in. Hg)					

LA

Client MVWTESource Unit #2Date 30 Apr 26

	Run 1	Run 2	Run 3	Run 4	Run 5
Pbar (in. Hg)	30.09	30.09			
Canister Number	SC10304	SC02183			
Controller Number	0A00133	0A00133			
Gauge Number					
Initial: Start Time	11:12	12:15			
Flask Vac. (in. Hg)	-28.5	-24.8			
Final: End Time	12:12	13:15			
Flask Vac. (in. Hg)	-7.0	-7.0			

Source _____

Date _____

	Run 1	Run 2	Run 3	Run 4	Run 5
Pbar (in. Hg)					
Canister Number					
Controller Number					
Gauge Number					
Initial: Start Time					
Flask Vac. (in. Hg)					
Final: End Time					
Flask Vac. (in. Hg)					

Source _____

Date _____

	Run 1	Run 2	Run 3	Run 4	Run 5
Pbar (in. Hg)					
Canister Number					
Controller Number					
Gauge Number					
Initial: Start Time					
Flask Vac. (in. Hg)					
Final: End Time					
Flask Vac. (in. Hg)					

Source _____

Date _____

	Run 1	Run 2	Run 3	Run 4	Run 5
Pbar (in. Hg)					
Canister Number					
Controller Number					
Gauge Number					
Initial: Start Time					
Flask Vac. (in. Hg)					
Final: End Time					
Flask Vac. (in. Hg)					

APPENDIX – F

CALIBRATION SHEETS and

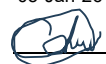
TECHNICIAN CERTIFICATES

A. LANFRANCO and ASSOCIATES INC.

ENVIRONMENTAL CONSULTANTS

GLASS NOZZLE DIAMETER CALIBRATION FORM

Calibrated by: Christian De La O
Date: 05-Jan-26

Signature: 

Nozzle I.D.	d1	d2	d3	difference	average dia.	average area
	(inch)	(inch)	(inch)	(inch)	(inch)	(ft ²)
A	0.1270	0.1270	0.1255	0.0015	0.1265	0.0000873
G-165	0.1650	0.1660	0.1645	0.0015	0.1652	0.0001488
G-170	0.1700	0.1710	0.1695	0.0015	0.1702	0.0001579
G-178	0.1809	0.1799	0.1792	0.0017	0.1800	0.0001767
J	0.1881	0.1884	0.1874	0.0010	0.1880	0.0001927
Q	0.2030	0.2040	0.2050	0.0020	0.2040	0.0002270
L	0.2100	0.2070	0.2090	0.0030	0.2087	0.0002375
P-2240	0.2160	0.2155	0.2170	0.0015	0.2162	0.0002549
P-224	0.2160	0.2170	0.2150	0.0020	0.2160	0.0002545
G-221	0.2160	0.2185	0.2190	0.0030	0.2178	0.0002588
G-2232	0.2210	0.2200	0.2215	0.0015	0.2208	0.0002660
P-223	0.2297	0.2296	0.2298	0.0002	0.2297	0.0002878
C-250	0.2500	0.2500	0.2500	0.0000	0.2500	0.0003409
P-250	0.2455	0.2470	0.2480	0.0025	0.2468	0.0003323
P-254	0.2510	0.2511	0.2498	0.0013	0.2506	0.0003426
P-256	0.2520	0.2510	0.2515	0.0010	0.2515	0.0003450
C-280	0.2790	0.2795	0.2805	0.0015	0.2797	0.0004266
C-281	0.2800	0.2820	0.2780	0.0040	0.2800	0.0004276
C-282	0.2800	0.2800	0.2800	0.0000	0.2800	0.0004276
C-283	0.2800	0.2800	0.2800	0.0000	0.2800	0.0004276
G-2825	0.2780	0.2762	0.2775	0.0018	0.2772	0.0004192
G-304	0.3038	0.3028	0.3035	0.0010	0.3034	0.0005020
G-3121	0.3055	0.3063	0.3070	0.0015	0.3063	0.0005116
P-307	0.3070	0.3065	0.3075	0.0010	0.3070	0.0005140
G-309				0.0000	#DIV/0!	#DIV/0!
G-3092	0.3100	0.3085	0.3090	0.0015	0.3092	0.0005213
P-311	0.3105	0.3115	0.3110	0.0010	0.3110	0.0005275
P-314	0.3135	0.3135	0.3140	0.0005	0.3137	0.0005366
P-315	0.3145	0.3145	0.3145	0.0000	0.3145	0.0005395
V-06	0.3210	0.3200	0.3200	0.0010	0.3203	0.0005597
P-34	0.3430	0.3430	0.3430	0.0000	0.3430	0.0006417
343-GS	0.3430	0.3430	0.3430	0.0000	0.3430	0.0006417
P-343	0.3425	0.3420	0.3425	0.0005	0.3423	0.0006392
G-345	0.3470	0.3475	0.3475	0.0005	0.3473	0.0006580
G-349	0.3655	0.3659	0.3665	0.0010	0.3660	0.0007305
G-367	0.3680	0.3660	0.3665	0.0020	0.3668	0.0007339
G-372	0.3681	0.3681	0.3682	0.0001	0.3681	0.0007392
P-375	0.3705	0.3710	0.3709	0.0005	0.3708	0.0007499
C-3751	0.3675	0.3672	0.3673	0.0003	0.3673	0.0007359
P-38	0.3750	0.3750	0.3750	0.0000	0.3750	0.0007670
P-401	0.3980	0.3990	0.4000	0.0020	0.3990	0.0008683
P-405	0.4047	0.4055	0.4056	0.0009	0.4053	0.0008958
P-407	0.4065	0.4070	0.4072	0.0007	0.4069	0.0009030
P-406	0.4058	0.4062	0.4060	0.0004	0.4060	0.0008990
P-41	0.4060	0.4060	0.4060	0.0000	0.4060	0.0008990
G-437	0.4277	0.4264	0.4265	0.0013	0.4269	0.0009938
G-433	0.4360	0.4360	0.4355	0.0005	0.4358	0.0010360
P-47	0.4680	0.4680	0.4680	0.0000	0.4680	0.0011946
P-29	0.4681	0.4683	0.4685	0.0004	0.4683	0.0011961
G-468	0.4700	0.4685	0.4720	0.0035	0.4702	0.0012057
P-7	0.4965	0.4945	0.4975	0.0030	0.4962	0.0013427
G-540	0.5390	0.5402	0.5395	0.0012	0.5396	0.0015879

(a) D1, D2, D3 = three different nozzle diameters; each diameter must be measured to within (0.025mm) 0.001 in.

(b) Difference = maximum difference between any two diameters; must be less than or equal to (0.1mm) 0.004 in.

(c) Average = average of D1, D2 and D3

 Nozzles highlighted in blue are out for repair

 Nozzles highlighted in yellow are due calibration

Pitot Tube Calibration

Date: 6-Jan-26
Pbar (in.Hg): 29.64

Temp (R): 528
Dn (in.): 0.25

Pitot ID: **7A-1**

Reference Pitot (in H2O)	S-Type Pitot (in H2O)	Air Velocity (ft/s)	Pitot Coeff. Cp	Deviation (absolute)
0.110	0.150	22.0	0.8478	0.0034
0.230	0.310	31.8	0.8527	0.0016
0.360	0.480	39.8	0.8574	0.0062
0.430	0.585	43.5	0.8488	0.0024
0.640	0.870	53.1	0.8491	0.0020
Average :			0.8512	0.0031

Pitot ID: **ST 8A**

Reference Pitot (in H2O)	S-Type Pitot (in H2O)	Air Velocity (ft/s)	Pitot Coeff. Cp	Deviation (absolute)
		0.0	#DIV/0!	#DIV/0!
		0.0	#DIV/0!	#DIV/0!
		0.0	#DIV/0!	#DIV/0!
		0.0	#DIV/0!	#DIV/0!
		0.0	#DIV/0!	#DIV/0!
Average :			#DIV/0!	#DIV/0!

Pitot ID: **7B**

Reference Pitot (in H2O)	S-Type Pitot (in H2O)	Air Velocity (ft/s)	Pitot Coeff. Cp	Deviation (absolute)
0.140	0.195	24.8	0.8388	0.0048
0.270	0.360	34.5	0.8574	0.0137
0.430	0.595	43.5	0.8416	0.0021
0.560	0.790	49.7	0.8335	0.0101
0.710	0.970	55.9	0.8470	0.0033
Average :			0.8437	0.0068

Pitot ID: **ST 8B**

Reference Pitot (in H2O)	S-Type Pitot (in H2O)	Air Velocity (ft/s)	Pitot Coeff. Cp	Deviation (absolute)
0.095	0.130	20.5	0.8463	0.0045
0.220	0.300	31.1	0.8478	0.0031
0.330	0.450	38.1	0.8478	0.0031
0.455	0.610	44.8	0.8550	0.0042
0.660	0.880	53.9	0.8574	0.0065
Average :			0.8509	0.0043

Pitot ID: **7 AL GVRD**

Reference Pitot (in H2O)	S-Type Pitot (in H2O)	Air Velocity (ft/s)	Pitot Coeff. Cp	Deviation (absolute)
0.145	0.205	25.3	0.8326	0.0020
0.265	0.370	34.2	0.8378	0.0032
0.400	0.565	42.0	0.8330	0.0017
0.570	0.800	50.1	0.8357	0.0010
0.710	1.000	55.9	0.8342	0.0005
Average :			0.8347	0.0017

Pitot ID: **ST 8C**

Reference Pitot (in H2O)	S-Type Pitot (in H2O)	Air Velocity (ft/s)	Pitot Coeff. Cp	Deviation (absolute)
0.190	0.270	28.9	0.8305	0.0051
0.275	0.390	34.8	0.8313	0.0043
0.350	0.495	39.3	0.8325	0.0031
0.440	0.610	44.0	0.8408	0.0052
0.580	0.800	50.6	0.8430	0.0073
Average :			0.8356	0.0050

Pitot ID: **7C**

Reference Pitot (in H2O)	S-Type Pitot (in H2O)	Air Velocity (ft/s)	Pitot Coeff. Cp	Deviation (absolute)
0.170	0.230	27.4	0.8511	0.0020
0.260	0.350	16.3	0.8533	0.0041
0.435	0.585	43.8	0.8537	0.0045
0.575	0.790	30.5	0.8446	0.0046
0.660	0.910	47.0	0.8431	0.0060
Average :			0.8492	0.0042

Pitot ID:

Reference Pitot (in H2O)	S-Type Pitot (in H2O)	Air Velocity (ft/s)	Pitot Coeff. Cp	Deviation (absolute)
Average :				

* Average absolute deviation must not exceed 0.01

Calibrated by: Jack Dennis

Signature: _____



Date: January 6, 2026

A.Lanfranco & Associates inc.

EPA Method 5

Meter Box Calibration

English Meter Box Units, English K' Factor

Model #: CAE 024
Serial #: 0028-043024-1

Date: 8-Jan-26
Barometric Pressure: 30.03 (in. Hg)
Theoretical Critical Vacuum: 14.17 (in. Hg)

!!!!!!!
IMPORTANT For valid test results, the Actual Vacuum should be 1 to 2 in. Hg greater than the Theoretical Critical Vacuum shown above.
IMPORTANT The Critical Orifice Coefficient, K', must be entered in English units, (ft)³/(deg R)^{0.5}((in.Hg)*(min)).
!!!!!!!

----- DRY GAS METER READINGS -----									-CRITICAL ORIFICE READINGS-					
dH (in H2O)	Time (min)	Volume Initial (cu ft)	Volume Final (cu ft)	Volume Total (cu ft)	Initial Temps.		Final Temps.		Orifice Serial# (number)	K' Orifice Coefficient (see above)	Actual Vacuum (in Hg)	-- Ambient Temperature --		
					Inlet (deg F)	Outlet (deg F)	Inlet (deg F)	Outlet (deg F)				Initial (deg F)	Final (deg F)	Average (deg F)
3.80	15.00	169.056	185.247	16.191	58.0	58.0	67.0	67.0	73	0.8185	16.5	63.0	67.0	65.0
2.00	15.00	185.247	196.882	11.635	61.0	61.0	64.0	64.0	63	0.5956	19.5	69.0	70.0	69.5
1.20	15.00	196.882	205.966	9.084	64.0	64.0	66.0	66.0	55	0.4606	21.0	73.0	74.0	73.5
0.66	15.00	205.966	212.878	6.912	66.0	66.0	68.0	68.0	48	0.3560	22.5	75.0	79.0	77.0
0.31	15.00	212.878	217.650	4.772	68.0	68.0	67.0	67.0	40	0.2408	23.8	74.0	78.0	76.0

***** RESULTS *****											
--- DRY GAS METER ---		----- ORIFICE -----			-- DRY GAS METER --		----- ORIFICE -----				
VOLUME CORRECTED	VOLUME CORRECTED	VOLUME CORRECTED	VOLUME CORRECTED	VOLUME NOMINAL	CALIBRATION FACTOR Y		CALIBRATION FACTOR dH@				
Vm(std) (cu ft)	Vm(std) (liters)	Vcr(std) (cu ft)	Vcr(std) (liters)	Vcr (cu ft)	Value (number)	Variation (number)	Value (in H2O)	Value (mm H2O)	Variation (in H2O)	Ko (value)	
16.568	469.2	16.091	455.7	15.947	0.971	-0.009	1.884	47.85	0.039	0.704	
11.854	335.7	11.659	330.2	11.654	0.984	0.003	1.889	47.97	0.044	0.695	
9.193	260.3	8.983	254.4	9.047	0.977	-0.004	1.900	48.26	0.056	0.699	
6.959	197.1	6.920	196.0	7.015	0.994	0.014	1.754	44.55	-0.090	0.715	
4.796	135.8	4.685	132.7	4.741	0.977	-0.004	1.796	45.61	-0.049	0.720	
Average Y----->					0.9807	Average dH@----->	1.844	46.8	Average Ko----->	0.706	

TEMPERATURE CALIBRATION										
Calibration Standard -----> Omega Model CL23A S/N:T-218768										
Reference Set-Point	Stack		Hot Box		Temperature Device Reading Probe		Imp Out		Aux	
(deg F)	(deg F)	(% diff)	(deg F)	(% diff)	(deg F)	(% diff)	(deg F)	(% diff)	(deg F)	(% diff)
32	29	-0.61%	30	-0.41%	31	-0.20%	29	-0.61%	30	-0.41%
100	98	-0.36%	99	-0.18%	99	-0.18%	97	-0.54%	97	-0.54%
300	297	-0.39%	298	-0.26%	298	-0.26%	297	-0.39%	297	-0.39%
500	498	-0.21%	498	-0.21%	498	-0.21%	497	-0.31%	497	-0.31%
1000	997	-0.21%	998	-0.14%	998	-0.14%	996	-0.27%	996	-0.27%

Note: For Calibration Factor Y, the ratio of the reading of the calibration meter to the dry gas meter, acceptable tolerance of individual values from the average is +/-0.02.
For Orifice Calibration Factor dH@, the orifice differential pressure in inches of H2O that equates to 0.75 cfm of air at 68 F and 29.92 inches of Hg, acceptable tolerance of individual values from the average is +/-0.2.
For Temperature Device, the reading must be within 1.5% of certified calibration standard (absolute temperature) to be acceptable.

Calibrated by: Christian De La O

Signature: 

Date: January 8, 2026

A.Lanfranco & Associates inc.

EPA Method 5

Meter Box Calibration

English Meter Box Units, English K' Factor

Model #: CAE AL1
Serial #: 0028-070611-1

Date: 8-Jan-26
Barometric Pressure: 30.00 (in. Hg)
Theoretical Critical Vacuum: 14.15 (in. Hg)

!!!!!!!
IMPORTANT For valid test results, the Actual Vacuum should be 1 to 2 in. Hg greater than the Theoretical Critical Vacuum shown above.
IMPORTANT The Critical Orifice Coefficient, K', must be entered in English units, (ft)³/(deg R)^{0.5}/((in.Hg)^{0.5}(min)).
!!!!!!!

----- DRY GAS METER READINGS -----									-CRITICAL ORIFICE READINGS-					
dH (in H2O)	Time (min)	Volume Initial (cu ft)	Volume Final (cu ft)	Volume Total (cu ft)	Initial Temps.		Final Temps.		Orifice Serial# (number)	K' Orifice Coefficient (see above)	Actual Vacuum (in Hg)	-- Ambient Temperature --		
					Inlet (deg F)	Outlet (deg F)	Inlet (deg F)	Outlet (deg F)				Initial (deg F)	Final (deg F)	Average (deg F)
3.80	15.00	511.618	528.258	16.640	61.0	61.0	61.0	61.0	73	0.8185	16.5	60.0	57.0	58.5
2.00	15.00	528.403	540.443	12.040	61.0	61.0	70.0	65.0	63	0.5956	18.8	58.0	56.0	57.0
1.20	15.00	540.443	549.789	9.346	63.0	63.0	64.0	64.0	55	0.4606	20.5	56.0	55.0	55.5
0.68	15.00	549.789	556.988	7.199	64.0	64.0	65.0	65.0	48	0.3560	21.5	56.0	56.0	56.0
0.31	16.50	556.988	562.416	5.428	66.0	66.0	67.0	67.0	40	0.2408	23.0	61.0	62.0	61.5

***** RESULTS *****										
--- DRY GAS METER ---		----- ORIFICE -----			-- DRY GAS METER --		----- ORIFICE -----			
VOLUME CORRECTED	VOLUME CORRECTED	VOLUME CORRECTED	VOLUME CORRECTED	VOLUME NOMINAL	CALIBRATION FACTOR Y		CALIBRATION FACTOR dH@			
Vm(std) (cu ft)	Vm(std) (liters)	Vcr(std) (cu ft)	Vcr(std) (liters)	Vcr (cu ft)	Value (number)	Variation (number)	Value (in H2O)	Value (mm H2O)	Variation (in H2O)	Ko (value)
17.059	483.1	16.175	458.1	15.848	0.948	-0.012	1.868	47.44	0.057	0.709
12.213	345.9	11.788	333.8	11.516	0.965	0.005	1.844	46.84	0.033	0.704
9.476	268.3	9.129	258.5	8.893	0.963	0.003	1.843	46.81	0.032	0.705
7.276	206.0	7.052	199.7	6.877	0.969	0.009	1.747	44.36	-0.064	0.720
5.460	154.6	5.220	147.8	5.144	0.956	-0.004	1.752	44.50	-0.059	0.729
Average Y----->					0.9604	Average dH@----->	1.811	46.0	Average Ko----->	0.713

TEMPERATURE CALIBRATION									
Calibration Standard -----> Omega Model CL23A S/N:T-218768									
Reference Set-Point	Stack		Hot Box		Temperature Device Reading Probe		Imp Out		Aux
(deg F)	(deg F)	(% diff)	(deg F)	(% diff)	(deg F)	(% diff)	(deg F)	(% diff)	(deg F) (% diff)
32	32	0.00%	35	0.61%	35	0.61%	32	0.00%	32 0.00%
100	101	0.18%	103	0.54%	103	0.54%	100	0.00%	100 0.00%
300	300	0.00%	302	0.26%	304	0.53%	300	0.00%	300 0.00%
500	500	0.00%	502	0.21%	504	0.42%	499	-0.10%	500 0.00%
1000	999	-0.07%	1001	0.07%	1004	0.27%	999	-0.07%	999 -0.07%

Note: For Calibration Factor Y, the ratio of the reading of the calibration meter to the dry gas meter, acceptable tolerance of individual values from the average is +0.02.
For Orifice Calibration Factor dH@, the orifice differential pressure in inches of H2O that equates to 0.75 cfm of air at 68 F and 29.92 inches of Hg, acceptable tolerance of individual values from the average is +0.2.
For Temperature Device, the reading must be within 1.5% of certified calibration standard (absolute temperature) to be acceptable.

Calibrated by: Christian De La O

Signature: 

Date: January 8, 2026

A. Lanfranco & Associates inc.

EPA Method 5
Meter Box Calibration
English Meter Box Units, English K' Factor

Model #: **LMU A**
Serial #: **Kimmon 186**

Date: **15-Jan-26**
Barometric Pressure: **30.43** (in. Hg)
Theoretical Critical Vacuum: **14.35** (in. Hg)

!!!!!!!

IMPORTANT For valid test results, the Actual Vacuum should be 1 to 2 in. Hg greater than the Theoretical Critical Vacuum shown above.
IMPORTANT The Critical Orifice Coefficient, K', must be entered in English units, (ft)³*(deg R)^{0.5}/((in.Hg)*(min)).

!!!!!!!

----- DRY GAS METER READINGS -----									-CRITICAL ORIFICE READINGS-					
dH (in H2O)	Time (min)	Volume Initial (m ³)	Volume Final (m ³)	Volume Total (cu ft)	Initial Temps.		Final Temps.		Orifice Serial# (number)	K' Orifice Coefficient (see above)	Actual Vacuum (in Hg)	-- Ambient Temperature --		
					Inlet (deg F)	Outlet (deg F)	Inlet (deg F)	Outlet (deg F)				Initial (deg F)	Final (deg F)	Average (deg F)
0.00	16.00	684.211	684.422	7.444	72.0	72.0	66.0	66.0	48	0.3560	20.0	70.0	67.0	68.5
0.00	15.00	684.422	684.619	6.971	66.0	66.0	68.0	68.0	48	0.3560	20.0	69.0	68.0	68.5
0.00	15.00	684.619	684.818	7.003	68.0	68.0	69.0	69.0	48	0.3560	20.0	70.0	69.0	69.5

***** RESULTS *****											
--- DRY GAS METER ---			----- ORIFICE -----			-- DRY GAS METER --			----- ORIFICE -----		
VOLUME CORRECTED	VOLUME CORRECTED		VOLUME CORRECTED	VOLUME CORRECTED	VOLUME NOMINAL	CALIBRATION FACTOR Y			CALIBRATION FACTOR dH@		
Vm(std) (cu ft)	Vm(std) (liters)		Vcr(std) (cu ft)	Vcr(std) (liters)	Vcr (cu ft)	Value (number)	Variation (number)		Value (in H2O)	Value (mm H2O)	Variation (in H2O)
7.554	213.9		7.540	213.5	7.423	0.998	0.003		0.000	0.00	0.000
7.101	201.1		7.068	200.2	6.959	0.995	0.000		0.000	0.00	0.000
7.113	201.4		7.062	200.0	6.966	0.993	-0.003		0.000	0.00	0.000
Average Y----->						0.9955		Average dH@----->	0.0000	0.00	

Note: For Calibration Factor Y, the ratio of the reading of the calibration meter to the dry gas meter, acceptable tolerance of individual values from the average is +/-0.02.

For Orifice Calibration Factor dH@, the orifice differential pressure in inches of H2O that equates to 0.75 cfm of air at 68 F and 29.92 inches of Hg, acceptable tolerance of individual values from the average is +/-0.2.

For Temperature Devicee, the reading must be within 1.5% of certified calibration standard (absolute temperature) to be acceptable.

Calibrated by: Christian De La O

Signature: 

Date: January 15, 2026

BAROMETER CALIBRATION FORM

Device	Cal Date	Pbar Env Canada		Device (inches of Hg)		Difference
		(kPa)	(inches of Hg)	Reading	Elevation Corrected	(Env Can - Elv Corr)
LA	6-Jan-26	100.4	29.65	29.54	29.61	0.04
DS	6-Jan-26	100.4	29.65	29.52	29.59	0.06
CL	6-Jan-26	100.4	29.65	29.53	29.60	0.05
JC	6-Jan-26	100.4	29.65	29.51	29.58	0.07
LF	6-Jan-26	100.4	29.65	29.53	29.60	0.05
SV	6-Jan-26	100.4	29.65	29.56	29.63	0.02
CDO	6-Jan-26	100.4	29.65	29.51	29.58	0.07
JG	6-Jan-26	100.4	29.65	29.53	29.60	0.05
JD	6-Jan-26	100.4	29.65	29.50	29.57	0.08
BB	6-Jan-26	100.4	29.65	29.59	29.66	-0.01

Calibrated by: Christian De La O

Signature:



Date:

06-Jan-26

Performance Specification is

Device Corrected for Elevation must be +/- 0.1 " Hg of ENV CANADA SEA-LEVEL Pbar

Enter Environment Canada Pressure from their website for Vancouver (link below)
and the reading from your barometer on the ground floor of the office.

https://weather.gc.ca/city/pages/bc-74_metric_e.html

TEMPERATURE CALIBRATION FORM

Signature:

TEMPERATURE DEVICE CALIBRATIONS

Reference Device Model CL23A Calibrator			Temperature Settings (degrees F)													
			32		100		200		300		500		800		1700	
Device	ALA #	Serial #	Reading	Variation	Reading	Variation	Reading	Variation	Reading	Variation	Reading	Variation	Reading	Variation	Reading	Variation
TPI 341K	7	20314590036	30.7	-0.26%	98.2	-0.32%	197.9	-0.32%	297.6	-0.32%	496.8	-0.33%	796.2	-0.30%	1693	-0.32%
TPI 341K	8	20313490047	30.7	-0.26%	99.0	-0.18%	198.6	-0.21%	298.2	-0.24%	497.9	-0.22%	797.2	-0.22%	1695	-0.23%
TPI 341K	11	20345510024	31.8	-0.04%	99.8	-0.04%	199.3	-0.11%	299.0	-0.13%	498.4	-0.17%	798.0	-0.16%	1696	-0.19%
TPI 341K	12	20345510031	32.3	0.06%	99.5	-0.09%	199.4	-0.09%	299.5	-0.07%	499.2	-0.08%	798.5	-0.12%	1696	-0.19%
TPI 341K	20	20329480013	30.2	-0.37%	98.5	-0.27%	198.4	-0.24%	298.1	-0.25%	497.7	-0.24%	797.7	-0.18%	1697	-0.14%
TPI 341K	22	20329480041	31.3	-0.14%	98.6	-0.25%	198.6	-0.21%	298.4	-0.21%	497.9	-0.22%	797.4	-0.21%	1696	-0.19%
TPI 341K	24	20142030017	31.1	-0.18%	99.2	-0.14%	199.3	-0.11%	299.2	-0.11%	498.9	-0.11%	798.6	-0.11%	1697	-0.14%
TPI 341K	26	20345510036	30.7	-0.26%	99.0	-0.18%	198.7	-0.20%	298.4	-0.21%	498.1	-0.20%	798.0	-0.16%	1697	-0.14%
TPI 341K	28	20142030009	31.1	-0.18%	99.0	-0.18%	198.8	-0.18%	299.2	-0.11%	498.9	-0.11%	798.9	-0.09%	1697	-0.14%
TPI 341K	30	20345510023	31.6	-0.08%	99.5	-0.09%	198.9	-0.17%	299.1	-0.12%	498.5	-0.16%	798.0	-0.16%	1696	-0.19%
TPI 341K	32	20142030028	31.3	-0.14%	99.3	-0.13%	199.1	-0.14%	298.8	-0.16%	498.6	-0.15%	798.4	-0.13%	1697	-0.14%
Reference device is a NIST certified digital thermocouple calibrator																
Variation expressed as a percentage of the absolute temperature must be within 1.5 %																

Calibration Certificate

Date: 15-Jan-26
 Calibrated by: Liam Forrer
 Authorizing Signature: Liam Forrer

Instrument Calibrated: Testo 3 (340)
 Serial #: 64057016
 Customer: ALA

Ambient Conditions: Temperature: 8 °C Barometric Pressure: 102.1 kPa Relative Humidity: 77%
 A. Lanfranco and Associates Inc. certifies that the described instrument has been inspected and tested following calibration procedures in the Environment Canada Report EPS 1/PG/7 (Revised 2005). Below are the observed readings after calibrations are complete. Calibration checks should be completed at least every 6 months.

O ₂ Gas	Initial Evaluation				After Calibration				Certified Value (vol %)
	Instrument Reading (vol %)	Calibration Error	Pass/Fail	Notes	Instrument Reading (vol %)	Calibration Error	Pass/Fail	Notes	
Zero	0.1	0.10	Pass		0.1	0.10	Pass		0
O ₂	11.1	0.19	Pass		11.1	0.19	Pass		10.91
Ambient	20.9	0.06	Pass		20.9	0.06	Pass		20.96

Performance Specification: +/- 1% O₂ (absolute diff)

CO Gas	Initial Evaluation				After Calibration				Certified Value (ppm)
	Instrument Reading (ppm)	% Calibration Error	Pass/Fail	Notes	Instrument Reading (ppm)	% Calibration Error	Pass/Fail	Notes	
Zero	0	0.0%	Pass		0	0.0%	Pass		0
1 Gas	947	0.6%	Pass		947	0.6%	Pass		952.9
2 Gas	504	2.2%	Pass		500	1.4%	Pass		493.3
3 Gas	255	4.7%	Pass		250	2.7%	Pass		243.5

Performance Specification: +/- 5% of Certified Gas Value

NO Gas	Initial Evaluation				After Calibration				Certified Value (ppm)
	Instrument Reading (ppm)	% Calibration Error	Pass/Fail	Notes	Instrument Reading (ppm)	% Calibration Error	Pass/Fail	Notes	
Zero	0	0.0%	Pass		0	0.0%	Pass		0
1 Gas	249	0.2%	Pass		249	0.2%	Pass		249.6
2 Gas	87	0.5%	Pass		87	0.5%	Pass		87.4
3 Gas	44	0.7%	Pass		44	0.7%	Pass		44.3

Performance Specification: +/- 5% of Certified Gas Value

NIST Traceable Calibration Gases:

Cylinder	Cylinder ID Number	Certification Date	Expiration Date	Cylinder Pressure (PSI)	O ₂ (Vol. %)	CO (ppm)	NO (ppm)
Zero Gas (N ₂)	72Y	05/02/2025	05/02/2030	1400	0	0	0
1 Gas	K2H	05/22/2024	05/22/2032	1050	0	952.9	249.6
2 Gas	DK8	09/16/2025	09/16/2033	1400	0	493.3	87.4
3 Gas	UHE	05/30/2025	05/30/2028	600	0	243.5	44.3
O ₂ /CO ₂	LD9	07/07/2025	07/07/2033	1000	10.91	0	0

Note: National Institute of Standards and Technology traceable certificates are available upon request.

Calibration Certificate

Date: 15-Jan-26
Calibrated by: Liam Forrer
Authorizing Signature: 

Insrtument Calibrated: Testo 4 (310 II)
Serial #: 64910282
Customer: ALA

Ambient Conditions: Temperature: 8 °C Barometric Pressure: 103 kPa Relative Humidity: 85%
A. Lanfranco and Associates Inc. certifies that the described instrument has been inspected and tested following calibration procedures in the Environment Canada Report EPS 1/PG/7 (Revised 2005). Below are the observed readings after calibrations are complete. Calibration checks should be completed at least every 6 months.

O ₂ Gas	Initial Evaluation				After Calibration				Certified Value (vol %)
	Instrument Reading (vol %)	Calibration Error	Pass/Fail	Notes	Instrument Reading (vol %)	Calibration Error	Pass/Fail	Notes	
Zero	0.2	0.20	Pass		0.1	0.10	Pass		0
O ₂	10.9	0.01	Pass		10.9	0.01	Pass		10.91
Ambient	21	0.04	Pass		20.9	0.06	Pass		20.96

Performance Specification: +/- 1% O₂ (absolute diff)

CO Gas	Initial Evaluation				After Calibration				Certified Value (ppm)
	Instrument Reading (ppm)	% Calibration Error	Pass/Fail	Notes	Instrument Reading (ppm)	% Calibration Error	Pass/Fail	Notes	
Zero	0	0.0%	Pass	Re-cal on 2 gas	0	0.0%	Pass		0
1 Gas	980	2.8%	Pass		962	1.0%	Pass		952.9
2 Gas	514	4.2%	Pass		490	0.7%	Pass		493.3
3 Gas	261	7.2%	Fail		235	3.5%	Pass		243.5

Performance Specification: +/- 5% of Certified Gas Value

NIST Traceable Calibration Gases:

Cylinder	Cylinder ID Number	Certification Date	Expiration Date	Cylinder Pressure (PSI)	O ₂ (Vol. %)	CO (ppm)
Zero Gas (N ₂)	72Y	05/02/2025	05/02/2030	1400	0	0
1 Gas	K2H	05/22/2024	05/22/2032	1050	0	952.9
2 Gas	DK8	09/16/2025	09/16/2033	1400	0	493.3
3 Gas	UHE	05/30/2025	05/30/2028	600	0	243.5
O ₂ /CO ₂	LD9	07/07/2025	07/07/2033	1000	10.91	0

Note: National Institute of Standards and Technology traceable certificates are available upon request.



MOUNT ROYAL COLLEGE

Faculty of Continuing Education and Extension

Daryl Sampson

has successfully completed

The program of studies and is awarded the certificate in

STACK SAMPLING

May 2005

Date

Donna Spaulding

Dean

Faculty of Continuing Education and Extension

Conflict of Interest Disclosure Statement

A qualified professional ¹ providing services to either the Ministry of Environment and Climate Change Strategy ("ministry"), or to a regulated person for the purpose of obtaining an authorization from the ministry, or pursuant to a requirement imposed under the *Environmental Management Act*, the *Integrated Pest Management Act* or the *Park Act* has a real or perceived conflict of interest when the qualified professional, or their relatives, close associates or personal friends have a financial or other interest in the outcome of the work being performed.

A real or perceived conflict of interest occurs when a qualified professional has

- a) an ownership interest in the regulated person's business;
- b) an opportunity to influence a decision that leads to financial benefits from the regulated person or their business other than a standard fee for service (e.g. bonuses, stock options, other profit sharing arrangements);
- c) a personal or professional interest in a specific outcome;
- d) the promise of a long term or ongoing business relationship with the regulated person, that is contingent upon a specific outcome of work;
- e) a spouse or other family member who will benefit from a specific outcome; or
- f) any other interest that could be perceived as a threat to the independence or objectivity of the qualified professional in performing a duty or function.

Qualified professionals who work under ministry legislation must take care in the conduct of their work that potential conflicts of interest within their control are avoided or mitigated. Precise rules in conflict of interest are not possible and professionals must rely on guidance of their professional associations, their common sense, conscience and sense of personal integrity.

Declaration

I Daryl Sampson, as a member of Air and Waste Management Association
declare

Select one of the following:

☒ Absence from conflict of interest

Other than the standard fee I will receive for my professional services, I have no financial or other interest in the outcome of this project. I further declare that should a conflict of interest arise in the future during the course of this work, I will fully disclose the circumstances in writing and without delay to

Mr. Sajid Barlas, erring on the side of caution.

☐ Real or perceived conflict of interest

Description and nature of conflict(s):

I will maintain my objectivity, conducting my work in accordance with my Code of Ethics and standards of practice.

In addition, I will take the following steps to mitigate the real or perceived conflict(s) I have disclosed, to ensure the public interest remains paramount:

Further, I acknowledge that this disclosure may be interpreted as a threat to my independence and will be considered by the statutory decision maker accordingly.

This conflict of interest disclosure statement is collected under section 26(c) of the *Freedom of Information and Protection of Privacy Act* for the purposes of increasing government transparency and ensuring professional ethics and accountability. By signing and submitting this statement you consent to its publication and its disclosure outside of Canada. This consent is valid from the date submitted and cannot be revoked. If you have any questions about the collection, use or disclosure of your personal information please contact the Ministry of Environment and Climate Change Strategy Headquarters Office at 1-800-663-7867.

Signature:

X Daryl Sampson

Print name: Daryl Sampson

Date: Dec.18, 2020

Witnessed by:

X 

Print name: Mark Lanfranco

¹Qualified Professional, in relation to a duty or function under ministry legislation, means an individual who

- a) is registered in British Columbia with a professional association, is acting under that organization's code of ethics, and is subject to disciplinary action by that association, and
- b) through suitable education, experience, accreditation and knowledge, may reasonably be relied on to provide advice within his or her area of expertise, which area of expertise is applicable to the duty or function.

Declaration of Competency

The Ministry of Environment and Climate Change Strategy relies on the work, advice, recommendations and in some cases decision making of qualified professionals¹, under government's professional reliance regime. With this comes an assumption that professionals who undertake work in relation to ministry legislation, regulations and codes of practice have the knowledge, experience and objectivity necessary to fulfill this role.

1. Name of Qualified Professional Daryl Sampson

Title Senior Environmental Technician/Project Manager

2. Are you a registered member of a professional association in B.C.? ☐ Yes ☒ No

Name of Association: _____ Registration # _____

3. Brief description of professional services:

Environmental consulting, specializing in air and atmospheric sciences

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Declaration

I am a qualified professional with the knowledge, skills and experience to provide expert information, advice and/or recommendations in relation to the specific work described above.

Signature:

x Daryl Sampson

Print Name: Daryl Sampson

Witnessed by:

x [Signature]

Print Name: Louis Agassiz

Date signed: November 23, 2020

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MOUNT ROYAL UNIVERSITY

Faculty of Continuing Education and Extension

Jeremy Shawn Gibbs

has successfully completed

Stack Sampling

35 Hours / 2019

May 22, 2019

Date

BUM
Dean

Faculty of Continuing Education and Extension



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1. Name of Qualified Professional

Title

Jeremy Gibbs
Environmental technician

2. Are you a registered member of a professional association in B.C.?

☐ Yes ☒ No

Name of Association: _____ Registration # _____

3. Brief description of professional services:

Environmental Consultant Specialize in air and
atmospheric sciences

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Declaration

I am a qualified professional with the knowledge, skills and experience to provide expert information, advice and/or recommendations in relation to the specific work described above.

Signature:

X

Print Name:

Jeremy Gibbs
Nov 1, 2020

Witnessed by:

X

Print Name:

Connor Laan

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- c) a personal or professional interest in a specific outcome;
- d) the promise of a long term or ongoing business relationship with the regulated person, that is contingent upon a specific outcome of work;
- e) a spouse or other family member who will benefit from a specific outcome; or
- f) any other interest that could be perceived as a threat to the independence or objectivity of the qualified professional in performing a duty or function.

Qualified professionals who work under ministry legislation must take care in the conduct of their work that potential conflicts of interest within their control are avoided or mitigated. Precise rules in conflict of interest are not possible and professionals must rely on guidance of their professional associations, their common sense, conscience and sense of personal integrity.

Declaration

I Jeremy Gibbs, as a member of Air and Waste Management Association
declare

Select one of the following:

- ☒ Absence from conflict of interest

Other than the standard fee I will receive for my professional services, I have no financial or other interest in the outcome of this project. I further declare that should a conflict of interest arise in the future during the course of this work, I will fully disclose the circumstances in writing and without delay to

Mr. Sajid Barlas

, erring on the side of caution.

☐ Real or perceived conflict of interest

Description and nature of conflict(s):

I will maintain my objectivity, conducting my work in accordance with my Code of Ethics and standards of practice.

In addition, I will take the following steps to mitigate the real or perceived conflict(s) I have disclosed, to ensure the public interest remains paramount:

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Signature:

X

Print name:

Jeremy G. B.S.S.

Witnessed by:

X

Print name:

Mark Lanfranco

Date: Dec.16, 2020

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Justin Ching

has successfully completed

Stack Sampling

The Faculty of Continuing Education
Mount Royal University

30 hours | May 26, 2023



Dimitra Fotopoulos, Vice Dean
Professional and Continuing Education

Declaration of Competency

The Ministry of Environment and Climate Change Strategy relies on the work, advice, recommendations and in some cases decision making of qualified professionals¹, under government's professional reliance regime. With this comes an assumption that professionals who undertake work in relation to ministry legislation, regulations and codes of practice have the knowledge, experience and objectivity necessary to fulfill this role.

1. Name of Qualified Professional Justin Ching
Title Environmental Technician
2. Are you a registered member of a professional association in B.C.? ☐ Yes ☒ No
Name of Association: _____ Registration # _____
3. Brief description of professional services:
Environmental Technician - specialising in air and atmospheric sciences

This declaration of competency is collected under section 26(c) of the *Freedom of Information and Protection of Privacy Act* for the purposes of increasing government transparency and ensuring professional ethics and accountability. By signing and submitting this statement you consent to its publication and its disclosure outside of Canada. This consent is valid from the date submitted and cannot be revoked. If you have any questions about the collection, use or disclosure of your personal information please contact the Ministry of Environment and Climate Change Strategy Headquarters Office at 1-800-663-7867.

Declaration

I am a qualified professional with the knowledge, skills and experience to provide expert information, advice and/or recommendations in relation to the specific work described above.

Signature:

x Justin Ching

Print Name: Justin Ching

Witnessed by:

x Daryl Sampson

Print Name: Daryl Sampson

Date signed: June 28, 2023

¹Qualified Professional, in relation to a duty or function under ministry legislation, means an individual who

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- c) a personal or professional interest in a specific outcome;
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- e) a spouse or other family member who will benefit from a specific outcome; or
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Declaration

I, Justin Ching, as a member of Air and Waste Management Association
declare

Select one of the following:

- ☒ Absence from conflict of interest

Other than the standard fee I will receive for my professional services, I have no financial or other interest in the outcome of this project. I further declare that should a conflict of interest arise in the future during the course of this work, I will fully disclose the circumstances in writing and without delay to

Mr. Sajid Barlas, erring on the side of caution.

☐ Real or perceived conflict of interest

Description and nature of conflict(s):

I will maintain my objectivity, conducting my work in accordance with my Code of Ethics and standards of practice.

In addition, I will take the following steps to mitigate the real or perceived conflict(s) I have disclosed, to ensure the public interest remains paramount:

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Signature:

x Justin Ching

Print name: Justin Ching

Date: June 28, 2023

Witnessed by:

x Mark Lanfranco

Print name: Mark Lanfranco

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- b) through suitable education, experience, accreditation and knowledge, may reasonably be relied on to provide advice within his or her area of expertise, which area of expertise is applicable to the duty or function.

Walter Smith & Associates, Inc.

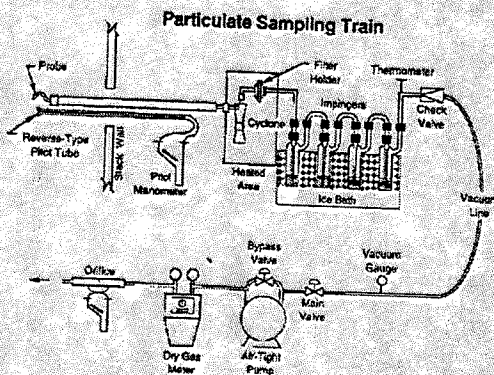
is hereby granted to:

Louis Agassiz

to certify that they have completed to satisfaction

Source Sampling & CEMS Workshop

Granted: March 11, 2011



Walter S. Smith

Walter S. Smith, PE, DEE 3.5 CEU

Conflict of Interest Disclosure Statement

A qualified professional ¹ providing services to either the Ministry of Environment and Climate Change Strategy ("ministry"), or to a regulated person for the purpose of obtaining an authorization from the ministry, or pursuant to a requirement imposed under the *Environmental Management Act*, the *Integrated Pest Management Act* or the *Park Act* has a real or perceived conflict of interest when the qualified professional, or their relatives, close associates or personal friends have a financial or other interest in the outcome of the work being performed.

A real or perceived conflict of interest occurs when a qualified professional has

- a) an ownership interest in the regulated person's business;
- b) an opportunity to influence a decision that leads to financial benefits from the regulated person or their business other than a standard fee for service (e.g. bonuses, stock options, other profit sharing arrangements);
- c) a personal or professional interest in a specific outcome;
- d) the promise of a long term or ongoing business relationship with the regulated person, that is contingent upon a specific outcome of work;
- e) a spouse or other family member who will benefit from a specific outcome; or
- f) any other interest that could be perceived as a threat to the independence or objectivity of the qualified professional in performing a duty or function.

Qualified professionals who work under ministry legislation must take care in the conduct of their work that potential conflicts of interest within their control are avoided or mitigated. Precise rules in conflict of interest are not possible and professionals must rely on guidance of their professional associations, their common sense, conscience and sense of personal integrity.

Declaration

I Louis Agassiz, as a member of ECO Canada
declare

Select one of the following:

☒ Absence from conflict of interest

Other than the standard fee I will receive for my professional services, I have no financial or other interest in the outcome of this project. I further declare that should a conflict of interest arise in the future during the course of this work, I will fully disclose the circumstances in writing and without delay to

Mr. Sajid Barlas, erring on the side of caution.

☐ Real or perceived conflict of interest

Description and nature of conflict(s):

I will maintain my objectivity, conducting my work in accordance with my Code of Ethics and standards of practice.

In addition, I will take the following steps to mitigate the real or perceived conflict(s) I have disclosed, to ensure the public interest remains paramount:

Further, I acknowledge that this disclosure may be interpreted as a threat to my independence and will be considered by the statutory decision maker accordingly.

This conflict of interest disclosure statement is collected under section 26(c) of the *Freedom of Information and Protection of Privacy Act* for the purposes of increasing government transparency and ensuring professional ethics and accountability. By signing and submitting this statement you consent to its publication and its disclosure outside of Canada. This consent is valid from the date submitted and cannot be revoked. If you have any questions about the collection, use or disclosure of your personal information please contact the Ministry of Environment and Climate Change Strategy Headquarters Office at 1-800-663-7867.

Signature:

X 

Print name: Louis Agassiz

Witnessed by:

X 

Print name: Mark Lanfranco

Date: Jan. 4, 2026

¹Qualified Professional, in relation to a duty or function under ministry legislation, means an individual who

- a) is registered in British Columbia with a professional association, is acting under that organization's code of ethics, and is subject to disciplinary action by that association, and
- b) through suitable education, experience, accreditation and knowledge, may reasonably be relied on to provide advice within his or her area of expertise, which area of expertise is applicable to the duty or function.

Declaration of Competency

The Ministry of Environment and Climate Change Strategy relies on the work, advice, recommendations and in some cases decision making of qualified professionals¹, under government's professional reliance regime. With this comes an assumption that professionals who undertake work in relation to ministry legislation, regulations and codes of practice have the knowledge, experience and objectivity necessary to fulfill this role.

1. Name of Qualified Professional Louis Agassiz
Title Senior Environmental Technician/Project Manager
2. Are you a registered member of a professional association in B.C.? ☒ Yes ☐ No
Name of Association: Environmental Careers Organization of Canada Registration # 21689
3. Brief description of professional services:
Environmental consulting, specializing in air and atmospheric sciences

This declaration of competency is collected under section 26(c) of the *Freedom of Information and Protection of Privacy Act* for the purposes of increasing government transparency and ensuring professional ethics and accountability. By signing and submitting this statement you consent to its publication and its disclosure outside of Canada. This consent is valid from the date submitted and cannot be revoked. If you have any questions about the collection, use or disclosure of your personal information please contact the Ministry of Environment and Climate Change Strategy Headquarters Office at 1-800-663-7867.

Declaration

I am a qualified professional with the knowledge, skills and experience to provide expert information, advice and/or recommendations in relation to the specific work described above.

Signature:

X 

Print Name: Louis Agassiz

Witnessed by:

X 

Print Name: Mark Lanfranco

Date signed: November 23, 2025

¹Qualified Professional, in relation to a duty or function under ministry legislation, means an individual who

- a) is registered in British Columbia with a professional association, is acting under that organization's code of ethics, and is subject to disciplinary action by that association, and
- b) through suitable education, experience, accreditation and knowledge, may reasonably be relied on to provide advice within his or her area of expertise, which area of expertise is applicable to the duty or function.

Canadian Association for Laboratory Accreditation Inc.

Certificate of Accreditation

A. Lanfranco and Associates Inc.
101 - 9488 - 189th Street
Surrey, British Columbia



This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).



Accreditation No.: 1004232
Issued On: 5/15/2025
Accreditation Date: 2/5/2021
Expiry Date: 11/14/2027

A handwritten signature in black ink, appearing to read "K. McKinley", written over a horizontal line.

President and CEO



This certificate is the property of the Canadian Association for Laboratory Accreditation Inc. and must be returned on request; reproduction must follow policy in place at date of issue.
For the specific tests to which this accreditation applies, please refer to the laboratory's scope of accreditation at www.cala.ca.