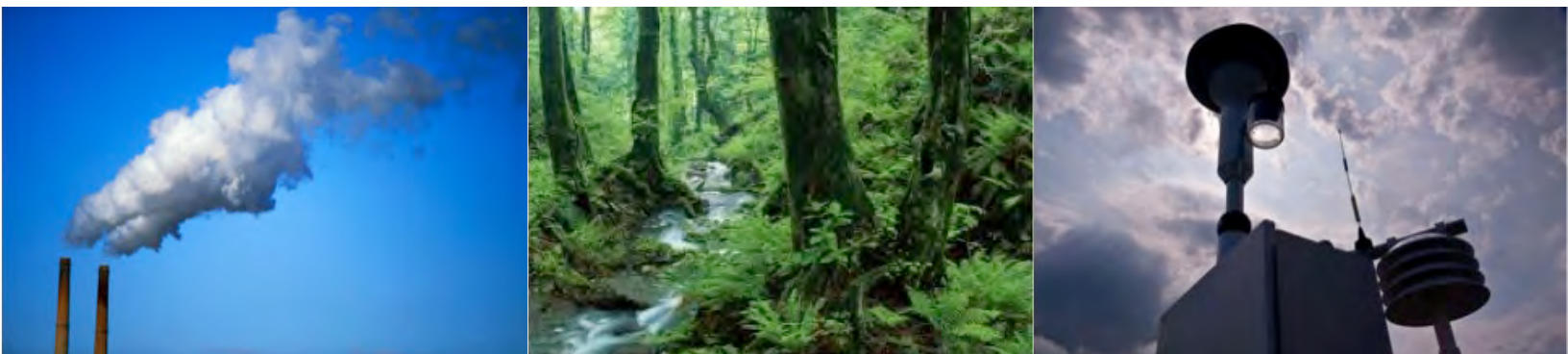




Report:

Reworld Durham York Limited Partnership
Durham York Energy Centre
2025 Voluntary Source Testing Program

Date: January 28, 2026



Report:

Reworld Durham York Limited Partnership Durham York Energy Centre 2025 Voluntary Source Testing Program

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EXECUTIVE SUMMARY

Alliance Technical Group North, Inc. (ATGN) completed a voluntary source testing program at the Durham York Energy Centre (DYEC) located in Courtice, Ontario between October 27 to October 30, 2025. The voluntary source testing program was performed at the request of the Regions of Durham and York.

Ontario Ministry of the Environment, Conservation and Parks (MECP) Amended Environmental Compliance Approval (ECA) No. 7306-8FDKNX Section 7(1) states that “the owner shall perform annual source testing, in accordance with the procedures and schedule outlined in the attached Schedule E, to determine the rates of emissions of the test contaminants from the stack. The program shall be conducted not later than six months after the commencement date of operation of the facility/equipment and subsequent source testing programs shall be conducted once every calendar year thereafter”. A list of the test programs conducted to date is provided below:

Test Program	Test Date	Report No.
2015 Compliance	September/October 2015	21546
2016 Voluntary	May 2016	21656
2016 Compliance	October/November 2016	21698
2017 Voluntary	May 2017	21754
2017 Compliance	October 2017	21800
2018 Voluntary	May/June 2018	21840
2018 Compliance	September 2018	21880
2019 Voluntary	June 2019	21936
2019 Compliance	September 2019	21960
2020 Voluntary	June 2020	22001
2020 Compliance	November 2020	22050
2021 Voluntary	June 2021	22081
2021 Compliance	November/December 2021	22085
2022 Voluntary	May 2022	22158
2022 Compliance	November/December 2022	22160
2023 Voluntary	April 2023	22230
2023 Compliance	September/October 2023	22235
2024 Compliance	March 2024	22327
2024 Voluntary	December 2024	AST-2024-4547
2025 Compliance	May & July 2025	AST-2025-2049
2025 Voluntary	October 2025	AST-2025-3852

Source testing was performed on the Baghouse (BH) Outlet of Boiler No. 1 and BH Outlet of Boiler No. 2 for the test contaminants listed in Schedule D of the ECA.

Triplicate tests were completed for particulate matter, metals, semi-volatile organic compounds, acid gases, volatile organic compounds, aldehydes and combustion gases at the BH Outlet of each Boiler. Triplicate tests were also completed for total hydrocarbons at the Quench Inlet of each Boiler. The contaminant groups included in the test program and the reference test methods used are summarized below:

Test Groups	Reference Method
Particulate and Metals	US EPA Method 29
PM _{2.5} /PM ₁₀ and Condensable Particulate	US EPA Methods 201A and 202
Semi-Volatile Organic Compounds	Environment Canada Method EPS 1/RM/2
Volatile Organic Compounds	US EPA Method TO-15
Aldehydes	NCASI Method ISS/FP-A105.01
Halides and Ammonia	US EPA Method 26A
Combustion Gases:	
Oxygen and Carbon Dioxide	Facility CEM
Carbon Monoxide	Facility CEM
Sulphur Dioxide	Facility CEM
Nitrogen Oxides	Facility CEM
Total Hydrocarbons	ATGN per US EPA Method 25A

Schedule C of ECA No. 7306-8FDKNX lists in-stack limits for the emissions of various compounds. In-stack emissions limits are given for particulate matter, mercury, cadmium, lead, dioxins and furans and organic matter for comparison with the results from source testing. In-stack emission limits are also given for hydrochloric acid, sulphur dioxide, nitrogen oxides and carbon monoxide calculated as the rolling arithmetic average of data measured by a continuous emission monitoring system (CEMS).

Since relative accuracy and system bias testing was conducted in August 2025, the data recorded by the DYEC CEMS was used to assess against the in-stack emissions limits detailed in Schedule C of the ECA for hydrochloric acid, sulphur dioxide, nitrogen oxides and carbon monoxide. Note the DYEC CEMS data for the days when isokinetic testing was performed at each unit (October 27 to October 30, 2025) was used to determine the minimum, average and maximum concentrations of the combustion gases listed in the ECA. Concentration data measured by ATGN on October 27 and October 28, 2025, was used to assess the total hydrocarbons (organic matter) in-stack emissions limit detailed in Schedule C of the ECA.

Consistent with the approach commonly required by the MECP for source testing programs, the following results are conservative in the sense that when the analytical result is reported to be below the detection limit, the full detection limit is used to calculate emission data and is shown by a "<" symbol. Also, when one or both Boiler results are reported to be below the detection limit, the detection limit was used to conservatively estimate the total emission rate for the Main Stack.

The MECP "Summary of Standards and Guidelines to Support Ontario Regulation 419/05 – Air Pollution – Local Air Quality", dated April 2012, provides an updated framework for calculating dioxin and furan toxicity equivalent concentrations which includes emission data for 12 dioxin-like PCBs. This document was replaced by "Air Contaminants Benchmarks List: standards, guidelines and screening levels for assessing point of impingement concentrations of air contaminants", with the most recent version published on November 5, 2023, however the dioxin and furan toxicity equivalent calculation methodology remains the same. The dioxins, furans and dioxin-like PCBs toxicity equivalent emission data was also calculated using half the detection limit for those compounds not detected. The half detection limit data was used to assess against the dispersion modelling Point of Impingement limit. The toxicity equivalent concentrations calculated using the full detection limit, for those compounds less than the reportable detection limit, were used to assess against the in-stack limit detailed in Schedule C of the ECA.

The average results for the tests conducted at Boiler No. 1, along with the respective in-stack emission limits, are summarized in the following table:

Parameter	Test No. 1	Test No. 2	Test No. 3	Average	In-Stack Limit
Total Power Output (MWh/day)*	-	-	-	391	-
Average Combustion Zone Temp. (°C)*	-	-	-	1191	-
Steam (tonnes/day)*	-	-	-	813	-
MSW Combusted (tonnes/day)*	-	-	-	208	-
NO _x Reagent Injection Rate (liters/day)*	-	-	-	463	-
Carbon Injection (kg/day)*	-	-	-	114	-
Lime Injection (kg/day)*	-	-	-	3283	-
Filterable Particulate (mg/Rm ³) ⁽¹⁾	<0.38	<0.53	<0.58	<0.50	9
PM ₁₀ with Condensable (mg/Rm ³) ⁽¹⁾	<3.98	<3.83	<3.85	<3.89	-
PM _{2.5} with Condensable (mg/Rm ³) ⁽¹⁾	<3.67	<3.53	<3.55	<3.59	-
Hydrogen Fluoride (mg/Rm ³) ⁽¹⁾	<0.12	<0.12	<0.12	<0.12	-
Ammonia (mg/Rm ³) ⁽¹⁾	0.71	0.68	0.51	0.63	-
Cadmium (µg/Rm ³) ⁽¹⁾	0.11	0.046	0.073	0.078	7
Lead (µg/Rm ³) ⁽¹⁾	0.68	1.24	0.78	0.90	50
Mercury (µg/Rm ³) ⁽¹⁾	<0.068	<0.066	<0.069	<0.067	15
Antimony (µg/Rm ³) ⁽¹⁾	0.062	<0.046	0.079	<0.063	-
Arsenic (µg/Rm ³) ⁽¹⁾	<0.12	<0.12	<0.12	<0.12	-
Barium (µg/Rm ³) ⁽¹⁾	2.15	2.57	3.13	2.61	-
Beryllium (µg/Rm ³) ⁽¹⁾	<0.048	<0.046	<0.048	<0.047	-
Chromium (µg/Rm ³) ⁽¹⁾	0.91	0.83	0.60	0.78	-
Cobalt (µg/Rm ³) ⁽¹⁾	0.062	0.030	<0.048	<0.047	-
Copper (µg/Rm ³) ⁽¹⁾	2.40	1.94	3.60	2.64	-
Molybdenum (µg/Rm ³) ⁽¹⁾	4.41	4.46	4.57	4.48	-
Nickel (µg/Rm ³) ⁽¹⁾	0.98	0.67	0.61	0.76	-
Selenium (µg/Rm ³) ⁽¹⁾	<0.24	<0.23	<0.24	<0.24	-
Silver (µg/Rm ³) ⁽¹⁾	<0.048	<0.046	<0.048	<0.047	-
Thallium (µg/Rm ³) ⁽¹⁾	<0.048	<0.046	<0.048	<0.047	-
Vanadium (µg/Rm ³) ⁽¹⁾	<0.12	<0.12	<0.12	<0.12	-
Zinc (µg/Rm ³) ⁽¹⁾	5.48	4.41	7.05	5.65	-
Dioxins and Furans (pg TEQ/Rm ³) ⁽³⁾	<1.34	<1.43	<1.81	<1.53	60
Total Chlorobenzenes (ng/Rm ³) ⁽¹⁾	<460	<364	<570	<465	-
Total Chlorophenols (ng/Rm ³) ⁽¹⁾	<180	<172	<171	<174	-
Total PAHs (ng/Rm ³) ⁽¹⁾	<451	<382	<660	<498	-
VOCs (µg/Rm ³) ⁽¹⁾	<56.2	<40.5	<99.4	<65.4	-
Aldehydes (µg/Rm ³) ⁽¹⁾	<2800	<3353	<3804	<3319	-
Total VOCs (µg/Rm ³) ^{(1) (4)}	<2856	<3394	<3903	<3384	-
Quench Inlet Organic Matter (THC) (ppm, dry) ⁽²⁾	0.66	0.93	0.68	0.76	50

* based on process data provided by Reworld

(1) dry at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

(2) dry basis as equivalent methane (average of each 60 minute test with data recorded in 1-minute intervals)

(3) calculated using the NATO/CCMS (1989) toxicity equivalence factors and the full detection limit for those isomers below the analytical detection limit, dry at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

(4) Includes all components from the volatile organic compounds test list in the ECA (i.e. Volatile Organic Sampling Train and Aldehyde Sampling train components).

The average results for the tests conducted at Boiler No. 2, along with the respective in-stack emission limits, are summarized in the following table:

Parameter	Test No. 1	Test No. 2	Test No. 3	Average	In-Stack Limit
Total Power Output (MWh/day)*	-	-	-	391	-
Average Combustion Zone Temp. (°C)*	-	-	-	1146	-
Steam (tonnes/day)*	-	-	-	813	-
MSW Combusted (tonnes/day)*	-	-	-	208	-
NO _x Reagent Injection Rate (liters/day)*	-	-	-	488	-
Carbon Injection (kg/day)*	-	-	-	115	-
Lime Injection (kg/day)*	-	-	-	3246	-
Filterable Particulate (mg/Rm ³) ⁽¹⁾	<0.23	0.46	<0.37	<0.35	9
PM ₁₀ with Condensable (mg/Rm ³) ⁽¹⁾	<3.55	<3.91	<3.58	<3.68	-
PM _{2.5} with Condensable (mg/Rm ³) ⁽¹⁾	<3.26	<3.61	<3.30	<3.39	-
Hydrogen Fluoride (mg/Rm ³) ⁽¹⁾	<0.11	<0.12	<0.11	<0.11	-
Ammonia (mg/Rm ³) ⁽¹⁾	0.66	0.72	0.67	0.69	-
Cadmium (µg/Rm ³) ⁽¹⁾	0.035	0.026	0.051	0.037	7
Lead (µg/Rm ³) ⁽¹⁾	0.38	0.74	0.73	0.62	50
Mercury (µg/Rm ³) ⁽¹⁾	<0.065	<0.062	<0.062	<0.063	15
Antimony (µg/Rm ³) ⁽¹⁾	<0.046	<0.044	<0.044	<0.044	-
Arsenic (µg/Rm ³) ⁽¹⁾	<0.11	<0.11	<0.11	<0.11	-
Barium (µg/Rm ³) ⁽¹⁾	2.79	2.59	3.14	2.84	-
Beryllium (µg/Rm ³) ⁽¹⁾	<0.046	<0.044	<0.044	<0.044	-
Chromium (µg/Rm ³) ⁽¹⁾	0.97	0.74	0.48	0.73	-
Cobalt (µg/Rm ³) ⁽¹⁾	<0.046	<0.044	<0.044	<0.044	-
Copper (µg/Rm ³) ⁽¹⁾	1.40	1.46	1.57	1.48	-
Molybdenum (µg/Rm ³) ⁽¹⁾	4.42	4.10	4.01	4.18	-
Nickel (µg/Rm ³) ⁽¹⁾	1.38	0.54	0.50	0.81	-
Selenium (µg/Rm ³) ⁽¹⁾	<0.23	<0.22	<0.22	<0.22	-
Silver (µg/Rm ³) ⁽¹⁾	<0.046	<0.044	<0.044	<0.044	-
Thallium (µg/Rm ³) ⁽¹⁾	<0.046	<0.044	<0.044	<0.044	-
Vanadium (µg/Rm ³) ⁽¹⁾	<0.11	<0.11	<0.11	<0.11	-
Zinc (µg/Rm ³) ⁽¹⁾	3.45	5.41	5.52	4.80	-
Dioxins and Furans (pg TEQ/Rm ³) ⁽³⁾	<1.68	<1.43	<1.54	<1.55	60
Total Chlorobenzenes (ng/Rm ³) ⁽¹⁾	<332	<289	<323	<315	-
Total Chlorophenols (ng/Rm ³) ⁽¹⁾	<162	<159	<162	<161	-
Total PAHs (ng/Rm ³) ⁽¹⁾	<405	<479	<370	<418	-
VOCs (µg/Rm ³) ⁽¹⁾	<60.2	<39.4	<39.8	<46.5	-
Aldehydes (µg/Rm ³) ⁽¹⁾	<3324	<3393	<2609	<3109	-
Total VOCs (µg/Rm ³) ^{(1) (4)}	<3384	<3432	<2649	<3156	-
Quench Inlet Organic Matter (THC) (ppm, dry) ⁽²⁾	0.62	0.48	0.50	0.53	50

* based on process data provided by Reworld

(1) dry at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

(2) dry basis as equivalent methane (average of each 60 minute test with data recorded in 1-minute intervals)

(3) calculated using the NATO/CCMS (1989) toxicity equivalence factors and the full detection limit for those isomers below the analytical detection limit, dry at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

(4) Includes all components from the volatile organic compounds test list in the ECA (i.e. Volatile Organic Sampling Train and Aldehyde Sampling train components).

A summary of the minimum, average and maximum concentrations for the combustion gases measured by the DYEC CEMS with in-stack limits listed in the ECA is provided below for the two units.

Boiler No.	Parameter	Minimum	Average	Maximum	In-Stack Limit
Boiler No. 1	Carbon Monoxide (mg/Rm ³) ⁽¹⁾	7.0	13.5	21.8	40
	Hydrogen Chloride (mg/Rm ³) ⁽²⁾	0.3	0.8	1.0	9
	Nitrogen Oxides (mg/Rm ³) ⁽²⁾	107	109	110	121
	Sulphur Dioxide (mg/Rm ³) ⁽²⁾	0.1	1.4	3.5	35
Boiler No. 2	Carbon Monoxide (mg/Rm ³) ⁽¹⁾	7.0	13.4	21.8	40
	Hydrogen Chloride (mg/Rm ³) ⁽²⁾	0.3	0.8	1.0	9
	Nitrogen Oxides (mg/Rm ³) ⁽²⁾	107	109	110	121
	Sulphur Dioxide (mg/Rm ³) ⁽²⁾	0.1	1.4	3.5	35

(1) 4-hour average measured by DYEC CEMS, dry at 25°C and 1 atmosphere adjusted to 11% oxygen by volume

(2) 24-hour average measured by DYEC CEMS, dry at 25°C and 1 atmosphere adjusted to 11% oxygen by volume

The emission data measured at each Boiler BH Outlet during the testing program was combined and used to assess the emissions from the Main Stack against the current point of impingement criteria detailed in Ontario Regulation 419/05.

Dispersion modelling was completed using the CALPUFF model (using Version 7.2.1 level 150618 as approved by the MECP in December 2021) by WSP Canada Inc. A summary of the results are provided in the tables appended to this report (Appendix 27) based on calculated ground level Point of Impingement (POI) concentrations for the average total Main Stack emissions. As shown in the tables, the calculated impingement concentrations for all the contaminants were well below the relevant MECP standards.

In summary, the key results of the source testing program are:

- The facility was maintained within the operational parameters defined by the amended ECA that constitutes normal operation during the stack test periods. Testing was conducted at a steam production rate of greater than 809 tonnes of steam per day for each Boiler (approximately 100% of maximum continuous rating). The maximum continuous rating for the facility is 1614.7 tonnes of steam per day for the two Boilers combined (33.64 tonnes of steam per hour or 807.4 tonnes per day for each Boiler).
- The in-stack concentrations of the components listed in the ECA were all below the concentration limits provided in Schedule C of the ECA.
- Using CALPUFF dispersion modelling techniques, the predicted maximum point of impingement concentrations, based on the average test results for both boilers, show DYEC to be operating well below all current standards in Regulation 419/05 under the Ontario Environmental Protection Act and other MECP criteria including guidelines and upper risk thresholds.

Tables referenced in this report for the tests conducted at Boiler No. 1 and Boiler No. 2 are provided in Appendix 1 and Appendix 2, respectively.

1. INTRODUCTION

Alliance Technical Group North, Inc. (ATGN) completed a voluntary source testing program at the Durham York Energy Centre (DYEC) located in Courtice, Ontario between October 27 to October 30, 2025. The voluntary source testing program was performed at the request of the Regions of Durham and York.

Ontario Ministry of the Environment, Conservation and Parks (MECP) Amended Environmental Compliance Approval (ECA) No. 7306-8FDKNX Section 7(1) states that “the owner shall perform annual source testing, in accordance with the procedures and schedule outlined in the attached Schedule E, to determine the rates of emissions of the test contaminants from the stack. The program shall be conducted not later than six months after the commencement date of operation of the facility/equipment and subsequent source testing programs shall be conducted once every calendar year thereafter”. A list of the test programs conducted to date is provided below:

Test Program	Test Date	Report No.
2015 Compliance	September/October 2015	21546
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2021 Compliance	November/December 2021	22085
2022 Voluntary	May 2022	22158
2022 Compliance	November/December 2022	22160
2023 Voluntary	April 2023	22230
2023 Compliance	September/October 2023	22235
2024 Compliance	March 2024	22327
2024 Voluntary	December 2024	AST-2024-4547
2025 Compliance	May & July 2025	AST-2025-2049
2025 Voluntary	October 2025	AST-2025-3852

Source testing was performed on the Baghouse (BH) Outlet of Boiler No. 1 and BH Outlet of Boiler No. 2 for the test contaminants listed in Schedule D of the ECA. Triplicate tests were also completed for total hydrocarbons at the Quench Inlet of each Boiler.

Prior to commencing the test program, the Durham and York Regions submitted a Pre-Test Plan letter to the MECP stating that the Voluntary sampling program would follow the procedures detailed in ATGN Pre-Test Plan No. AST-2025-2049, “Reworld Durham York Renewable Energy L.P. Compliance Emission Testing in Accordance with Amended Environmental Compliance Approval (Air) No. 7306-8FDKNX”, dated April 24, 2025.

Provided in Appendix 3 is a copy of the Pre-Test Plan letter sent by the Regions, dated September 9, 2025. A copy of the Amended Environmental Compliance Approval, including amendment notices, is also provided in Appendix 3.

Triplicate tests were completed for each of the test parameters listed in Schedule D of the ECA between October 27 and October 30, 2025.

2. PROCESS DESCRIPTION

DYEC is a thermal treatment facility with a maximum thermal treatment rate of 140,000 tonnes/year of municipal solid waste (MSW), as established by the Amended ECA. ECA Notice No. 2, dated December 23, 2021, temporarily allowed the facility to receive and thermally treat up to 142,000 tonnes/year of MSW for the 2021 operating year. The maximum continuous rating (MCR) for the facility is defined as 218 tonnes per day, per unit, of MSW with a heat content of 13 MJ/kg per train. The steam production MCR is 33.64 tonnes per hour for each Boiler.

The facility was built to operate on a continuous basis; 24 hours/day, seven days/weeks, 365 days/year. Waste may be delivered six days per week between 7:00 am to 7:00 pm. The proposed operating schedule may be adjusted depending on demand and facility needs within the established setup indicated in the ECA (i.e., waste can only be received from Monday to Saturday - excluding statutory holidays, and between 7:00 am and 7:00 pm - ECA's Condition 4(1)(b)).

MSW arrives at the facility via covered refuse trucks and is deposited in a storage pit within the receiving building. Facility operators manage MSW by moving and mixing MSW within the storage pit with the overhead grapple cranes. The MSW is lifted from the pit by crane and fed into the fuel hopper for each thermal treatment train.

The facility consists of two thermal treatment trains, each equipped with independently operated boilers/furnaces and air pollution control equipment. The treated exhaust gases are vented to a common 87.6 m stack and released to atmosphere.

2.1 Control Equipment

Flue gases pass through a dry recirculating type scrubber for acid control and a fabric filter for particulate control. A Selective Non-Catalytic Reduction System (SNCR) with ammonia injection is used for NO_x control. Powdered carbon is injected for mercury, and dioxin and furan control between the dry recirculating type scrubber and the fabric filter.

2.2 Continuous Emission Monitoring Systems

Continuous Emissions Monitors are installed in the vertical ductwork between the economizer and dry recirculating type scrubber (location referred to as the Quench Inlet), and in the vertical ductwork between the fabric filter and the ID fan (location referred to as the BH Outlet).

A summary of the CEMS installed at each location is provided below:

Unit	Location	Analyzer Manufacturer	Model No.	Serial No.	Parameter	Range
1	Quench Inlet	Environmental SA	MIR 9000	2684	CO (Low)	0-500 ppm
					CO (High)	0-2000 ppm
					HCl	0-1500 ppm
					O ₂ (Dry)	0-25%
		Ametek	RM CEM O ₂ /IQ	10217710-2	O ₂ (Wet)	0-25%
1	BH Outlet	Environmental SA	MIR 9000	2686	NO _x	0-500 ppm
					SO ₂	0-200 ppm
					HCl	0-100 ppm
					HF	0-100 ppm
					CO (Low)	0-500 ppm
					CO (High)	0-2000 ppm
					O ₂ (Dry)	0-25%
					CO ₂	0-25%
		Ametek	RM CEM O ₂ /IQ	10217710-1	O ₂ (Wet)	0-25%
		Tethys	EXM400	F130304	NH ₃	0-50 ppm
		OSI	OFS-2000W	13020629	Flow	0-40 m/s
		Teledyne	Light Hawk 560	5602492	Opacity	0-100%
		Environmental SA	Graphite 52M	647	THC	0-100 ppm
		Environmental SA	Amesa	1825-269	Dioxin/Furan	0-10 ng/m ³
2	Quench Inlet	Environmental SA	MIR 9000	2685	CO (Low)	0-500 ppm
					CO (High)	0-2000 ppm
					HCl	0-1500 ppm
					O ₂ (Dry)	0-25%
		Ametek	RM CEM O ₂ /IQ	10218084-1	O ₂ (Wet)	0-25%
2	BH Outlet	Environmental SA	MIR 9000	2687	NO _x	0-500 ppm
					SO ₂	0-200 ppm
					HCl	0-100 ppm
					HF	0-100 ppm
					CO (Low)	0-500 ppm
					CO (High)	0-2000 ppm
					O ₂ (Dry)	0-25%
					CO ₂	0-25%
		Ametek	RM CEM O ₂ /IQ	10218084-2	O ₂ (Wet)	0-25%
		Tethys	EXM400	F130303	NH ₃	0-50 ppm
		OSI	OFS-2000W	13020633	Flow	0-40 m/s
		Teledyne	Light Hawk 560	5602493	Opacity	0-100%
		Environmental SA	Graphite 52M	648	THC	0-100 ppm
		Environmental SA	Amesa	1825-284	Dioxin/Furan	0-10 ng/m ³

3. SAMPLING LOCATIONS

The BH Outlet sampling ports are located on the vertical circular ductwork between the baghouse outlet and the ID Fan inlet. There are two 6-inch ports, located 90 degrees apart, at the same elevation and a single 4-inch port located approximately 0.8 m upstream of the 6-inch ports. The two 6-inch sampling ports were used for isokinetic sampling and the 4-inch ports were used for all non-isokinetic sampling.

The BH Outlet duct has an inside diameter of 1.37 meters (54 inches) at the sampling ports. The two 6-inch ports are approximately 4.4 duct diameters (6.1 meters) downstream and 0.68 duct diameters (0.94 meters) upstream from the nearest flow disturbances.

The Quench Inlet sampling ports are located on the circular ductwork between the Boiler Outlet and the Recirculating Type Dry Scrubber Inlet. There are two 6-inch ports, located 90 degrees apart, at the same height. The Quench Inlet duct has a diameter of 1.37 meters (54 inches) at the sampling ports. The ports are located approximately 3.8 duct diameters (5.2 meters) downstream and 4.7 duct diameters (6.4 meters) upstream from the nearest flow disturbances.

The sampling ports are located at a “non-ideal” location as defined by the Ontario Source Testing Code. An “ideal” location is defined as being at least eight stack diameters downstream and at least two stack diameters upstream of flow disturbances.

Cyclonic flow checks were performed at the BH Outlet and Quench Inlet sampling locations on each Boiler on September 22, 2015. The cyclonic flow checks were performed using an S-type pitot tube and manometer following the procedures detailed in Ontario Source Testing Code Method 1. Briefly, the pitot tube was positioned at each sampling point so that the planes of the face openings were parallel to the cross-sectional axis of the duct. The pitot tube was then rotated about its longitudinal axis until the manometer reading was zero. The absolute value of the rotational angle was recorded to the nearest degree at each point. The average of the recorded angles was calculated at each location. If the average angle is less than 15°, cyclonic flow is not present and sampling may proceed as normal.

The results for the cyclonic flow checks are summarized below:

Sampling Location	Performance Specification	Average Angle (°)	Cyclonic Flow Present
Boiler No. 1 Quench Inlet	Average <15°	6.6	No
Boiler No. 2 Quench Inlet	Average <15°	8.4	No
Boiler No. 1 BH Outlet	Average <15°	8.8	No
Boiler No. 2 BH Outlet	Average <15°	8.1	No

In addition, reverse flow was not observed at any point at any of the four sample locations during the cyclonic flow checks or during any test.

4. SAMPLING PROCEDURES

4.1 General

This section outlines the sampling procedures as well as pre-test and on-site internal quality assurance/quality control (QA/QC) procedures which were utilized in the testing program. The procedures described in this section ensured that representative samples were collected and that the integrity of the collected samples was maintained. The use of these sampling procedures significantly reduced the possibility of sample contamination from external sources. Sample handling and documentation requirements were key factors in this program.

Triplicate tests were completed for particulate matter, metals, semi-volatile organic compounds, acid gases, volatile organic compounds, aldehydes and combustion gases at the BH Outlet of each Boiler. Triplicate tests were also completed for total hydrocarbons at the Quench Inlet of each Boiler. The contaminant groups included in the test program and the reference test methods used are summarized below:

Test Groups	Reference Method
Particulate and Metals	US EPA Method 29
PM _{2.5} /PM ₁₀ and Condensable Particulate	US EPA Methods 201A and 202
Semi-Volatile Organic Compounds	Environment Canada Method EPS 1/RM/2
Volatile Organic Compounds	US EPA Method TO-15
Aldehydes	NCASI Method ISS/FP-A105.01
Halides and Ammonia	US EPA Method 26A
Combustion Gases:	
Oxygen and Carbon Dioxide	Facility CEM
Carbon Monoxide	Facility CEM
Sulphur Dioxide	Facility CEM
Nitrogen Oxides	Facility CEM
Total Hydrocarbons	ATGN per US EPA Method 25A

Since relative accuracy and system bias testing was conducted in August 2025, the data recorded by the DYEC CEMS was used to assess against the in-stack emissions limits detailed in Schedule C of the ECA for hydrochloric acid, sulphur dioxide, nitrogen oxides and carbon monoxide. Note the DYEC CEMS data for the days when isokinetic testing was performed at each unit (October 27 to October 30, 2025) was used to determine the minimum, average and maximum concentrations of the combustion gases listed in the ECA. Concentration data measured by ATGN on October 27 and October 28, 2025, was used to assess the total hydrocarbons (organic matter) in-stack emissions limit detailed in Schedule C of the ECA.

4.2 Particulate and Metals

Particulate and metals were sampled using the sampling procedures outlined in US EPA Method 29. Major components of the sampling train were as follows:

- A glass nozzle and probe liner assembly
- A quartz fiber filter with a low metal background
- The first impinger was initially empty to collect moisture
- The second and third impingers initially contained 100 mL each of 5% nitric acid/10% hydrogen peroxide solution to collect metals
- The fourth impinger was initially empty
- The fifth and sixth impingers initially contained 100 mL each of 4% potassium permanganate/10% sulphuric acid solution to collect mercury
- The seventh impinger contained silica gel

Each test for particulate matter and metals involved the collection of stack gas sampled isokinetically at twelve points centered on equal areas along each of two traverses (at 90° to each other) of the BH Outlet duct. Each of the twenty-four points was sampled for 7.5 minutes for a total actual sampling time of one hundred and eighty minutes.

At 2.5-minute time increments throughout each test the following information was measured and recorded on field data sheets:

- Elapsed sampling time
- Dry gas meter volume
- Pitot tube pressure
- Stack gas temperature
- Probe, oven and impinger temperatures
- Dry gas meter temperatures
- Control module orifice pressure
- Sampling pump vacuum

The particulate and metals field data sheets are provided in Appendix 4.

At the start and finish of sampling each traverse the sampling train was leak-checked. A valid leak-check as specified by the sampling method is a leakage rate of less than 0.00057 cubic meters per minute (m^3/min) or 4% of the estimated sampling rate, whichever is less. All the leak-checks, as detailed on the field data sheets, were acceptable.

A blank train was prepared and the samples recovered in a manner identical to the test sampling trains.

4.3 Particle Size Distribution

Particle Size Distribution (PSD) tests were performed at each of the BH Outlet sample locations in accordance with the test procedures described in US EPA Method 201A using PM₁₀ and PM_{2.5} combined cyclone heads and US EPA Method 202. Sampling was conducted for approximately one hundred and twenty minutes at six points across each traverse of the duct using isokinetic dwell time sampling. At approximately ten-minute time increments throughout each test the following information was measured and recorded on field data sheets:

- Elapsed sampling time
- Dry gas meter volume
- Pitot tube pressure
- Stack gas temperature
- Probe, oven, impinger and dry gas meter temperatures
- Control module orifice pressure
- Sampling pump vacuum

Field data sheets for the PSD tests are provided in Appendix 5.

A blank train was prepared and samples recovered in a manner identical to the test sampling trains.

4.4 Semi-Volatile Organic Compounds

Semi-volatile organic compounds (SVOC), including dioxins and furans, polychlorinated biphenyls (PCBs), chlorobenzenes (CBs), chlorophenols (CPs) and polycyclic aromatic hydrocarbons (PAHs) were sampled at the BH Outlet of each Boiler using the sampling train and sampling procedures outlined in Environment Canada Report EPS 1/RM/2. Major components of the sampling train were as follows:

- A glass nozzle and probe liner assembly
- A clean and proven glass fiber filter
- Amberlite XAD-2 sorbent resin was used in a trap to collect semi-volatile organics
- The first impinger was initially empty
- The second impinger contained 100 mL of ethylene glycol
- The third impinger was initially empty
- The fourth impinger contained silica gel

All test train and auxiliary glassware were cleaned according to the methods as outlined in Environment Canada EPS 1/RM/2 except that the methods were modified by combining proofing extracts prior to analysis for the target analytes.

Each test for semi-volatile organic compounds at the BH Outlet involved the collection of stack gas sampled isokinetically at twelve points centered on equal areas along each of two traverses (at 90° to each other) of the duct. Each of the twenty-four points was sampled for ten minutes for a total actual sampling time of two hundred and forty minutes.

At five-minute time increments the following information was measured and recorded on field data sheets:

- Elapsed sampling time
- Dry gas meter volume
- Pitot tube pressure
- Stack gas temperature
- Probe, oven, XAD-2 trap outlet and impinger outlet temperatures
- Dry gas meter temperatures
- Control module orifice pressure
- Sampling pump vacuum

Field data sheets for the SVOC tests are provided in Appendix 6.

At the start and finish of sampling each traverse, the sampling train was leak-checked. A valid leak-check as specified by the sampling method is a leakage rate of less than 0.00057 m³/min or 4% of the estimated average sampling rate, whichever is less. All the leak-checks for the tests reported, as detailed on the field data sheets, were acceptable.

A blank train was prepared in a manner identical to the test trains. It was assembled, transported and left at the sampling site for a period of time equal to the test trains. The blank train was treated at the sampling site in the same manner as the test trains and a gas volume was drawn through the blank train approximately equal to the leak-check volume for the test trains.

4.5 Acid Gases

Hydrogen fluoride, hydrogen chloride and ammonia were sampled together using the sampling train and sampling procedures outlined in US EPA Method 26A. Major components of the test train were as follows:

- A glass nozzle and probe liner assembly
- The first and second impingers contained 100 mL of 0.1N H₂SO₄
- The third impinger was initially empty
- The fourth impinger contained silica gel

At five-minute time increments throughout each test the following information was measured and recorded on field data sheets:

- Elapsed sampling time
- Dry gas meter volume
- Pitot tube pressure
- Stack gas temperature
- Probe, oven and impinger temperatures
- Dry gas meter temperatures
- Control module orifice pressure
- Sampling pump vacuum

Field data sheets for the acid gases tests are provided in Appendix 7.

At the start and finish of each test the sampling train was leak-checked. A valid leak-check as specified by the sampling method is a leakage rate of less than 0.00057 m³/min or 4% of the estimated average sampling rate, whichever is less.

A blank train was prepared and samples recovered in a manner identical to the test sampling trains.

4.6 Volatile Organic Compounds

Sampling for Volatile Organic Compounds was carried out using summa canisters following procedures described in US EPA Method TO-15, "Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS)". Summa canister samples were collected from a single point in each duct. A forty-minute regulator was requested from the analytical laboratory. The actual sampling time ranged from One hundred and twelve to one hundred and eighty-seven minutes.

The sampling train components were cleaned using the procedures in US EPA TO-15.

Field data sheets for the VOC tests are provided in Appendix 8.

A blank sample was analyzed for the program.

4.7 Aldehydes

Some of the compounds listed as VOC's (acetaldehyde, formaldehyde and acrolein) are more commonly classified as aldehydes. These compounds were captured in a separate test train in accordance with NCASI Method ISS/FP-A105.01.

Major components of the test train were as follows:

- A Teflon probe liner assembly was used.
- The first, second and third impingers contained approximately 15 mL each of o-Benzylhydroxylamine (BHA).
- The fourth impinger contained silica gel

A single test for aldehydes involved the collection of gas sampled at a single point in the duct at a sampling flowrate of approximately 0.5 liters per minute for sixty minutes.

At five-minute time increments throughout each test, the following information was measured and recorded for the train:

- Elapsed sampling time
- Dry gas meter volume
- Stack gas temperature
- Probe, oven and impinger outlet temperatures
- Dry gas meter temperature
- Control module orifice pressure
- Sampling pump vacuum

Field data sheets for the aldehyde tests are provided in Appendix 9.

4.8 Combustion Gases

In August 2025, relative accuracy and system bias testing was conducted on the Continuous Emission Monitoring Systems (CEMS) installed at the Quench Inlet and BH Outlet of each Boiler. DYEC CEMS met the performance parameters detailed in Schedule F of the ECA. Therefore, the data recorded by the DYEC CEMS was used to assess the in-stack emissions limits detailed in Schedule C of the ECA for hydrochloric acid, sulphur dioxide, nitrogen oxides and carbon monoxide.

Combustion gases, including carbon dioxide, carbon monoxide, hydrogen chloride, nitrogen oxides, oxygen, sulphur dioxide and total hydrocarbons, were measured continuously at the BH Outlet during the source testing program by the DYEC CEMS. Oxygen was also measured continuously by the DYEC CEMS at the Quench Inlet.

DYEC provided 1-hour average concentrations for each clock hour using the 1-minute combustion gas data measured by the DYEC CEMs during each isokinetic test day at each Boiler. The data measured by the DYEC CEMS, from October 27, 2025 at 0:00 to October 30, 2025 at 12:00, was used to assess the in-stack emission limit stated in the ECA for each Boiler.

A 24-hour rolling average was determined for hydrogen chloride, nitrogen oxides and sulphur dioxide using the calculated 1-hour average data to compare to the in-stack emission limits stated in the ECA. A 4-hour rolling average was determined for carbon monoxide using the calculated 1-hour average data to compare to the in-stack emission limit stated in the ECA.

Total hydrocarbon concentrations were measured by ATGN following the procedures detailed in US EPA Method 25A. Triplicate one-hour tests were conducted at the Quench Inlet and BH Outlet of each Boiler on October 27 and October 28, 2025. The total hydrocarbon data measured at the Quench Inlet sample locations was used to assess against the in-stack emissions limits detailed in Schedule C of the ECA.

5. SAMPLE RECOVERY AND ANALYSIS

All sample analysis was performed by ALS Canada Ltd. Copies of Sample Logs/Chain of Custody Forms for all samples submitted for chemical analysis are provided in Appendix 10.

5.1 Particulate and Metals

Before loading of the field test trains commenced, recovery data sheets were prepared to record initial weights of the test train components. These sheets were also used during sample recovery to record final weights and determine moisture gains and sample volumes. The particulate and metals train recovery data sheets are provided in Appendix 11.

Following the conclusion of each test performed with the metals train, the probe was disconnected and all openings sealed with Teflon tape. The test trains, including the probes, were taken to the on-site mobile laboratory for sample recovery. The train recovery procedure is briefly described as follows.

The test trains were visually inspected to ensure that no damage occurred during transportation. The condition of the test train was noted. Filter and impinger content colors were recorded. The filter housing was disassembled and the filter carefully transferred to its pre-test petri dish with the use of Teflon coated tweezers.

All the impingers were wiped dry on the outside then weighed and the results used to determine the stack gas moisture content.

The front half of the sampling train was brushed and rinsed thoroughly with acetone. A nylon bristle probe brush was used to assist in dislodging particulate material which may have adhered to the inside surfaces of the nozzle and probe assembly. The front half was then rinsed in triplicate using 0.1 N nitric acid but no brushing was performed.

The contents of the first four impingers were combined. Triplicate rinses of the impingers and connecting glassware back to and including the Teflon filter support was performed with 0.1 N nitric acid and combined with the impinger solution sample.

The contents of the fifth and sixth impingers were combined. The impingers with connecting glassware were then rinsed in triplicate with approximately 100 mL of fresh potassium permanganate solution followed by a triplicate rinse with 100 mL of distilled, de-ionized water. All of the glassware rinses were added to the sample container.

Any brown residue which was present in the fifth and sixth impingers was removed by incrementally rinsing with small amounts of 8 N hydrochloric acid. These acid rinses were added to a separate sample bottle which initially contained 150 mL of distilled, de-ionized water. The impingers were then rinsed with distilled, de-ionized water into the same sample container.

Each sample container was sealed, labeled and the fluid level marked (where appropriate) once that portion of the recovery was completed. The samples were then checked against the master sample log/chain of custody form and refrigerated until they were delivered to the analytical laboratory for analysis.

The test samples were prepared and analyzed for metals according to US EPA Method 29 (modified). The inorganic analytical reports are provided in Appendix 12.

5.2 Particle Size Distribution

Prior to loading the field test trains, recovery data sheets were prepared to record initial weights of the test train components. These sheets were also used during sample recovery to record final weights and determine moisture gains and sample volumes. The train recovery data sheets are provided in Appendix 13.

The particle size distribution (PSD) samples were recovered in much the same way as the particulate samples from the particulate and metals trains. Following the conclusion of each test performed with the PSD trains, the probe was disconnected and all openings sealed with Teflon tape. The sample recoveries were performed in the on-site sample recovery trailer.

The test trains were visually inspected to ensure that no damage during movement had occurred. The recovery procedure is briefly described as follows.

The condition of the test train was noted and the filter and impinger colours were recorded. The nozzle, PM₁₀ cyclone walls, collection cup and outside of the exit stem was brushed and rinsed thoroughly with acetone into a glass sample container to determine particulate greater than PM₁₀. The PM₁₀ cup and connecting parts were rinsed with acetone in a glass sample container to determine particulate less than PM₁₀ but greater than PM_{2.5}. The PM_{2.5} cup and connecting parts up to the back-up filter were rinsed with acetone into a glass sample container to determine particulate less than PM_{2.5}. The back-up filter was transferred to its original petri dish.

The impingers were wiped dry on the outside then weighed and the results used to determine the stack gas moisture content. The back half of the sampling train was then purged with nitrogen at 14 lpm for 1 hour as soon as possible after the completion of each test.

The back-half of the sampling train was recovered following the procedures detailed in US EPA Method 202 for condensable particulate. The contents of the first impinger were poured into a glass sample bottle and rinses of the impinger and connecting glassware were performed with water which was added to the sample. The glassware was then rinsed with acetone and the rinse was repeated in duplicate with hexane. The acetone and hexane rinses were combined into a single glass sample bottle.

Each sample container was sealed, labeled and the fluid level marked (where appropriate) once that portion of the recovery was completed. The samples were then checked against the master sample log/chain of custody form and refrigerated until they were delivered to the analytical laboratory for analysis.

The particle size and condensable particulate matter results are presented with the inorganic analytical reports provided in Appendix 12.

5.3 Semi-Volatile Organic Compounds

Prior to loading the field test trains, recovery data sheets were prepared to record initial weights of the test train components. These sheets were also used during sample recovery to record final weights and determine moisture gains and sample volumes. The train recovery data sheets are provided in Appendix 14.

Following the conclusion of each test performed with the semi-volatile organics train, the probe was disconnected and all openings sealed with Teflon tape. The test trains, including the probes, were taken to the on-site mobile laboratory for sample recovery. The train recovery procedure is briefly described as follows.

The condition of the test train was noted. Filter, XAD-2 trap and impinger content colours were recorded. The filter housing was disassembled and the filter carefully transferred, with the use of Teflon coated tweezers, to a piece of pre-cleaned aluminum foil. Each filter was then folded in half onto itself within the foil, the foil ends crimped, then placed in a pre-cleaned glass petri dish. Both the foil containing the filter(s) and the glass Petri dish were labeled.

All of the impingers were wiped dry on the outside then weighed and the results used to determine the stack gas moisture content.

The front half of the sampling train, up to but not including the trap, was brushed and rinsed thoroughly with acetone. A Teflon probe brush was used to assist in dislodging particulate material that may have adhered to the inside surfaces of the cyclone bypass and filter top assembly. This front half rinse was then repeated using hexane, with no brushing, and all rinsing was combined with the probe rinse sample. The filter bottom, filter bottom u-tube and trap inlet stem were soaked for five minutes in each of acetone and hexane then rinsed.

The XAD-2 trap was drained of excess cooling water and weighed. The ends were then sealed with Teflon tape and the trap was labeled and wrapped in aluminum foil. Since a one piece trap and condenser was used, the five minute soak of this component was performed by the analytical laboratory.

The contents of the first three impingers were combined in a pre-cleaned amber glass sample bottle. Triplicate rinses of the impingers and connecting glassware back to and including the trap bottom u-tube were performed first with HPLC water, which was added to the impinger solution sample, and then with acetone followed by hexane. The acetone and hexane rinses were combined in a separate sample bottle from the impinger solutions.

Each sample container was sealed and labeled once that portion of the recovery was completed. The samples were then checked against the master sample log/chain of custody form then refrigerated until they were delivered to the analytical laboratory for analysis.

Semi-volatile organic analyses were performed on single composite extracts for each test according to EPS 1/RM/3 and EPS 1/RM/23. These methods were modified slightly to include other semi-volatile organic compounds following the Environment Canada NITEP/Mid-Connecticut combustion test procedures. These analytical improvements have been implemented over many years and have been identified and approved through laboratory accreditation and acceptance by the MECP.

The SVOC analytical reports are provided in Appendix 15.

5.4 Acid Gases

Following the conclusion of each test performed with the acid gas train, the probe was disconnected and all openings sealed with Teflon tape. The test trains were taken to the on-site mobile laboratory for sample recovery. The train recovery procedure is briefly described as follows.

The test trains were visually inspected to ensure that no damage occurred during transportation. The condition of the test train was noted and the impinger content colors were recorded. All the impingers were wiped dry on the outside then weighed and the results used to determine the stack gas moisture content.

The contents of the first three impingers were combined. Triplicate rinses of the impingers and connecting glassware back to and including the Teflon filter support was performed with high purity water and combined with the impinger solution sample.

Each sample container was sealed, labeled and the fluid level marked (where appropriate) once that portion of the recovery was completed. The samples were then checked against the master sample log/chain of custody form and refrigerated until they were transported to the laboratory for analysis.

Analysis for hydrogen fluoride, hydrogen chloride and ammonia was performed via ion chromatography.

Train recovery data sheets are provided in Appendix 16. The acid gases analytical results are presented with inorganic analytical reports in Appendix 12.

5.5 Volatile Organics Train Recovery

Following the conclusion of each test, the canisters were capped and labeled. The canisters were sent to the analytical laboratory for volatile organic compound (VOC) analysis.

The collected samples are transferred to a pre-concentrator system and then thermally desorbed prior to injection into a GC-MS system for analysis.

The VOC analytical reports are provided in Appendix 17.

5.6 Aldehydes

Following the conclusion of each test performed with the Aldehyde Train the probe was disconnected and all openings were sealed with Teflon tape. The test train was then recovered on site in the sample recovery trailer separate from all other test train recoveries and solvents. The train recovery procedure is briefly described as follows.

The condition of the test train was noted. All the impingers were wiped dry and weighed. The contents of the impingers were transferred into a glass sample container. The probe and impingers were rinsed with a small amount of DI water followed by a small amount of hexane into the same sample container.

Each sample container was sealed, labeled and the fluid level marked (where appropriate) once that portion of the recovery was completed. The samples were then checked against the master sample log/chain of custody form and refrigerated until they were transported to the laboratory for analysis.

Analysis for formaldehyde, acetaldehyde and acrolein was performed via GC/MS. The sample recovery data sheets are provided in Appendix 18 and the analytical results are presented in Appendix 19.

6. INTERNAL AND EXTERNAL QA/QC PROGRAM

6.1 General

As with other source testing programs conducted by ATGN, a comprehensive internal quality assurance/quality control (QA/QC) program was included.

Blank sampling trains were recovered and analyzed or reagent blanks were analyzed using the same procedures as the test trains to provide background concentrations of the test components.

6.2 Pre-Test Activities

Prior to the commencement of the source testing program, the following activities were performed:

- Preparation, pre-cleaning and proofing of the manual stack sampling trains and sample containers.
- Preparation and quality checks of chemicals, reagents, filters and XAD-2 adsorbent resin.
- Calibration of all sampling and monitoring equipment.
- Development (and review) of data acquisition, data reduction and summary procedures.
- Development of internal QA/QC field data sheets.
- Review of equipment calibration logs.
- Review of proposed field and laboratory procedures.

All proving data for the Semi-Volatile Organics Train glassware and auxiliary equipment was deemed acceptable prior to the test program. Proof data for the semi-volatile organics glassware is provided in Appendix 20.

All equipment used in the field testing program was calibrated and checked prior to the field testing program. Pertinent equipment calibration data is supplied in Appendix 21.

As part of the internal QA/QC, data acquisition, data reduction and summary procedures were already in place and periodic spot checks of the computer programs were performed using known data sets.

6.3 Source Testing QA/QC Results

Prior to the field testing program, preliminary data was acquired to perform the required calculations for choosing a nozzle size to permit isokinetic sampling.

The internal diameter of each duct was verified and the appropriate number of sampling points was marked on each sampling probe.

The following general QA/QC criteria were satisfied for each of the test trains where applicable:

- All sampling equipment was cleaned and proven clean (where applicable) prior to the commencement of the field testing program.
- All sampling equipment passed a visual and operational check prior to use in the field.
- Oil filled manometer gauges which had been properly leveled and zeroed were used to measure the velocity pressure.
- All sampling data was recorded in ink on preformatted data sheets at least once every 5 minutes and/or at least twice during sampling each traverse point.
- Any unusual occurrences were noted during each test on the appropriate data form.
- The field team leader reviewed all calibration and sampling data forms daily.
- Only tapered edge sampling nozzles and S-type pitot tubes that had been visually inspected and caliper measured, and deemed acceptable, were used for sampling.
- Each leg of the S-type pitot was leak-checked before the start of testing. The leak-checks were all acceptable (no leak detected).
- Each entire sampling train met acceptable leak-check criteria before and after each test, and during any move from one sampling traverse to another. If a test did not meet the leak-check criteria the test was voided and repeated.
- The S-type pitot tube and sampling nozzle were maintained parallel to the flow during testing and care was taken to ensure that they did not scrape the ports when being inserted and removed from the stack.
- The probe and filter components were maintained at $120^{\circ}\text{C} \pm 14^{\circ}\text{C}$ during testing. If the probe or filter temperature was outside of the acceptable range the test was halted until the temperature could be brought back into the acceptable range.
- The process was monitored by Reworld personnel to ensure it operated as close as possible to the maximum continuous rating stated in the ECA. Reworld notified ATGN when to commence sampling each day.

6.4 Sample Recovery, Handling and Custody

The sample identification scheme and system for handling and processing samples was initiated as part of the sample tracking system for stack samples. All samples were identified by a unique sample number comprised of a series of numbers and letters. A master sample log/chain of custody form was maintained by the QA/QC designate and was made available to the ATGN personnel designated to perform the sample recovery for a specific sampling train. Once a sample was collected it was labeled and checked against the sample log by the QA/QC designate.

The information contained within the sample number and the sample log enabled the sampling, recovery, data reduction and report writing personnel to easily determine the test date, test number, test type and train sample identification for a given sample. To ensure continuity, the analytical laboratory was requested to use the ATGN number for sample identification.

The personnel responsible for delivering samples used the master sample log/chain of custody form to document the transfer of the samples to the analytical laboratory. Appropriate care was taken when shipping the samples in order to maintain sample integrity. Once the samples and master sample log/chain of custody forms were received by the analytical laboratory, the laboratory personnel verified that all samples had been received, and their integrity maintained. The laboratory personnel then signed the master log and made a photocopy which was received as a record of the chain of custody for the samples.

6.5 Analytical Results

A one-piece condenser and XAD-2 trap was used for SVOC collection, this component of the test train was Teflon sealed and wrapped with foil prior to being transported to the analytical laboratory where it was given the required five minute soaking with each of acetone and hexane. This is consistent with all SVOC test programs conducted and the modification was documented in the Pre-Test Plan approved by the MECP.

Analyses for the present source testing program were performed using acceptable laboratory procedures in accordance with the specified analytical protocols. Adherence to the prescribed QA/QC procedures ensured data of consistent and measurable quality. Analytical quality control focused on the use of control standards to provide a measure of analytical accuracy. Replicate analysis (usually duplicate analysis) of the same sample was used as a means of determining precision of the various analytical procedures. Also, specific acceptance criteria were defined for various analytical operations including calibrations, control standard analysis, drift checks, blanks, etc.

The following general QA/QC procedures were incorporated into the analytical effort:

- the on-site Field Supervisor reviewed all data and QA/QC data on a daily basis for completeness and acceptability
- master sample logs were maintained for all samples collected
- analytical QA/QC data was tabulated by the analytical laboratories using appropriate charts or forms
- all hard copy raw data was maintained in organized files

Specific analytical QA/QC procedures are presented in the analytical reports and are briefly summarized below.

6.5.1 Metals Sample Analysis QA/QC

The analysis of the Method 29 stack samples involved sample digestion followed by Inductively Coupled Argon Plasma Mass Spectroscopy (ICP-MS) analysis. The analysis for mercury employed cold vapour atomic absorption (CVAA). The analytical QA/QC is described as follows and the results are provided in the analytical report.

ICPMS Analysis

The quality assurance activities conducted by the analytical laboratory are detailed in the Quality Assurance Report provided in the analytical report. Specific QA/QC results are summarized below:

- One duplicate sample analysis was performed for the test program. The relative percent difference was less than 6.3% well within the acceptable limit of less than $\pm 20\%$, for elements that are greater than 5 times the minimum detection limit.
- A blank spike (performed as a pre-digestion spike) was analyzed with the test samples. All the recovery results were between 80.5-103%, except for barium (79%). The acceptable limit is 80-120% of the true value.
- A matrix spike (performed as a post digestion spike) was analyzed with the test samples. All the recovery results were between 83.2-104%. The acceptable limit is 80-120% of the true value.

The following general analytical QA/QC requirements must also be met or the samples are re-analyzed:

- An instrument calibration check standard was analyzed immediately after the calibration curve and must be within 90%-110% of the actual concentrations.
- Instrument calibration blank check sample were analyzed with every 10 samples and must be within three times the minimum detection limit.
- A continuing calibration check is run every 10 samples and must be within 85%-115% of the actual concentrations.
- Instrument (interference) check sample for ICP-MS analysis was analyzed before and after each analytical run. The value(s) found for the interference check sample must be within 80%-120% of the true value.

Barium, chromium, cobalt, copper, lead, molybdenum and nickel were detected in the blank trains at levels greater than the limit of reporting. Cadmium, chromium, cobalt, copper and nickel were observed by the analytical laboratory in the method blank at levels greater than the limit of reporting. The test sample data may be biased high for these compounds as a result of this potential background.

Mercury Analysis

The quality assurance activities conducted by the analytical laboratory are detailed in the Quality Assurance Report provided in the analytical report. Specific QA/QC results are summarized below:

- One duplicate sample analysis was performed for each fraction. However, mercury was not detected on any of the fractions in quantities greater than the detection limit.
- A blank spike (performed as a pre-digestion spike) was analyzed with the test samples. The recovery results were between 92-97%, within the acceptable limit of 90-110% of the true value.
- A matrix spike (performed as a post digestion spike) was analyzed with the test samples. The recovery results were between 90-96%, within the acceptable limit of 80-120% of the true value.

The following general analytical QA/QC requirements must also be met or the samples are re-analyzed:

- A 5 point calibration was performed.
- An instrument check calibration standard was analyzed immediately after the calibration and must be within 90%-110% of the actual concentration
- One mid-range calibration standard was analyzed after 10 samples and at the end of the run and must be within 85%-115% of the actual concentration.
- Instrument calibration blank check sample is analyzed with every 10 samples and must be within three times the minimum detection limit.

6.5.2 Acid Gas Sample Analysis QA/QC

Analyses of the acid gas samples from the Method 26A sampling train was performed by Ion Chromatography (IC). The quality assurance activities conducted by the analytical laboratory are detailed in the Quality Assurance Report provided in the analytical report. Specific QA/QC results are summarized below:

- All of the hydrogen chloride and hydrogen fluoride analyses were conducted in duplicate. One duplicate sample analysis was also performed for ammonia. The relative percent difference was less than 1%, well within the acceptable limit of less than $\pm 20\%$ for compounds that are greater than 5 times the minimum detection limit.
- A blank spike sample was analyzed with the test samples. The recovery results for the blank spike sample were 108% for hydrogen chloride, 109% for hydrogen fluoride and 101% for ammonia, within the acceptable range of 90-110%.
- A matrix spike (spike confirmation) sample was analyzed with every 20 samples to confirm the identity of each peak. The recovery results of the matrix spike sample were 103% for hydrogen chloride, 101% for hydrogen fluoride and 100% for ammonia, within the acceptable range of 90-110%.

The following general analytical QA/QC requirements must also be met or the samples are re-analyzed:

- A 6 point calibration bracketing the expected range.
- An instrument check calibration standard was analyzed immediately after the calibration and must be within 90%-110% of the actual concentration.
- A complete set of calibration standards were analyzed at the end of the analysis and must be within 10% of the true value.
- One mid-range calibration standard was analyzed after 10 samples and at the end of the run and must be within 90%-110% of the actual concentration.
- Instrument calibration blank check samples were analyzed with every 10 samples and must be within three times the minimum detection limit for each ion.

6.5.3 Aldehyde Sample Analysis QA/QC

Analysis for formaldehyde, acetaldehyde and acrolein was performed via GC/MS. Laboratory control samples were analyzed with the test samples. A field BHA and spike sample was prepared by the analytical laboratory and analyzed with the test samples. The recoveries for the 12.5 µg Laboratory Control Sample were 66.4% for acetaldehyde, 107% for formaldehyde and 43.3% for acrolein. The low recoveries may indicate a low bias in the sample data.

Formaldehyde and acetaldehyde were detected in the blank sample in quantities similar to those found in the test samples. Formaldehyde and acetaldehyde were also detected in the method blank. The test sample data may be biased high as a result of this potential background.

6.5.4 SVOC Sample Analysis QA/QC

The combined filter, probe rinse, Amberlite XAD-2 cartridge, impinger solutions and associated rinse and soaking solutions for each of the semi-volatile organics trains were analyzed together as one sample per test.

Staff at ALS added extraction standards to all samples prior to extraction. Clean-up standards were added just prior to the clean-up process. Recoveries of the clean-up standards provide an indication on the losses that occur during the extract clean-up. The analytical report includes the lists of the field spike, extraction and clean-up standards used. The analysis of samples involved complex sample extraction and cleanup, followed by HRMS/MS analysis.

Recovery of the dioxin and furan field spike standards were between 88-112% which indicates good extraction efficiency and provides a high degree of confidence in the results obtained from the dioxin and furan test trains. Per the analytical report, the recovery of the 13C12-2,3,7,8-TCDF standard for Boiler No. 1 Test 3 was marginally below the method control limit and the detection limit may be elevated.

Per the analytical report, the recoveries of some of the labelled chlorobenzene and chlorophenol standards were below the method criteria. However, the target analyte recoveries are within control for the laboratory control sample. No bias to sample data is expected.

Also, the recovery of dibenzo(a,h)anthracene-d14 is below the method control limit in the Boiler No. 1 Test No. 3 sample, however the result for dibenzo(a,h)anthracene in this sample is inherently corrected using isotope dilution and the result is unlikely to be biased. The detected background is particularly elevated for naphthalene, biphenyl and tetralin. Results for naphthalene, biphenyl and tetralin are likely to be biased in a similar manner to the method blank, a qualifier has been added to affected results.

6.5.5 Volatile Organic Compound Analysis QA/QC

None of the compounds were detected in the field blank sample in quantities higher than the analytical detection limit. The field blank sample was taken to the sampling location, opened and filled then recapped to provide background levels at the sampling location.

The analytical report includes the surrogate standards used. The surrogate recoveries for each of the surrogates should be between 70 - 130%. The recoveries were between 86.5 - 116%.

7. RESULTS AND DISCUSSION

Triplicate tests were completed for particulate matter, particle size distribution, condensable particulate matter, metals, semi-volatile organic compounds, aldehydes, acid gases and volatile organic compounds at the Boiler No. 1 BH Outlet and Boiler No. 2 BH Outlet.

Combustion gases, including hydrochloric acid, sulphur dioxide, nitrogen oxides and carbon monoxide were measured during the source testing program (October 27 and October 30, 2025) by the DYEC CEMS. Total hydrocarbon concentrations were also measured at the BH Outlet and Quench Inlet by ATGN on October 27 and October 28, 2025.

Tables referenced in this report for the tests conducted at Boiler No. 1 and Boiler No. 2 are provided in Appendix 1 and Appendix 2, respectively.

Detailed test schedules are provided in Table 1 and Table 2 of Appendix 1 and Appendix 2 for Boiler No. 1 and Boiler No. 2, respectively.

7.1 Stack Gas Sampling Parameters

Emission test calculations for the particulate and metals, particle size, acid gases, and SVOC tests conducted are provided in Appendix 22 to Appendix 25, respectively.

Stack gas sampling parameters for the tests conducted at each location are summarized in Table 3 (Appendix 1 and Appendix 2). These parameters include calibration data, nozzle diameter, dry gas volume sampled and average percentage of isokineticity for each test.

7.2 Stack Gas Physical Parameters

Stack gas physical parameters for tests conducted at each BH Outlet location are presented in Table 4 (Appendix 1 and Appendix 2). The average values from the isokinetic tests at each site are summarized below:

Stack Gas Parameter	Boiler No. 1 BH Outlet*	Boiler No. 2 BH Outlet*
Gas Temperature (°C)	139	135
Moisture by Volume (%)	16.1	15.7
Velocity (m/s)	18.0	18.7
Static Pressure (kPa)	-2.65	-2.58
Absolute Pressure (kPa)	98.6	98.7
Carbon Dioxide by Volume (%)**	9.92	9.94
Oxygen by Volume (%)**	9.46	9.29

* Excludes the isokinetic Acid Gases tests as testing was conducted on a single traverse of the duct

** dry basis, measured by DYEC CEMS

7.3 Volumetric Flowrate Data

Stack gas volumetric flowrates for the tests conducted at each BH Outlet location are presented in Table 5 (Appendix 1 and Appendix 2). The average flowrate values from the tests at each site are summarized below:

Volumetric Flowrate	Boiler No. 1 BH Outlet*	Boiler No. 2 BH Outlet*
Actual Flowrate (m ³ /s)	26.6	27.7
Dry Reference Flowrate (Rm ³ /s)**	15.8	16.6
Dry Adjusted Flowrate (Rm ³ /s)***	18.2	19.4
Wet Reference Flowrate (Rm ³ /s)**	18.8	19.7

* Excludes the isokinetic Acid Gases tests as testing was conducted on a single traverse of the duct

** at 25°C and 1 atmosphere

*** at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

7.4 Particulate Emission Data

Filterable particulate emission data obtained from each of the particulate and metals tests conducted at the BH Outlet of each Boiler is presented in Table 6 (Appendix 1 and Appendix 2). Average filterable particulate emission data for each BH Outlet location is summarized below:

Particulate Emission Parameter	Boiler No. 1 BH Outlet	Boiler No. 2 BH Outlet
Actual Conc. (mg/m ³)	<0.34	<0.24
Dry Reference Conc. (mg/Rm ³)*	<0.57	<0.40
Dry Adjusted Conc. (mg/Rm ³)**	<0.50	<0.35
Wet Reference Conc. (mg/Rm ³)*	<0.48	<0.34
Emission Rate (mg/s)	<9.11	<6.93

* at 25°C and 1 atmosphere

** at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

The ECA stipulates maximum in-stack limits for the emissions of various compounds including particulate matter. The average particulate dry adjusted concentration at the Boiler No. 1 BH Outlet (<0.50 mg/Rm³, adjusted to 11% oxygen) and the Boiler No. 2 BH Outlet (<0.35 mg/Rm³, adjusted to 11% oxygen) were well below the maximum limit (9 mg/Rm³, adjusted to 11% oxygen) stated in the ECA.

The amount of particulate matter detected in the blank sampling train filter and acetone probe rinse samples was 2.1 mg and 0.5 mg, respectively. Although these levels are significant relative to the amount detected in the test trains, the blank analysis was not subtracted from the test sample analyses during calculation of the particulate emission data.

Particle size distribution tests were also conducted at the BH Outlet of each Boiler. PM₁₀ and PM_{2.5} emission data is detailed in Table 7 (Appendix 1 and Appendix 2) for each location. Average emission data for each BH Outlet location is summarized below:

PM ₁₀ and PM _{2.5} Emission Parameter	PM ₁₀		PM _{2.5}	
	Boiler No. 1 BH Outlet	Boiler No. 2 BH Outlet	Boiler No. 1 BH Outlet	Boiler No. 2 BH Outlet
Actual Conc. (mg/m ³)	<0.72	<0.72	<0.51	<0.52
Dry Reference Conc. (mg/Rm ³)*	<1.20	<1.19	<0.86	<0.85
Dry Adjusted Conc. (mg/Rm ³)**	<1.05	<1.02	<0.75	<0.73
Wet Reference Conc. (mg/Rm ³)*	<1.02	<1.02	<0.73	<0.73
Emission Rate (mg/s)	<18.6	<19.6	<13.3	<14.0

* at 25°C and 1 atmosphere

** at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Condensable particulate emission data obtained from the back-half of each of the particle size distribution tests conducted at the BH Outlet for each Boiler is presented in Table 8 (Appendix 1 and Appendix 2). Average condensable particulate emission data for each BH Outlet location is summarized below:

Condensable Particulate Emission Parameter	Inorganic Fraction		Organic Fraction	
	Boiler No. 1 BH Outlet	Boiler No. 2 BH Outlet	Boiler No. 1 BH Outlet	Boiler No. 2 BH Outlet
Actual Conc. (mg/m ³)	1.20	1.13	0.74	0.76
Dry Reference Conc. (mg/Rm ³)*	2.00	1.87	1.23	1.25
Dry Adjusted Conc. (mg/Rm ³)**	1.75	1.60	1.08	1.07
Wet Reference Conc. (mg/Rm ³)*	1.70	1.59	1.04	1.06
Emission Rate (mg/s)	31.0	30.7	19.0	20.5

* at 25°C and 1 atmosphere

** at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

The amount of condensable particulate detected in the blank sampling train was 0.6 mg for the inorganic fraction and 0.9 mg for the organic fraction. Although these levels are significant relative to the amount detected in the test trains, the blank analysis was not subtracted from the test sample analyses during calculation of the condensable particulate emission data.

The average PM₁₀ and PM_{2.5} results, including condensable particulate matter, are summarized below for each Boiler:

PM ₁₀ and PM _{2.5} + Condensable Emission Parameter	PM ₁₀ + Condensable		PM _{2.5} + Condensable	
	Boiler No. 1 BH Outlet	Boiler No. 2 BH Outlet	Boiler No. 1 BH Outlet	Boiler No. 2 BH Outlet
Actual Conc. (mg/m ³)	<2.66	<2.61	<2.45	<2.40
Dry Reference Conc. (mg/Rm ³)*	<4.43	<4.32	<4.09	<3.98
Dry Adjusted Conc. (mg/Rm ³)**	<3.89	<3.68	<3.59	<3.39
Wet Reference Conc. (mg/Rm ³)*	<3.76	<3.67	<3.47	<3.38
Emission Rate (mg/s)	<68.6	<70.8	<63.3	<65.2

* at 25°C and 1 atmosphere

** at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

7.5 Acid Gases

Hydrogen chloride, hydrogen fluoride and ammonia emission data for the tests conducted at the BH Outlet of each Boiler are presented in Table 9 (Appendix 1 and Appendix 2). Hydrogen fluoride was not detected in any of the test samples in quantities greater than the detection limit. The detection limit was used to calculate hydrogen fluoride emission data. Hydrogen chloride and ammonia were detected in quantities greater than the detection limit in all of the samples collected at each location.

Average hydrogen chloride, hydrogen fluoride and ammonia emission data for the tests conducted at the BH Outlet of each Boiler is summarized below:

Acid Gases Emission Parameter	Hydrogen Chloride		Hydrogen Fluoride		Ammonia	
	Boiler No. 1	Boiler No. 2	Boiler No. 1	Boiler No. 2	Boiler No. 1	Boiler No. 2
Actual Conc. (mg/m ³)	2.98	1.55	<0.080	<0.076	0.43	0.46
Dry Reference Conc. (mg/Rm ³)*	5.04	2.60	<0.14	<0.13	0.72	0.77
Dry Adjusted Conc. (mg/Rm ³)**	4.40	2.30	<0.12	<0.11	0.63	0.69
Wet Reference Conc. (mg/Rm ³)*	4.22	2.17	<0.11	<0.11	0.61	0.65
Emission Rate (mg/s)	80.4	45.2	<2.16	<2.21	11.6	13.5
Dry Adjusted Conc. (ppm)**	2.95	1.54	<0.14	<0.14	0.91	0.99

* at 25°C and 1 atmosphere

** at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Hydrogen chloride, hydrogen fluoride and ammonia were not detected in the blank samples in quantities greater than the detection limit. The blank analysis was not subtracted from the test sample analyses during calculation of the emission data.

7.6 Combustion Gas Emission Data

Combustion gases, including carbon dioxide, carbon monoxide, hydrogen chloride, nitrogen oxides, oxygen and sulphur dioxide, were measured continuously at the BH Outlet during the source testing program by the DYEC CEMs. Oxygen was also measured at the Quench Inlet by the DYEC CEMS. The oxygen, carbon dioxide and carbon monoxide concentrations for each test period were used to calculate the molecular weight of the gas stream. The oxygen concentration data was also used to correct the dry reference concentration data to 11% oxygen.

DYEC provided 1-hour average concentrations for each clock hour using the 1-minute combustion gas data measured by the DYEC CEMs during each isokinetic test day at each Boiler. DYEC CEMS data was provided from October 27 and October 30, 2025 for each Boiler.

A 24-hour rolling average was determined for hydrogen chloride, nitrogen oxides and sulphur dioxide using the 1-hour average data for the isokinetic test days at each unit to compare to the in-stack limits stated in the ECA. A 4-hour rolling average was determined for carbon monoxide using the calculated 1-hour average data for the isokinetic test days at each unit to compare to the in-stack limit stated in the ECA.

The minimum, average and maximum 1-hour, 4-hour and 24-hour combustion gas data measured by the DYEC CEMS is summarized in Table 10 (Appendix 1 and Appendix 2). The maximum concentration, along with the in-stack limit stated in the ECA, is summarized in the following table for each component.

Combustion Gases Emission Parameter		In-Stack ECA Limit	Maximum Concentration	
			Boiler No. 1	Boiler No. 2
BH Outlet	Oxygen (% , 1-hr)	-	10.16	10.16
	Carbon Monoxide (mg/Rm ³ , 4-hr)*	≤ 40	21.8	21.8
	Sulphur Dioxide (mg/Rm ³ , 24-hr)*	≤ 35	3.5	3.5
	Nitrogen Oxides (mg/Rm ³ , 24-hr)*	≤ 121	110	110
	Hydrogen Chloride (mg/Rm ³ , 24-hr)*	≤ 9	1.0	1.0
	Total Hydrocarbons (mg/Rm ³ , 1-hr)*	-	1.0	1.0
Quench Inlet	Oxygen (% , 1-hr)	≥ 6	6 (minimum)	6 (minimum)

* dry at reference conditions, adjusted to 11% oxygen

Total hydrocarbon concentration data was measured by ATGN on October 27 and October 28, 2025 at the Quench Inlet and BH Outlet sampling locations. The results of the total hydrocarbons tests are summarized in Table 10 (Appendix 1 and Appendix 2). The average THC concentration for each location, along with the in-stack limit stated in the ECA, is summarized in the following table.

Combustion Gases Emission Parameter		Limit	Average Concentration	
			Boiler No. 1	Boiler No. 2
BH Outlet	Total Hydrocarbons (1-minute)*	-	0.10	0.26
	Total Hydrocarbons (10-minute)**	-	0.09	0.26
Quench Inlet	Total Hydrocarbons (1-minute)*	-	0.76	0.53
	Total Hydrocarbons (10-minute)**	50	0.76	0.53

* ppm dry basis, expressed as equivalent methane (average of each 60 minute test with data recorded in 1-minute intervals)

** ppm dry basis, expressed as equivalent methane (average of each 60 minute test calculated using the 10-minute rolling average)

The one-minute average total hydrocarbon data and the 10-minute total hydrocarbon data measured by ATGN and expressed on a dry basis as equivalent methane is provided in Appendix 26.

7.7 Metal Emission Data

Metal analytical results for the tests performed at the BH Outlet of each Boiler are given in Tables 11, 12 and 13 (Appendix 1 and Appendix 2) for Test No. 1, Test No. 2 and Test No. 3, respectively. Metal concentrations and emission rates are shown in Tables 14, 15 and 16 for Test No. 1, Test No. 2 and Test No. 3, respectively.

Summaries of the metal actual concentrations, dry reference concentrations, dry adjusted concentrations, wet reference concentrations, and emission rates including the coefficients of variation for the tests performed are provided in Tables 17, 18, 19, 20 and 21, respectively. Table 22 summarizes the average metal emission data for the tests performed.

Table 23 summarizes the results from the blank metals trains. The amount of metals detected in the blank trains was significant when compared to the amounts collected in the test trains since most of the metals in the test trains were at or near the detection limit. The emission data was not corrected for the blank data.

The metals analysis of the Method 29 test trains was performed on two separate analytical fractions, the probe and filter hydrofluoric acid digest and analysis of the train impingers and associated rinses. In instances where all analyses were reported to be below the detection limit for a given metal, the value of the detection limit for the fraction most likely to contain that metal was used to calculate emission data, and the remaining fraction was assigned a value of zero. In instances where any given fraction was detected that value was used to calculate emission data, and the remaining undetected fraction were assigned a value of zero.

The ECA stipulates maximum in-stack limits for the emissions of various compounds including cadmium and lead.

The average cadmium emission data is summarized below:

Cadmium Emission Parameter	Boiler No. 1 BH Outlet	Boiler No. 2 BH Outlet
Actual Conc. ($\mu\text{g}/\text{m}^3$)	0.053	0.026
Dry Reference Conc. ($\mu\text{g}/\text{Rm}^3$)*	0.089	0.043
Dry Adjusted Conc. ($\mu\text{g}/\text{Rm}^3$)**	0.078	0.037
Wet Reference Conc. ($\mu\text{g}/\text{Rm}^3$)*	0.075	0.036
Emission Rate (mg/s)	0.0014	0.00074

* at 25°C and 1 atmosphere

** at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

The average lead emission data is summarized below:

Lead Emission Parameter	Boiler No. 1 BH Outlet	Boiler No. 2 BH Outlet
Actual Conc. ($\mu\text{g}/\text{m}^3$)	0.61	0.42
Dry Reference Conc. ($\mu\text{g}/\text{Rm}^3$)*	1.03	0.70
Dry Adjusted Conc. ($\mu\text{g}/\text{Rm}^3$)**	0.90	0.62
Wet Reference Conc. ($\mu\text{g}/\text{Rm}^3$)*	0.86	0.59
Emission Rate (mg/s)	0.016	0.012

* at 25°C and 1 atmosphere

** at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

The cadmium and lead dry adjusted concentrations were well below the maximum in-stack emission limits stated in the ECA (7 µg/Rm³, adjusted to 11% oxygen for cadmium and 50 µg/Rm³, adjusted to 11% oxygen for lead).

7.8 Mercury Emission Data

Mercury analysis, concentration and emission data are also summarized in the metals emission tables. Mercury was not detected in quantities greater than the method detection limit in the three tests at Boiler No. 1 and the three tests at Boiler No. 2, and as is the case with all other analyses the mercury analytical results are not blank corrected.

The average mercury emission data is summarized below:

Mercury Emission Parameter	Boiler No. 1 BH Outlet	Boiler No. 2 BH Outlet
Actual Conc. (µg/m ³)	<0.046	<0.043
Dry Reference Conc. (µg/Rm ³)*	<0.077	<0.072
Dry Adjusted Conc. (µg/Rm ³)**	<0.067	<0.063
Wet Reference Conc. (µg/Rm ³)*	<0.065	<0.061
Emission Rate (mg/s)	<0.0012	<0.0012

* at 25°C and 1 atmosphere

** at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

The mercury dry adjusted concentrations were well below the maximum in-stack emission limit stated in the ECA of 15 µg/Rm³, adjusted to 11% oxygen.

7.9 Semi-Volatile Organic Emission Data

The combined filter and probe rinse, and combined Amberlite XAD-2 cartridge and impinger solutions for each of the semi-volatile organics trains were analyzed together (one analysis per test) for semi-volatile organic compounds including select dioxins, furans, dioxin-like polychlorinated biphenyls (PCBs), chlorobenzenes (CBs), chlorophenols (CPs) and polycyclic aromatic hydrocarbons (PAHs) at the BH Outlet of each Boiler.

7.9.1 Dioxins and Furans Emission Data

Dioxins and furans are groups of chemically related chlorinated organic compounds or congeners. There are seventy-five dioxin congeners and one hundred and thirty-five furan congeners. The individual congeners all have different molecular structures and they may also have different molecular formulae. Individual congeners, which have the same molecular formula but different molecular structure, are referred to as isomers. Groups of isomers are referred to as congener groups or homologues. The basic dioxin and furan molecules have the molecular formulae C₁₂H₈O₂ and C₁₂H₈O, respectively. In chlorinated dioxin and furans, between one and eight chlorine atoms may replace an equal number of hydrogen atoms in the basic molecule.

The following table lists the chlorinated dioxin and furan congener groups, and the number of isomers present in each group:

Congener Group Abbreviation		Number of Chlorine Atoms Per Molecule	Molecular Formula	Number of Isomers Per Congener Group
Dioxins	M1CDD	1	C ₁₂ H ₇ ClO ₂	2
	D2CDD	2	C ₁₂ H ₆ Cl ₂ O ₂	10
	T3CDD	3	C ₁₂ H ₅ Cl ₃ O ₂	14
	T4CDD	4	C ₁₂ H ₄ Cl ₄ O ₂	22
	P5CDD	5	C ₁₂ H ₃ Cl ₅ O ₂	14
	H6CDD	6	C ₁₂ H ₂ Cl ₆ O ₂	10
	H7CDD	7	C ₁₂ H ₁ Cl ₇ O ₂	2
	O8CDD	8	C ₁₂ Cl ₈ O ₂	1
Furans	M1CDF	1	C ₁₂ H ₇ ClO	4
	D2CDF	2	C ₁₂ H ₆ Cl ₂ O	16
	T3CDF	3	C ₁₂ H ₅ Cl ₃ O	28
	T4CDF	4	C ₁₂ H ₄ Cl ₄ O	38
	P5CDF	5	C ₁₂ H ₃ Cl ₅ O	28
	H6CDF	6	C ₁₂ H ₂ Cl ₆ O	16
	H7CDF	7	C ₁₂ H ₁ Cl ₇ O	4
	O8CDF	8	C ₁₂ Cl ₈ O	1

In Ontario, the MECP normally requires that only the higher tetra to octa (T4CDD to O8CDD) dioxin congeners and the higher tetra to octa (T4CDF to O8CDF) furan congeners are included in air source testing. This is because the lower mono to tri congener groups (M1CDD to T3CDD and M1CDF to T3CDF) are considered to be generally less toxic than the higher congener groups and the test procedures have not been validated for these lower groups. In addition, it is acceptable to the MECP to use only specific isomers in the higher congener groups to compare emission data with the MECP criteria for dioxin and furan emissions.

Dioxin and furan congener group analytical results and emission data for the tests performed at the BH Outlet of each Boiler are given in Table 24 to Table 32 for Boiler No. 1 (Appendix 1) and Boiler No. 2 (Appendix 2). The results are shown as congener groups from T4CDF to O8CDF and T4CDD to O8CDD, as normally required by the MECP.

The average dioxin congener group emission data for each location is summarized below:

Dioxin Congener Emission Parameter	Boiler No. 1 BH Outlet	Boiler No. 2 BH Outlet
Actual Conc. (ng/m ³)	<0.028	<0.021
Dry Reference Conc. (ng/Rm ³)*	<0.048	<0.034
Dry Adjusted Conc. (ng/Rm ³)**	<0.041	<0.029
Wet Reference Conc. (ng/Rm ³)*	<0.040	<0.029
Emission Rate (ng/s)	<0.76	<0.56

* at 25°C and 1 atmosphere

** at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

The average furan congener group emission data for each location is summarized below:

Furan Congener Emission Parameter	Boiler No. 1 BH Outlet	Boiler No. 2 BH Outlet
Actual Conc. (ng/m ³)	<0.0055	<0.0054
Dry Reference Conc. (ng/Rm ³)*	<0.0094	<0.0091
Dry Adjusted Conc. (ng/Rm ³)**	<0.0080	<0.0076
Wet Reference Conc. (ng/Rm ³)*	<0.0079	<0.0077
Emission Rate (ng/s)	<0.15	<0.15

* at 25°C and 1 atmosphere

** at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

The amounts of dioxin and furan congeners detected in the blank sampling trains and in the laboratory blank were significant when compared to the amounts detected in the test trains. The blank sampling train analytical results are shown in Table 33 for Boiler No. 1 and Boiler No. 2. The blank analyses were not subtracted from the test sample analyses during calculation of the dioxin and furan congener emission data.

Dioxin, furan and dioxin-like PCB specific isomer analytical results and emission data for the tests performed are given in Table 34 to Table 42 for Boiler No. 1 (Appendix 1) and Boiler No. 2 (Appendix 2). The isomers included in these tables are considered the most toxic of all the dioxin and furan isomers. They are characterized by having chlorine atoms located at the 2, 3, 7 and 8 positions of the basic dioxin and furan molecules.

The blank sampling train analytical results are shown in Table 43. The blank analyses were not subtracted from the test sample analyses during the calculation of the dioxin and furan isomer emission data.

Several schemes have been proposed for calculating dioxin and furan toxic equivalents (TEQ's) in which different factors have been assigned to the various isomers and congener groups. Calculations in this report are based on the methods preferred by the MECP, which use WHO and NATO/CCMS (1989) toxicity equivalence factors (TEFs).

The purpose in calculating dioxin and furan emission rates as toxic equivalents is to provide a means of assessing and comparing the effects of dioxin and furan emission rates for different emission sources. In these calculations, 2,3,7,8-T4CDD, the most toxic of all the dioxin and furan isomers, is assigned an arbitrary value of 1.0 for a toxic equivalency factor.

Then, other dioxin and furan isomers are assigned toxic equivalency factors which are based on their relative toxicity compared with 2,3,7,8-T4CDD. Emission rates for each isomer are multiplied by their assigned factor and the products are summed to provide the toxic equivalency emission rate.

The MECP “Summary of Standards and Guidelines to Support Ontario Regulation 419/05 – Air Pollution – Local Air Quality”, dated April 2012, provided a new framework for calculating dioxin and furan toxicity equivalent concentrations which includes emission data for 12 dioxin-like PCBs. This document was replaced by “Air Contaminants Benchmarks List: standards, guidelines and screening levels for assessing point of impingement concentrations of air contaminants”, with the most recent version published on November 5, 2023, however the dioxin and furan toxicity equivalent calculation methodology remains the same.

Tables 44 to 49 show dioxins, furans and dioxin-like PCBs toxicity equivalent emission data calculated using the full detection limit for those compounds not detected. Table 50 shows the dioxins, furans and dioxin-like PCBs toxicity equivalent emission data calculated using half the detection limit for those compounds not detected.

The average dioxin, furan and dioxin-like PCBs toxicity equivalent emission data, calculated using the WHO toxicity equivalence factors and half the detection limit (Table 50) is summarized below. Per the MECP standards and guidelines referenced above, dioxin, furan and dioxin-like PCB toxicity equivalent emission data calculated using the WHO toxicity equivalence factors and half the detection limit are used for dispersion modelling analysis for comparison with the point of impingement criteria discussed in Section 8.

Total Dioxin and Furan Isomer and PCBs Emission Parameter	Boiler No. 1 BH Outlet	Boiler No. 2 BH Outlet
Actual Conc. (pg TEQ/m ³)	0.74	0.76
Dry Reference Conc. (pg TEQ/Rm ³)*	1.28	1.27
Dry Adjusted Conc. (pg TEQ/Rm ³)**	1.08	1.06
Wet Reference Conc. (pg TEQ/Rm ³)*	1.07	1.07
Emission Rate (ng TEQ/s)	0.020	0.021

* at 25°C and 1 atmosphere

** at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

The average dioxin and furan dry adjusted toxicity equivalent concentration, calculated using the NATO/CCMS (1989) toxicity equivalence factors and the full detection limit (Table 46B) is summarized below. Dioxin and furan toxicity equivalent emission data for the BH Outlet, calculated using the NATO/CCMS (1989) toxicity equivalence factors and the full detection limit, is used for comparison with the in-stack emission limit specified in the ECA.

Dioxin and Furan Isomer Emission Parameter	Boiler No. 1 BH Outlet	Boiler No. 2 BH Outlet
Dry Adjusted Conc. (pg TEQ/Rm ³)*	<1.53	<1.55

* at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

The dioxin and furan dry adjusted TEQ concentration at the BH Outlet of each Boiler was well below the maximum in-stack emission limit stated in the ECA of 60 pgTEQ/Rm³, adjusted to 11% oxygen.

7.9.2 Chlorobenzene and Chlorophenol Emission Data

As with dioxins and furans, chlorobenzenes and chlorophenols are groups of compounds that have different molecular structures and may also have different numbers of chlorine atoms in the basic molecule. Chlorobenzenes have the structure of the benzene molecule except that between one and six chlorine atoms are substituted for an equal number of hydrogen atoms in the benzene ring. Benzene has the molecular formula C_6H_6 . Chlorobenzene congener groups have the molecular formulae C_6H_5Cl , $C_6H_4Cl_2$, $C_6H_3Cl_3$, $C_6H_2Cl_4$, C_6HCl_5 and C_6Cl_6 . Chlorophenols have the structure of the phenol molecule except that between one and five chlorine atoms are substituted for an equal number of hydrogen atoms in the benzene ring. Phenol has the molecular formula C_6H_5OH . Chlorophenol congener groups have the molecular formulae C_6H_4ClOH , $C_6H_3Cl_2OH$, $C_6H_2Cl_3OH$, C_6HCl_4OH and C_6Cl_5OH .

Chlorobenzene congener and isomer analytical results and emission data are given in Table 51 to Table 59. Amounts collected were assumed to be equivalent to the detection limit, where the analytical results were below the detection limit.

The average total chlorobenzene emission data is presented below:

Chlorobenzenes Emission Parameter	Boiler No. 1 BH Outlet	Boiler No. 2 BH Outlet
Actual Conc. (ng/m ³)	<318	<224
Dry Reference Conc. (ng/Rm ³)*	<547	<377
Dry Adjusted Conc. (ng/Rm ³)**	<465	<315
Wet Reference Conc. (ng/Rm ³)*	<457	<318
Emission Rate (µg/s)	<8.65	<6.11

* at 25°C and 1 atmosphere

** at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Blank sampling train and laboratory blank analytical results for chlorobenzenes are given in Table 60. The blank analyses were not subtracted from the test sample analyses during the calculation of chlorobenzene emission data.

Chlorophenol congener and isomer analytical results and emission data is given in Table 61 to Table 69. Amounts collected were assumed to be equivalent to the detection limit, where the analytical results were below the detection limits (<DL).

The average total chlorophenol emission data is presented below:

Chlorophenol Emission Parameter	Boiler No. 1 BH Outlet	Boiler No. 2 BH Outlet
Actual Conc. (ng/m ³)	<120	<115
Dry Reference Conc. (ng/Rm ³)*	<205	<193
Dry Adjusted Conc. (ng/Rm ³)**	<174	<161
Wet Reference Conc. (ng/Rm ³)*	<172	<162
Emission Rate (µg/s)	<3.24	<3.12

* at 25°C and 1 atmosphere

** at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Blank sampling train and laboratory blank analytical results for chlorophenols are given in Table 70. The blank analyses were not subtracted from the test sample analyses during the calculation of chlorophenol emission data.

7.9.3 Polycyclic Aromatic Hydrocarbon Emission Data

The SVOC samples from the BH Outlet sampling location on each Boiler were also analyzed for select polycyclic aromatic hydrocarbon (PAH) compounds.

PAH analytical results and emission data is given in Table 71 to Table 79. The average total PAH emission data is presented below:

Total PAH Emission Parameter	Boiler No. 1 BH Outlet	Boiler No. 2 BH Outlet
Actual Conc. (ng/m ³)	<341	<298
Dry Reference Conc. (ng/Rm ³)*	<586	<501
Dry Adjusted Conc. (ng/Rm ³)**	<498	<418
Wet Reference Conc. (ng/Rm ³)*	<490	<422
Emission Rate (µg/s)	<9.28	<8.11

* at 25°C and 1 atmosphere

** at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Table 80 summarizes the lab blank and blank train PAH analyses. The blank train sample analyses were not subtracted from the test train sample analyses for the purposes of emission rate calculations.

7.10 Aldehydes

Acetaldehyde, formaldehyde and acrolein emission data is presented in Table 81. Average acetaldehyde, formaldehyde and acrolein emission data for the tests conducted at the BH Outlet of each Boiler is summarized below:

Aldehydes Emission Parameter	Acetaldehyde		Formaldehyde		Acrolein	
	Boiler No. 1 BH Outlet	Boiler No. 2 BH Outlet	Boiler No. 1 BH Outlet	Boiler No. 2 BH Outlet	Boiler No. 1 BH Outlet	Boiler No. 2 BH Outlet
Actual Conc. ($\mu\text{g}/\text{m}^3$)	1531	1567	723	655	<8.77	<9.52
Dry Reference Conc. ($\mu\text{g}/\text{Rm}^3$)*	2595	2606	1225	1089	<14.9	<15.8
Dry Adjusted Conc. ($\mu\text{g}/\text{Rm}^3$)**	2246	2183	1060	913	<12.9	<13.3
Wet Reference Conc. ($\mu\text{g}/\text{Rm}^3$)*	2189	2205	1033	922	<12.5	<13.4
Emission Rate (mg/s)	40.6	42.4	19.1	17.7	<0.23	<0.26

* at 25°C and 1 atmosphere

** at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Acrolein was not detected in any of the test samples or in the blank sample in quantities greater than the reported detection limit. Acetaldehyde and formaldehyde were detected in the blank train and the field blank in quantities greater than the detection limit and in quantities similar to the test samples.

7.11 Volatile Organic Emission Data

Three test runs were completed at each BH Outlet for volatile organic compounds. Volatile organic analysis data for the tests is provided in Table 82, 83 and Table 84. The average test results of volatile organic actual concentrations, dry reference concentrations, dry adjusted concentrations, wet reference concentrations, and emission rates are shown in Table 85 to 89, respectively. The average volatile organic emission data is summarized in Table 90.

The average total VOC emission data is presented below:

VOC Emission Parameter	Boiler No. 1 BH Outlet	Boiler No. 2 BH Outlet
Actual Conc. ($\mu\text{g}/\text{m}^3$)	<44.6	<33.3
Dry Reference Conc. ($\mu\text{g}/\text{Rm}^3$)*	<75.8	<55.3
Dry Adjusted Conc. ($\mu\text{g}/\text{Rm}^3$)**	<65.4	<46.5
Wet Reference Conc. ($\mu\text{g}/\text{Rm}^3$)*	<63.9	<47.0
Emission Rate (mg/s)	<1.18	<0.90

* at 25°C and 1 atmosphere

** at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

The average total VOC emission data, including acetaldehyde, formaldehyde and acrolein, per the list provided in Schedule D of the ECA is presented below:

VOC Emission Parameter	Boiler No. 1 BH Outlet	Boiler No. 2 BH Outlet
Dry Reference Conc. ($\mu\text{g}/\text{Rm}^3$)*	<3911	<3766
Dry Adjusted Conc. ($\mu\text{g}/\text{Rm}^3$)**	<3384	<3156
Emission Rate (mg/s)	<61.1	<61.3

* at 25°C and 1 atmosphere

** at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Analysis of blank summa canister is provided in Table 91. Test sample analyses were not blank corrected during the calculation of the emission data.

8. DISPERSION MODELLING

The emission data measured during the testing program was used to assess emissions from the main stack against the point of impingement criteria detailed in Ontario Regulation 419/05 or the applicable MECP guideline.

Dispersion modelling was completed using the CALPUFF model (using Version 7.2.1 level 150618 as approved by the MECP in December 2021) by WSP Canada Inc. (formerly Golder Associates). The dispersion modelling results are detailed in Appendix 27. WSP can provide the dispersion modelling zip files upon request.

The predicted ground level Point of Impingement (POI) concentrations, calculated based on the average total emission rate, for each contaminant included in the October 2025 source testing program, was well below the applicable standard, guideline or upper risk threshold. The contaminant with the highest predicted concentrations relative to the standard was nitrogen oxides (11% of the 1-hour standard and 2% of the 24-hour standard with meteorological anomaly removal) and chromium (hexavalent) (1% of the annual standard), all other contaminants were 1% or less than the relevant standard with meteorological anomaly removal.

Note the particulate and metals sampling train collects total chromium, including metallic, divalent, trivalent and hexavalent forms of chromium. For the predicted POI, it was assumed all chromium collected was hexavalent chromium; this is a conservative assumption and may overestimate the hexavalent chromium emissions from the facility. The chromium emission data was also assessed against the chromium (metallic, divalent and trivalent forms) standard and was <1% of the standard with meteorological anomaly removal.

9. FACILITY PROCESS DATA

Continuous Emission Monitoring (CEM) data was supplied by DYEC personnel for the test program. The 1-hour CEM System data was provided for the following process parameters at the BH Outlet sampling locations:

- Hydrogen Chloride (mg/Rm³, adjusted to 11% oxygen)
- Nitrogen Oxides (mg/Rm³, adjusted to 11% oxygen)
- Sulphur Dioxide (mg/Rm³, adjusted to 11% oxygen)
- Carbon Monoxide (mg/Rm³, adjusted to 11% oxygen)
- Oxygen (% volume, dry)
- Total Hydrocarbons (mg/Rm³, adjusted to 11% oxygen)

DYEC provided 1-hour average concentrations for each clock hour using the 1-minute combustion gas data measured by the DYEC CEMs during each isokinetic test day at each Boiler. DYEC CEMS data was provided from October 27 to October 30, 2025 for each Boiler. A 24-hour rolling average was determined for hydrogen chloride, nitrogen oxides and sulphur dioxide using the 1-hour average data for the isokinetic test days at each unit to compare to the in-stack limits stated in the ECA. A 4-hour rolling average was determined for carbon monoxide using the calculated 1-hour average data for the isokinetic test days at each unit to compare to the in-stack limit stated in the ECA.

The combustion gas concentrations, expressed as 1-hour average concentrations, 4-hour rolling average and 24-hour rolling average where applicable, at the Boiler No. 1 BH Outlet and Boiler No. 2 BH Outlet are provided in Appendix 28.

1-minute CEM data provided by DYEC was used to calculate the average oxygen, carbon dioxide and carbon monoxide concentrations for each isokinetic test period. The average oxygen, carbon dioxide and carbon monoxide concentrations were used to calculate the molecular weight of the gas stream. The average oxygen concentrations were also used to adjust the dry reference concentration data to 11% oxygen. The 1-minute data for the isokinetic test periods has been retained by ATGN and can be provided upon request.

The facility process data was also supplied by DYEC personnel for each test day. Hourly process data has been retained by Reworld and can be provided upon request. The process data is summarized below:

Test Date	Total Power Output* (MWh/d)	Aux. Fuel Combusted** (m ³ /d)		Avg. Combustion Zone Temp. (°C)		Steam (tonnes/d)		MSW Combusted*** (tonnes/d)		NO _x Reagent Inj. Rate (liters/d)		Carbon Inj. Rate (kg/d)		Lime Inj. Rate (kg/d)	
		Boiler No. 1	Boiler No. 2	Boiler No. 1	Boiler No. 2	Boiler No. 1	Boiler No. 2	Boiler No. 1	Boiler No. 2	Boiler No. 1	Boiler No. 2	Boiler No. 1	Boiler No. 2	Boiler No. 1	Boiler No. 2
27-Oct-25	388	0	0	1182	1143	810	813	207	208	441	413	114	115	3316	3273
28-Oct-25	387	0	0	1190	1155	809	810	207	207	456	495	114	115	3370	3269
29-Oct-25	391	0	0	1195	1148	811	811	207	208	400	476	114	115	3294	3285
30-Oct-25	398	0	0	1197	1138	820	819	210	209	556	569	114	115	3151	3156
Average	391	0	0	1191	1146	813	813	208	208	463	488	114	115	3283	3246

* Gross turbine output

** Auxiliary fuel was not combusted during the conduct of reference test runs to demonstrate ECA compliance

*** Calculated by crane scales.

10. CONCLUSIONS

The main conclusions which can be drawn from the present source testing program are:

- The facility was maintained within the operational parameters defined by the amended ECA that constitutes normal operation during the stack test periods. Testing was conducted at a steam production rate of greater than 809 tonnes of steam per day for each Boiler (approximately 100% of maximum continuous rating). The maximum continuous rating for the facility is 1614.7 tonnes of steam per day for the two Boilers combined (33.64 tonnes of steam per hour or 807.4 tonnes per day for each Boiler).
- The in-stack concentrations of the components listed in the ECA were all below the concentration limits provided in Schedule C of the ECA.
- Using CALPUFF dispersion modelling techniques, the predicted maximum point of impingement concentrations, based on the average test results for both boilers, show DYEC to be operating well below all current standards in Regulation 419/05 under the Ontario Environmental Protection Act and other MECP criteria including guidelines and upper risk thresholds.

Schedule C of ECA No. 7306-8FDKNX lists in-stack limits for the emissions of various compounds. Emissions limits are given for particulate matter, mercury, cadmium, lead, dioxins and furans and organic matter as the results from source testing. Emission limits are also given for hydrochloric acid, sulphur dioxide, nitrogen oxides and carbon monoxide calculated as the rolling arithmetic average of the data measured by a CEMS.

Since relative accuracy and system bias testing was conducted in August 2025, the data recorded by the DYEC CEMS was used to assess against the in-stack emissions limits detailed in Schedule C of the ECA for hydrochloric acid, sulphur dioxide, nitrogen oxides and carbon monoxide. Note the DYEC CEMS data for the days when isokinetic testing was performed at each unit (October 27 to October 30, 2025) was used to determine the minimum, average and maximum concentrations of the combustion gases listed in the ECA.

Total hydrocarbon concentration data was measured by ATGN on October 27 and October 28, 2025 at the Quench Inlet and BH Outlet sampling locations. The total hydrocarbon data measured by ATGN at the Quench Inlet sample locations was well below the total hydrocarbons (organic matter) in-stack emissions limit detailed in Schedule C of the ECA.

The average results for the tests conducted at Boiler No. 1, along with the respective in-stack emission limits, are summarized in the following table:

Parameter	Test No. 1	Test No. 2	Test No. 3	Average	In-Stack Limit
Total Power Output (MWh/day)*	-	-	-	391	-
Average Combustion Zone Temp. (°C)*	-	-	-	1191	-
Steam (tonnes/day)*	-	-	-	813	-
MSW Combusted (tonnes/day)*	-	-	-	208	-
NO _x Reagent Injection Rate (liters/day)*	-	-	-	463	-
Carbon Injection (kg/day)*	-	-	-	114	-
Lime Injection (kg/day)*	-	-	-	3283	-
Filterable Particulate (mg/Rm ³) ⁽¹⁾	<0.38	<0.53	<0.58	<0.50	9
PM ₁₀ with Condensable (mg/Rm ³) ⁽¹⁾	<3.98	<3.83	<3.85	<3.89	-
PM _{2.5} with Condensable (mg/Rm ³) ⁽¹⁾	<3.67	<3.53	<3.55	<3.59	-
Hydrogen Fluoride (mg/Rm ³) ⁽¹⁾	<0.12	<0.12	<0.12	<0.12	-
Ammonia (mg/Rm ³) ⁽¹⁾	0.71	0.68	0.51	0.63	-
Cadmium (µg/Rm ³) ⁽¹⁾	0.11	0.046	0.073	0.078	7
Lead (µg/Rm ³) ⁽¹⁾	0.68	1.24	0.78	0.90	50
Mercury (µg/Rm ³) ⁽¹⁾	<0.068	<0.066	<0.069	<0.067	15
Antimony (µg/Rm ³) ⁽¹⁾	0.062	<0.046	0.079	<0.063	-
Arsenic (µg/Rm ³) ⁽¹⁾	<0.12	<0.12	<0.12	<0.12	-
Barium (µg/Rm ³) ⁽¹⁾	2.15	2.57	3.13	2.61	-
Beryllium (µg/Rm ³) ⁽¹⁾	<0.048	<0.046	<0.048	<0.047	-
Chromium (µg/Rm ³) ⁽¹⁾	0.91	0.83	0.60	0.78	-
Cobalt (µg/Rm ³) ⁽¹⁾	0.062	0.030	<0.048	<0.047	-
Copper (µg/Rm ³) ⁽¹⁾	2.40	1.94	3.60	2.64	-
Molybdenum (µg/Rm ³) ⁽¹⁾	4.41	4.46	4.57	4.48	-
Nickel (µg/Rm ³) ⁽¹⁾	0.98	0.67	0.61	0.76	-
Selenium (µg/Rm ³) ⁽¹⁾	<0.24	<0.23	<0.24	<0.24	-
Silver (µg/Rm ³) ⁽¹⁾	<0.048	<0.046	<0.048	<0.047	-
Thallium (µg/Rm ³) ⁽¹⁾	<0.048	<0.046	<0.048	<0.047	-
Vanadium (µg/Rm ³) ⁽¹⁾	<0.12	<0.12	<0.12	<0.12	-
Zinc (µg/Rm ³) ⁽¹⁾	5.48	4.41	7.05	5.65	-
Dioxins and Furans (pg TEQ/Rm ³) ⁽³⁾	<1.34	<1.43	<1.81	<1.53	60
Total Chlorobenzenes (ng/Rm ³) ⁽¹⁾	<460	<364	<570	<465	-
Total Chlorophenols (ng/Rm ³) ⁽¹⁾	<180	<172	<171	<174	-
Total PAHs (ng/Rm ³) ⁽¹⁾	<451	<382	<660	<498	-
VOCs (µg/Rm ³) ⁽¹⁾	<56.2	<40.5	<99.4	<65.4	-
Aldehydes (µg/Rm ³) ⁽¹⁾	<2800	<3353	<3804	<3319	-
Total VOCs (µg/Rm ³) ^{(1) (4)}	<2856	<3394	<3903	<3384	-
Quench Inlet Organic Matter (THC) (ppm, dry) ⁽²⁾	0.66	0.93	0.68	0.76	50

* based on process data provided by Reworld

(1) dry at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

(2) dry basis as equivalent methane (average of each 60 minute test with data recorded in 1-minute intervals)

(3) calculated using the NATO/CCMS (1989) toxicity equivalence factors and the full detection limit for those isomers below the analytical detection limit, dry at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

(4) Includes all components from the volatile organic compounds test list in the ECA (i.e. Volatile Organic Sampling Train and Aldehyde Sampling train components).

The average results for the tests conducted at Boiler No. 2, along with the respective in-stack emission limits, are summarized in the following table:

Parameter	Test No. 1	Test No. 2	Test No. 3	Average	In-Stack Limit
Total Power Output (MWh/day)*	-	-	-	391	-
Average Combustion Zone Temp. (°C)*	-	-	-	1146	-
Steam (tonnes/day)*	-	-	-	813	-
MSW Combusted (tonnes/day)*	-	-	-	208	-
NO _x Reagent Injection Rate (liters/day)*	-	-	-	488	-
Carbon Injection (kg/day)*	-	-	-	115	-
Lime Injection (kg/day)*	-	-	-	3246	-
Filterable Particulate (mg/Rm ³) ⁽¹⁾	<0.23	0.46	<0.37	<0.35	9
PM ₁₀ with Condensable (mg/Rm ³) ⁽¹⁾	<3.55	<3.91	<3.58	<3.68	-
PM _{2.5} with Condensable (mg/Rm ³) ⁽¹⁾	<3.26	<3.61	<3.30	<3.39	-
Hydrogen Fluoride (mg/Rm ³) ⁽¹⁾	<0.11	<0.12	<0.11	<0.11	-
Ammonia (mg/Rm ³) ⁽¹⁾	0.66	0.72	0.67	0.69	-
Cadmium (µg/Rm ³) ⁽¹⁾	0.035	0.026	0.051	0.037	7
Lead (µg/Rm ³) ⁽¹⁾	0.38	0.74	0.73	0.62	50
Mercury (µg/Rm ³) ⁽¹⁾	<0.065	<0.062	<0.062	<0.063	15
Antimony (µg/Rm ³) ⁽¹⁾	<0.046	<0.044	<0.044	<0.044	-
Arsenic (µg/Rm ³) ⁽¹⁾	<0.11	<0.11	<0.11	<0.11	-
Barium (µg/Rm ³) ⁽¹⁾	2.79	2.59	3.14	2.84	-
Beryllium (µg/Rm ³) ⁽¹⁾	<0.046	<0.044	<0.044	<0.044	-
Chromium (µg/Rm ³) ⁽¹⁾	0.97	0.74	0.48	0.73	-
Cobalt (µg/Rm ³) ⁽¹⁾	<0.046	<0.044	<0.044	<0.044	-
Copper (µg/Rm ³) ⁽¹⁾	1.40	1.46	1.57	1.48	-
Molybdenum (µg/Rm ³) ⁽¹⁾	4.42	4.10	4.01	4.18	-
Nickel (µg/Rm ³) ⁽¹⁾	1.38	0.54	0.50	0.81	-
Selenium (µg/Rm ³) ⁽¹⁾	<0.23	<0.22	<0.22	<0.22	-
Silver (µg/Rm ³) ⁽¹⁾	<0.046	<0.044	<0.044	<0.044	-
Thallium (µg/Rm ³) ⁽¹⁾	<0.046	<0.044	<0.044	<0.044	-
Vanadium (µg/Rm ³) ⁽¹⁾	<0.11	<0.11	<0.11	<0.11	-
Zinc (µg/Rm ³) ⁽¹⁾	3.45	5.41	5.52	4.80	-
Dioxins and Furans (pg TEQ/Rm ³) ⁽³⁾	<1.68	<1.43	<1.54	<1.55	60
Total Chlorobenzenes (ng/Rm ³) ⁽¹⁾	<332	<289	<323	<315	-
Total Chlorophenols (ng/Rm ³) ⁽¹⁾	<162	<159	<162	<161	-
Total PAHs (ng/Rm ³) ⁽¹⁾	<405	<479	<370	<418	-
VOCs (µg/Rm ³) ⁽¹⁾	<60.2	<39.4	<39.8	<46.5	-
Aldehydes (µg/Rm ³) ⁽¹⁾	<3324	<3393	<2609	<3109	-
Total VOCs (µg/Rm ³) ^{(1) (4)}	<3384	<3432	<2649	<3156	-
Quench Inlet Organic Matter (THC) (ppm, dry) ⁽²⁾	0.62	0.48	0.50	0.53	50

* based on process data provided by Reworld

(1) dry at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

(2) dry basis as equivalent methane (average of each 60 minute test with data recorded in 1-minute intervals)

(3) calculated using the NATO/CCMS (1989) toxicity equivalence factors and the full detection limit for those isomers below the analytical detection limit, dry at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

(4) Includes all components from the volatile organic compounds test list in the ECA (i.e. Volatile Organic Sampling Train and Aldehyde Sampling train components).

A summary of the minimum, average and maximum concentrations for the combustion gases measured by the DYEC CEMS with in-stack limits listed in the ECA is provided below for the two units.

Boiler No.	Parameter	Minimum	Average	Maximum	In-Stack Limit
Boiler No. 1	Carbon Monoxide (mg/Rm ³) ⁽¹⁾	7.0	13.5	21.8	40
	Hydrogen Chloride (mg/Rm ³) ⁽²⁾	0.3	0.8	1.0	9
	Nitrogen Oxides (mg/Rm ³) ⁽²⁾	107	109	110	121
	Sulphur Dioxide (mg/Rm ³) ⁽²⁾	0.1	1.4	3.5	35
Boiler No. 2	Carbon Monoxide (mg/Rm ³) ⁽¹⁾	7.0	13.4	21.8	40
	Hydrogen Chloride (mg/Rm ³) ⁽²⁾	0.3	0.8	1.0	9
	Nitrogen Oxides (mg/Rm ³) ⁽²⁾	107	109	110	121
	Sulphur Dioxide (mg/Rm ³) ⁽²⁾	0.1	1.4	3.5	35

(1) 4-hour average measured by DYEC CEMS, dry at 25°C and 1 atmosphere adjusted to 11% oxygen by volume

(2) 24-hour average measured by DYEC CEMS, dry at 25°C and 1 atmosphere adjusted to 11% oxygen by volume

APPENDIX 1

Boiler No. 1 BH Outlet Data Tables (93 pages)

TABLE 1
Reworld Durham York Renewable Energy L.P.
Boiler No. 1
Isokinetic Sampling Train Test Schedules

Particulate and Metals Trains

Test Number	Test Date	Sampling Period		Sampling Time* min
		Start	Finish	
1	October 27, 2025	8:57	12:10	180
2	October 27, 2025	13:06	16:13	180
3	October 28, 2025	14:46	17:52	180

Particle Size Distribution Trains

Test Number	Test Date	Sampling Period		Sampling Time* min
		Start	Finish	
1	October 28, 2025	7:35	9:37	120
2	October 28, 2025	10:26	12:32	120
3	October 28, 2025	13:15	15:17	120

Acid Gases Trains

Test Number	Test Date	Sampling Period		Sampling Time* min
		Start	Finish	
1	October 27, 2025	9:00	10:00	60
2	October 27, 2025	11:14	12:14	60
3	October 27, 2025	13:30	14:30	60

Semi-Volatile Organic Compounds Trains

Test Number	Test Date	Sampling Period		Sampling Time* min
		Start	Finish	
1	October 29, 2025	8:01	12:14	240
2	October 29, 2025	13:14	17:28	240
3	October 30, 2025	8:06	12:14	240

* Actual sampling time excluding leak-checks, traverse changes and process down time.

TABLE 2
Reworld Durham York Renewable Energy L.P.
Boiler No. 1
Organic Compounds Test Schedules

Acrolein and Aldehydes Trains

Test Number	Test Date	Sampling Period		Sampling Time min
		Start	Finish	
1	October 29, 2025	8:45	9:45	60
2	October 29, 2025	10:09	11:09	60
3	October 29, 2025	11:28	12:28	60

Volatile Organic Compounds Trains

Test Number	Test Date	Sampling Period		Sampling Time min
		Start	Finish	
1	October 29, 2025	8:20	9:16	56
2	October 29, 2025	10:12	12:12	120
3	October 29, 2025	12:14	13:14	60

Total Hydrocarbons Trains

Sampling Location	Test Number	Test Date	Sampling Period		Sampling Time min
			Start	Finish	
BH Outlet	1	October 27, 2025	9:25	10:25	60
BH Outlet	2	October 27, 2025	10:40	11:40	60
BH Outlet	3	October 27, 2025	11:56	12:56	60
Quench Inlet	1	October 27, 2025	9:25	10:25	60
Quench Inlet	2	October 27, 2025	10:40	11:40	60
Quench Inlet	3	October 27, 2025	11:56	12:56	60

TABLE 3
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Stack Gas Sampling Parameters

Particulate and Metals Trains

Test No.	Pitot Tube Coefficient	Dry Gas Meter Factor	Nozzle Diameter mm	Gas Volume Sampled Rm ³ *	Percentage of Isokineticity %
1	0.842	0.990	6.34	3.687	100.2
2	0.842	0.990	6.34	3.763	102.2
3	0.841	0.986	6.20	3.589	102.2

Particle Size Distribution Trains

Test No.	Pitot Tube Coefficient	Dry Gas Meter Factor	Nozzle Diameter mm	Gas Volume Sampled Rm ³ *	Percentage of Isokineticity %
1	0.840	1.001	4.51	1.162	98.1
2	0.840	1.001	4.51	1.194	98.0
3	0.840	1.001	4.51	1.143	94.4

Acid Gases Trains

Test No.	Pitot Tube Coefficient	Dry Gas Meter Factor	Nozzle Diameter mm	Gas Volume Sampled Rm ³ *	Percentage of Isokineticity %
1	0.840	0.986	6.20	1.182	100.0
2	0.840	0.986	6.20	1.175	102.9
3	0.840	0.986	6.20	1.150	101.5

Semi-Volatile Organic Compounds Trains

Test No.	Pitot Tube Coefficient	Dry Gas Meter Factor	Nozzle Diameter mm	Gas Volume Sampled Rm ³ *	Percentage of Isokineticity %
1	0.840	0.986	6.20	4.596	100.0
2	0.840	0.986	6.20	4.699	101.1
3	0.840	0.986	6.20	4.739	100.5

* Dry at 25°C and 1 atmosphere

TABLE 4
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Stack Gas Physical Parameters

Particulate and Metals Trains

Test No.	Gas Temp. °C	Moisture by Volume %	Gas Velocity m/s	Static Pressure kPa	Absolute Pressure kPa	Carbon Dioxide by Volume % *	Oxygen by Volume % *
1	138	16.0	18.2	-2.70	99.0	9.86	9.59
2	138	17.1	18.4	-2.70	99.0	9.97	9.47
3	138	16.8	18.2	-2.46	99.0	9.94	9.45
Average	138	16.6	18.3	-2.62	99.0	9.92	9.50

Particle Size Distribution Trains

Test No.	Gas Temp. °C	Moisture by Volume %	Gas Velocity m/s	Static Pressure kPa	Absolute Pressure kPa	Carbon Dioxide by Volume % *	Oxygen by Volume % *
1	139	14.8	17.3	-2.56	98.9	9.73	9.77
2	139	17.0	17.7	-2.56	99.0	9.85	9.63
3	138	13.9	17.4	-2.56	98.9	9.98	9.44
Average	139	15.2	17.5	-2.56	99.0	9.85	9.61

Acid Gases Trains **

Test No.	Gas Temp. °C	Moisture by Volume %	Gas Velocity m/s	Static Pressure kPa	Absolute Pressure kPa	Carbon Dioxide by Volume % *	Oxygen by Volume % *
1	139	15.9	18.3	-2.70	99.0	9.75	9.71
2	139	17.9	18.1	-2.70	99.0	9.97	9.47
3	138	16.4	17.6	-2.70	99.0	9.94	9.57
Average	138	16.7	18.0	-2.70	99.0	9.89	9.58

Semi-Volatile Organics Trains

Test No.	Gas Temp. °C	Moisture by Volume %	Gas Velocity m/s	Static Pressure kPa	Absolute Pressure kPa	Carbon Dioxide by Volume % *	Oxygen by Volume % *
1	140	15.7	17.9	-2.70	98.2	9.95	9.46
2	137	16.8	18.2	-2.70	98.2	10.1	9.13
3	141	16.4	18.8	-2.93	96.9	9.95	9.25
Average	139	16.3	18.3	-2.77	97.8	10.0	9.28

* Dry basis, measured by the DYEC CEMS

** Sampling was conducted isokinetically on a single traverse in the duct.

TABLE 5
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Stack Gas Volumetric Flowrates

Particulate and Metals Trains

Test No.	Actual Flowrate m ³ /s	Dry Reference Flowrate Rm ³ /s *	Dry Adjusted Flowrate Rm ³ /s **	Wet Reference Flowrate Rm ³ /s*
1	26.9	16.0	18.2	19.0
2	27.2	16.0	18.4	19.3
3	27.0	15.9	18.4	19.1
Average	27.0	15.9	18.4	19.1

Particle Size Distribution Trains

Test No.	Actual Flowrate m ³ /s	Dry Reference Flowrate Rm ³ /s *	Dry Adjusted Flowrate Rm ³ /s **	Wet Reference Flowrate Rm ³ /s*
1	25.5	15.4	17.3	18.0
2	26.2	15.4	17.5	18.5
3	25.8	15.7	18.2	18.3
Average	25.8	15.5	17.7	18.3

Acid Gases Trains ***

Test No.	Actual Flowrate m ³ /s	Dry Reference Flowrate Rm ³ /s *	Dry Adjusted Flowrate Rm ³ /s **	Wet Reference Flowrate Rm ³ /s*
1	27.0	16.1	18.2	19.1
2	26.7	15.5	17.9	18.9
3	26.0	15.4	17.6	18.4
Average	26.6	15.7	17.9	18.8

Semi-Volatile Organics Trains

Test No.	Actual Flowrate m ³ /s	Dry Reference Flowrate Rm ³ /s *	Dry Adjusted Flowrate Rm ³ /s **	Wet Reference Flowrate Rm ³ /s*
1	26.5	15.6	18.1	18.5
2	27.0	15.8	18.8	19.0
3	27.8	16.0	18.9	19.2
Average	27.1	15.8	18.6	18.9

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

*** Sampling was conducted isokinetically on a single traverse in the duct. Volumetric flowrates from the corresponding particulate and metals tests were used to calculate emission data.

TABLE 6
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Particulate Emission Data

Test No.	Particulate Collected			Dry Gas Volume Sampled Rm ³ *	Actual mg/m ³	Particulate Concentration			Particulate Emission Rate mg/s
	Main Filter	Probe Rinse	Total			Dry Reference	Dry Adjusted	Wet Reference	
	mg	mg	mg			mg/Rm ³ *	mg/Rm ³ **	mg/Rm ³ *	
1	<0.6	1.0	<1.6	3.687	<0.26	<0.43	<0.38	<0.36	<6.93
2	<0.6	1.7	<2.3	3.763	<0.36	<0.61	<0.53	<0.51	<9.76
3	<0.6	1.8	<2.4	3.589	<0.39	<0.67	<0.58	<0.56	<10.6
Average					<0.34	<0.57	<0.50	<0.48	<9.11
Blank	2.1	0.5	2.6						

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

* At 25 °C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 7
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
PM_{2.5} and PM₁₀ Emission Data

PM_{2.5}

	Total	Dry Volume	PM _{2.5} Concentration				Emission
Test	Collected	Sampled	Actual	Dry Reference	Dry Adjusted	Wet Reference	Rate
No.	mg	Rm ^{3*}	mg/m ³	mg/Rm ^{3*}	mg/Rm ^{3**}	mg/Rm ^{3*}	mg/s
1	<1.0	1.162	<0.52	<0.86	<0.77	<0.73	<13.2
2	<1.0	1.194	<0.49	<0.84	<0.74	<0.70	<12.9
3	<1.0	1.143	<0.53	<0.87	<0.76	<0.75	<13.8
Average			<0.51	<0.86	<0.75	<0.73	<13.3
Blank	<1.0						

PM₁₀

	Total	Dry Volume	PM ₁₀ Concentration				Emission
Test	Collected	Sampled	Actual	Dry Reference	Dry Adjusted	Wet Reference	Rate
No.	mg	Rm ^{3*}	mg/m ³	mg/Rm ^{3*}	mg/Rm ^{3**}	mg/Rm ^{3*}	mg/s
1	<1.4	1.162	<0.72	<1.20	<1.07	<1.03	<18.5
2	<1.4	1.194	<0.69	<1.17	<1.03	<0.97	<18.0
3	<1.4	1.143	<0.75	<1.22	<1.06	<1.06	<19.3
Average			<0.72	<1.20	<1.05	<1.02	<18.6
Blank	<1.4						

* At 25 °C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 8
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Condensable Particulate Emission Data

Inorganic Condensable Particulate

Test No.	Total Collected mg	Dry Volume Sampled Rm ³ *	Inorganic Condensable Particulate Concentration				Emission Rate mg/s
			Actual mg/m ³	Dry Reference mg/Rm ³ *	Dry Adjusted mg/Rm ^{3**}	Wet Reference mg/Rm ³ *	
1	2.2	1.162	1.14	1.89	1.68	1.61	29.1
2	2.4	1.194	1.18	2.01	1.77	1.67	30.9
3	2.4	1.143	1.28	2.10	1.81	1.81	33.0
Average			1.20	2.00	1.75	1.70	31.0
Blank	0.6						

Organic Condensable Particulate

Test No.	Total Collected mg	Dry Volume Sampled Rm ³ *	Organic Condensable Particulate Concentration				Emission Rate mg/s
			Actual mg/m ³	Dry Reference mg/Rm ³ *	Dry Adjusted mg/Rm ^{3**}	Wet Reference mg/Rm ³ *	
1	1.6	1.162	0.83	1.38	1.22	1.17	21.1
2	1.4	1.194	0.69	1.17	1.03	0.97	18.0
3	1.3	1.143	0.69	1.14	0.98	0.98	17.9
Average			0.74	1.23	1.08	1.04	19.0
Blank	0.9						

* At 25 °C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 9
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Halides and Ammonia Emission Data

Hydrogen Chloride

Test No.	HCl Collected	Dry Volume Sampled	Hydrogen Chloride Concentration				HCl Emission Rate
	mg	Rm ³ *	Actual mg/m ³	Dry Reference mg/Rm ³ *	Dry Adjusted mg/Rm ³ **	Wet Reference mg/Rm ³ *	mg/s
1	6.54	1.182	3.29	5.53	4.84	4.65	88.3
2	5.97	1.175	3.02	5.08	4.45	4.27	81.1
3	5.18	1.150	2.64	4.50	3.90	3.73	71.9
Average			2.98	5.04	4.40	4.22	80.4
Blank	<0.156						

Hydrogen Fluoride

Test No.	HF Collected	Dry Volume Sampled	Hydrogen Fluoride Concentration				HF Emission Rate
	mg	Rm ³ *	Actual mg/m ³	Dry Reference mg/Rm ³ *	Dry Adjusted mg/Rm ³ **	Wet Reference mg/Rm ³ *	mg/s
1	<0.157	1.182	<0.079	<0.13	<0.12	<0.11	<2.12
2	<0.160	1.175	<0.081	<0.14	<0.12	<0.11	<2.17
3	<0.158	1.150	<0.081	<0.14	<0.12	<0.11	<2.19
Average			<0.080	<0.14	<0.12	<0.11	<2.16
Blank	<0.107						

Ammonia

Test No.	Ammonia Collected	Dry Volume Sampled	Ammonia Concentration				Ammonia Emission Rate
	mg	Rm ³ *	Actual mg/m ³	Dry Reference mg/Rm ³ *	Dry Adjusted mg/Rm ³ **	Wet Reference mg/Rm ³ *	mg/s
1	0.960	1.182	0.48	0.81	0.71	0.68	13.0
2	0.907	1.175	0.46	0.77	0.68	0.65	12.3
3	0.677	1.150	0.35	0.59	0.51	0.49	9.40
Average			0.43	0.72	0.63	0.61	11.6
Blank	<0.020						

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

* At 25 °C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 10
Reworld Durham York Renewable Energy L.P.
Boiler No. 1
Combustion Gas Analyses

Data measured by the DYEC CEMS from October 27 to October 30, 2025

Sampling Location	Parameter	Minimum	Average	Maximum
BH Outlet	Oxygen (% , 1 hr Avg)	8.53	9.39	10.16
BH Outlet	Carbon Monoxide (mg/Rm ³ , 1 hr Avg) *	6	14	43
BH Outlet	Carbon Monoxide (mg/Rm ³ , 4 hr Avg) *	7.0	13.5	21.8
BH Outlet	Sulphur Dioxide (mg/Rm ³ , 1 hr Avg) *	0	1.1	54
BH Outlet	Sulphur Dioxide (mg/Rm ³ , 24 hr Avg) *	0.1	1.4	3.5
BH Outlet	Nitrogen Oxides (mg/Rm ³ , 1 hr Avg) *	94	109	127
BH Outlet	Nitrogen Oxides (mg/Rm ³ , 24 hr Avg) *	107	109	110
BH Outlet	Hydrogen Chloride (mg/Rm ³ , 1 hr Avg) *	0	1	4
BH Outlet	Hydrogen Chloride (mg/Rm ³ , 24 hr Avg) *	0.3	0.8	1.0
BH Outlet	Total Hydrocarbons (mg/Rm ³ , 1 hr Avg) *	0	0.1	1
Quench Inlet	Oxygen (% , 1 hr Avg)	6	7	8

Data measured by the Alliance CEMS on October 27, 2025

Sampling Location	Test No.	Parameter	Minimum	Average	Maximum
BH Outlet	1	Total Hydrocarbons (ppm dry, 1-min Avg)	0	0.08	0.90
BH Outlet	2	Total Hydrocarbons (ppm dry, 1-min Avg)	0	0.18	1.06
BH Outlet	3	Total Hydrocarbons (ppm dry, 1-min Avg)	0	0.04	0.47
Average		Total Hydrocarbons (ppm dry, 1-min Avg)		0.10	
Quench Inlet	1	Total Hydrocarbons (ppm dry, 1-min Avg)	0.47	0.66	1.18
Quench Inlet	2	Total Hydrocarbons (ppm dry, 1-min Avg)	0.07	0.93	1.75
Quench Inlet	3	Total Hydrocarbons (ppm dry, 1-min Avg)	0.19	0.68	1.49
Average		Total Hydrocarbons (ppm dry, 1-min Avg)		0.76	
Quench Inlet	1	Total Hydrocarbons (ppm dry, 10-min Avg)	0.55	0.64	0.81
Quench Inlet	2	Total Hydrocarbons (ppm dry, 10-min Avg)	0.20	0.98	1.73
Quench Inlet	3	Total Hydrocarbons (ppm dry, 10-min Avg)	0.23	0.66	1.46
Average		Total Hydrocarbons (ppm dry, 10-min Avg)		0.76	

* Reference conditions, dry basis adjusted to 11% oxygen

TABLE 11
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Metals Analyses Test No. 1

Metal	Probe & Filter	Impingers	Total
	Hydrofluoric Acid Digest	& Rinses	Collected
	µg	µg	µg
Antimony	0.26	<0.10	0.26
Arsenic	<1.0	<0.50	<0.50
Barium	9.00	<2.5	9.00
Beryllium	<0.20	<0.10	<0.20
Cadmium	0.16	0.32	0.48
Chromium	3.00	0.81	3.81
Cobalt	<0.20	0.26	0.26
Copper	3.30	6.75	10.1
Lead	1.01	1.85	2.86
Mercury *	<0.022	<0.285	<0.29
Molybdenum	18.5	<0.10	18.5
Nickel	2.78	1.32	4.10
Selenium	<2.0	<1.0	<1.00
Silver	<0.20	<0.10	<0.20
Thallium	<0.20	<0.10	<0.20
Vanadium	<1.0	<0.50	<0.50
Zinc	14.2	8.80	23.0
Total			<75.2

* Includes the permanganate impingers

Note: "<" indicates that the analyte was not detected. Where all values were reported below the detection limit for a given metal, the value of the detection limit for the fraction most likely to contain that metal was used to calculate emission data, the remaining fractions were assigned a value of zero. In instances where only one fraction was below the detection limit, that fraction was assigned a value of zero to calculate emission data.

TABLE 12
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Metals Analyses Test No. 2

Metal	Probe & Filter	Impingers	Total
	Hydrofluoric Acid Digest	& Rinses	Collected
	µg	µg	µg
Antimony	<0.20	<0.10	<0.20
Arsenic	<1.0	<0.50	<0.50
Barium	11.1	<2.5	11.1
Beryllium	<0.20	<0.10	<0.20
Cadmium	0.14	0.058	0.20
Chromium	2.70	0.88	3.58
Cobalt	<0.20	0.13	0.13
Copper	3.90	4.50	8.40
Lead	0.74	4.61	5.35
Mercury *	<0.022	<0.285	<0.29
Molybdenum	19.3	<0.10	19.3
Nickel	1.90	1.02	2.92
Selenium	<2.0	<1.0	<1.00
Silver	<0.20	<0.10	<0.20
Thallium	<0.20	<0.10	<0.20
Vanadium	<1.0	<0.50	<0.50
Zinc	14.2	4.90	19.1
Total			<73.2

* Includes the permanganate impingers

Note: "<" indicates that the analyte was not detected. Where all values were reported below the detection limit for a given metal, the value of the detection limit for the fraction most likely to contain that metal was used to calculate emission data, the remaining fractions were assigned a value of zero. In instances where only one fraction was below the detection limit, that fraction was assigned a value of zero to calculate emission data.

TABLE 13
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Metals Analyses Test No. 3

Metal	Probe & Filter	Impingers	Total
	Hydrofluoric Acid Digest	& Rinses	Collected
	µg	µg	µg
Antimony	0.33	<0.10	0.33
Arsenic	<1.0	<0.50	<0.50
Barium	13.0	<2.5	13.0
Beryllium	<0.20	<0.10	<0.20
Cadmium	0.22	0.082	0.30
Chromium	2.50	<0.50	2.50
Cobalt	<0.20	<0.10	<0.20
Copper	11.2	3.74	14.9
Lead	0.95	2.28	3.23
Mercury *	<0.022	<0.285	<0.29
Molybdenum	19.0	<0.10	19.0
Nickel	1.87	0.68	2.55
Selenium	<2.0	<1.0	<1.00
Silver	<0.20	<0.10	<0.20
Thallium	<0.20	<0.10	<0.20
Vanadium	<1.0	<0.50	<0.50
Zinc	24.6	4.70	29.3
Total			<88.2

* Includes the permanganate impingers

Note: "<" indicates that the analyte was not detected. Where all values were reported below the detection limit for a given metal, the value of the detection limit for the fraction most likely to contain that metal was used to calculate emission data, the remaining fractions were assigned a value of zero. In instances where only one fraction was below the detection limit, that fraction was assigned a value of zero to calculate emission data.

TABLE 14
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Metals Emission Data Test No. 1

Metal	Total Collected μg	Actual Concentration $\mu\text{g}/\text{m}^3$	Dry Reference Concentration $\mu\text{g}/\text{Rm}^3^*$	Dry Adjusted Concentration $\mu\text{g}/\text{Rm}^3^{**}$	Wet Reference Concentration $\mu\text{g}/\text{Rm}^3^*$	Emission Rate mg/s
Antimony	0.26	0.042	0.071	0.062	0.059	0.0011
Arsenic	<0.50	<0.081	<0.14	<0.12	<0.11	<0.0022
Barium	9.00	1.45	2.44	2.15	2.06	0.039
Beryllium	<0.20	<0.032	<0.054	<0.048	<0.046	<0.00087
Cadmium	0.48	0.078	0.13	0.11	0.11	0.0021
Chromium	3.81	0.61	1.03	0.91	0.87	0.017
Cobalt	0.26	0.042	0.071	0.062	0.059	0.0011
Copper	10.1	1.62	2.73	2.40	2.30	0.044
Lead	2.86	0.46	0.78	0.68	0.65	0.012
Mercury	<0.29	<0.046	<0.077	<0.068	<0.065	<0.0012
Molybdenum	18.5	2.98	5.02	4.41	4.23	0.080
Nickel	4.10	0.66	1.11	0.98	0.94	0.018
Selenium	<1.00	<0.16	<0.27	<0.24	<0.23	<0.0043
Silver	<0.20	<0.032	<0.054	<0.048	<0.046	<0.00087
Thallium	<0.20	<0.032	<0.054	<0.048	<0.046	<0.00087
Vanadium	<0.50	<0.081	<0.14	<0.12	<0.11	<0.0022
Zinc	23.0	3.71	6.24	5.48	5.25	0.10
Total	<75.2	<12.1	<20.4	<17.9	<17.2	<0.33

Dry Gas Volume Sampled (Rm^3^*) :	3.687
Actual Flowrate (m^3/s) :	26.9
Dry Reference Flowrate (Rm^3/s^*) :	16.0
Dry Adjusted Flowrate ($\text{Rm}^3/\text{s}^{**}$) :	18.2
Wet Reference Flowrate (Rm^3/s^*) :	19.0

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 15
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Metals Emission Data Test No. 2

Metal	Total Collected μg	Actual Concentration $\mu\text{g}/\text{m}^3$	Dry Reference Concentration $\mu\text{g}/\text{Rm}^{3*}$	Dry Adjusted Concentration $\mu\text{g}/\text{Rm}^{3**}$	Wet Reference Concentration $\mu\text{g}/\text{Rm}^{3*}$	Emission Rate mg/s
Antimony	<0.20	<0.031	<0.053	<0.046	<0.044	<0.00085
Arsenic	<0.50	<0.078	<0.13	<0.12	<0.11	<0.0021
Barium	11.1	1.74	2.95	2.57	2.45	0.047
Beryllium	<0.20	<0.031	<0.053	<0.046	<0.044	<0.00085
Cadmium	0.20	0.031	0.053	0.046	0.044	0.00084
Chromium	3.58	0.56	0.95	0.83	0.79	0.015
Cobalt	0.13	0.020	0.035	0.030	0.029	0.00055
Copper	8.40	1.31	2.23	1.94	1.85	0.036
Lead	5.35	0.84	1.42	1.24	1.18	0.023
Mercury	<0.29	<0.045	<0.076	<0.066	<0.063	<0.0012
Molybdenum	19.3	3.02	5.13	4.46	4.25	0.082
Nickel	2.92	0.46	0.78	0.67	0.64	0.012
Selenium	<1.00	<0.16	<0.27	<0.23	<0.22	<0.0043
Silver	<0.20	<0.031	<0.053	<0.046	<0.044	<0.00085
Thallium	<0.20	<0.031	<0.053	<0.046	<0.044	<0.00085
Vanadium	<0.50	<0.078	<0.13	<0.12	<0.11	<0.0021
Zinc	19.1	2.99	5.08	4.41	4.21	0.081
Total	<73.2	<11.4	<19.4	<16.9	<16.1	<0.31

Dry Gas Volume Sampled (Rm^{3*}) :	3.763
Actual Flowrate (m^3/s) :	27.2
Dry Reference Flowrate (Rm^3/s^*) :	16.0
Dry Adjusted Flowrate ($\text{Rm}^3/\text{s}^{**}$) :	18.4
Wet Reference Flowrate (Rm^3/s^*) :	19.3

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 16
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Metals Emission Data Test No. 3

Metal	Total Collected μg	Actual Concentration $\mu\text{g}/\text{m}^3$	Dry Reference Concentration $\mu\text{g}/\text{Rm}^3^*$	Dry Adjusted Concentration $\mu\text{g}/\text{Rm}^3^{**}$	Wet Reference Concentration $\mu\text{g}/\text{Rm}^3^*$	Emission Rate mg/s
Antimony	0.33	0.054	0.092	0.079	0.077	0.0015
Arsenic	<0.50	<0.082	<0.14	<0.12	<0.12	<0.0022
Barium	13.0	2.13	3.62	3.13	3.02	0.058
Beryllium	<0.20	<0.033	<0.056	<0.048	<0.046	<0.00089
Cadmium	0.30	0.050	0.084	0.073	0.070	0.0013
Chromium	2.50	0.41	0.70	0.60	0.58	0.011
Cobalt	<0.20	<0.033	<0.056	<0.048	<0.046	<0.00089
Copper	14.9	2.45	4.16	3.60	3.47	0.066
Lead	3.23	0.53	0.90	0.78	0.75	0.014
Mercury	<0.29	<0.047	<0.079	<0.069	<0.066	<0.0013
Molybdenum	19.0	3.12	5.29	4.57	4.41	0.084
Nickel	2.55	0.42	0.71	0.61	0.59	0.011
Selenium	<1.00	<0.16	<0.28	<0.24	<0.23	<0.0044
Silver	<0.20	<0.033	<0.056	<0.048	<0.046	<0.00089
Thallium	<0.20	<0.033	<0.056	<0.048	<0.046	<0.00089
Vanadium	<0.50	<0.082	<0.14	<0.12	<0.12	<0.0022
Zinc	29.3	4.81	8.16	7.05	6.80	0.13
Total	<88.2	<14.5	<24.6	<21.2	<20.5	<0.39

Dry Gas Volume Sampled (Rm^3^*) :	3.589
Actual Flowrate (m^3/s) :	27.0
Dry Reference Flowrate (Rm^3/s^*) :	15.9
Dry Adjusted Flowrate ($\text{Rm}^3/\text{s}^{**}$) :	18.4
Wet Reference Flowrate (Rm^3/s^*) :	19.1

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 17
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Summary of Metal Actual Concentrations

Metal	Actual Concentration				Coefficient of Variation
	Test No. 1 $\mu\text{g}/\text{m}^3$	Test No. 2 $\mu\text{g}/\text{m}^3$	Test No. 3 $\mu\text{g}/\text{m}^3$	Average $\mu\text{g}/\text{m}^3$	
Antimony	0.042	<0.031	0.054	<0.042	27.0
Arsenic	<0.081	<0.078	<0.082	<0.080	2.4
Barium	1.45	1.74	2.13	1.77	19.3
Beryllium	<0.032	<0.031	<0.033	<0.032	2.4
Cadmium	0.078	0.031	0.050	0.053	44.6
Chromium	0.61	0.56	0.41	0.53	20.0
Cobalt	0.042	0.020	<0.033	<0.032	34.2
Copper	1.62	1.31	2.45	1.80	32.8
Lead	0.46	0.84	0.53	0.61	32.8
Mercury	<0.046	<0.045	<0.047	<0.046	2.4
Molybdenum	2.98	3.02	3.12	3.04	2.3
Nickel	0.66	0.46	0.42	0.51	25.5
Selenium	<0.16	<0.16	<0.16	<0.16	2.4
Silver	<0.032	<0.031	<0.033	<0.032	2.4
Thallium	<0.032	<0.031	<0.033	<0.032	2.4
Vanadium	<0.081	<0.078	<0.082	<0.080	2.4
Zinc	3.71	2.99	4.81	3.83	23.9
Total	<12.1	<11.4	<14.5	<12.7	12.6

TABLE 18
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Summary of Metal Dry Reference Concentrations

Metal	Dry Reference Concentration			Average	Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3		
	µg/Rm ³ *	µg/Rm ³ *	µg/Rm ³ *	µg/Rm ³ *	%
Antimony	0.071	<0.053	0.092	<0.072	27.0
Arsenic	<0.14	<0.13	<0.14	<0.14	2.4
Barium	2.44	2.95	3.62	3.00	19.7
Beryllium	<0.054	<0.053	<0.056	<0.054	2.4
Cadmium	0.13	0.053	0.084	0.089	44.0
Chromium	1.03	0.95	0.70	0.89	19.7
Cobalt	0.071	0.035	<0.056	<0.054	33.7
Copper	2.73	2.23	4.16	3.04	33.0
Lead	0.78	1.42	0.90	1.03	33.2
Mercury	<0.077	<0.076	<0.079	<0.077	2.4
Molybdenum	5.02	5.13	5.29	5.15	2.7
Nickel	1.11	0.78	0.71	0.87	24.9
Selenium	<0.27	<0.27	<0.28	<0.27	2.4
Silver	<0.054	<0.053	<0.056	<0.054	2.4
Thallium	<0.054	<0.053	<0.056	<0.054	2.4
Vanadium	<0.14	<0.13	<0.14	<0.14	2.4
Zinc	6.24	5.08	8.16	6.49	24.0
Total	<20.4	<19.4	<24.6	<21.5	12.7

* At 25°C and 1 atmosphere

TABLE 19
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Summary of Metal Dry Adjusted Concentrations

Metal	Dry Adjusted Concentration				Coefficient of Variation %
	Test No. 1 $\mu\text{g/Rm}^{***}$	Test No. 2 $\mu\text{g/Rm}^{***}$	Test No. 3 $\mu\text{g/Rm}^{***}$	Average $\mu\text{g/Rm}^{***}$	
Antimony	0.062	<0.046	0.079	<0.063	26.6
Arsenic	<0.12	<0.12	<0.12	<0.12	2.1
Barium	2.15	2.57	3.13	2.61	18.9
Beryllium	<0.048	<0.046	<0.048	<0.047	2.1
Cadmium	0.11	0.046	0.073	0.078	44.7
Chromium	0.91	0.83	0.60	0.78	20.4
Cobalt	0.062	0.030	<0.048	<0.047	34.3
Copper	2.40	1.94	3.60	2.64	32.3
Lead	0.68	1.24	0.78	0.90	33.0
Mercury	<0.068	<0.066	<0.069	<0.067	2.1
Molybdenum	4.41	4.46	4.57	4.48	1.9
Nickel	0.98	0.67	0.61	0.76	25.8
Selenium	<0.24	<0.23	<0.24	<0.24	2.1
Silver	<0.048	<0.046	<0.048	<0.047	2.1
Thallium	<0.048	<0.046	<0.048	<0.047	2.1
Vanadium	<0.12	<0.12	<0.12	<0.12	2.1
Zinc	5.48	4.41	7.05	5.65	23.5
Total	<17.9	<16.9	<21.2	<18.7	12.1

*** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 20
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Summary of Metal Wet Reference Concentrations

Metal	Wet Reference Concentration			Average	Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3		
	$\mu\text{g}/\text{Rm}^3*$	$\mu\text{g}/\text{Rm}^3*$	$\mu\text{g}/\text{Rm}^3*$	$\mu\text{g}/\text{Rm}^3*$	%
Antimony	0.059	<0.044	0.077	<0.060	27.1
Arsenic	<0.11	<0.11	<0.12	<0.11	2.6
Barium	2.06	2.45	3.02	2.51	19.3
Beryllium	<0.046	<0.044	<0.046	<0.045	2.6
Cadmium	0.11	0.044	0.070	0.075	44.8
Chromium	0.87	0.79	0.58	0.75	20.1
Cobalt	0.059	0.029	<0.046	<0.045	34.4
Copper	2.30	1.85	3.47	2.54	32.9
Lead	0.65	1.18	0.75	0.86	32.5
Mercury	<0.065	<0.063	<0.066	<0.065	2.6
Molybdenum	4.23	4.25	4.41	4.29	2.3
Nickel	0.94	0.64	0.59	0.72	25.7
Selenium	<0.23	<0.22	<0.23	<0.23	2.6
Silver	<0.046	<0.044	<0.046	<0.045	2.6
Thallium	<0.046	<0.044	<0.046	<0.045	2.6
Vanadium	<0.11	<0.11	<0.12	<0.11	2.6
Zinc	5.25	4.21	6.80	5.42	24.0
Total	<17.2	<16.1	<20.5	<17.9	12.7

* At 25°C and 1 atmosphere

TABLE 21
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Summary of Metal Emission Rates

Metal	Emission Rate				Coefficient of Variation %
	Test No. 1 mg/s	Test No. 2 mg/s	Test No. 3 mg/s	Average mg/s	
Antimony	0.0011	<0.00085	0.0015	<0.0011	26.7
Arsenic	<0.0022	<0.0021	<0.0022	<0.0022	2.1
Barium	0.039	0.047	0.058	0.048	19.4
Beryllium	<0.00087	<0.00085	<0.00089	<0.00087	2.1
Cadmium	0.0021	0.00084	0.0013	0.0014	44.1
Chromium	0.017	0.015	0.011	0.014	20.0
Cobalt	0.0011	0.00055	<0.00089	<0.00086	33.8
Copper	0.044	0.036	0.066	0.049	32.6
Lead	0.012	0.023	0.014	0.016	33.4
Mercury	<0.0012	<0.0012	<0.0013	<0.0012	2.1
Molybdenum	0.080	0.082	0.084	0.082	2.4
Nickel	0.018	0.012	0.011	0.014	25.1
Selenium	<0.0043	<0.0043	<0.0044	<0.0043	2.1
Silver	<0.00087	<0.00085	<0.00089	<0.00087	2.1
Thallium	<0.00087	<0.00085	<0.00089	<0.00087	2.1
Vanadium	<0.0022	<0.0021	<0.0022	<0.0022	2.1
Zinc	0.10	0.081	0.13	0.10	23.7
Total	<0.33	<0.31	<0.39	<0.34	12.4

TABLE 22
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Summary of Metal Emission Data

Metal	Actual Concentration $\mu\text{g}/\text{m}^3$	Dry Reference Concentration $\mu\text{g}/\text{Rm}^{3*}$	Dry Adjusted Concentration $\mu\text{g}/\text{Rm}^{3**}$	Wet Reference Concentration $\mu\text{g}/\text{Rm}^{3*}$	Emission Rate mg/s
Antimony	<0.042	<0.072	<0.063	<0.060	<0.0011
Arsenic	<0.080	<0.14	<0.12	<0.11	<0.0022
Barium	1.77	3.00	2.61	2.51	0.048
Beryllium	<0.032	<0.054	<0.047	<0.045	<0.00087
Cadmium	0.053	0.089	0.078	0.075	0.0014
Chromium	0.53	0.89	0.78	0.75	0.014
Cobalt	<0.032	<0.054	<0.047	<0.045	<0.00086
Copper	1.80	3.04	2.64	2.54	0.049
Lead	0.61	1.03	0.90	0.86	0.016
Mercury	<0.046	<0.077	<0.067	<0.065	<0.0012
Molybdenum	3.04	5.15	4.48	4.29	0.082
Nickel	0.51	0.87	0.76	0.72	0.014
Selenium	<0.16	<0.27	<0.24	<0.23	<0.0043
Silver	<0.032	<0.054	<0.047	<0.045	<0.00087
Thallium	<0.032	<0.054	<0.047	<0.045	<0.00087
Vanadium	<0.080	<0.14	<0.12	<0.11	<0.0022
Zinc	3.83	6.49	5.65	5.42	0.10
Total	<12.7	<21.5	<18.7	<17.9	<0.34

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 23
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Blank Train Metal Analyses

Metal	Probe & Filter	Impingers	Total
	Hydrofluoric Acid Digest	& Rinses	Collected
	µg	µg	µg
Antimony	<0.20	<0.10	<0.20
Arsenic	<1.0	<0.50	<0.50
Barium	10.6	<2.5	10.6
Beryllium	<0.20	<0.10	<0.20
Cadmium	<0.10	<0.050	<0.10
Chromium	2.60	0.57	3.17
Cobalt	<0.20	0.12	0.12
Copper	3.60	3.33	6.93
Lead	<0.50	0.73	0.73
Mercury *	<0.022	<0.285	<0.29
Molybdenum	18.4	<0.10	18.4
Nickel	1.36	0.62	1.98
Selenium	<2.0	<1.0	<1.00
Silver	<0.20	<0.10	<0.20
Thallium	<0.20	<0.10	<0.20
Vanadium	<1.0	<0.50	<0.50
Zinc	<6.0	<3.0	<6.00
Total			<51.1

* Includes the permanganate impingers.

Note: "<" indicates that the analyte was not detected. Where all values are reported below the detection limit for a given metal, the value of the detection limit for the fraction most likely to contain that metal was used to calculate the total collected in the blank, the remaining fractions are assigned a value of zero. In instances where only one fraction was below the detection limit, that fraction was assigned a value of zero to calculate the total collected in the blank.

TABLE 24
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Dioxin and Furan Congener Group Emission Data
Test No. 1

Dioxins

Congener Group	Total Collected	Actual Concentration	Dry Reference Concentration	Dry Adjusted Concentration	Wet Reference Concentration	Emission Rate
	pg	ng/m ³	ng/Rm ^{3*}	ng/Rm ^{3**}	ng/Rm ^{3*}	ng/s
Tetrachlorodibenzo-p-dioxins	11.2	0.0014	0.0024	0.0021	0.0021	0.038
Pentachlorodibenzo-p-dioxins	18.9	0.0024	0.0041	0.0035	0.0035	0.064
Hexachlorodibenzo-p-dioxins	74.2	0.0095	0.016	0.014	0.014	0.25
Heptachlorodibenzo-p-dioxins	20.1	0.0026	0.0044	0.0038	0.0037	0.068
Octachlorodibenzo-p-dioxin	39.7	0.0051	0.0086	0.0074	0.0073	0.13
Total	164	0.021	0.036	0.031	0.030	0.56

Furans

Congener Group	Total Collected	Actual Concentration	Dry Reference Concentration	Dry Adjusted Concentration	Wet Reference Concentration	Emission Rate
	pg	ng/m ³	ng/Rm ^{3*}	ng/Rm ^{3**}	ng/Rm ^{3*}	ng/s
Tetrachlorodibenzofurans	3.24	0.00041	0.00070	0.00061	0.00059	0.011
Pentachlorodibenzofurans	13.8	0.0018	0.0030	0.0026	0.0025	0.047
Hexachlorodibenzofurans	<2.8	<0.00036	<0.00061	<0.00053	<0.00051	<0.0095
Heptachlorodibenzofurans	<2.2	<0.00028	<0.00048	<0.00041	<0.00040	<0.0075
Octachlorodibenzofuran	<12	<0.0015	<0.0026	<0.0023	<0.0022	<0.041
Total	<34.0	<0.0044	<0.0074	<0.0064	<0.0062	<0.12

Dry Gas Volume Sampled (Rm ^{3*}) :	4.596
Actual Flowrate (m ³ /s) :	26.5
Dry Reference Flowrate (Rm ³ /s*) :	15.6
Dry Adjusted Flowrate (Rm ³ /s**) :	18.1
Wet Reference Flowrate (Rm ³ /s*) :	18.5

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 25
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Dioxin and Furan Congener Group Emission Data
Test No. 2

Dioxins

Congener Group	Total Collected	Actual Concentration	Dry Reference Concentration	Dry Adjusted Concentration	Wet Reference Concentration	Emission Rate
	pg	ng/m ³	ng/Rm ^{3*}	ng/Rm ^{3**}	ng/Rm ^{3*}	ng/s
Tetrachlorodibenzo-p-dioxins	19.2	0.0024	0.0041	0.0034	0.0034	0.065
Pentachlorodibenzo-p-dioxins	30.4	0.0038	0.0065	0.0054	0.0054	0.10
Hexachlorodibenzo-p-dioxins	99.2	0.012	0.021	0.018	0.018	0.33
Heptachlorodibenzo-p-dioxins	25.6	0.0032	0.0054	0.0046	0.0045	0.086
Octachlorodibenzo-p-dioxin	<47	<0.0059	<0.010	<0.0084	<0.0083	<0.16
Total	<221	<0.028	<0.047	<0.040	<0.039	<0.74

Furans

Congener Group	Total Collected	Actual Concentration	Dry Reference Concentration	Dry Adjusted Concentration	Wet Reference Concentration	Emission Rate
	pg	ng/m ³	ng/Rm ^{3*}	ng/Rm ^{3**}	ng/Rm ^{3*}	ng/s
Tetrachlorodibenzofurans	<2.7	<0.00034	<0.00057	<0.00048	<0.00048	<0.0091
Pentachlorodibenzofurans	13.6	0.0017	0.0029	0.0024	0.0024	0.046
Hexachlorodibenzofurans	14.3	0.0018	0.0030	0.0026	0.0025	0.048
Heptachlorodibenzofurans	3.44	0.00043	0.00073	0.00062	0.00061	0.012
Octachlorodibenzofuran	12.7	0.0016	0.0027	0.0023	0.0022	0.043
Total	<46.7	<0.0058	<0.0099	<0.0084	<0.0083	<0.16

Dry Gas Volume Sampled (Rm ^{3*}) :	4.699
Actual Flowrate (m ³ /s) :	27.0
Dry Reference Flowrate (Rm ³ /s*) :	15.8
Dry Adjusted Flowrate (Rm ³ /s**) :	18.8
Wet Reference Flowrate (Rm ³ /s*) :	19.0

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 26
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Dioxin and Furan Congener Group Emission Data
Test No. 3

Dioxins

Congener Group	Total Collected	Actual Concentration	Dry Reference Concentration	Dry Adjusted Concentration	Wet Reference Concentration	Emission Rate
	pg	ng/m ³	ng/Rm ^{3*}	ng/Rm ^{3**}	ng/Rm ^{3*}	ng/s
Tetrachlorodibenzo-p-dioxins	4.61	0.00056	0.00097	0.00082	0.00081	0.016
Pentachlorodibenzo-p-dioxins	23.5	0.0029	0.0050	0.0042	0.0041	0.079
Hexachlorodibenzo-p-dioxins	135	0.016	0.028	0.024	0.024	0.46
Heptachlorodibenzo-p-dioxins	61.6	0.0075	0.013	0.011	0.011	0.21
Octachlorodibenzo-p-dioxin	66.2	0.0080	0.014	0.012	0.012	0.22
Total	291	0.035	0.061	0.052	0.051	0.98

Furans

Congener Group	Total Collected	Actual Concentration	Dry Reference Concentration	Dry Adjusted Concentration	Wet Reference Concentration	Emission Rate
	pg	ng/m ³	ng/Rm ^{3*}	ng/Rm ^{3**}	ng/Rm ^{3*}	ng/s
Tetrachlorodibenzofurans	7.73	0.00094	0.0016	0.0014	0.0014	0.026
Pentachlorodibenzofurans	20.9	0.0025	0.0044	0.0037	0.0037	0.071
Hexachlorodibenzofurans	4.61	0.00056	0.00097	0.00082	0.00081	0.016
Heptachlorodibenzofurans	<2.2	<0.00027	<0.00046	<0.00039	<0.00039	<0.0074
Octachlorodibenzofuran	<16	<0.0019	<0.0034	<0.0029	<0.0028	<0.054
Total	<51.4	<0.0062	<0.0109	<0.0092	<0.0090	<0.17

Dry Gas Volume Sampled (Rm ^{3*}) :	4.739
Actual Flowrate (m ³ /s) :	27.8
Dry Reference Flowrate (Rm ³ /s*) :	16.0
Dry Adjusted Flowrate (Rm ³ /s**) :	18.9
Wet Reference Flowrate (Rm ³ /s*) :	19.2

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 27
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Dioxin and Furan Congener Group Actual Concentrations

Dioxins

Congener Group	Test No. 1	Actual Concentration			Coefficient of Variation
		Test No. 2	Test No. 3	Average	
	ng/m ³	ng/m ³	ng/m ³	ng/m ³	%
Tetrachlorodibenzo-p-dioxins	0.0014	0.0024	0.00056	0.0015	62.7
Pentachlorodibenzo-p-dioxins	0.0024	0.0038	0.0029	0.0030	23.1
Hexachlorodibenzo-p-dioxins	0.0095	0.012	0.016	0.013	27.2
Heptachlorodibenzo-p-dioxins	0.0026	0.0032	0.0075	0.0044	60.6
Octachlorodibenzo-p-dioxin	0.0051	<0.0059	0.0080	<0.0063	24.2
Total	0.021	<0.028	0.035	<0.028	25.6

Furans

Congener Group	Test No. 1	Actual Concentration			Coefficient of Variation
		Test No. 2	Test No. 3	Average	
	ng/m ³	ng/m ³	ng/m ³	ng/m ³	%
Tetrachlorodibenzofurans	0.00041	<0.00034	0.00094	<0.00056	58.1
Pentachlorodibenzofurans	0.0018	0.0017	0.0025	0.0020	23.4
Hexachlorodibenzofurans	<0.00036	0.0018	0.00056	<0.00090	85.5
Heptachlorodibenzofurans	<0.00028	0.00043	<0.00027	<0.00033	27.4
Octachlorodibenzofuran	<0.0015	0.0016	<0.0019	<0.0017	13.2
Total	<0.0044	<0.0058	<0.0062	<0.0055	18.1

TABLE 28
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Dioxin and Furan Congener Group Dry Reference Concentrations

Dioxins

Congener Group	Dry Reference Concentration				Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3	Average	
	ng/Rm ^{3*}	ng/Rm ^{3*}	ng/Rm ^{3*}	ng/Rm ^{3*}	%
Tetrachlorodibenzo-p-dioxins	0.0024	0.0041	0.00097	0.0025	62.3
Pentachlorodibenzo-p-dioxins	0.0041	0.0065	0.0050	0.0052	23.1
Hexachlorodibenzo-p-dioxins	0.016	0.021	0.028	0.022	28.3
Heptachlorodibenzo-p-dioxins	0.0044	0.0054	0.013	0.0076	61.8
Octachlorodibenzo-p-dioxin	0.0086	<0.010	0.014	<0.011	25.5
Total	0.036	<0.047	0.061	<0.048	26.8

Furans

Congener Group	Dry Reference Concentration				Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3	Average	
	ng/Rm ^{3*}	ng/Rm ^{3*}	ng/Rm ^{3*}	ng/Rm ^{3*}	%
Tetrachlorodibenzofurans	0.00070	<0.00057	0.0016	<0.00097	59.4
Pentachlorodibenzofurans	0.0030	0.0029	0.0044	0.0034	24.6
Hexachlorodibenzofurans	<0.00061	0.0030	0.00097	<0.0015	85.2
Heptachlorodibenzofurans	<0.00048	0.00073	<0.00046	<0.00056	27.0
Octachlorodibenzofuran	<0.0026	0.0027	<0.0034	<0.0029	14.4
Total	<0.0074	<0.0099	<0.011	<0.0094	19.0

* At 25°C and 1 atmosphere

TABLE 29
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Dioxin and Furan Congener Group Dry Adjusted Concentrations

Dioxins

Congener Group	Dry Adjusted Concentration				Coefficient of Variation %
	Test No. 1 ng/Rm ^{3*}	Test No. 2 ng/Rm ^{3*}	Test No. 3 ng/Rm ^{3*}	Average ng/Rm ^{3*}	
Tetrachlorodibenzo-p-dioxins	0.0021	0.0034	0.00082	0.0021	61.6
Pentachlorodibenzo-p-dioxins	0.0035	0.0054	0.0042	0.0044	21.9
Hexachlorodibenzo-p-dioxins	0.014	0.018	0.024	0.019	27.7
Heptachlorodibenzo-p-dioxins	0.0038	0.0046	0.011	0.0065	61.5
Octachlorodibenzo-p-dioxin	0.0074	<0.0084	0.012	<0.0092	25.0
Total	0.031	<0.040	0.052	<0.041	26.1

Furans

Congener Group	Dry Adjusted Concentration				Coefficient of Variation %
	Test No. 1 ng/Rm ^{3*}	Test No. 2 ng/Rm ^{3*}	Test No. 3 ng/Rm ^{3*}	Average ng/Rm ^{3*}	
Tetrachlorodibenzofurans	0.00061	<0.00048	0.0014	<0.00082	59.1
Pentachlorodibenzofurans	0.0026	0.0024	0.0037	0.0029	24.4
Hexachlorodibenzofurans	<0.00053	0.0026	0.00082	<0.0013	84.3
Heptachlorodibenzofurans	<0.00041	0.00062	<0.00039	<0.00047	26.0
Octachlorodibenzofuran	<0.0023	0.0023	<0.0029	<0.0025	14.0
Total	<0.0064	<0.0084	<0.0092	<0.0080	18.1

* At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 30
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Dioxin and Furan Congener Group Wet Reference Concentrations

Dioxins

Congener Group	Wet Reference Concentration				Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3	Average	
	ng/Rm ³ *	ng/Rm ³ *	ng/Rm ³ *	ng/Rm ³ *	%
Tetrachlorodibenzo-p-dioxins	0.0021	0.0034	0.00081	0.0021	62.0
Pentachlorodibenzo-p-dioxins	0.0035	0.0054	0.0041	0.0043	22.4
Hexachlorodibenzo-p-dioxins	0.014	0.018	0.024	0.018	27.9
Heptachlorodibenzo-p-dioxins	0.0037	0.0045	0.011	0.0064	61.5
Octachlorodibenzo-p-dioxin	0.0073	<0.0083	0.012	<0.0091	25.1
Total	0.030	<0.039	0.051	<0.040	26.3

Furans

Congener Group	Wet Reference Concentration				Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3	Average	
	ng/Rm ³ *	ng/Rm ³ *	ng/Rm ³ *	ng/Rm ³ *	%
Tetrachlorodibenzofurans	0.00059	<0.00048	0.0014	<0.00081	59.1
Pentachlorodibenzofurans	0.0025	0.0024	0.0037	0.0029	24.3
Hexachlorodibenzofurans	<0.00051	0.0025	0.00081	<0.0013	84.7
Heptachlorodibenzofurans	<0.00040	0.00061	<0.00039	<0.00047	26.5
Octachlorodibenzofuran	<0.0022	0.0022	<0.0028	<0.0024	14.1
Total	<0.0062	<0.0083	<0.0090	<0.0079	18.4

* At 25°C and 1 atmosphere

TABLE 31
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Dioxin and Furan Congener Group Emission Rates

Dioxins

Congener Group	Emission Rate			Average ng/s	Coefficient of Variation %
	Test No. 1 ng/s	Test No. 2 ng/s	Test No. 3 ng/s		
Tetrachlorodibenzo-p-dioxins	0.038	0.065	0.016	0.039	62.3
Pentachlorodibenzo-p-dioxins	0.064	0.10	0.079	0.082	23.4
Hexachlorodibenzo-p-dioxins	0.25	0.33	0.46	0.35	29.6
Heptachlorodibenzo-p-dioxins	0.068	0.086	0.21	0.12	63.0
Octachlorodibenzo-p-dioxin	0.13	<0.16	0.22	<0.17	26.7
Total	0.557	<0.74	0.98	<0.76	28.0

Furans

Congener Group	Emission Rate			Average ng/s	Coefficient of Variation %
	Test No. 1 ng/s	Test No. 2 ng/s	Test No. 3 ng/s		
Tetrachlorodibenzofurans	0.011	<0.0091	0.026	<0.015	60.6
Pentachlorodibenzofurans	0.047	0.046	0.071	0.054	25.8
Hexachlorodibenzofurans	<0.0095	0.048	0.016	<0.024	85.1
Heptachlorodibenzofurans	<0.0075	0.012	<0.0074	<0.0088	27.0
Octachlorodibenzofuran	<0.041	0.043	<0.054	<0.046	15.7
Total	<0.12	<0.16	<0.17	<0.15	20.1

TABLE 32
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Summary of Dioxin and Furan Congener Group Emission Data

Dioxins

Congener Group	Actual Concentration ng/m ³	Dry Reference Concentration ng/Rm ^{3*}	Dry Adjusted Concentration ng/Rm ^{3**}	Wet Reference Concentration ng/Rm ^{3*}	Emission Rate ng/s
Tetrachlorodibenzo-p-dioxins	0.0015	0.0025	0.0021	0.0021	0.039
Pentachlorodibenzo-p-dioxins	0.0030	0.0052	0.0044	0.0043	0.082
Hexachlorodibenzo-p-dioxins	0.013	0.022	0.019	0.018	0.35
Heptachlorodibenzo-p-dioxins	0.0044	0.0076	0.0065	0.0064	0.12
Octachlorodibenzo-p-dioxin	<0.0063	<0.011	<0.0092	<0.0091	<0.17
Total	<0.028	<0.048	<0.041	<0.040	<0.76

Furans

Congener Group	Actual Concentration ng/m ³	Dry Reference Concentration ng/Rm ^{3*}	Dry Adjusted Concentration ng/Rm ^{3**}	Wet Reference Concentration ng/Rm ^{3*}	Emission Rate ng/s
Tetrachlorodibenzofurans	<0.00056	<0.00097	<0.00082	<0.00081	<0.015
Pentachlorodibenzofurans	0.0020	0.0034	0.0029	0.0029	0.054
Hexachlorodibenzofurans	<0.00090	<0.0015	<0.0013	<0.0013	<0.024
Heptachlorodibenzofurans	<0.00033	<0.00056	<0.00047	<0.00047	<0.0088
Octachlorodibenzofuran	<0.0017	<0.0029	<0.0025	<0.0024	<0.046
Total	<0.0055	<0.0094	<0.0080	<0.0079	<0.15

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 33
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Blank Dioxin and Furan Congener Group Analyses

Dioxins

Congener Group	Blank Train pg	Method Blank pg
Tetrachlorodibenzo-p-dioxins	<1.8	<4.0
Pentachlorodibenzo-p-dioxins	<2.0	<1.3
Hexachlorodibenzo-p-dioxins	<1.7	2.9
Heptachlorodibenzo-p-dioxins	3.30	<1.4
Octachlorodibenzo-p-dioxin	15.6	<14
Total	<24.4	<23.6

Furans

Congener Group	Blank Train pg	Method Blank pg
Tetrachlorodibenzofurans	<2.0	<1.5
Pentachlorodibenzofurans	<1.3	<1.6
Hexachlorodibenzofurans	<1.2	<2.3
Heptachlorodibenzofurans	<4.0	<5.9
Octachlorodibenzofuran	<6.5	6.88
Total	<15.0	<18.2

"<" indicates that the amount detected is less than the detection limit
In these cases the value of the detection limit was used to calculate
the total collected.

TABLE 34
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Dioxin and Furan Specific Isomer Emission Data
Test No. 1

Specific Isomer	Total Collected pg	Actual Concentration pg/m ³	Dry Reference Concentration pg/Rm ^{3*}	Dry Adjusted Concentration pg/Rm ^{3**}	Wet Reference Concentration pg/Rm ^{3*}	Emission Rate ng/s
2378-tetrachlorodibenzo-p-dioxin	<2.2	<0.28	<0.48	<0.41	<0.40	<0.0075
12378-pentachlorodibenzo-p-dioxin	<2.1	<0.27	<0.46	<0.39	<0.39	<0.0071
123478-hexachlorodibenzo-p-dioxin	<2.4	<0.31	<0.52	<0.45	<0.44	<0.0081
123678-hexachlorodibenzo-p-dioxin	<2.8	<0.36	<0.61	<0.53	<0.51	<0.0095
123789-hexachlorodibenzo-p-dioxin	<2.2	<0.28	<0.48	<0.41	<0.40	<0.0075
1234678-heptachlorodibenzo-p-dioxin	20.1	2.57	4.37	3.77	3.69	0.068
Octachlorodibenzo-p-dioxin	39.7	5.08	8.64	7.44	7.28	0.13
2378-tetrachlorodibenzofuran	<2.9	<0.37	<0.63	<0.54	<0.53	<0.0098
12378-pentachlorodibenzofuran	5.05	0.65	1.10	0.95	0.93	0.017
23478-pentachlorodibenzofuran	<2.2	<0.28	<0.48	<0.41	<0.40	<0.0075
123478-hexachlorodibenzofuran	<2.4	<0.31	<0.52	<0.45	<0.44	<0.0081
123678-hexachlorodibenzofuran	2.20	0.28	0.48	0.41	0.40	0.0075
234678-hexachlorodibenzofuran	<3.7	<0.47	<0.81	<0.69	<0.68	<0.013
123789-hexachlorodibenzofuran	<2.8	<0.36	<0.61	<0.53	<0.51	<0.0095
1234678-heptachlorodibenzofuran	<12	<1.54	<2.61	<2.25	<2.20	<0.041
1234789-heptachlorodibenzofuran	<3.6	<0.46	<0.78	<0.68	<0.66	<0.012
Octachlorodibenzofuran	<12	<1.54	<2.61	<2.25	<2.20	<0.041
PCB 81	<8.6	<1.10	<1.87	<1.61	<1.58	<0.029
PCB 77	142	18.2	30.9	26.6	26.1	0.48
PCB 123	43.7	5.60	9.51	8.19	8.02	0.15
PCB 118	2810	360	611	527	516	9.54
PCB 114	63.3	8.11	13.8	11.9	11.6	0.21
PCB 105	899	115	196	169	165	3.05
PCB 126	<6.7	<0.86	<1.46	<1.26	<1.23	<0.023
PCB 167	19.0	2.43	4.13	3.56	3.49	0.064
PCB 156/157	44.8	5.74	9.75	8.40	8.22	0.15
PCB 169	<3.6	<0.46	<0.78	<0.68	<0.66	<0.012
PCB 189	<4.6	<0.59	<1.00	<0.86	<0.84	<0.016
Total Dioxins & Furans Only	<120	<15.4	<26.2	<22.6	<22.1	<0.41
Total PCBs Only	<4045	<518	<880	<759	<742	<13.7
Total Dioxins & Furans and PCBs	<4166	<534	<906	<781	<764	<14.1

Dry Gas Volume Sampled (Rm ^{3*}) :	4.596
Actual Flowrate (m ³ /s) :	26.5
Dry Reference Flowrate (Rm ³ /s*) :	15.6
Dry Adjusted Flowrate (Rm ³ /s**) :	18.1
Wet Reference Flowrate (Rm ³ /s*) :	18.5

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 35
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Dioxin and Furan Specific Isomer Emission Data
Test No. 2

Specific Isomer	Total Collected pg	Actual Concentration pg/m ³	Dry Reference Concentration pg/Rm ³ *	Dry Adjusted Concentration pg/Rm ³ **	Wet Reference Concentration pg/Rm ³ *	Emission Rate ng/s
2378-tetrachlorodibenzo-p-dioxin	<2.1	<0.26	<0.45	<0.38	<0.37	<0.0071
12378-pentachlorodibenzo-p-dioxin	<2.6	<0.32	<0.55	<0.47	<0.46	<0.0087
123478-hexachlorodibenzo-p-dioxin	<2.4	<0.30	<0.51	<0.43	<0.42	<0.0081
123678-hexachlorodibenzo-p-dioxin	<2.3	<0.29	<0.49	<0.41	<0.41	<0.0077
123789-hexachlorodibenzo-p-dioxin	<2.2	<0.27	<0.47	<0.39	<0.39	<0.0074
1234678-heptachlorodibenzo-p-dioxin	25.6	3.19	5.45	4.58	4.53	0.086
Octachlorodibenzo-p-dioxin	<47	<5.85	<10.0	<8.41	<8.32	<0.16
2378-tetrachlorodibenzofuran	<2.7	<0.34	<0.57	<0.48	<0.48	<0.0091
12378-pentachlorodibenzofuran	<2.6	<0.32	<0.55	<0.47	<0.46	<0.0087
23478-pentachlorodibenzofuran	3.55	0.44	0.76	0.63	0.63	0.012
123478-hexachlorodibenzofuran	3.07	0.38	0.65	0.55	0.54	0.010
123678-hexachlorodibenzofuran	3.57	0.44	0.76	0.64	0.63	0.012
234678-hexachlorodibenzofuran	4.21	0.52	0.90	0.75	0.75	0.014
123789-hexachlorodibenzofuran	<1.8	<0.22	<0.38	<0.32	<0.32	<0.0061
1234678-heptachlorodibenzofuran	<12	<1.49	<2.55	<2.15	<2.12	<0.040
1234789-heptachlorodibenzofuran	<1.7	<0.21	<0.36	<0.30	<0.30	<0.0057
Octachlorodibenzofuran	12.7	1.58	2.70	2.27	2.25	0.043
PCB 81	10.1	1.26	2.15	1.81	1.79	0.034
PCB 77	138	17.2	29.4	24.7	24.4	0.46
PCB 123	<33	<4.11	<7.02	<5.90	<5.84	<0.11
PCB 118	2490	310	530	445	441	8.37
PCB 114	66.9	8.33	14.2	12.0	11.8	0.22
PCB 105	989	123	210	177	175	3.33
PCB 126	<8.0	<1.00	<1.70	<1.43	<1.42	<0.027
PCB 167	31.0	3.86	6.60	5.54	5.49	0.10
PCB 156/157	99.1	12.3	21.1	17.7	17.5	0.33
PCB 169	<5.5	<0.68	<1.17	<0.98	<0.97	<0.018
PCB 189	<7.6	<0.95	<1.62	<1.36	<1.34	<0.026
Total Dioxins & Furans Only	<132	<16.5	<28.1	<23.6	<23.4	<0.44
Total PCBs Only	<3878	<483	<825	<694	<686	<13.0
Total Dioxins & Furans and PCBs	<4010	<499	<853	<717	<710	<13.5

Dry Gas Volume Sampled (Rm ³ *) :	4.699
Actual Flowrate (m ³ /s) :	27.0
Dry Reference Flowrate (Rm ³ /s*) :	15.8
Dry Adjusted Flowrate (Rm ³ /s**) :	18.8
Wet Reference Flowrate (Rm ³ /s*) :	19.0

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 36
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Dioxin and Furan Specific Isomer Emission Data
Test No. 3

Specific Isomer	Total Collected pg	Actual Concentration pg/m ³	Dry Reference Concentration pg/Rm ³ *	Dry Adjusted Concentration pg/Rm ³ **	Wet Reference Concentration pg/Rm ³ *	Emission Rate ng/s
2378-tetrachlorodibenzo-p-dioxin	<2.6	<0.32	<0.55	<0.46	<0.46	<0.0088
12378-pentachlorodibenzo-p-dioxin	<2.1	<0.26	<0.44	<0.38	<0.37	<0.0071
123478-hexachlorodibenzo-p-dioxin	<4.5	<0.55	<0.95	<0.80	<0.79	<0.015
123678-hexachlorodibenzo-p-dioxin	<4.3	<0.52	<0.91	<0.77	<0.76	<0.015
123789-hexachlorodibenzo-p-dioxin	<4.2	<0.51	<0.89	<0.75	<0.74	<0.014
1234678-heptachlorodibenzo-p-dioxin	29.7	3.61	6.27	5.31	5.22	0.10
Octachlorodibenzo-p-dioxin	66.2	8.04	14.0	11.8	11.6	0.22
2378-tetrachlorodibenzofuran	<4.1	<0.50	<0.87	<0.73	<0.72	<0.014
12378-pentachlorodibenzofuran	<3.2	<0.39	<0.68	<0.57	<0.56	<0.011
23478-pentachlorodibenzofuran	5.49	0.67	1.16	0.98	0.97	0.019
123478-hexachlorodibenzofuran	<3.3	<0.40	<0.70	<0.59	<0.58	<0.011
123678-hexachlorodibenzofuran	4.61	0.56	0.97	0.82	0.81	0.016
234678-hexachlorodibenzofuran	<3.1	<0.38	<0.65	<0.55	<0.55	<0.010
123789-hexachlorodibenzofuran	<2.1	<0.26	<0.44	<0.38	<0.37	<0.0071
1234678-heptachlorodibenzofuran	<14	<1.70	<2.95	<2.50	<2.46	<0.047
1234789-heptachlorodibenzofuran	<3.9	<0.47	<0.82	<0.70	<0.69	<0.013
Octachlorodibenzofuran	<16	<1.94	<3.38	<2.86	<2.81	<0.054
PCB 81	<23	<2.79	<4.85	<4.11	<4.04	<0.078
PCB 77	410	49.8	86.5	73.2	72.1	1.38
PCB 123	<120	<14.6	<25.3	<21.4	<21.1	<0.41
PCB 118	7710	936	1627	1377	1356	26.0
PCB 114	190	23.1	40.1	33.9	33.4	0.64
PCB 105	2470	300	521	441	434	8.34
PCB 126	<11	<1.34	<2.32	<1.97	<1.93	<0.037
PCB 167	59.5	7.23	12.6	10.6	10.5	0.20
PCB 156/157	165	20.0	34.8	29.5	29.0	0.56
PCB 169	<11	<1.34	<2.32	<1.97	<1.93	<0.037
PCB 189	<7.8	<0.95	<1.65	<1.39	<1.37	<0.026
Total Dioxins & Furans Only	<173	<21.1	<36.6	<31.0	<30.5	<0.59
Total PCBs Only	<11177	<1357	<2359	<1997	<1965	<37.7
Total Dioxins & Furans and PCBs	<11351	<1379	<2395	<2028	<1996	<38.3

Dry Gas Volume Sampled (Rm ³ *) :	4.739
Actual Flowrate (m ³ /s) :	27.8
Dry Reference Flowrate (Rm ³ /s*) :	16.0
Dry Adjusted Flowrate (Rm ³ /s**) :	18.9
Wet Reference Flowrate (Rm ³ /s*) :	19.2

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 37
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Dioxin and Furan Specific Isomer Actual Concentrations

Specific Isomer	Actual Concentration				Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3	Average	
	pg/m ³	pg/m ³	pg/m ³	pg/m ³	%
2378-tetrachlorodibenzo-p-dioxin	<0.28	<0.26	<0.32	<0.29	9.6
12378-pentachlorodibenzo-p-dioxin	<0.27	<0.32	<0.26	<0.28	12.9
123478-hexachlorodibenzo-p-dioxin	<0.31	<0.30	<0.55	<0.38	36.6
123678-hexachlorodibenzo-p-dioxin	<0.36	<0.29	<0.52	<0.39	31.0
123789-hexachlorodibenzo-p-dioxin	<0.28	<0.27	<0.51	<0.36	37.7
1234678-heptachlorodibenzo-p-dioxin	2.57	3.19	3.61	3.12	16.6
Octachlorodibenzo-p-dioxin	5.08	<5.85	8.04	<6.33	24.2
2378-tetrachlorodibenzofuran	<0.37	<0.34	<0.50	<0.40	21.2
12378-pentachlorodibenzofuran	0.65	<0.32	<0.39	<0.45	37.7
23478-pentachlorodibenzofuran	<0.28	0.44	0.67	<0.46	41.7
123478-hexachlorodibenzofuran	<0.31	0.38	<0.40	<0.36	13.6
123678-hexachlorodibenzofuran	0.28	0.44	0.56	0.43	32.6
234678-hexachlorodibenzofuran	<0.47	0.52	<0.38	<0.46	16.4
123789-hexachlorodibenzofuran	<0.36	<0.22	<0.26	<0.28	25.2
1234678-heptachlorodibenzofuran	<1.54	<1.49	<1.70	<1.58	6.9
1234789-heptachlorodibenzofuran	<0.46	<0.21	<0.47	<0.38	38.7
Octachlorodibenzofuran	<1.54	1.58	<1.94	<1.69	13.2
PCB 81	<1.10	1.26	<2.79	<1.72	54.4
PCB 77	18.2	17.2	49.8	28.4	65.3
PCB 123	5.60	<4.11	<14.6	<8.09	69.9
PCB 118	360	310	936	535	65.0
PCB 114	8.11	8.33	23.1	13.2	65.1
PCB 105	115	123	300	179	58.2
PCB 126	<0.86	<1.00	<1.34	<1.06	23.1
PCB 167	2.43	3.86	7.23	4.51	54.6
PCB 156/157	5.74	12.3	20.0	12.7	56.3
PCB 169	<0.46	<0.68	<1.34	<0.83	54.9
PCB 189	<0.59	<0.95	<0.95	<0.83	25.0
Total Dioxins & Furans Only	<15.4	<16.5	<21.1	<17.6	17.0
Total PCBs Only	<518	<483	<1357	<786	63.0
Total Dioxins & Furans and PCBs	<534	<499	<1379	<804	62.0

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 38
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Dioxin and Furan Specific Isomer Dry Reference Concentrations

Specific Isomer	Dry Reference Concentration				Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3	Average	
	pg/Rm ^{3*}	pg/Rm ^{3*}	pg/Rm ^{3*}	pg/Rm ^{3*}	%
2378-tetrachlorodibenzo-p-dioxin	<0.48	<0.45	<0.55	<0.49	10.6
12378-pentachlorodibenzo-p-dioxin	<0.46	<0.55	<0.44	<0.48	12.4
123478-hexachlorodibenzo-p-dioxin	<0.52	<0.51	<0.95	<0.66	37.8
123678-hexachlorodibenzo-p-dioxin	<0.61	<0.49	<0.91	<0.67	32.2
123789-hexachlorodibenzo-p-dioxin	<0.48	<0.47	<0.89	<0.61	39.0
1234678-heptachlorodibenzo-p-dioxin	4.37	5.45	6.27	5.36	17.7
Octachlorodibenzo-p-dioxin	8.64	<10.0	14.0	<10.9	25.5
2378-tetrachlorodibenzofuran	<0.63	<0.57	<0.87	<0.69	22.3
12378-pentachlorodibenzofuran	1.10	<0.55	<0.68	<0.78	36.9
23478-pentachlorodibenzofuran	<0.48	0.76	1.16	<0.80	42.9
123478-hexachlorodibenzofuran	<0.52	0.65	<0.70	<0.62	14.5
123678-hexachlorodibenzofuran	0.48	0.76	0.97	0.74	33.6
234678-hexachlorodibenzofuran	<0.81	0.90	<0.65	<0.79	15.6
123789-hexachlorodibenzofuran	<0.61	<0.38	<0.44	<0.48	24.5
1234678-heptachlorodibenzofuran	<2.61	<2.55	<2.95	<2.71	8.0
1234789-heptachlorodibenzofuran	<0.78	<0.36	<0.82	<0.66	39.0
Octachlorodibenzofuran	<2.61	2.70	<3.38	<2.90	14.4
PCB 81	<1.87	2.15	<4.85	<2.96	55.7
PCB 77	30.9	29.4	86.5	48.9	66.6
PCB 123	9.51	<7.02	<25.3	<14.0	71.1
PCB 118	611	530	1627	923	66.2
PCB 114	13.8	14.2	40.1	22.7	66.4
PCB 105	196	210	521	309	59.5
PCB 126	<1.46	<1.70	<2.32	<1.83	24.4
PCB 167	4.13	6.60	12.6	7.76	55.8
PCB 156/157	9.75	21.1	34.8	21.9	57.4
PCB 169	<0.78	<1.17	<2.32	<1.42	56.1
PCB 189	<1.00	<1.62	<1.65	<1.42	25.6
Total Dioxins & Furans Only	<26.2	<28.1	<36.6	<30.3	18.3
Total PCBs Only	<880	<825	<2359	<1355	64.2
Total Dioxins & Furans and PCBs	<906	<853	<2395	<1385	63.2

* At 25°C and 1 atmosphere

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 39
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Dioxin and Furan Specific Isomer Dry Adjusted Concentrations

Specific Isomer	Dry Adjusted Concentration				Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3	Average	
	pg/Rm ^{3*}	pg/Rm ^{3*}	pg/Rm ^{3*}	pg/Rm ^{3*}	%
2378-tetrachlorodibenzo-p-dioxin	<0.41	<0.38	<0.46	<0.42	10.7
12378-pentachlorodibenzo-p-dioxin	<0.39	<0.47	<0.38	<0.41	11.5
123478-hexachlorodibenzo-p-dioxin	<0.45	<0.43	<0.80	<0.56	37.5
123678-hexachlorodibenzo-p-dioxin	<0.53	<0.41	<0.77	<0.57	32.1
123789-hexachlorodibenzo-p-dioxin	<0.41	<0.39	<0.75	<0.52	38.7
1234678-heptachlorodibenzo-p-dioxin	3.77	4.58	5.31	4.55	16.9
Octachlorodibenzo-p-dioxin	7.44	<8.41	11.8	<9.23	25.0
2378-tetrachlorodibenzofuran	<0.54	<0.48	<0.73	<0.59	22.2
12378-pentachlorodibenzofuran	0.95	<0.47	<0.57	<0.66	38.3
23478-pentachlorodibenzofuran	<0.41	0.63	0.98	<0.68	42.3
123478-hexachlorodibenzofuran	<0.45	0.55	<0.59	<0.53	13.5
123678-hexachlorodibenzofuran	0.41	0.64	0.82	0.62	32.9
234678-hexachlorodibenzofuran	<0.69	0.75	<0.55	<0.67	15.3
123789-hexachlorodibenzofuran	<0.53	<0.32	<0.38	<0.41	25.9
1234678-heptachlorodibenzofuran	<2.25	<2.15	<2.50	<2.30	7.9
1234789-heptachlorodibenzofuran	<0.68	<0.30	<0.70	<0.56	39.5
Octachlorodibenzofuran	<2.25	2.27	<2.86	<2.46	14.0
PCB 81	<1.61	1.81	<4.11	<2.51	55.3
PCB 77	26.6	24.7	73.2	41.5	66.2
PCB 123	8.19	<5.90	<21.4	<11.8	70.8
PCB 118	527	445	1377	783	65.9
PCB 114	11.9	12.0	33.9	19.3	66.0
PCB 105	169	177	441	262	59.1
PCB 126	<1.26	<1.43	<1.97	<1.55	23.8
PCB 167	3.56	5.54	10.6	6.58	55.4
PCB 156/157	8.40	17.7	29.5	18.5	57.0
PCB 169	<0.68	<0.98	<1.97	<1.21	55.8
PCB 189	<0.86	<1.36	<1.39	<1.21	24.7
Total Dioxins & Furans Only	<22.6	<23.6	<31.0	<25.7	17.8
Total PCBs Only	<759	<694	<1997	<1150	63.9
Total Dioxins & Furans and PCBs	<781	<717	<2028	<1175	62.9

* At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 40
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Dioxin and Furan Specific Isomer Wet Reference Concentrations

Specific Isomer	Wet Reference Concentration				Coefficient of Variation
	Test No. 1 pg/Rm ^{3*}	Test No. 2 pg/Rm ^{3*}	Test No. 3 pg/Rm ^{3*}	Average pg/Rm ^{3*}	
2378-tetrachlorodibenzo-p-dioxin	<0.40	<0.37	<0.46	<0.41	10.5
12378-pentachlorodibenzo-p-dioxin	<0.39	<0.46	<0.37	<0.40	12.0
123478-hexachlorodibenzo-p-dioxin	<0.44	<0.42	<0.79	<0.55	37.5
123678-hexachlorodibenzo-p-dioxin	<0.51	<0.41	<0.76	<0.56	32.0
123789-hexachlorodibenzo-p-dioxin	<0.40	<0.39	<0.74	<0.51	38.7
1234678-heptachlorodibenzo-p-dioxin	3.69	4.53	5.22	4.48	17.2
Octachlorodibenzo-p-dioxin	7.28	<8.32	11.6	<9.08	25.1
2378-tetrachlorodibenzofuran	<0.53	<0.48	<0.72	<0.58	22.1
12378-pentachlorodibenzofuran	0.93	<0.46	<0.56	<0.65	37.7
23478-pentachlorodibenzofuran	<0.40	0.63	0.97	<0.67	42.5
123478-hexachlorodibenzofuran	<0.44	0.54	<0.58	<0.52	13.9
123678-hexachlorodibenzofuran	0.40	0.63	0.81	0.62	33.2
234678-hexachlorodibenzofuran	<0.68	0.75	<0.55	<0.66	15.5
123789-hexachlorodibenzofuran	<0.51	<0.32	<0.37	<0.40	25.3
1234678-heptachlorodibenzofuran	<2.20	<2.12	<2.46	<2.26	7.8
1234789-heptachlorodibenzofuran	<0.66	<0.30	<0.69	<0.55	39.2
Octachlorodibenzofuran	<2.20	2.25	<2.81	<2.42	14.1
PCB 81	<1.58	1.79	<4.04	<2.47	55.4
PCB 77	26.1	24.4	72.1	40.9	66.2
PCB 123	8.02	<5.84	<21.1	<11.7	70.8
PCB 118	516	441	1356	771	65.9
PCB 114	11.6	11.8	33.4	19.0	66.1
PCB 105	165	175	434	258	59.2
PCB 126	<1.23	<1.42	<1.93	<1.53	23.9
PCB 167	3.49	5.49	10.5	6.48	55.5
PCB 156/157	8.22	17.5	29.0	18.3	57.1
PCB 169	<0.66	<0.97	<1.93	<1.19	55.8
PCB 189	<0.84	<1.34	<1.37	<1.19	25.0
Total Dioxins & Furans Only	<22.1	<23.4	<30.5	<25.3	17.9
Total PCBs Only	<742	<686	<1965	<1131	63.9
Total Dioxins & Furans and PCBs	<764	<710	<1996	<1157	62.9

* At 25°C and 1 atmosphere

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 41
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Dioxin and Furan Specific Isomer Emission Rates

Specific Isomer	Emission Rate				Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3	Average	
	ng/s	ng/s	ng/s	ng/s	%
2378-tetrachlorodibenzo-p-dioxin	<0.0075	<0.0071	<0.0088	<0.0078	11.6
12378-pentachlorodibenzo-p-dioxin	<0.0071	<0.0087	<0.0071	<0.0077	12.3
123478-hexachlorodibenzo-p-dioxin	<0.0081	<0.0081	<0.015	<0.010	39.1
123678-hexachlorodibenzo-p-dioxin	<0.0095	<0.0077	<0.015	<0.011	33.2
123789-hexachlorodibenzo-p-dioxin	<0.0075	<0.0074	<0.014	<0.0097	40.2
1234678-heptachlorodibenzo-p-dioxin	0.068	0.086	0.10	0.085	18.9
Octachlorodibenzo-p-dioxin	0.13	<0.16	0.22	<0.17	26.7
2378-tetrachlorodibenzofuran	<0.0098	<0.0091	<0.014	<0.011	23.4
12378-pentachlorodibenzofuran	0.017	<0.0087	<0.011	<0.012	35.8
23478-pentachlorodibenzofuran	<0.0075	0.012	0.019	<0.013	44.0
123478-hexachlorodibenzofuran	<0.0081	0.010	<0.011	<0.0099	15.7
123678-hexachlorodibenzofuran	0.0075	0.012	0.016	0.012	34.8
234678-hexachlorodibenzofuran	<0.013	0.014	<0.010	<0.012	14.9
123789-hexachlorodibenzofuran	<0.0095	<0.0061	<0.0071	<0.0075	23.5
1234678-heptachlorodibenzofuran	<0.041	<0.040	<0.047	<0.043	9.1
1234789-heptachlorodibenzofuran	<0.012	<0.0057	<0.013	<0.010	39.1
Octachlorodibenzofuran	<0.041	0.043	<0.054	<0.046	15.7
PCB 81	<0.029	0.034	<0.078	<0.047	56.9
PCB 77	0.48	0.46	1.38	0.78	67.7
PCB 123	0.15	<0.11	<0.41	<0.22	72.3
PCB 118	9.54	8.37	26.0	14.6	67.4
PCB 114	0.21	0.22	0.64	0.36	67.5
PCB 105	3.05	3.33	8.34	4.91	60.7
PCB 126	<0.023	<0.027	<0.037	<0.029	25.6
PCB 167	0.064	0.10	0.20	0.12	56.9
PCB 156/157	0.15	0.33	0.56	0.35	58.4
PCB 169	<0.012	<0.018	<0.037	<0.023	57.3
PCB 189	<0.016	<0.026	<0.026	<0.023	26.6
Total Dioxins & Furans Only	<0.41	<0.44	<0.59	<0.48	19.5
Total PCBs Only	<13.7	<13.0	<37.7	<21.5	65.4
Total Dioxins & Furans and PCBs	<14.1	<13.5	<38.3	<22.0	64.4

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 42
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Summary of Dioxin and Furan Specific Isomer Emission Data

Specific Isomer	Actual Concentration pg/m ³	Dry Reference Concentration pg/Rm ^{3*}	Dry Adjusted Concentration pg/Rm ^{3**}	Wet Reference Concentration pg/Rm ^{3*}	Emission Rate ng/s
2378-tetrachlorodibenzo-p-dioxin	<0.29	<0.49	<0.42	<0.41	<0.0078
12378-pentachlorodibenzo-p-dioxin	<0.28	<0.48	<0.41	<0.40	<0.0077
123478-hexachlorodibenzo-p-dioxin	<0.38	<0.66	<0.56	<0.55	<0.010
123678-hexachlorodibenzo-p-dioxin	<0.39	<0.67	<0.57	<0.56	<0.011
123789-hexachlorodibenzo-p-dioxin	<0.36	<0.61	<0.52	<0.51	<0.0097
1234678-heptachlorodibenzo-p-dioxin	3.12	5.36	4.55	4.48	0.085
Octachlorodibenzo-p-dioxin	<6.33	<10.9	<9.23	<9.08	<0.17
2378-tetrachlorodibenzofuran	<0.40	<0.69	<0.59	<0.58	<0.011
12378-pentachlorodibenzofuran	<0.45	<0.78	<0.66	<0.65	<0.012
23478-pentachlorodibenzofuran	<0.46	<0.80	<0.68	<0.67	<0.013
123478-hexachlorodibenzofuran	<0.36	<0.62	<0.53	<0.52	<0.0099
123678-hexachlorodibenzofuran	0.43	0.74	0.62	0.62	0.012
234678-hexachlorodibenzofuran	<0.46	<0.79	<0.67	<0.66	<0.012
123789-hexachlorodibenzofuran	<0.28	<0.48	<0.41	<0.40	<0.0075
1234678-heptachlorodibenzofuran	<1.58	<2.71	<2.30	<2.26	<0.043
1234789-heptachlorodibenzofuran	<0.38	<0.66	<0.56	<0.55	<0.010
Octachlorodibenzofuran	<1.69	<2.90	<2.46	<2.42	<0.046
PCB 81	<1.72	<2.96	<2.51	<2.47	<0.047
PCB 77	28.4	48.9	41.5	40.9	0.78
PCB 123	<8.09	<14.0	<11.8	<11.7	<0.22
PCB 118	535	923	783	771	14.6
PCB 114	13.2	22.7	19.3	19.0	0.36
PCB 105	179	309	262	258	4.91
PCB 126	<1.06	<1.83	<1.55	<1.53	<0.029
PCB 167	4.51	7.76	6.58	6.48	0.12
PCB 156/157	12.7	21.9	18.5	18.3	0.35
PCB 169	<0.83	<1.42	<1.21	<1.19	<0.023
PCB 189	<0.83	<1.42	<1.21	<1.19	<0.023
Total Dioxins & Furans Only	<17.6	<30.3	<25.7	<25.3	<0.48
Total PCBs Only	<786	<1355	<1150	<1131	<21.5
Total Dioxins & Furans and PCBs	<804	<1385	<1175	<1157	<22.0

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 43
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Blank Dioxin and Furan Specific Isomer Analyses

Specific Isomer	Blank Train pg	Method Blank pg
2378-tetrachlorodibenzo-p-dioxin	<1.8	<4.0
12378-pentachlorodibenzo-p-dioxin	<2.0	<1.3
123478-hexachlorodibenzo-p-dioxin	<1.7	<2.9
123678-hexachlorodibenzo-p-dioxin	<1.7	<2.7
123789-hexachlorodibenzo-p-dioxin	<1.6	<2.7
1234678-heptachlorodibenzo-p-dioxin	3.30	<4.6
Octachlorodibenzo-p-dioxin	15.6	<14
2378-tetrachlorodibenzofuran	<2.0	<1.5
12378-pentachlorodibenzofuran	<1.3	<1.7
23478-pentachlorodibenzofuran	<1.2	<1.5
123478-hexachlorodibenzofuran	<0.96	<1.9
123678-hexachlorodibenzofuran	<0.92	<1.8
234678-hexachlorodibenzofuran	<0.95	<1.9
123789-hexachlorodibenzofuran	<1.2	<2.3
1234678-heptachlorodibenzofuran	<3.3	<4.8
1234789-heptachlorodibenzofuran	<4.0	<5.9
Octachlorodibenzofuran	<6.5	6.88
PCB 81	<4.5	<6.1
PCB 77	<4.3	<6.0
PCB 123	<2.8	<3.3
PCB 118	<56	<2.8
PCB 114	<2.7	<3.0
PCB 105	20.5	<3.1
PCB 126	<2.7	<3.3
PCB 167	<1.5	<2.5
PCB 156/157	2.59	<4.1
PCB 169	<1.9	<3.0
PCB 189	<2.0	7.21
Total Dioxins & Furans Only	<50.0	<62.4
Total PCBs Only	<101	<44.4
Total Dioxins & Furans and PCBs	<152	<107

"<" indicates that the amount detected is less than the detection limit
In these cases the value of the detection limit was used to calculate
the total collected.

TABLE 44
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Dioxin and Furan Toxicity Equivalent Actual Concentrations

Specific Isomer	Toxicity Equivalency Factor	Actual Concentration			
		Test No. 1 pg TEQ/m ³	Test No. 2 pg TEQ/m ³	Test No. 3 pg TEQ/m ³	Average pg TEQ/m ³
2378-tetrachlorodibenzo-p-dioxin	1.00000	<0.28	<0.26	<0.32	<0.29
12378-pentachlorodibenzo-p-dioxin	1.00000	<0.27	<0.32	<0.26	<0.28
123478-hexachlorodibenzo-p-dioxin	0.10000	<0.031	<0.030	<0.055	<0.038
123678-hexachlorodibenzo-p-dioxin	0.10000	<0.036	<0.029	<0.052	<0.039
123789-hexachlorodibenzo-p-dioxin	0.10000	<0.028	<0.027	<0.051	<0.036
1234678-heptachlorodibenzo-p-dioxin	0.01000	0.026	0.032	0.036	0.031
Octachlorodibenzo-p-dioxin	0.00030	0.0015	<0.0018	0.0024	<0.0019
2378-tetrachlorodibenzofuran	0.10000	<0.037	<0.034	<0.050	<0.040
12378-pentachlorodibenzofuran	0.03000	0.019	<0.0097	<0.012	<0.014
23478-pentachlorodibenzofuran	0.30000	<0.085	0.13	0.20	<0.14
123478-hexachlorodibenzofuran	0.10000	<0.031	0.038	<0.040	<0.036
123678-hexachlorodibenzofuran	0.10000	0.028	0.044	0.056	0.043
234678-hexachlorodibenzofuran	0.10000	<0.047	0.052	<0.038	<0.046
123789-hexachlorodibenzofuran	0.10000	<0.036	<0.022	<0.026	<0.028
1234678-heptachlorodibenzofuran	0.01000	<0.015	<0.015	<0.017	<0.016
1234789-heptachlorodibenzofuran	0.01000	<0.0046	<0.0021	<0.0047	<0.0038
Octachlorodibenzofuran	0.00030	<0.00046	0.00047	<0.00058	<0.00051
PCB 81	0.00030	<0.00033	0.00038	<0.00084	<0.00052
PCB 77	0.00010	0.0018	0.0017	0.0050	0.0028
PCB 123	0.00003	0.00017	<0.00012	<0.00044	<0.00024
PCB 118	0.00003	0.011	0.0093	0.028	0.016
PCB 114	0.00003	0.00024	0.00025	0.00069	0.00040
PCB 105	0.00003	0.0035	0.0037	0.0090	0.0054
PCB 126	0.10000	<0.086	<0.10	<0.13	<0.11
PCB 167	0.00003	0.000073	0.00012	0.00022	0.00014
PCB 156/157	0.00003	0.00017	0.00037	0.00060	0.00038
PCB 169	0.03000	<0.014	<0.021	<0.040	<0.025
PCB 189	0.00003	<0.000018	<0.000028	<0.000028	<0.000025
Total Dioxins & Furans Only		<0.98	<1.06	<1.21	<1.08
Total PCBs Only		<0.12	<0.14	<0.22	<0.16
Total Dioxins & Furans and PCBs		<1.09	<1.19	<1.43	<1.24

World Health Organization Toxicity Equivalency Factors as detailed in O. Reg. 419/05.

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 45
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Dioxin and Furan Toxicity Equivalent Dry Reference Concentrations

Specific Isomer	Toxicity	Dry Reference Concentration			
	Equivalency	Test No. 1	Test No. 2	Test No. 3	Average
	Factor	pg TEQ/Rm ^{3*}	pg TEQ/Rm ^{3*}	pg TEQ/Rm ^{3*}	pg TEQ/Rm ^{3*}
2378-tetrachlorodibenzo-p-dioxin	1.00000	<0.48	<0.45	<0.55	<0.49
12378-pentachlorodibenzo-p-dioxin	1.00000	<0.46	<0.55	<0.44	<0.48
123478-hexachlorodibenzo-p-dioxin	0.10000	<0.052	<0.051	<0.095	<0.066
123678-hexachlorodibenzo-p-dioxin	0.10000	<0.061	<0.049	<0.091	<0.067
123789-hexachlorodibenzo-p-dioxin	0.10000	<0.048	<0.047	<0.089	<0.061
1234678-heptachlorodibenzo-p-dioxin	0.01000	0.044	0.054	0.063	0.054
Octachlorodibenzo-p-dioxin	0.00030	0.0026	<0.0030	0.0042	<0.0033
2378-tetrachlorodibenzofuran	0.10000	<0.063	<0.057	<0.087	<0.069
12378-pentachlorodibenzofuran	0.03000	0.033	<0.017	<0.020	<0.023
23478-pentachlorodibenzofuran	0.30000	<0.14	0.23	0.35	<0.24
123478-hexachlorodibenzofuran	0.10000	<0.052	0.065	<0.070	<0.062
123678-hexachlorodibenzofuran	0.10000	0.048	0.076	0.097	0.074
234678-hexachlorodibenzofuran	0.10000	<0.081	0.090	<0.065	<0.079
123789-hexachlorodibenzofuran	0.10000	<0.061	<0.038	<0.044	<0.048
1234678-heptachlorodibenzofuran	0.01000	<0.026	<0.026	<0.030	<0.027
1234789-heptachlorodibenzofuran	0.01000	<0.0078	<0.0036	<0.0082	<0.0066
Octachlorodibenzofuran	0.00030	<0.00078	0.00081	<0.0010	<0.00087
PCB 81	0.00030	<0.00056	0.00064	<0.0015	<0.00089
PCB 77	0.00010	0.0031	0.0029	0.0087	0.0049
PCB 123	0.00003	0.00029	<0.00021	<0.00076	<0.00042
PCB 118	0.00003	0.018	0.016	0.049	0.028
PCB 114	0.00003	0.00041	0.00043	0.0012	0.00068
PCB 105	0.00003	0.0059	0.0063	0.016	0.0093
PCB 126	0.10000	<0.15	<0.17	<0.23	<0.18
PCB 167	0.00003	0.00012	0.00020	0.00038	0.00023
PCB 156/157	0.00003	0.00029	0.00063	0.0010	0.00066
PCB 169	0.03000	<0.023	<0.035	<0.070	<0.043
PCB 189	0.00003	<0.000030	<0.000049	<0.000049	<0.000043
Total Dioxins & Furans Only		<1.66	<1.80	<2.10	<1.86
Total PCBs Only		<0.20	<0.23	<0.38	<0.27
Total Dioxins & Furans and PCBs		<1.86	<2.04	<2.48	<2.13

* At 25°C and 1 atmosphere

World Health Organization Toxicity Equivalency Factors as detailed in O. Reg. 419/05.

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 46
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Dioxin and Furan Toxicity Equivalent Dry Adjusted Concentrations
Calculated Using the Full Detection Limit

Specific Isomer	Toxicity	Dry Adjusted Concentration			
	Equivalency	Test No. 1	Test No. 2	Test No. 3	Average
	Factor	pg TEQ/Rm ^{3*}	pg TEQ/Rm ^{3*}	pg TEQ/Rm ^{3*}	pg TEQ/Rm ^{3*}
2378-tetrachlorodibenzo-p-dioxin	1.00000	<0.41	<0.38	<0.46	<0.42
12378-pentachlorodibenzo-p-dioxin	1.00000	<0.39	<0.47	<0.38	<0.41
123478-hexachlorodibenzo-p-dioxin	0.10000	<0.045	<0.043	<0.080	<0.056
123678-hexachlorodibenzo-p-dioxin	0.10000	<0.053	<0.041	<0.077	<0.057
123789-hexachlorodibenzo-p-dioxin	0.10000	<0.041	<0.039	<0.075	<0.052
1234678-heptachlorodibenzo-p-dioxin	0.01000	0.038	0.046	0.053	0.046
Octachlorodibenzo-p-dioxin	0.00030	0.0022	<0.0025	0.0035	<0.0028
2378-tetrachlorodibenzofuran	0.10000	<0.054	<0.048	<0.073	<0.059
12378-pentachlorodibenzofuran	0.03000	0.028	<0.014	<0.017	<0.020
23478-pentachlorodibenzofuran	0.30000	<0.12	0.19	0.29	<0.20
123478-hexachlorodibenzofuran	0.10000	<0.045	0.055	<0.059	<0.053
123678-hexachlorodibenzofuran	0.10000	0.041	0.064	0.082	0.062
234678-hexachlorodibenzofuran	0.10000	<0.069	0.075	<0.055	<0.067
123789-hexachlorodibenzofuran	0.10000	<0.053	<0.032	<0.038	<0.041
1234678-heptachlorodibenzofuran	0.01000	<0.023	<0.021	<0.025	<0.023
1234789-heptachlorodibenzofuran	0.01000	<0.0068	<0.0030	<0.0070	<0.0056
Octachlorodibenzofuran	0.00030	<0.00068	0.00068	<0.00086	<0.00074
PCB 81	0.00030	<0.00048	0.00054	<0.0012	<0.00075
PCB 77	0.00010	0.0027	0.0025	0.0073	0.0042
PCB 123	0.00003	0.00025	<0.00018	<0.00064	<0.00036
PCB 118	0.00003	0.016	0.013	0.041	0.023
PCB 114	0.00003	0.00036	0.00036	0.0010	0.00058
PCB 105	0.00003	0.0051	0.0053	0.013	0.0079
PCB 126	0.10000	<0.13	<0.14	<0.20	<0.16
PCB 167	0.00003	0.00011	0.00017	0.00032	0.00020
PCB 156/157	0.00003	0.00025	0.00053	0.00088	0.00056
PCB 169	0.03000	<0.020	<0.030	<0.059	<0.036
PCB 189	0.00003	<0.000026	<0.000041	<0.000042	<0.000036
Total Dioxins & Furans Only		<1.43	<1.52	<1.78	<1.58
Total PCBs Only		<0.17	<0.20	<0.32	<0.23
Total Dioxins & Furans and PCBs		<1.60	<1.71	<2.10	<1.80

* At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

World Health Organization Toxicity Equivalency Factors as detailed in O. Reg. 419/05.

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 46A
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Dioxin and Furan Toxicity Equivalent Dry Adjusted Concentrations
Calculated Using Half the Detection Limit

Specific Isomer	Toxicity Equivalency Factor	Dry Adjusted Concentration			
		Test No. 1 pg TEQ/Rm ³ *	Test No. 2 pg TEQ/Rm ³ *	Test No. 3 pg TEQ/Rm ³ *	Average pg TEQ/Rm ³ *
2378-tetrachlorodibenzo-p-dioxin	1.00000	0.21	0.19	0.23	0.21
12378-pentachlorodibenzo-p-dioxin	1.00000	0.20	0.23	0.19	0.21
123478-hexachlorodibenzo-p-dioxin	0.10000	0.023	0.021	0.040	0.028
123678-hexachlorodibenzo-p-dioxin	0.10000	0.026	0.021	0.038	0.028
123789-hexachlorodibenzo-p-dioxin	0.10000	0.021	0.020	0.038	0.026
1234678-heptachlorodibenzo-p-dioxin	0.01000	0.038	0.046	0.053	0.046
Octachlorodibenzo-p-dioxin	0.00030	0.0022	0.0013	0.0035	0.0023
2378-tetrachlorodibenzofuran	0.10000	0.027	0.024	0.037	0.029
12378-pentachlorodibenzofuran	0.03000	0.028	0.0070	0.0086	0.015
23478-pentachlorodibenzofuran	0.30000	0.062	0.19	0.29	0.18
123478-hexachlorodibenzofuran	0.10000	0.023	0.055	0.029	0.036
123678-hexachlorodibenzofuran	0.10000	0.041	0.064	0.082	0.062
234678-hexachlorodibenzofuran	0.10000	0.035	0.075	0.028	0.046
123789-hexachlorodibenzofuran	0.10000	0.026	0.016	0.019	0.020
1234678-heptachlorodibenzofuran	0.01000	0.011	0.011	0.013	0.011
1234789-heptachlorodibenzofuran	0.01000	0.0034	0.0015	0.0035	0.0028
Octachlorodibenzofuran	0.00030	0.00034	0.00068	0.00043	0.00048
PCB 81	0.00030	0.00024	0.00054	0.00062	0.00047
PCB 77	0.00010	0.0027	0.0025	0.0073	0.0042
PCB 123	0.00003	0.00025	0.000089	0.00032	0.00022
PCB 118	0.00003	0.016	0.013	0.041	0.023
PCB 114	0.00003	0.00036	0.00036	0.0010	0.00058
PCB 105	0.00003	0.0051	0.0053	0.013	0.0079
PCB 126	0.10000	0.063	0.072	0.098	0.078
PCB 167	0.00003	0.00011	0.00017	0.00032	0.00020
PCB 156/157	0.00003	0.00025	0.00053	0.00088	0.00056
PCB 169	0.03000	0.010	0.015	0.029	0.018
PCB 189	0.00003	0.000013	0.000020	0.000021	0.000018
Total Dioxins & Furans Only		0.77	0.97	1.11	0.95
Total PCBs Only		0.098	0.11	0.19	0.13
Total Dioxins & Furans and PCBs		0.87	1.08	1.30	1.08

* At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

World Health Organization Toxicity Equivalency Factors as detailed in O. Reg. 419/05.

Note: The value of half the detection limit was used to calculate emission data for those analytes not detected.

TABLE 46B
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Dioxin and Furan Toxicity Equivalent Dry Adjusted Concentrations
Calculated Using the Full Detection Limit

Specific Isomer	Toxicity Equivalency Factor	Test No. 1	Dry Adjusted Concentration			Average
		pg TEQ/Rm ³ *	pg TEQ/Rm ³ *	pg TEQ/Rm ³ *	pg TEQ/Rm ³ *	
2378-tetrachlorodibenzo-p-dioxin	1.000	<0.41	<0.38	<0.46	<0.42	
12378-pentachlorodibenzo-p-dioxin	0.500	<0.20	<0.23	<0.19	<0.21	
123478-hexachlorodibenzo-p-dioxin	0.100	<0.045	<0.043	<0.080	<0.056	
123678-hexachlorodibenzo-p-dioxin	0.100	<0.053	<0.041	<0.077	<0.057	
123789-hexachlorodibenzo-p-dioxin	0.100	<0.041	<0.039	<0.075	<0.052	
1234678-heptachlorodibenzo-p-dioxin	0.010	0.038	0.046	0.053	0.046	
Octachlorodibenzo-p-dioxin	0.001	0.0074	<0.0084	0.012	<0.0092	
2378-tetrachlorodibenzofuran	0.100	<0.054	<0.048	<0.073	<0.059	
12378-pentachlorodibenzofuran	0.050	0.047	<0.023	<0.029	<0.033	
23478-pentachlorodibenzofuran	0.500	<0.21	0.32	0.49	<0.34	
123478-hexachlorodibenzofuran	0.100	<0.045	0.055	<0.059	<0.053	
123678-hexachlorodibenzofuran	0.100	0.041	0.064	0.082	0.062	
234678-hexachlorodibenzofuran	0.100	<0.069	0.075	<0.055	<0.067	
123789-hexachlorodibenzofuran	0.100	<0.053	<0.032	<0.038	<0.041	
1234678-heptachlorodibenzofuran	0.010	<0.023	<0.021	<0.025	<0.023	
1234789-heptachlorodibenzofuran	0.010	<0.0068	<0.0030	<0.0070	<0.0056	
Octachlorodibenzofuran	0.001	<0.0023	0.0023	<0.0029	<0.0025	
Total Dioxins & Furans		1.34	1.43	1.81	1.53	
In-Stack Emission Limit						60

* At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

NATO/CCMS (1989) Toxicity Equivalency Factors

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 47
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Dioxin and Furan Toxicity Equivalent Wet Reference Concentrations

Specific Isomer	Toxicity Equivalency Factor	Wet Reference Concentration			
		Test No. 1 pg TEQ/Rm ³ *	Test No. 2 pg TEQ/Rm ³ *	Test No. 3 pg TEQ/Rm ³ *	Average pg TEQ/Rm ³ *
2378-tetrachlorodibenzo-p-dioxin	1.00000	<0.40	<0.37	<0.46	<0.41
12378-pentachlorodibenzo-p-dioxin	1.00000	<0.39	<0.46	<0.37	<0.40
123478-hexachlorodibenzo-p-dioxin	0.10000	<0.044	<0.042	<0.079	<0.055
123678-hexachlorodibenzo-p-dioxin	0.10000	<0.051	<0.041	<0.076	<0.056
123789-hexachlorodibenzo-p-dioxin	0.10000	<0.040	<0.039	<0.074	<0.051
1234678-heptachlorodibenzo-p-dioxin	0.01000	0.037	0.045	0.052	0.045
Octachlorodibenzo-p-dioxin	0.00030	0.0022	<0.0025	0.0035	<0.0027
2378-tetrachlorodibenzofuran	0.10000	<0.053	<0.048	<0.072	<0.058
12378-pentachlorodibenzofuran	0.03000	0.028	<0.014	<0.017	<0.019
23478-pentachlorodibenzofuran	0.30000	<0.12	0.19	0.29	<0.20
123478-hexachlorodibenzofuran	0.10000	<0.044	0.054	<0.058	<0.052
123678-hexachlorodibenzofuran	0.10000	0.040	0.063	0.081	0.062
234678-hexachlorodibenzofuran	0.10000	<0.068	0.075	<0.055	<0.066
123789-hexachlorodibenzofuran	0.10000	<0.051	<0.032	<0.037	<0.040
1234678-heptachlorodibenzofuran	0.01000	<0.022	<0.021	<0.025	<0.023
1234789-heptachlorodibenzofuran	0.01000	<0.0066	<0.0030	<0.0069	<0.0055
Octachlorodibenzofuran	0.00030	<0.00066	0.00067	<0.00084	<0.00073
PCB 81	0.00030	<0.00047	0.00054	<0.0012	<0.00074
PCB 77	0.00010	0.0026	0.0024	0.0072	0.0041
PCB 123	0.00003	0.00024	<0.00018	<0.00063	<0.00035
PCB 118	0.00003	0.015	0.013	0.041	0.023
PCB 114	0.00003	0.00035	0.00036	0.0010	0.00057
PCB 105	0.00003	0.0049	0.0053	0.013	0.0077
PCB 126	0.10000	<0.12	<0.14	<0.19	<0.15
PCB 167	0.00003	0.00010	0.00016	0.00031	0.00019
PCB 156/157	0.00003	0.00025	0.00053	0.00087	0.00055
PCB 169	0.03000	<0.020	<0.029	<0.058	<0.036
PCB 189	0.00003	<0.000025	<0.000040	<0.000041	<0.000036
Total Dioxins & Furans Only		<1.40	<1.50	<1.75	<1.55
Total PCBs Only		<0.17	<0.19	<0.32	<0.23
Total Dioxins & Furans and PCBs		<1.57	<1.69	<2.07	<1.78

* At 25°C and 1 atmosphere

World Health Organization Toxicity Equivalency Factors as detailed in O. Reg. 419/05.

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 48
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Dioxin and Furan Toxicity Equivalent Emission Rates

Specific Isomer	Toxicity Equivalency Factor	Emission Rate			
		Test No. 1 ng TEQ/s	Test No. 2 ng TEQ/s	Test No. 3 ng TEQ/s	Average ng TEQ/s
2378-tetrachlorodibenzo-p-dioxin	1.00000	<0.0075	<0.0071	<0.0088	<0.0078
12378-pentachlorodibenzo-p-dioxin	1.00000	<0.0071	<0.0087	<0.0071	<0.0077
123478-hexachlorodibenzo-p-dioxin	0.10000	<0.00081	<0.00081	<0.0015	<0.0010
123678-hexachlorodibenzo-p-dioxin	0.10000	<0.00095	<0.00077	<0.0015	<0.0011
123789-hexachlorodibenzo-p-dioxin	0.10000	<0.00075	<0.00074	<0.0014	<0.00097
1234678-heptachlorodibenzo-p-dioxin	0.01000	0.00068	0.00086	0.0010	0.00085
Octachlorodibenzo-p-dioxin	0.00030	0.000040	<0.000047	0.000067	<0.000052
2378-tetrachlorodibenzofuran	0.10000	<0.00098	<0.00091	<0.0014	<0.0011
12378-pentachlorodibenzofuran	0.03000	0.00051	<0.00026	<0.00032	<0.00037
23478-pentachlorodibenzofuran	0.30000	<0.0022	0.0036	0.0056	<0.0038
123478-hexachlorodibenzofuran	0.10000	<0.00081	0.0010	<0.0011	<0.00099
123678-hexachlorodibenzofuran	0.10000	0.00075	0.0012	0.0016	0.0012
234678-hexachlorodibenzofuran	0.10000	<0.0013	0.0014	<0.0010	<0.0012
123789-hexachlorodibenzofuran	0.10000	<0.00095	<0.00061	<0.00071	<0.00075
1234678-heptachlorodibenzofuran	0.01000	<0.00041	<0.00040	<0.00047	<0.00043
1234789-heptachlorodibenzofuran	0.01000	<0.00012	<0.000057	<0.000132	<0.00010
Octachlorodibenzofuran	0.00030	<0.000012	0.000013	<0.000016	<0.000014
PCB 81	0.00030	<0.0000088	0.000010	<0.000023	<0.000014
PCB 77	0.00010	0.000048	0.000046	0.00014	0.000078
PCB 123	0.00003	0.0000044	<0.0000033	<0.000012	<0.0000066
PCB 118	0.00003	0.00029	0.00025	0.00078	0.00044
PCB 114	0.00003	0.0000064	0.0000067	0.000019	0.000011
PCB 105	0.00003	0.000092	0.00010	0.00025	0.00015
PCB 126	0.10000	<0.0023	<0.0027	<0.0037	<0.0029
PCB 167	0.00003	0.0000019	0.0000031	0.0000060	0.0000037
PCB 156/157	0.00003	0.0000046	0.000010	0.000017	0.000010
PCB 169	0.03000	<0.00037	<0.00055	<0.0011	<0.00068
PCB 189	0.00003	<0.00000047	<0.00000077	<0.00000079	<0.00000068
Total Dioxins & Furans Only		<0.026	<0.029	<0.034	<0.029
Total PCBs Only		<0.0031	<0.0037	<0.0061	<0.0043
Total Dioxins & Furans and PCBs		<0.029	<0.032	<0.040	<0.034

World Health Organization Toxicity Equivalency Factors as detailed in O. Reg. 419/05.

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 49
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Summary of Dioxin and Furan Toxicity Equivalent Emission Data
Calculated Using the Full Detection Limit

Specific Isomer	Actual Concentration pg TEQ/m ³	Dry Reference Concentration pg TEQ/Rm ^{3*}	Dry Adjusted Concentration pg TEQ/Rm ^{3**}	Wet Reference Concentration pg TEQ/Rm ^{3*}	Emission Rate ng TEQ/s
2378-tetrachlorodibenzo-p-dioxin	<0.29	<0.49	<0.42	<0.41	<0.0078
12378-pentachlorodibenzo-p-dioxin	<0.28	<0.48	<0.41	<0.40	<0.0077
123478-hexachlorodibenzo-p-dioxin	<0.038	<0.066	<0.056	<0.055	<0.0010
123678-hexachlorodibenzo-p-dioxin	<0.039	<0.067	<0.057	<0.056	<0.0011
123789-hexachlorodibenzo-p-dioxin	<0.036	<0.061	<0.052	<0.051	<0.00097
1234678-heptachlorodibenzo-p-dioxin	0.031	0.054	0.046	0.045	0.00085
Octachlorodibenzo-p-dioxin	<0.0019	<0.0033	<0.0028	<0.0027	<0.000052
2378-tetrachlorodibenzofuran	<0.040	<0.069	<0.059	<0.058	<0.0011
12378-pentachlorodibenzofuran	<0.014	<0.023	<0.020	<0.019	<0.00037
23478-pentachlorodibenzofuran	<0.14	<0.24	<0.20	<0.20	<0.0038
123478-hexachlorodibenzofuran	<0.036	<0.062	<0.053	<0.052	<0.00099
123678-hexachlorodibenzofuran	0.043	0.074	0.062	0.062	0.0012
234678-hexachlorodibenzofuran	<0.046	<0.079	<0.067	<0.066	<0.0012
123789-hexachlorodibenzofuran	<0.028	<0.048	<0.041	<0.040	<0.00075
1234678-heptachlorodibenzofuran	<0.016	<0.027	<0.023	<0.023	<0.00043
1234789-heptachlorodibenzofuran	<0.0038	<0.0066	<0.0056	<0.0055	<0.00010
Octachlorodibenzofuran	<0.00051	<0.00087	<0.00074	<0.00073	<0.000014
PCB 81	<0.00052	<0.00089	<0.00075	<0.00074	<0.000014
PCB 77	0.0028	0.0049	0.0042	0.0041	0.000078
PCB 123	<0.00024	<0.00042	<0.00036	<0.00035	<0.0000066
PCB 118	0.016	0.028	0.023	0.023	0.00044
PCB 114	0.00040	0.00068	0.00058	0.00057	0.000011
PCB 105	0.0054	0.0093	0.0079	0.0077	0.00015
PCB 126	<0.11	<0.18	<0.16	<0.15	<0.0029
PCB 167	0.00014	0.00023	0.00020	0.00019	0.0000037
PCB 156/157	0.00038	0.00066	0.00056	0.00055	0.000010
PCB 169	<0.025	<0.043	<0.036	<0.036	<0.00068
PCB 189	<0.000025	<0.000043	<0.000036	<0.000036	<0.00000068
Total Dioxins & Furans Only	<1.08	<1.86	<1.58	<1.55	<0.029
Total PCBs Only	<0.16	<0.27	<0.23	<0.23	<0.0043
Total Dioxins & Furans and PCBs	<1.24	<2.13	<1.80	<1.78	<0.034

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

World Health Organization Toxicity Equivalency Factors as detailed in O. Reg. 419/05.

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 50
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Summary of Dioxin and Furan Toxicity Equivalent Emission Data
Calculated Using Half the Detection Limit

Specific Isomer	Actual Concentration pg TEQ/m ³	Dry Reference Concentration pg TEQ/Rm ^{3*}	Dry Adjusted Concentration pg TEQ/Rm ^{3**}	Wet Reference Concentration pg TEQ/Rm ^{3*}	Emission Rate ng TEQ/s
2378-tetrachlorodibenzo-p-dioxin	0.14	0.25	0.21	0.21	0.0039
12378-pentachlorodibenzo-p-dioxin	0.14	0.24	0.21	0.20	0.0038
123478-hexachlorodibenzo-p-dioxin	0.019	0.033	0.028	0.028	0.00052
123678-hexachlorodibenzo-p-dioxin	0.019	0.033	0.028	0.028	0.00053
123789-hexachlorodibenzo-p-dioxin	0.018	0.031	0.026	0.026	0.00048
1234678-heptachlorodibenzo-p-dioxin	0.031	0.054	0.046	0.045	0.00085
Octachlorodibenzo-p-dioxin	0.0016	0.0028	0.0023	0.0023	0.000044
2378-tetrachlorodibenzofuran	0.020	0.035	0.029	0.029	0.00055
12378-pentachlorodibenzofuran	0.010	0.017	0.015	0.014	0.00027
23478-pentachlorodibenzofuran	0.12	0.22	0.18	0.18	0.0034
123478-hexachlorodibenzofuran	0.025	0.042	0.036	0.035	0.00067
123678-hexachlorodibenzofuran	0.043	0.074	0.062	0.062	0.0012
234678-hexachlorodibenzofuran	0.032	0.054	0.046	0.045	0.00086
123789-hexachlorodibenzofuran	0.014	0.024	0.020	0.020	0.00038
1234678-heptachlorodibenzofuran	0.0079	0.014	0.011	0.011	0.00021
1234789-heptachlorodibenzofuran	0.0019	0.0033	0.0028	0.0027	0.000052
Octachlorodibenzofuran	0.00033	0.00057	0.00048	0.00048	0.0000090
PCB 81	0.00032	0.00055	0.00047	0.00046	0.0000087
PCB 77	0.0028	0.0049	0.0042	0.0041	0.000078
PCB 123	0.00015	0.00026	0.00022	0.00021	0.0000041
PCB 118	0.016	0.028	0.023	0.023	0.00044
PCB 114	0.00040	0.00068	0.00058	0.00057	0.000011
PCB 105	0.0054	0.0093	0.0079	0.0077	0.00015
PCB 126	0.053	0.091	0.078	0.076	0.0014
PCB 167	0.00014	0.00023	0.00020	0.00019	0.0000037
PCB 156/157	0.00038	0.00066	0.00056	0.00055	0.000010
PCB 169	0.012	0.021	0.018	0.018	0.00034
PCB 189	0.000012	0.000021	0.000018	0.000018	0.00000034
Total Dioxins & Furans Only	0.65	1.12	0.95	0.94	0.018
Total PCBs Only	0.091	0.16	0.13	0.13	0.0025
Total Dioxins & Furans and PCBs	0.74	1.28	1.08	1.07	0.020

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

World Health Organization Toxicity Equivalency Factors as detailed in O. Reg. 419/05.

Note: The value of half the detection limit was used to calculate emission data for those analytes not detected.

TABLE 51
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Emission Data for Chlorobenzenes
Test No. 1

Specific Isomer	Total Collected ng	Actual Concentration ng/m ³	Dry Reference Concentration ng/Rm ^{3*}	Dry Adjusted Concentration ng/Rm ^{3**}	Wet Reference Concentration ng/Rm ^{3*}	Emission Rate µg/s
Monochlorobenzene	1800	231	392	338	330	6.11
1,3-Dichlorobenzene	239	30.6	52.0	44.8	43.9	0.81
1,4-Dichlorobenzene	129	16.5	28.1	24.2	23.7	0.44
1,2-Dichlorobenzene	167	21.4	36.3	31.3	30.6	0.57
Total Dichlorobenzene	535	68.5	116	100	98.2	1.82
1,3,5-trichlorobenzene	17.5	2.24	3.81	3.28	3.21	0.059
1,2,4-trichlorobenzene	37.2	4.76	8.09	6.98	6.83	0.13
1,2,3-trichlorobenzene	14.8	1.90	3.22	2.78	2.72	0.050
Total Trichlorobenzene	69.5	8.90	15.1	13.0	12.8	0.24
1,2,3,5- & 1,2,4,5-tetrachlorobenzenes	<12	<1.54	<2.61	<2.25	<2.20	<0.041
1,2,3,4-tetrachlorobenzene	<12	<1.54	<2.61	<2.25	<2.20	<0.041
Total Tetrachlorobenzene	<24.0	<3.07	<5.22	<4.50	<4.40	<0.081
Pentachlorobenzene	<12	<1.54	<2.61	<2.25	<2.20	<0.041
Hexachlorobenzene	<12	<1.54	<2.61	<2.25	<2.20	<0.041
Total Chlorobenzenes	<2453	<314	<534	<460	<450	<8.32

Dry Gas Volume Sampled (Rm ^{3*}) :	4.596
Actual Flowrate (m ³ /s) :	26.5
Dry Reference Flowrate (Rm ³ /s*) :	15.6
Dry Adjusted Flowrate (Rm ³ /s**) :	18.1
Wet Reference Flowrate (Rm ³ /s*) :	18.5

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 52
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Emission Data for Chlorobenzenes
Test No. 2

Specific Isomer	Total Collected ng	Actual Concentration ng/m ³	Dry Reference Concentration ng/Rm ^{3*}	Dry Adjusted Concentration ng/Rm ^{3**}	Wet Reference Concentration ng/Rm ^{3*}	Emission Rate µg/s
Monochlorobenzene	1450	181	309	259	257	4.88
1,3-Dichlorobenzene	219	27.3	46.6	39.2	38.8	0.74
1,4-Dichlorobenzene	104	13.0	22.1	18.6	18.4	0.35
1,2-Dichlorobenzene	150	18.7	31.9	26.8	26.5	0.50
Total Dichlorobenzene	473	58.9	101	84.6	83.7	1.59
1,3,5-trichlorobenzene	16.3	2.03	3.47	2.92	2.88	0.055
1,2,4-trichlorobenzene	34.1	4.25	7.26	6.10	6.03	0.11
1,2,3-trichlorobenzene	13.7	1.71	2.92	2.45	2.42	0.046
Total Trichlorobenzene	64.1	7.98	13.6	11.5	11.3	0.22
1,2,3,5- & 1,2,4,5-tetrachlorobenzenes	<12	<1.49	<2.55	<2.15	<2.12	<0.040
1,2,3,4-tetrachlorobenzene	<12	<1.49	<2.55	<2.15	<2.12	<0.040
Total Tetrachlorobenzene	<24.0	<2.99	<5.11	<4.29	<4.25	<0.081
Pentachlorobenzene	<12	<1.49	<2.55	<2.15	<2.12	<0.040
Hexachlorobenzene	<12	<1.49	<2.55	<2.15	<2.12	<0.040
Total Chlorobenzenes	<2035	<253	<433	<364	<360	<6.84

Dry Gas Volume Sampled (Rm ^{3*}) :	4.699
Actual Flowrate (m ³ /s) :	27.0
Dry Reference Flowrate (Rm ³ /s*) :	15.8
Dry Adjusted Flowrate (Rm ³ /s**) :	18.8
Wet Reference Flowrate (Rm ³ /s*) :	19.0

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 53
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Emission Data for Chlorobenzenes
Test No. 3

Specific Isomer	Total Collected ng	Actual Concentration ng/m ³	Dry Reference Concentration ng/Rm ^{3*}	Dry Adjusted Concentration ng/Rm ^{3**}	Wet Reference Concentration ng/Rm ^{3*}	Emission Rate µg/s
Monochlorobenzene	2320	282	490	414	408	7.83
1,3-Dichlorobenzene	328	39.8	69.2	58.6	57.7	1.11
1,4-Dichlorobenzene	163	19.8	34.4	29.1	28.7	0.55
1,2-Dichlorobenzene	229	27.8	48.3	40.9	40.3	0.77
Total Dichlorobenzene	720	87.4	152	129	127	2.43
1,3,5-trichlorobenzene	26.6	3.23	5.61	4.75	4.68	0.090
1,2,4-trichlorobenzene	56.2	6.83	11.9	10.0	9.88	0.19
1,2,3-trichlorobenzene	21.8	2.65	4.60	3.89	3.83	0.074
Total Trichlorobenzene	105	12.7	22.1	18.7	18.4	0.35
1,2,3,5- & 1,2,4,5-tetrachlorobenzenes	<12	<1.46	<2.53	<2.14	<2.11	<0.041
1,2,3,4-tetrachlorobenzene	<12	<1.46	<2.53	<2.14	<2.11	<0.04
Total Tetrachlorobenzene	<24.0	<2.91	<5.06	<4.29	<4.22	<0.081
Pentachlorobenzene	<12	<1.46	<2.53	<2.14	<2.11	<0.041
Hexachlorobenzene	<12	<1.46	<2.53	<2.14	<2.11	<0.041
Total Chlorobenzenes	<3193	<388	<674	<570	<561	<10.8

Dry Gas Volume Sampled (Rm ^{3*}) :	4.739
Actual Flowrate (m ³ /s) :	27.8
Dry Reference Flowrate (Rm ³ /s*) :	16.0
Dry Adjusted Flowrate (Rm ³ /s**) :	18.9
Wet Reference Flowrate (Rm ³ /s*) :	19.2

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 54
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Actual Concentrations for Chlorobenzenes

Specific Isomer	Actual Concentration			Average	Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3		
	ng/m ³	ng/m ³	ng/m ³	ng/m ³	%
Monochlorobenzene	231	181	282	231	21.9
1,3-Dichlorobenzene	30.6	27.3	39.8	32.6	20.0
1,4-Dichlorobenzene	16.5	13.0	19.8	16.4	20.8
1,2-Dichlorobenzene	21.4	18.7	27.8	22.6	20.7
Total Dichlorobenzene	68.5	58.9	87.4	71.6	20.3
1,3,5-trichlorobenzene	2.24	2.03	3.23	2.50	25.6
1,2,4-trichlorobenzene	4.76	4.25	6.83	5.28	25.8
1,2,3-trichlorobenzene	1.90	1.71	2.65	2.08	23.9
Total Trichlorobenzene	8.90	7.98	12.7	9.86	25.4
1,2,3,5- & 1,2,4,5-tetrachlorobenzenes	<1.54	<1.49	<1.46	<1.50	2.7
1,2,3,4-tetrachlorobenzene	<1.54	<1.49	<1.46	<1.50	2.7
Total Tetrachlorobenzene	<3.07	<2.99	<2.91	<2.99	2.7
Pentachlorobenzene	<1.54	<1.49	<1.46	<1.50	2.7
Hexachlorobenzene	<1.54	<1.49	<1.46	<1.50	2.7
Total Chlorobenzenes	<314	<253	<388	<318	21.1

TABLE 55
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Dry Reference Concentrations for Chlorobenzenes

Specific Isomer	Dry Reference Concentration				Coefficient of Variation %
	Test No. 1	Test No. 2	Test No. 3	Average	
	ng/Rm ³ *	ng/Rm ³ *	ng/Rm ³ *	ng/Rm ³ *	
Monochlorobenzene	392	309	490	397	22.8
1,3-Dichlorobenzene	52.0	46.6	69.2	55.9	21.1
1,4-Dichlorobenzene	28.1	22.1	34.4	28.2	21.7
1,2-Dichlorobenzene	36.3	31.9	48.3	38.9	21.8
Total Dichlorobenzene	116	101	152	123	21.4
1,3,5-trichlorobenzene	3.81	3.47	5.61	4.30	26.8
1,2,4-trichlorobenzene	8.09	7.26	11.9	9.07	27.0
1,2,3-trichlorobenzene	3.22	2.92	4.60	3.58	25.1
Total Trichlorobenzene	15.1	13.6	22.1	16.9	26.6
1,2,3,5- & 1,2,4,5-tetrachlorobenzenes	<2.61	<2.55	<2.53	<2.57	1.6
1,2,3,4-tetrachlorobenzene	<2.61	<2.55	<2.53	<2.57	1.6
Total Tetrachlorobenzene	<5.22	<5.11	<5.06	<5.13	1.6
Pentachlorobenzene	<2.61	<2.55	<2.53	<2.57	1.6
Hexachlorobenzene	<2.61	<2.55	<2.53	<2.57	1.6
Total Chlorobenzenes	<534	<433	<674	<547	22.1

* At 25°C and 1 atmosphere

TABLE 56
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Dry Adjusted Concentrations for Chlorobenzenes

Specific Isomer	Dry Adjusted Concentration				Coefficient of Variation %
	Test No. 1 ng/Rm ³ *	Test No. 2 ng/Rm ³ *	Test No. 3 ng/Rm ³ *	Average ng/Rm ³ *	
Monochlorobenzene	338	259	414	337	23.0
1,3-Dichlorobenzene	44.8	39.2	58.6	47.5	21.0
1,4-Dichlorobenzene	24.2	18.6	29.1	24.0	22.0
1,2-Dichlorobenzene	31.3	26.8	40.9	33.0	21.8
Total Dichlorobenzene	100	84.6	129	105	21.3
1,3,5-trichlorobenzene	3.28	2.92	4.75	3.65	26.6
1,2,4-trichlorobenzene	6.98	6.10	10.0	7.70	26.9
1,2,3-trichlorobenzene	2.78	2.45	3.89	3.04	24.9
Total Trichlorobenzene	13.0	11.5	18.7	14.4	26.4
1,2,3,5- & 1,2,4,5-tetrachlorobenzenes	<2.25	<2.15	<2.14	<2.18	2.8
1,2,3,4-tetrachlorobenzene	<2.25	<2.15	<2.14	<2.18	2.8
Total Tetrachlorobenzene	<4.50	<4.29	<4.29	<4.36	2.8
Pentachlorobenzene	<2.25	<2.15	<2.14	<2.18	2.8
Hexachlorobenzene	<2.25	<2.15	<2.14	<2.18	2.8
Total Chlorobenzenes	<460	<364	<570	<465	22.2

* At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 57
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Wet Reference Concentrations for Chlorobenzenes

Specific Isomer	Wet Reference Concentration				Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3	Average	
	ng/Rm ³ *	ng/Rm ³ *	ng/Rm ³ *	ng/Rm ³ *	%
Monochlorobenzene	330	257	408	332	22.8
1,3-Dichlorobenzene	43.9	38.8	57.7	46.8	20.9
1,4-Dichlorobenzene	23.7	18.4	28.7	23.6	21.8
1,2-Dichlorobenzene	30.6	26.5	40.3	32.5	21.7
Total Dichlorobenzene	98.2	83.7	127	103	21.2
1,3,5-trichlorobenzene	3.21	2.88	4.68	3.59	26.6
1,2,4-trichlorobenzene	6.83	6.03	9.88	7.58	26.8
1,2,3-trichlorobenzene	2.72	2.42	3.83	2.99	24.9
Total Trichlorobenzene	12.8	11.3	18.4	14.2	26.3
1,2,3,5- & 1,2,4,5-tetrachlorobenzenes	<2.20	<2.12	<2.11	<2.15	2.3
1,2,3,4-tetrachlorobenzene	<2.20	<2.12	<2.11	<2.15	2.3
Total Tetrachlorobenzene	<4.40	<4.25	<4.22	<4.29	2.3
Pentachlorobenzene	<2.20	<2.12	<2.11	<2.15	2.3
Hexachlorobenzene	<2.20	<2.12	<2.11	<2.15	2.3
Total Chlorobenzenes	<450	<360	<561	<457	22.1

* At 25°C and 1 atmosphere

TABLE 58
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Emission Rates for Chlorobenzenes

Specific Isomer	Emission Rate			Average µg/s	Coefficient of Variation %
	Test No. 1 µg/s	Test No. 2 µg/s	Test No. 3 µg/s		
Monochlorobenzene	6.11	4.88	7.83	6.27	23.7
1,3-Dichlorobenzene	0.81	0.74	1.11	0.89	22.2
1,4-Dichlorobenzene	0.44	0.35	0.55	0.45	22.5
1,2-Dichlorobenzene	0.57	0.50	0.77	0.61	22.9
Total Dichlorobenzene	1.82	1.59	2.43	1.95	22.4
1,3,5-trichlorobenzene	0.059	0.055	0.090	0.068	28.0
1,2,4-trichlorobenzene	0.13	0.11	0.19	0.14	28.2
1,2,3-trichlorobenzene	0.050	0.046	0.074	0.057	26.2
Total Trichlorobenzene	0.24	0.22	0.35	0.27	27.7
1,2,3,5- & 1,2,4,5-tetrachlorobenzenes	<0.041	<0.040	<0.041	<0.041	0.5
1,2,3,4-tetrachlorobenzene	<0.041	<0.040	<0.041	<0.041	0.5
Total Tetrachlorobenzene	<0.081	<0.081	<0.081	<0.081	0.5
Pentachlorobenzene	<0.041	<0.040	<0.041	<0.041	0.5
Hexachlorobenzene	<0.041	<0.040	<0.041	<0.041	0.5
Total Chlorobenzenes	<8.32	<6.84	<10.8	<8.65	23.0

TABLE 59
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Summary of Emission Data for Chlorobenzenes

Specific Isomer	Actual Concentration ng/m ³	Dry Reference Concentration ng/Rm ^{3*}	Dry Adjusted Concentration ng/Rm ^{3**}	Wet Reference Concentration ng/Rm ^{3*}	Emission Rate µg/s
Monochlorobenzene	231	397	337	332	6.27
1,3-Dichlorobenzene	32.6	55.9	47.5	46.8	0.89
1,4-Dichlorobenzene	16.4	28.2	24.0	23.6	0.45
1,2-Dichlorobenzene	22.6	38.9	33.0	32.5	0.61
Total Dichlorobenzene	71.6	123	105	103	1.95
1,3,5-trichlorobenzene	2.50	4.30	3.65	3.59	0.068
1,2,4-trichlorobenzene	5.28	9.07	7.70	7.58	0.14
1,2,3-trichlorobenzene	2.08	3.58	3.04	2.99	0.057
Total Trichlorobenzene	9.86	16.9	14.4	14.2	0.27
1,2,3,5- & 1,2,4,5-tetrachlorobenzenes	<1.50	<2.57	<2.18	<2.15	<0.041
1,2,3,4-tetrachlorobenzene	<1.50	<2.57	<2.18	<2.15	<0.041
Total Tetrachlorobenzene	<2.99	<5.13	<4.36	<4.29	<0.081
Pentachlorobenzene	<1.50	<2.57	<2.18	<2.15	<0.041
Hexachlorobenzene	<1.50	<2.57	<2.18	<2.15	<0.041
Total Chlorobenzenes	<318	<547	<465	<457	<8.65

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 60
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Chlorobenzene Blank Analyses

Isomers and Congener Group Totals	Blank Train Total ng	Method Blank Total ng
Monochlorobenzene	<12	<12
1,3-Dichlorobenzene	<12	<12
1,4-Dichlorobenzene	<12	<12
1,2-Dichlorobenzene	<12	<12
Total Dichlorobenzene	<36	<36
1,3,5-trichlorobenzene	<12	<12
1,2,4-trichlorobenzene	<12	<12
1,2,3-trichlorobenzene	<12	<12
Total Trichlorobenzene	<36	<36
1,2,3,5- & 1,2,4,5-tetrachlorobenzenes	<12	<12
1,2,3,4-tetrachlorobenzene	<12	<12
Total Tetrachlorobenzene	<24	<24
Pentachlorobenzene	<12	<12
Hexachlorobenzene	<12	<12
Total Chlorobenzenes	<132	<132

"<" indicates that the amount detected is less than the detection limit. In these cases the value of the detection limit was used to calculate the total collected.

TABLE 61
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Chlorophenol Isomer and Congener Group Analysis and Emission Data
Test No. 1

Specific Isomer	Total Collected ng	Actual Concentration ng/m ³	Dry Reference Concentration ng/Rm ^{3*}	Dry Adjusted Concentration ng/Rm ^{3**}	Wet Reference Concentration ng/Rm ^{3*}	Emission Rate µg/s
2-monochlorophenol	<60	<7.69	<13.1	<11.3	<11.0	<0.20
3 & 4-monochlorophenol	<60	<7.69	<13.1	<11.3	<11.0	<0.20
Total Monochlorophenols	<120	<15.4	<26.1	<22.5	<22.0	<0.41
2,6-dichlorophenol	<60	<7.69	<13.1	<11.3	<11.0	<0.20
2,4 & 2,5-dichlorophenol	<60	<7.69	<13.1	<11.3	<11.0	<0.20
3,5-dichlorophenol	<60	<7.69	<13.1	<11.3	<11.0	<0.20
2,3-dichlorophenol	<60	<7.69	<13.1	<11.3	<11.0	<0.20
3,4-dichlorophenol	<60	<7.69	<13.1	<11.3	<11.0	<0.20
Total Dichlorophenols	<300	<38.4	<65.3	<56.3	<55.0	<1.02
2,4,6-trichlorophenol	<60	<7.69	<13.1	<11.3	<11.0	<0.20
2,3,6-trichlorophenol	<60	<7.69	<13.1	<11.3	<11.0	<0.20
2,3,5-trichlorophenol	<60	<7.69	<13.1	<11.3	<11.0	<0.20
2,4,5-trichlorophenol	<60	<7.69	<13.1	<11.3	<11.0	<0.20
2,3,4-trichlorophenol	<60	<7.69	<13.1	<11.3	<11.0	<0.20
3,4,5-trichlorophenol	<60	<7.69	<13.1	<11.3	<11.0	<0.20
Total Trichlorophenols	<360	<46.1	<78.3	<67.5	<66.1	<1.22
2,3,5,6/2,3,4,6-tetrachlorophenol	<60	<7.69	<13.1	<11.3	<11.0	<0.20
2,3,4,5-tetrachlorophenol	<60	<7.69	<13.1	<11.3	<11.0	<0.20
Total Tetrachlorophenols	<120	<15.4	<26.1	<22.5	<22.0	<0.41
Pentachlorophenol	<60	<7.69	<13.1	<11.3	<11.0	<0.20
Total Chlorophenols	<960	<123	<209	<180	<176	<3.26

Dry Gas Volume Sampled (Rm ^{3*}) :	4.596
Actual Flowrate (m ³ /s) :	26.5
Dry Reference Flowrate (Rm ³ /s*) :	15.6
Dry Adjusted Flowrate (Rm ³ /s**) :	18.1
Wet Reference Flowrate (Rm ³ /s*) :	18.5

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 62
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Chlorophenol Isomer and Congener Group Analysis and Emission Data
Test No. 2

Specific Isomer	Total Collected ng	Actual Concentration ng/m ³	Dry Reference Concentration ng/Rm ^{3*}	Dry Adjusted Concentration ng/Rm ^{3**}	Wet Reference Concentration ng/Rm ^{3*}	Emission Rate µg/s
2-monochlorophenol	<60	<7.47	<12.8	<10.7	<10.6	<0.20
3 & 4-monochlorophenol	<60	<7.47	<12.8	<10.7	<10.6	<0.20
Total Monochlorophenols	<120	<14.9	<25.5	<21.5	<21.2	<0.40
2,6-dichlorophenol	<60	<7.47	<12.8	<10.7	<10.6	<0.20
2,4 & 2,5-dichlorophenol	<60	<7.47	<12.8	<10.7	<10.6	<0.20
3,5-dichlorophenol	<60	<7.47	<12.8	<10.7	<10.6	<0.20
2,3-dichlorophenol	<60	<7.47	<12.8	<10.7	<10.6	<0.20
3,4-dichlorophenol	<60	<7.47	<12.8	<10.7	<10.6	<0.20
Total Dichlorophenols	<300	<37.4	<63.8	<53.7	<53.1	<1.01
2,4,6-trichlorophenol	<60	<7.47	<12.8	<10.7	<10.6	<0.20
2,3,6-trichlorophenol	<60	<7.47	<12.8	<10.7	<10.6	<0.20
2,3,5-trichlorophenol	<60	<7.47	<12.8	<10.7	<10.6	<0.20
2,4,5-trichlorophenol	<60	<7.47	<12.8	<10.7	<10.6	<0.20
2,3,4-trichlorophenol	<60	<7.47	<12.8	<10.7	<10.6	<0.20
3,4,5-trichlorophenol	<60	<7.47	<12.8	<10.7	<10.6	<0.20
Total Trichlorophenols	<360	<44.8	<76.6	<64.4	<63.7	<1.21
2,3,5,6/2,3,4,6-tetrachlorophenol	<60	<7.47	<12.8	<10.7	<10.6	<0.20
2,3,4,5-tetrachlorophenol	<60	<7.47	<12.8	<10.7	<10.6	<0.20
Total Tetrachlorophenols	<120	<14.9	<25.5	<21.5	<21.2	<0.40
Pentachlorophenol	<60	<7.47	<12.8	<10.7	<10.6	<0.20
Total Chlorophenols	<960	<120	<204	<172	<170	<3.23

Dry Gas Volume Sampled (Rm ^{3*}) :	4.699
Actual Flowrate (m ³ /s) :	27.0
Dry Reference Flowrate (Rm ³ /s*) :	15.8
Dry Adjusted Flowrate (Rm ³ /s**) :	18.8
Wet Reference Flowrate (Rm ³ /s*) :	19.0

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 63
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Chlorophenol Isomer and Congener Group Analysis and Emission Data
Test No. 3

Specific Isomer	Total Collected ng	Actual Concentration ng/m ³	Dry Reference Concentration ng/Rm ^{3*}	Dry Adjusted Concentration ng/Rm ^{3**}	Wet Reference Concentration ng/Rm ^{3*}	Emission Rate µg/s
2-monochlorophenol	<60	<7.29	<12.7	<10.7	<10.6	<0.20
3 & 4-monochlorophenol	<60	<7.29	<12.7	<10.7	<10.6	<0.20
Total Monochlorophenols	<120	<14.6	<25.3	<21.4	<21.1	<0.41
2,6-dichlorophenol	<60	<7.29	<12.7	<10.7	<10.6	<0.20
2,4 & 2,5-dichlorophenol	<60	<7.29	<12.7	<10.7	<10.6	<0.20
3,5-dichlorophenol	<60	<7.29	<12.7	<10.7	<10.6	<0.20
2,3-dichlorophenol	<60	<7.29	<12.7	<10.7	<10.6	<0.20
3,4-dichlorophenol	<60	<7.29	<12.7	<10.7	<10.6	<0.20
Total Dichlorophenols	<300	<36.4	<63.3	<53.6	<52.8	<1.01
2,4,6-trichlorophenol	<60	<7.29	<12.7	<10.7	<10.6	<0.20
2,3,6-trichlorophenol	<60	<7.29	<12.7	<10.7	<10.6	<0.20
2,3,5-trichlorophenol	<60	<7.29	<12.7	<10.7	<10.6	<0.20
2,4,5-trichlorophenol	<60	<7.29	<12.7	<10.7	<10.6	<0.20
2,3,4-trichlorophenol	<60	<7.29	<12.7	<10.7	<10.6	<0.20
3,4,5-trichlorophenol	<60	<7.29	<12.7	<10.7	<10.6	<0.20
Total Trichlorophenols	<360	<43.7	<76.0	<64.3	<63.3	<1.22
2,3,5,6/2,3,4,6-tetrachlorophenol	<60	<7.29	<12.7	<10.7	<10.6	<0.20
2,3,4,5-tetrachlorophenol	<60	<7.29	<12.7	<10.7	<10.6	<0.20
Total Tetrachlorophenols	<120	<14.6	<25.3	<21.4	<21.1	<0.41
Pentachlorophenol	<60	<7.29	<12.7	<10.7	<10.6	<0.20
Total Chlorophenols	<960	<117	<203	<171	<169	<3.24

Dry Gas Volume Sampled (Rm ^{3*}) :	4.739
Actual Flowrate (m ³ /s) :	27.8
Dry Reference Flowrate (Rm ³ /s*) :	16.0
Dry Adjusted Flowrate (Rm ³ /s**) :	18.9
Wet Reference Flowrate (Rm ³ /s*) :	19.2

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 64
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Chlorophenol Isomer and Congener Group Actual Concentrations

Specific Isomer	Actual Concentration			Average	Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3		
	ng/m ³	ng/m ³	ng/m ³	ng/m ³	%
2-monochlorophenol	<7.69	<7.47	<7.29	<7.48	2.7
3 & 4-monochlorophenol	<7.69	<7.47	<7.29	<7.48	2.7
Total Monochlorophenols	<15.4	<14.9	<14.6	<15.0	2.7
2,6-dichlorophenol	<7.69	<7.47	<7.29	<7.48	2.7
2,4 & 2,5-dichlorophenol	<7.69	<7.47	<7.29	<7.48	2.7
3,5-dichlorophenol	<7.69	<7.47	<7.29	<7.48	2.7
2,3-dichlorophenol	<7.69	<7.47	<7.29	<7.48	2.7
3,4-dichlorophenol	<7.69	<7.47	<7.29	<7.48	2.7
Total Dichlorophenols	<38.4	<37.4	<36.4	<37.4	2.7
2,4,6-trichlorophenol	<7.69	<7.47	<7.29	<7.48	2.7
2,3,6-trichlorophenol	<7.69	<7.47	<7.29	<7.48	2.7
2,3,5-trichlorophenol	<7.69	<7.47	<7.29	<7.48	2.7
2,4,5-trichlorophenol	<7.69	<7.47	<7.29	<7.48	2.7
2,3,4-trichlorophenol	<7.69	<7.47	<7.29	<7.48	2.7
3,4,5-trichlorophenol	<7.69	<7.47	<7.29	<7.48	2.7
Total Trichlorophenols	<46.1	<44.8	<43.7	<44.9	2.7
2,3,5,6/2,3,4,6-tetrachlorophenol	<7.69	<7.47	<7.29	<7.48	2.7
2,3,4,5-tetrachlorophenol	<7.69	<7.47	<7.29	<7.48	2.7
Total Tetrachlorophenols	<15.4	<14.9	<14.6	<15.0	2.7
Pentachlorophenol	<7.69	<7.47	<7.29	<7.48	2.7
Total Chlorophenols	<123	<120	<117	<120	2.7

TABLE 65
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Chlorophenol Isomer and Congener Group Dry Reference Concentrations

Specific Isomer	Dry Reference Concentration				Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3	Average	
	ng/Rm ³ *	ng/Rm ³ *	ng/Rm ³ *	ng/Rm ³ *	%
2-monochlorophenol	<13.1	<12.8	<12.7	<12.8	1.6
3 & 4-monochlorophenol	<13.1	<12.8	<12.7	<12.8	1.6
Total Monochlorophenols	<26.1	<25.5	<25.3	<25.7	1.6
2,6-dichlorophenol	<13.1	<12.8	<12.7	<12.8	1.6
2,4 & 2,5-dichlorophenol	<13.1	<12.8	<12.7	<12.8	1.6
3,5-dichlorophenol	<13.1	<12.8	<12.7	<12.8	1.6
2,3-dichlorophenol	<13.1	<12.8	<12.7	<12.8	1.6
3,4-dichlorophenol	<13.1	<12.8	<12.7	<12.8	1.6
Total Dichlorophenols	<65.3	<63.8	<63.3	<64.1	1.6
2,4,6-trichlorophenol	<13.1	<12.8	<12.7	<12.8	1.6
2,3,6-trichlorophenol	<13.1	<12.8	<12.7	<12.8	1.6
2,3,5-trichlorophenol	<13.1	<12.8	<12.7	<12.8	1.6
2,4,5-trichlorophenol	<13.1	<12.8	<12.7	<12.8	1.6
2,3,4-trichlorophenol	<13.1	<12.8	<12.7	<12.8	1.6
3,4,5-trichlorophenol	<13.1	<12.8	<12.7	<12.8	1.6
Total Trichlorophenols	<78.3	<76.6	<76.0	<77.0	1.6
2,3,5,6/2,3,4,6-tetrachlorophenol	<13.1	<12.8	<12.7	<12.8	1.6
2,3,4,5-tetrachlorophenol	<13.1	<12.8	<12.7	<12.8	1.6
Total Tetrachlorophenols	<26.1	<25.5	<25.3	<25.7	1.6
Pentachlorophenol	<13.1	<12.8	<12.7	<12.8	1.6
Total Chlorophenols	<209	<204	<203	<205	1.6

* At 25°C and 1 atmosphere

TABLE 66
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Chlorophenol Isomer and Congener Group Dry Adjusted Concentrations

Specific Isomer	Dry Adjusted Concentration				Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3	Average	
	ng/Rm ³ *	ng/Rm ³ *	ng/Rm ³ *	ng/Rm ³ *	%
2-monochlorophenol	<11.3	<10.7	<10.7	<10.9	2.8
3 & 4-monochlorophenol	<11.3	<10.7	<10.7	<10.9	2.8
Total Monochlorophenols	<22.5	<21.5	<21.4	<21.8	2.8
2,6-dichlorophenol	<11.3	<10.7	<10.7	<10.9	2.8
2,4 & 2,5-dichlorophenol	<11.3	<10.7	<10.7	<10.9	2.8
3,5-dichlorophenol	<11.3	<10.7	<10.7	<10.9	2.8
2,3-dichlorophenol	<11.3	<10.7	<10.7	<10.9	2.8
3,4-dichlorophenol	<11.3	<10.7	<10.7	<10.9	2.8
Total Dichlorophenols	<56.3	<53.7	<53.6	<54.5	2.8
2,4,6-trichlorophenol	<11.3	<10.7	<10.7	<10.9	2.8
2,3,6-trichlorophenol	<11.3	<10.7	<10.7	<10.9	2.8
2,3,5-trichlorophenol	<11.3	<10.7	<10.7	<10.9	2.8
2,4,5-trichlorophenol	<11.3	<10.7	<10.7	<10.9	2.8
2,3,4-trichlorophenol	<11.3	<10.7	<10.7	<10.9	2.8
3,4,5-trichlorophenol	<11.3	<10.7	<10.7	<10.9	2.8
Total Trichlorophenols	<67.5	<64.4	<64.3	<65.4	2.8
2,3,5,6/2,3,4,6-tetrachlorophenol	<11.3	<10.7	<10.7	<10.9	2.8
2,3,4,5-tetrachlorophenol	<11.3	<10.7	<10.7	<10.9	2.8
Total Tetrachlorophenols	<22.5	<21.5	<21.4	<21.8	2.8
Pentachlorophenol	<11.3	<10.7	<10.7	<10.9	2.8
Total Chlorophenols	<180	<172	<171	<174	2.8

* At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 67
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Chlorophenol Isomer and Congener Group Wet Reference Concentrations

Specific Isomer	Wet Reference Concentration				Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3	Average	
	ng/Rm ³ *	ng/Rm ³ *	ng/Rm ³ *	ng/Rm ³ *	%
2-monochlorophenol	<11.0	<10.6	<10.6	<10.7	2.3
3 & 4-monochlorophenol	<11.0	<10.6	<10.6	<10.7	2.3
Total Monochlorophenols	<22.0	<21.2	<21.1	<21.5	2.3
2,6-dichlorophenol	<11.0	<10.6	<10.6	<10.7	2.3
2,4 & 2,5-dichlorophenol	<11.0	<10.6	<10.6	<10.7	2.3
3,5-dichlorophenol	<11.0	<10.6	<10.6	<10.7	2.3
2,3-dichlorophenol	<11.0	<10.6	<10.6	<10.7	2.3
3,4-dichlorophenol	<11.0	<10.6	<10.6	<10.7	2.3
Total Dichlorophenols	<55.0	<53.1	<52.8	<53.6	2.3
2,4,6-trichlorophenol	<11.0	<10.6	<10.6	<10.7	2.3
2,3,6-trichlorophenol	<11.0	<10.6	<10.6	<10.7	2.3
2,3,5-trichlorophenol	<11.0	<10.6	<10.6	<10.7	2.3
2,4,5-trichlorophenol	<11.0	<10.6	<10.6	<10.7	2.3
2,3,4-trichlorophenol	<11.0	<10.6	<10.6	<10.7	2.3
3,4,5-trichlorophenol	<11.0	<10.6	<10.6	<10.7	2.3
Total Trichlorophenols	<66.1	<63.7	<63.3	<64.4	2.3
2,3,5,6/2,3,4,6-tetrachlorophenol	<11.0	<10.6	<10.6	<10.7	2.3
2,3,4,5-tetrachlorophenol	<11.0	<10.6	<10.6	<10.7	2.3
Total Tetrachlorophenols	<22.0	<21.2	<21.1	<21.5	2.3
Pentachlorophenol	<11.0	<10.6	<10.6	<10.7	2.3
Total Chlorophenols	<176	<170	<169	<172	2.3

* At 25°C and 1 atmosphere

TABLE 68
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Chlorophenol Isomer and Congener Group Emission Rates

Specific Isomer	Emission Rate			Average µg/s	Coefficient of Variation %
	Test No. 1 µg/s	Test No. 2 µg/s	Test No. 3 µg/s		
2-monochlorophenol	<0.20	<0.20	<0.20	<0.20	0.5
3 & 4-monochlorophenol	<0.20	<0.20	<0.20	<0.20	0.5
Total Monochlorophenols	<0.41	<0.40	<0.41	<0.41	0.5
2,6-dichlorophenol	<0.20	<0.20	<0.20	<0.20	0.5
2,4 & 2,5-dichlorophenol	<0.20	<0.20	<0.20	<0.20	0.5
3,5-dichlorophenol	<0.20	<0.20	<0.20	<0.20	0.5
2,3-dichlorophenol	<0.20	<0.20	<0.20	<0.20	0.5
3,4-dichlorophenol	<0.20	<0.20	<0.20	<0.20	0.5
Total Dichlorophenols	<1.02	<1.01	<1.01	<1.01	0.5
2,4,6-trichlorophenol	<0.20	<0.20	<0.20	<0.20	0.5
2,3,6-trichlorophenol	<0.20	<0.20	<0.20	<0.20	0.5
2,3,5-trichlorophenol	<0.20	<0.20	<0.20	<0.20	0.5
2,4,5-trichlorophenol	<0.20	<0.20	<0.20	<0.20	0.5
2,3,4-trichlorophenol	<0.20	<0.20	<0.20	<0.20	0.5
3,4,5-trichlorophenol	<0.20	<0.20	<0.20	<0.20	0.5
Total Trichlorophenols	<1.22	<1.21	<1.22	<1.22	0.5
2,3,5,6/2,3,4,6-tetrachlorophenol	<0.20	<0.20	<0.20	<0.20	0.5
2,3,4,5-tetrachlorophenol	<0.20	<0.20	<0.20	<0.20	0.5
Total Tetrachlorophenols	<0.41	<0.40	<0.41	<0.41	0.5
Pentachlorophenol	<0.20	<0.20	<0.20	<0.20	0.5
Total Chlorophenols	<3.26	<3.23	<3.24	<3.24	0.5

TABLE 69
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Summary of Emission Data for Chlorophenol Isomer and Congener Groups

Specific Isomer	Actual Concentration ng/m ³	Dry Reference Concentration ng/Rm ^{3*}	Dry Adjusted Concentration ng/Rm ^{3**}	Wet Reference Concentration ng/Rm ^{3*}	Emission Rate µg/s
2-monochlorophenol	<7.48	<12.8	<10.9	<10.7	<0.20
3 & 4-monochlorophenol	<7.48	<12.8	<10.9	<10.7	<0.20
Total Monochlorophenols	<15.0	<25.7	<21.8	<21.5	<0.41
2,6-dichlorophenol	<7.5	<12.8	<10.9	<10.7	<0.20
2,4 & 2,5-dichlorophenol	<7.5	<12.8	<10.9	<10.7	<0.20
3,5-dichlorophenol	<7.5	<12.8	<10.9	<10.7	<0.20
2,3-dichlorophenol	<7.5	<12.8	<10.9	<10.7	<0.20
3,4-dichlorophenol	<7.5	<12.8	<10.9	<10.7	<0.20
Total Dichlorophenols	<37.4	<64.1	<54.5	<53.6	<1.01
2,4,6-trichlorophenol	<7.48	<12.8	<10.9	<10.7	<0.20
2,3,6-trichlorophenol	<7.48	<12.8	<10.9	<10.7	<0.20
2,3,5-trichlorophenol	<7.48	<12.8	<10.9	<10.7	<0.20
2,4,5-trichlorophenol	<7.48	<12.8	<10.9	<10.7	<0.20
2,3,4-trichlorophenol	<7.48	<12.8	<10.9	<10.7	<0.20
3,4,5-trichlorophenol	<7.48	<12.8	<10.9	<10.7	<0.20
Total Trichlorophenols	<44.9	<77.0	<65.4	<64.4	<1.22
2,3,5,6/2,3,4,6-tetrachlorophenol	<7.48	<12.8	<10.9	<10.7	<0.20
2,3,4,5-tetrachlorophenol	<7.48	<12.8	<10.9	<10.7	<0.20
Total Tetrachlorophenols	<15.0	<25.7	<21.8	<21.5	<0.41
Pentachlorophenol	<7.48	<12.8	<10.9	<10.7	<0.20
Total Chlorophenols	<120	<205	<174	<172	<3.24

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 70
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Chlorophenol Blank Analyses

Congener Group	Media Blank Total ng	Blank Train Total ng
2-monochlorophenol	<60	<60
3 & 4-monochlorophenol	<60	<60
Total Monochlorophenols	<120	<120
2,6-dichlorophenol	<60	<60
2,4 & 2,5-dichlorophenol	<60	<60
3,5-dichlorophenol	<60	<60
2,3-dichlorophenol	<60	<60
3,4-dichlorophenol	<60	<60
Total Dichlorophenols	<300	<300
2,4,6-trichlorophenol	<60	<60
2,3,6-trichlorophenol	<60	<60
2,3,5-trichlorophenol	<60	<60
2,4,5-trichlorophenol	<60	<60
2,3,4-trichlorophenol	<60	<60
3,4,5-trichlorophenol	<60	<60
Total Trichlorophenols	<360	<360
2,3,5,6/2,3,4,6-tetrachlorophenol	<60	<60
2,3,4,5-tetrachlorophenol	<60	<60
Total Tetrachlorophenols	<120	<120
Pentachlorophenol	<60	<60
Total Chlorophenols	<960	<960

"<" indicates that the amount detected is less than the detection limit. In these cases the value of the detection limit was used to calculate the total collected.

TABLE 71
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Polycyclic Aromatic Hydrocarbon Emission Data
Test No. 1

Compound	Total Collected	Actual Concentration	Dry Reference Concentration	Dry Adjusted Concentration	Wet Reference Concentration	Emission Rate
	ng	ng/m ³	ng/Rm ^{3*}	ng/Rm ^{3**}	ng/Rm ^{3*}	µg/s
Acenaphthene	<12	<1.54	<2.61	<2.25	<2.20	<0.041
Acenaphthylene	14.2	1.82	3.09	2.66	2.61	0.048
Anthracene	22.7	2.91	4.94	4.26	4.16	0.077
Benzo(a)Anthracene	<12	<1.54	<2.61	<2.25	<2.20	<0.041
Benzo(b)Fluoranthene	<12	<1.54	<2.61	<2.25	<2.20	<0.041
Benzo(k)Fluoranthene	<12	<1.54	<2.61	<2.25	<2.20	<0.041
Benzo(a)fluorene	<12	<1.54	<2.61	<2.25	<2.20	<0.041
Benzo(b)fluorene	<12	<1.54	<2.61	<2.25	<2.20	<0.041
Benzo(g,h,i)Perylene	<12	<1.54	<2.61	<2.25	<2.20	<0.041
Benzo(a)Pyrene	<12	<1.54	<2.61	<2.25	<2.20	<0.041
Benzo(e)Pyrene	<12	<1.54	<2.61	<2.25	<2.20	<0.041
Biphenyl	188	24.1	40.9	35.3	34.5	0.64
2-Chloronaphthalene	<12	<1.54	<2.61	<2.25	<2.20	<0.041
Chrysene	<12	<1.54	<2.61	<2.25	<2.20	<0.041
Coronene	22.0	2.82	4.79	4.13	4.04	0.075
Dibenzo(a,c/a,h)Anthracene	12.8	1.64	2.79	2.40	2.35	0.043
Dibenzo(a,e)pyrene	<12	<1.54	<2.61	<2.25	<2.20	<0.041
9,10-dimethylanthracene	<12	<1.54	<2.61	<2.25	<2.20	<0.041
7,12-Dimethylbenzo(a)anthracene	<12	<1.54	<2.61	<2.25	<2.20	<0.041
Fluoranthene	114	14.6	24.8	21.4	20.9	0.39
Fluorene	34.1	4.37	7.42	6.39	6.26	0.12
Indeno(1,2,3-cd)Pyrene	<12	<1.54	<2.61	<2.25	<2.20	<0.041
2-methylanthracene	32.3	4.14	7.03	6.06	5.93	0.11
3-Methylcholanthrene	<12	<1.54	<2.61	<2.25	<2.20	<0.041
1-Methylnaphthalene	32.6	4.18	7.09	6.11	5.98	0.11
2-Methylnaphthalene	57.2	7.33	12.4	10.7	10.5	0.19
1-Methylphenanthrene	31.5	4.03	6.85	5.91	5.78	0.11
9-Methylphenanthrene	<12	<1.54	<2.61	<2.25	<2.20	<0.041
Naphthalene	474	60.7	103	88.9	87.0	1.61
Perylene	<12	<1.54	<2.61	<2.25	<2.20	<0.041
Phenanthrene	493	63.1	107	92.5	90.5	1.67
Picene	<12	<1.54	<2.61	<2.25	<2.20	<0.041
Pyrene	69.9	8.95	15.2	13.1	12.8	0.24
Tetralin	533	68.3	116	100	97.8	1.81
m-terphenyl	<12	<1.54	<2.61	<2.25	<2.20	<0.041
o-Terphenyl	<12	<1.54	<2.61	<2.25	<2.20	<0.041
p-terphenyl	<12	<1.54	<2.61	<2.25	<2.20	<0.041
Triphenylene/Benzo(b)anthracene	<12	<1.54	<2.61	<2.25	<2.20	<0.041
Total	<2407	<308	<524	<451	<442	<8.17

Dry Gas Volume Sampled (Rm ^{3*}) :	4.596
Actual Flowrate (m ³ /s) :	26.5
Dry Reference Flowrate (Rm ³ /s*) :	15.6
Dry Adjusted Flowrate (Rm ³ /s**) :	18.1
Wet Reference Flowrate (Rm ³ /s*) :	18.5

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 72
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Polycyclic Aromatic Hydrocarbon Emission Data
Test No. 2

Compound	Total Collected	Actual Concentration	Dry Reference Concentration	Dry Adjusted Concentration	Wet Reference Concentration	Emission Rate
	ng	ng/m ³	ng/Rm ^{3*}	ng/Rm ^{3**}	ng/Rm ^{3*}	µg/s
Acenaphthene	<12	<1.49	<2.55	<2.15	<2.12	<0.040
Acenaphthylene	<12	<1.49	<2.55	<2.15	<2.12	<0.040
Anthracene	<12	<1.49	<2.55	<2.15	<2.12	<0.040
Benzo(a)Anthracene	<12	<1.49	<2.55	<2.15	<2.12	<0.040
Benzo(b)Fluoranthene	<12	<1.49	<2.55	<2.15	<2.12	<0.040
Benzo(k)Fluoranthene	<12	<1.49	<2.55	<2.15	<2.12	<0.040
Benzo(a)fluorene	<12	<1.49	<2.55	<2.15	<2.12	<0.040
Benzo(b)fluorene	<12	<1.49	<2.55	<2.15	<2.12	<0.040
Benzo(g,h,i)Perylene	20.3	2.53	4.32	3.63	3.59	0.068
Benzo(a)Pyrene	<12	<1.49	<2.55	<2.15	<2.12	<0.040
Benzo(e)Pyrene	<12	<1.49	<2.55	<2.15	<2.12	<0.040
Biphenyl	66.6	8.29	14.2	11.9	11.8	0.22
2-Chloronaphthalene	<12	<1.49	<2.55	<2.15	<2.12	<0.040
Chrysene	<12	<1.49	<2.55	<2.15	<2.12	<0.040
Coronene	41.4	5.16	8.81	7.40	7.33	0.14
Dibenzo(a,c/a,h)Anthracene	14.6	1.82	3.11	2.61	2.58	0.049
Dibenzo(a,e)pyrene	<12	<1.49	<2.55	<2.15	<2.12	<0.040
9,10-dimethylanthracene	<12	<1.49	<2.55	<2.15	<2.12	<0.040
7,12-Dimethylbenzo(a)anthracene	<12	<1.49	<2.55	<2.15	<2.12	<0.040
Fluoranthene	40.1	4.99	8.53	7.17	7.10	0.13
Fluorene	14.8	1.84	3.15	2.65	2.62	0.050
Indeno(1,2,3-cd)Pyrene	<12	<1.49	<2.55	<2.15	<2.12	<0.040
2-methylanthracene	<12	<1.49	<2.55	<2.15	<2.12	<0.040
3-Methylcholanthrene	<12	<1.49	<2.55	<2.15	<2.12	<0.040
1-Methylnaphthalene	19.4	2.42	4.13	3.47	3.43	0.065
2-Methylnaphthalene	34.2	4.26	7.28	6.12	6.05	0.11
1-Methylphenanthrene	<12	<1.49	<2.55	<2.15	<2.12	<0.040
9-Methylphenanthrene	<12	<1.49	<2.55	<2.15	<2.12	<0.040
Naphthalene	645	80.3	137	115	114	2.17
Perylene	<12	<1.49	<2.55	<2.15	<2.12	<0.040
Phenanthrene	101	12.6	21.5	18.1	17.9	0.34
Picene	<12	<1.49	<2.55	<2.15	<2.12	<0.040
Pyrene	31.8	3.96	6.77	5.69	5.63	0.11
Tetralin	797	99.3	170	143	141	2.68
m-terphenyl	<12	<1.49	<2.55	<2.15	<2.12	<0.040
o-Terphenyl	<12	<1.49	<2.55	<2.15	<2.12	<0.040
p-terphenyl	<12	<1.49	<2.55	<2.15	<2.12	<0.040
Triphenylene/Benzo(b)anthracene	<12	<1.49	<2.55	<2.15	<2.12	<0.040
Total	<2138	<266	<455	<382	<378	<7.19

Dry Gas Volume Sampled (Rm ^{3*}) :	4.699
Actual Flowrate (m ³ /s) :	27.0
Dry Reference Flowrate (Rm ³ /s*) :	15.8
Dry Adjusted Flowrate (Rm ³ /s**) :	18.8
Wet Reference Flowrate (Rm ³ /s*) :	19.0

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 73
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Polycyclic Aromatic Hydrocarbon Emission Data
Test No. 3

Compound	Total Collected	Actual Concentration	Dry Reference Concentration	Dry Adjusted Concentration	Wet Reference Concentration	Emission Rate
	ng	ng/m ³	ng/Rm ^{3*}	ng/Rm ^{3**}	ng/Rm ^{3*}	µg/s
Acenaphthene	<12	<1.46	<2.53	<2.14	<2.11	<0.041
Acenaphthylene	27.8	3.38	5.87	4.97	4.89	0.094
Anthracene	52.2	6.34	11.0	9.32	9.18	0.18
Benzo(a)Anthracene	<12	<1.46	<2.53	<2.14	<2.11	<0.041
Benzo(b)Fluoranthene	28.8	3.50	6.08	5.14	5.06	0.097
Benzo(k)Fluoranthene	<12	<1.46	<2.53	<2.14	<2.11	<0.041
Benzo(a)fluorene	<12	<1.46	<2.53	<2.14	<2.11	<0.041
Benzo(b)fluorene	<12	<1.46	<2.53	<2.14	<2.11	<0.041
Benzo(g,h,i)Perylene	34.1	4.14	7.20	6.09	6.00	0.12
Benzo(a)Pyrene	<12	<1.46	<2.53	<2.14	<2.11	<0.041
Benzo(e)Pyrene	17.2	2.09	3.63	3.07	3.02	0.058
Biphenyl	127	15.4	26.8	22.7	22.3	0.43
2-Chloronaphthalene	<12	<1.46	<2.53	<2.14	<2.11	<0.041
Chrysene	24.4	2.96	5.15	4.36	4.29	0.082
Coronene	141	17.1	29.8	25.2	24.8	0.48
Dibenzo(a,c/a,h)Anthracene	<12	<1.46	<2.53	<2.14	<2.11	<0.041
Dibenzo(a,e)pyrene	<12	<1.46	<2.53	<2.14	<2.11	<0.041
9,10-dimethylanthracene	<12	<1.46	<2.53	<2.14	<2.11	<0.041
7,12-Dimethylbenzo(a)anthracene	<12	<1.46	<2.53	<2.14	<2.11	<0.041
Fluoranthene	257	31.2	54.2	45.9	45.2	0.87
Fluorene	58.9	7.15	12.4	10.5	10.4	0.20
Indeno(1,2,3-cd)Pyrene	<12	<1.46	<2.53	<2.14	<2.11	<0.041
2-methylanthracene	93.3	11.3	19.7	16.7	16.4	0.32
3-Methylcholanthrene	<12	<1.46	<2.53	<2.14	<2.11	<0.041
1-Methylnaphthalene	35.8	4.35	7.55	6.40	6.30	0.12
2-Methylnaphthalene	60.7	7.37	12.8	10.8	10.7	0.20
1-Methylphenanthrene	84.5	10.3	17.8	15.1	14.9	0.29
9-Methylphenanthrene	<12	<1.46	<2.53	<2.14	<2.11	<0.041
Naphthalene	634	77.0	134	113	111	2.14
Perylene	<12	<1.46	<2.53	<2.14	<2.11	<0.041
Phenanthrene	1040	126	219	186	183	3.51
Picene	<12	<1.46	<2.53	<2.14	<2.11	<0.041
Pyrene	191	23.2	40.3	34.1	33.6	0.64
Tetralin	531	64.5	112	94.9	93.4	1.79
m-terphenyl	16.4	1.99	3.46	2.93	2.88	0.055
o-Terphenyl	23.6	2.87	4.98	4.22	4.15	0.080
p-terphenyl	<12	<1.46	<2.53	<2.14	<2.11	<0.041
Triphenylene/Benzo(b)anthracene	<12	<1.46	<2.53	<2.14	<2.11	<0.041
Total	<3695	<449	<780	<660	<650	<12.5

Dry Gas Volume Sampled (Rm ^{3*}) :	4.739
Actual Flowrate (m ³ /s) :	27.8
Dry Reference Flowrate (Rm ³ /s*) :	16.0
Dry Adjusted Flowrate (Rm ³ /s**) :	18.9
Wet Reference Flowrate (Rm ³ /s*) :	19.2

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 74
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Polycyclic Aromatic Hydrocarbon Actual Concentrations

Compound	Actual Concentration			Average	Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3		
	ng/m ³	ng/m ³	ng/m ³	ng/m ³	%
Acenaphthene	<1.54	<1.49	<1.46	<1.50	2.7
Acenaphthylene	1.82	<1.49	3.38	<2.23	45.1
Anthracene	2.91	<1.49	6.34	<3.58	69.6
Benzo(a)Anthracene	<1.54	<1.49	<1.46	<1.50	2.7
Benzo(b)Fluoranthene	<1.54	<1.49	3.50	<2.18	52.6
Benzo(k)Fluoranthene	<1.54	<1.49	<1.46	<1.50	2.7
Benzo(a)fluorene	<1.54	<1.49	<1.46	<1.50	2.7
Benzo(b)fluorene	<1.54	<1.49	<1.46	<1.50	2.7
Benzo(g,h,i)Perylene	<1.54	2.53	4.14	<2.74	48.1
Benzo(a)Pyrene	<1.54	<1.49	<1.46	<1.50	2.7
Benzo(e)Pyrene	<1.54	<1.49	2.09	<1.71	19.4
Biphenyl	24.1	8.29	15.4	15.9	49.6
2-Chloronaphthalene	<1.54	<1.49	<1.46	<1.50	2.7
Chrysene	<1.54	<1.49	2.96	<2.00	41.8
Coronene	2.82	5.16	17.1	8.37	91.7
Dibenzo(a,c/a,h)Anthracene	1.64	1.82	<1.46	<1.64	11.0
Dibenzo(a,e)pyrene	<1.54	<1.49	<1.46	<1.50	2.7
9,10-dimethylantracene	<1.54	<1.49	<1.46	<1.50	2.7
7,12-Dimethylbenzo(a)anthracene	<1.54	<1.49	<1.46	<1.50	2.7
Fluoranthene	14.6	4.99	31.2	16.9	78.3
Fluorene	4.37	1.84	7.15	4.45	59.6
Indeno(1,2,3-cd)Pyrene	<1.54	<1.49	<1.46	<1.50	2.7
2-methylantracene	4.14	<1.49	11.3	<5.65	90.0
3-Methylcholanthrene	<1.54	<1.49	<1.46	<1.50	2.7
1-Methylnaphthalene	4.18	2.42	4.35	3.65	29.3
2-Methylnaphthalene	7.33	4.26	7.37	6.32	28.2
1-Methylphenanthrene	4.03	<1.49	10.3	<5.26	85.7
9-Methylphenanthrene	<1.54	<1.49	<1.46	<1.50	2.7
Naphthalene	60.7	80.3	77.0	72.7	14.4
Perylene	<1.54	<1.49	<1.46	<1.50	2.7
Phenanthrene	63.1	12.6	126	67.3	84.6
Picene	<1.54	<1.49	<1.46	<1.50	2.7
Pyrene	8.95	3.96	23.2	12.0	82.9
Tetralin	68.3	99.3	64.5	77.3	24.7
m-terphenyl	<1.54	<1.49	1.99	<1.67	16.5
o-Terphenyl	<1.54	<1.49	2.87	<1.97	39.7
p-terphenyl	<1.54	<1.49	<1.46	<1.50	2.7
Triphenylene/Benzo(b)anthracene	<1.54	<1.49	<1.46	<1.50	2.7
Total	<308	<266	<449	<341	28.0

TABLE 75
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Polycyclic Aromatic Hydrocarbon Dry Reference Concentrations

Compound	Dry Reference Concentration			Average	Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3		
	ng/Rm ³ *	ng/Rm ³ *	ng/Rm ³ *	ng/Rm ³ *	%
Acenaphthene	<2.61	<2.55	<2.53	<2.57	1.6
Acenaphthylene	3.09	<2.55	5.87	<3.84	46.3
Anthracene	4.94	<2.55	11.0	<6.17	70.7
Benzo(a)Anthracene	<2.61	<2.55	<2.53	<2.57	1.6
Benzo(b)Fluoranthene	<2.61	<2.55	6.08	<3.75	53.9
Benzo(k)Fluoranthene	<2.61	<2.55	<2.53	<2.57	1.6
Benzo(a)fluorene	<2.61	<2.55	<2.53	<2.57	1.6
Benzo(b)fluorene	<2.61	<2.55	<2.53	<2.57	1.6
Benzo(g,h,i)Perylene	<2.61	4.32	7.20	<4.71	49.2
Benzo(a)Pyrene	<2.61	<2.55	<2.53	<2.57	1.6
Benzo(e)Pyrene	<2.61	<2.55	3.63	<2.93	20.6
Biphenyl	40.9	14.2	26.8	27.3	49.0
2-Chloronaphthalene	<2.61	<2.55	<2.53	<2.57	1.6
Chrysene	<2.61	<2.55	5.15	<3.44	43.1
Coronene	4.79	8.81	29.8	14.5	92.8
Dibenzo(a,c/a,h)Anthracene	2.79	3.11	<2.53	<2.81	10.3
Dibenzo(a,e)pyrene	<2.61	<2.55	<2.53	<2.57	1.6
9,10-dimethylantracene	<2.61	<2.55	<2.53	<2.57	1.6
7,12-Dimethylbenzo(a)anthracene	<2.61	<2.55	<2.53	<2.57	1.6
Fluoranthene	24.8	8.53	54.2	29.2	79.4
Fluorene	7.42	3.15	12.4	7.67	60.6
Indeno(1,2,3-cd)Pyrene	<2.61	<2.55	<2.53	<2.57	1.6
2-methylantracene	7.03	<2.55	19.7	<9.76	91.1
3-Methylcholanthrene	<2.61	<2.55	<2.53	<2.57	1.6
1-Methylnaphthalene	7.09	4.13	7.55	6.26	29.7
2-Methylnaphthalene	12.4	7.28	12.8	10.8	28.5
1-Methylphenanthrene	6.85	<2.55	17.8	<9.08	86.8
9-Methylphenanthrene	<2.61	<2.55	<2.53	<2.57	1.6
Naphthalene	103	137	134	125	15.1
Perylene	<2.61	<2.55	<2.53	<2.57	1.6
Phenanthrene	107	21.5	219	116	85.5
Picene	<2.61	<2.55	<2.53	<2.57	1.6
Pyrene	15.2	6.77	40.3	20.8	84.0
Tetralin	116	170	112	133	24.3
m-terphenyl	<2.61	<2.55	3.46	<2.88	17.7
o-Terphenyl	<2.61	<2.55	4.98	<3.38	40.9
p-terphenyl	<2.61	<2.55	<2.53	<2.57	1.6
Triphenylene/Benzo(b)anthracene	<2.61	<2.55	<2.53	<2.57	1.6
Total	<524	<455	<780	<586	29.2

* At 25°C and 1 atmosphere

TABLE 76
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Polycyclic Aromatic Hydrocarbon Dry Adjusted Concentrations

Compound	Dry Adjusted Concentration			Average	Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3		
	ng/Rm ³ *	ng/Rm ³ *	ng/Rm ³ *	ng/Rm ³ *	%
Acenaphthene	<2.25	<2.15	<2.14	<2.18	2.8
Acenaphthylene	2.66	<2.15	4.97	<3.26	46.1
Anthracene	4.26	<2.15	9.32	<5.24	70.4
Benzo(a)Anthracene	<2.25	<2.15	<2.14	<2.18	2.8
Benzo(b)Fluoranthene	<2.25	<2.15	5.14	<3.18	53.5
Benzo(k)Fluoranthene	<2.25	<2.15	<2.14	<2.18	2.8
Benzo(a)fluorene	<2.25	<2.15	<2.14	<2.18	2.8
Benzo(b)fluorene	<2.25	<2.15	<2.14	<2.18	2.8
Benzo(g,h,i)Perylene	<2.25	3.63	6.09	<3.99	48.8
Benzo(a)Pyrene	<2.25	<2.15	<2.14	<2.18	2.8
Benzo(e)Pyrene	<2.25	<2.15	3.07	<2.49	20.4
Biphenyl	35.3	11.9	22.7	23.3	50.2
2-Chloronaphthalene	<2.25	<2.15	<2.14	<2.18	2.8
Chrysene	<2.25	<2.15	4.36	<2.92	42.8
Coronene	4.13	7.40	25.2	12.2	92.6
Dibenzo(a,c/a,h)Anthracene	2.40	2.61	<2.14	<2.39	9.8
Dibenzo(a,e)pyrene	<2.25	<2.15	<2.14	<2.18	2.8
9,10-dimethylantracene	<2.25	<2.15	<2.14	<2.18	2.8
7,12-Dimethylbenzo(a)anthracene	<2.25	<2.15	<2.14	<2.18	2.8
Fluoranthene	21.4	7.17	45.9	24.8	79.0
Fluorene	6.39	2.65	10.5	6.52	60.4
Indeno(1,2,3-cd)Pyrene	<2.25	<2.15	<2.14	<2.18	2.8
2-methylantracene	6.06	<2.15	16.7	<8.29	90.6
3-Methylcholanthrene	<2.25	<2.15	<2.14	<2.18	2.8
1-Methylnaphthalene	6.11	3.47	6.40	5.33	30.3
2-Methylnaphthalene	10.7	6.12	10.8	9.23	29.2
1-Methylphenanthrene	5.91	<2.15	15.1	<7.72	86.3
9-Methylphenanthrene	<2.25	<2.15	<2.14	<2.18	2.8
Naphthalene	88.9	115	113	106	13.9
Perylene	<2.25	<2.15	<2.14	<2.18	2.8
Phenanthrene	92.5	18.1	186	98.8	85.1
Picene	<2.25	<2.15	<2.14	<2.18	2.8
Pyrene	13.1	5.69	34.1	17.6	83.6
Tetralin	100	143	94.9	112	23.3
m-terphenyl	<2.25	<2.15	2.93	<2.44	17.4
o-Terphenyl	<2.25	<2.15	4.22	<2.87	40.6
p-terphenyl	<2.25	<2.15	<2.14	<2.18	2.8
Triphenylene/Benzo(b)anthracene	<2.25	<2.15	<2.14	<2.18	2.8
Total	<451	<382	<660	<498	29.0

* At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 77
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Polycyclic Aromatic Hydrocarbon Wet Reference Concentrations

Compound	Wet Reference Concentration				Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3	Average	
	ng/Rm ^{3*}	ng/Rm ^{3*}	ng/Rm ^{3*}	ng/Rm ^{3*}	
Acenaphthene	<2.20	<2.12	<2.11	<2.15	2.3
Acenaphthylene	2.61	<2.12	4.89	<3.21	46.1
Anthracene	4.16	<2.12	9.18	<5.16	70.4
Benzo(a)Anthracene	<2.20	<2.12	<2.11	<2.15	2.3
Benzo(b)Fluoranthene	<2.20	<2.12	5.06	<3.13	53.5
Benzo(k)Fluoranthene	<2.20	<2.12	<2.11	<2.15	2.3
Benzo(a)fluorene	<2.20	<2.12	<2.11	<2.15	2.3
Benzo(b)fluorene	<2.20	<2.12	<2.11	<2.15	2.3
Benzo(g,h,i)Perylene	<2.20	3.59	6.00	<3.93	48.8
Benzo(a)Pyrene	<2.20	<2.12	<2.11	<2.15	2.3
Benzo(e)Pyrene	<2.20	<2.12	3.02	<2.45	20.4
Biphenyl	34.5	11.8	22.3	22.9	49.7
2-Chloronaphthalene	<2.20	<2.12	<2.11	<2.15	2.3
Chrysene	<2.20	<2.12	4.29	<2.87	42.8
Coronene	4.04	7.33	24.8	12.1	92.6
Dibenzo(a,c/a,h)Anthracene	2.35	2.58	<2.11	<2.35	10.1
Dibenzo(a,e)pyrene	<2.20	<2.12	<2.11	<2.15	2.3
9,10-dimethylantracene	<2.20	<2.12	<2.11	<2.15	2.3
7,12-Dimethylbenzo(a)anthracene	<2.20	<2.12	<2.11	<2.15	2.3
Fluoranthene	20.9	7.10	45.2	24.4	79.0
Fluorene	6.26	2.62	10.4	6.41	60.4
Indeno(1,2,3-cd)Pyrene	<2.20	<2.12	<2.11	<2.15	2.3
2-methylantracene	5.93	<2.12	16.4	<8.15	90.7
3-Methylcholanthrene	<2.20	<2.12	<2.11	<2.15	2.3
1-Methylnaphthalene	5.98	3.43	6.30	5.24	30.0
2-Methylnaphthalene	10.5	6.05	10.7	9.07	28.9
1-Methylphenanthrene	5.78	<2.12	14.9	<7.59	86.4
9-Methylphenanthrene	<2.20	<2.12	<2.11	<2.15	2.3
Naphthalene	87.0	114	111	104	14.4
Perylene	<2.20	<2.12	<2.11	<2.15	2.3
Phenanthrene	90.5	17.9	183	97.1	85.2
Picene	<2.20	<2.12	<2.11	<2.15	2.3
Pyrene	12.8	5.63	33.6	17.3	83.7
Tetralin	97.8	141	93.4	111	23.8
m-terphenyl	<2.20	<2.12	2.88	<2.40	17.4
o-Terphenyl	<2.20	<2.12	4.15	<2.83	40.6
p-terphenyl	<2.20	<2.12	<2.11	<2.15	2.3
Triphenylene/Benzo(b)anthracene	<2.20	<2.12	<2.11	<2.15	2.3
Total	<442	<378	<650	<490	29.0

* At 25°C and 1 atmosphere

TABLE 78
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Polycyclic Aromatic Hydrocarbon Emission Rates

Compound	Emission Rate			Average µg/s	Coefficient of Variation %
	Test No. 1 µg/s	Test No. 2 µg/s	Test No. 3 µg/s		
Acenaphthene	<0.041	<0.040	<0.041	<0.041	0.5
Acenaphthylene	0.048	<0.040	0.094	<0.061	47.5
Anthracene	0.077	<0.040	0.18	<0.098	71.8
Benzo(a)Anthracene	<0.041	<0.040	<0.041	<0.041	0.5
Benzo(b)Fluoranthene	<0.041	<0.040	0.097	<0.059	55.1
Benzo(k)Fluoranthene	<0.041	<0.040	<0.041	<0.041	0.5
Benzo(a)fluorene	<0.041	<0.040	<0.041	<0.041	0.5
Benzo(b)fluorene	<0.041	<0.040	<0.041	<0.041	0.5
Benzo(g,h,i)Perylene	<0.041	0.068	0.12	<0.075	50.4
Benzo(a)Pyrene	<0.041	<0.040	<0.041	<0.041	0.5
Benzo(e)Pyrene	<0.041	<0.040	0.058	<0.046	21.8
Biphenyl	0.64	0.22	0.43	0.43	48.1
2-Chloronaphthalene	<0.041	<0.040	<0.041	<0.041	0.5
Chrysene	<0.041	<0.040	0.082	<0.054	44.3
Coronene	0.075	0.14	0.48	0.23	93.7
Dibenzo(a,c/a,h)Anthracene	0.043	0.049	<0.041	<0.044	9.8
Dibenzo(a,e)pyrene	<0.041	<0.040	<0.041	<0.041	0.5
9,10-dimethylantracene	<0.041	<0.040	<0.041	<0.041	0.5
7,12-Dimethylbenzo(a)anthracene	<0.041	<0.040	<0.041	<0.041	0.5
Fluoranthene	0.39	0.13	0.87	0.46	80.4
Fluorene	0.12	0.050	0.20	0.12	61.5
Indeno(1,2,3-cd)Pyrene	<0.041	<0.040	<0.041	<0.041	0.5
2-methylantracene	0.11	<0.040	0.32	<0.15	92.2
3-Methylcholanthrene	<0.041	<0.040	<0.041	<0.041	0.5
1-Methylnaphthalene	0.11	0.065	0.12	0.099	29.9
2-Methylnaphthalene	0.19	0.11	0.20	0.17	28.7
1-Methylphenanthrene	0.11	<0.040	0.29	<0.14	87.8
9-Methylphenanthrene	<0.041	<0.040	<0.041	<0.041	0.5
Naphthalene	1.61	2.17	2.14	1.97	16.0
Perylene	<0.041	<0.040	<0.041	<0.041	0.5
Phenanthrene	1.67	0.34	3.51	1.84	86.5
Picene	<0.041	<0.040	<0.041	<0.041	0.5
Pyrene	0.24	0.11	0.64	0.33	85.1
Tetralin	1.81	2.68	1.79	2.09	24.2
m-terphenyl	<0.041	<0.040	0.055	<0.045	18.8
o-Terphenyl	<0.041	<0.040	0.080	<0.054	42.2
p-terphenyl	<0.041	<0.040	<0.041	<0.041	0.5
Triphenylene/Benzo(b)anthracene	<0.041	<0.040	<0.041	<0.041	0.5
Total	<8.17	<7.19	<12.5	<9.28	30.3

TABLE 79
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Summary of Polycyclic Aromatic Hydrocarbon Emission Data

Compound	Actual Concentration ng/m ³	Dry Reference Concentration ng/Rm ³ *	Dry Adjusted Concentration ng/Rm ³ **	Wet Reference Concentration ng/Rm ³ *	Emission Rate µg/s
Acenaphthene	<1.50	<2.57	<2.18	<2.15	<0.041
Acenaphthylene	<2.23	<3.84	<3.26	<3.21	<0.061
Anthracene	<3.58	<6.17	<5.24	<5.16	<0.098
Benzo(a)Anthracene	<1.50	<2.57	<2.18	<2.15	<0.041
Benzo(b)Fluoranthene	<2.18	<3.75	<3.18	<3.13	<0.059
Benzo(k)Fluoranthene	<1.50	<2.57	<2.18	<2.15	<0.041
Benzo(a)fluorene	<1.50	<2.57	<2.18	<2.15	<0.041
Benzo(b)fluorene	<1.50	<2.57	<2.18	<2.15	<0.041
Benzo(g,h,i)Perylene	<2.74	<4.71	<3.99	<3.93	<0.075
Benzo(a)Pyrene	<1.50	<2.57	<2.18	<2.15	<0.041
Benzo(e)Pyrene	<1.71	<2.93	<2.49	<2.45	<0.046
Biphenyl	15.9	27.3	23.3	22.9	0.43
2-Chloronaphthalene	<1.50	<2.57	<2.18	<2.15	<0.041
Chrysene	<2.00	<3.44	<2.92	<2.87	<0.054
Coronene	8.37	14.5	12.2	12.1	0.23
Dibenzo(a,c/a,h)Anthracene	<1.64	<2.81	<2.39	<2.35	<0.044
Dibenzo(a,e)pyrene	<1.50	<2.57	<2.18	<2.15	<0.041
9,10-dimethylanthracene	<1.50	<2.57	<2.18	<2.15	<0.041
7,12-Dimethylbenzo(a)anthracene	<1.50	<2.57	<2.18	<2.15	<0.041
Fluoranthene	16.9	29.2	24.8	24.4	0.46
Fluorene	4.45	7.67	6.52	6.41	0.12
Indeno(1,2,3-cd)Pyrene	<1.50	<2.57	<2.18	<2.15	<0.041
2-methylanthracene	<5.65	<9.76	<8.29	<8.15	<0.15
3-Methylcholanthrene	<1.50	<2.57	<2.18	<2.15	<0.041
1-Methylnaphthalene	3.65	6.26	5.33	5.24	0.099
2-Methylnaphthalene	6.32	10.8	9.23	9.07	0.17
1-Methylphenanthrene	<5.26	<9.08	<7.72	<7.59	<0.14
9-Methylphenanthrene	<1.50	<2.57	<2.18	<2.15	<0.041
Naphthalene	72.7	125	106	104	1.97
Perylene	<1.50	<2.57	<2.18	<2.15	<0.041
Phenanthrene	67.3	116	98.8	97.1	1.84
Picene	<1.50	<2.57	<2.18	<2.15	<0.041
Pyrene	12.0	20.8	17.6	17.3	0.33
Tetralin	77.3	133	112	111	2.09
m-terphenyl	<1.67	<2.88	<2.44	<2.40	<0.045
o-Terphenyl	<1.97	<3.38	<2.87	<2.83	<0.054
p-terphenyl	<1.50	<2.57	<2.18	<2.15	<0.041
Triphenylene/Benzo(b)anthracene	<1.50	<2.57	<2.18	<2.15	<0.041
Total	<341	<586	<498	<490	<9.28

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 80
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Blank Polycyclic Aromatic Hydrocarbon Analyses

Compound	Blank Train ng	Method Blank ng
Acenaphthene	<12	<12
Acenaphthylene	<12	<12
Anthracene	<12	<12
Benzo(a)Anthracene	<12	<12
Benzo(b)Fluoranthene	28.3	<12
Benzo(k)Fluoranthene	<12	<12
Benzo(a)fluorene	<12	<12
Benzo(b)fluorene	<12	<12
Benzo(g,h,i)Perylene	28.8	<12
Benzo(a)Pyrene	<12	<12
Benzo(e)Pyrene	13.8	<12
Biphenyl	65.5	24.4
2-Chloronaphthalene	<12	<12
Chrysene	23.2	<12
Coronene	<12	<12
Dibenzo(a,c/a,h)Anthracene	<12	<12
Dibenzo(a,e)pyrene	<12	16.9
9,10-dimethylantracene	<12	<12
7,12-Dimethylbenzo(a)anthracene	<12	<12
Fluoranthene	28.1	<12
Fluorene	<12	<12
Indeno(1,2,3-cd)Pyrene	27.2	<12
2-methylantracene	<12	<12
3-Methylcholanthrene	<12	<12
1-Methylnaphthalene	<12	<12
2-Methylnaphthalene	<12	<12
1-Methylphenanthrene	<12	<12
9-Methylphenanthrene	<12	<12
Naphthalene	334	290
Perylene	<12	<12
Phenanthrene	87.9	<12
Picene	<12	<12
Pyrene	27.3	<12
Tetralin	517	466
m-terphenyl	<12	<12
o-Terphenyl	<12	<12
p-terphenyl	<12	<12
Triphenylene/Benzo(b)anthracene	<12	<12
Total	<1505	<1205

"<" indicates that the amount detected is less than the detection limit. In these cases the value of the detection limit was used to calculate the total collected.

TABLE 81
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Acetaldehyde, Formaldehyde and Acrolein Emission Data

Acetaldehyde

Test No.	Total Collected μg	Dry Volume Sampled Rm^{3*}	Actual $\mu\text{g}/\text{m}^3$	Acetaldehyde Concentration		Wet Reference $\mu\text{g}/\text{Rm}^{3*}$	Acetaldehyde Emission Rate mg/s
				Dry Reference $\mu\text{g}/\text{Rm}^{3*}$	Dry Adjusted $\mu\text{g}/\text{Rm}^{3**}$		
1	83.8	0.0369	1340	2271	1965	1916	35.5
2	86.9	0.0318	1612	2733	2365	2305	42.7
3	90.7	0.0326	1642	2782	2408	2347	43.5
Average			1531	2595	2246	2189	40.6
Blank Train	40.8						
Field Blank	9.30						

Formaldehyde

Test No.	Total Collected μg	Dry Volume Sampled Rm^{3*}	Actual $\mu\text{g}/\text{m}^3$	Formaldehyde Concentration		Wet Reference $\mu\text{g}/\text{Rm}^{3*}$	Formaldehyde Emission Rate mg/s
				Dry Reference $\mu\text{g}/\text{Rm}^{3*}$	Dry Adjusted $\mu\text{g}/\text{Rm}^{3**}$		
1	35.1	0.0369	561	951	823	802	14.9
2	35.8	0.0318	664	1126	974	950	17.6
3	52.1	0.0326	943	1598	1383	1348	25.0
Average			723	1225	1060	1033	19.1
Blank Train	27.6						
Field Blank	15.0						

Acrolein

Test No.	Total Collected μg	Dry Volume Sampled Rm^{3*}	Actual $\mu\text{g}/\text{m}^3$	Acrolein Concentration		Wet Reference $\mu\text{g}/\text{Rm}^{3*}$	Acrolein Emission Rate mg/s
				Dry Reference $\mu\text{g}/\text{Rm}^{3*}$	Dry Adjusted $\mu\text{g}/\text{Rm}^{3**}$		
1	<0.50	0.0369	<8.00	<13.6	<11.7	<11.4	<0.21
2	<0.50	0.0318	<9.28	<15.7	<13.6	<13.3	<0.25
3	<0.50	0.0326	<9.05	<15.3	<13.3	<12.9	<0.24
Average			<8.77	<14.9	<12.9	<12.5	<0.23
Blank Train	<0.50						
Field Blank	<0.50						

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

* At 25 °C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 82
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Volatile Organic Emission Data
Test No. 1

Compound	Total Collected	Actual Concentration	Dry Reference Concentration	Dry Adjusted Concentration	Wet Reference Concentration	Emission Rate
	ppb	µg/m ³	µg/Rm ^{3*}	µg/Rm ^{3**}	µg/Rm ^{3*}	mg/s
Acetone	<1.0	<1.41	<2.40	<2.07	<2.02	<0.037
Benzene	0.41	0.77	1.31	1.13	1.10	0.020
Bromodichloromethane	<0.20	<0.77	<1.30	<1.12	<1.10	<0.020
Bromoform	<0.20	<1.24	<2.10	<1.81	<1.77	<0.033
Bromomethane	<1.00	<2.28	<3.88	<3.34	<3.27	<0.061
1,3-Butadiene	<0.20	<0.26	<0.44	<0.38	<0.37	<0.0069
2-Butanone	1.73	3.00	5.10	4.40	4.30	0.080
Carbon Tetrachloride	<0.20	<0.74	<1.26	<1.09	<1.06	<0.020
Chloroform	0.32	0.92	1.56	1.34	1.32	0.024
Cumene (Isopropylbenzene)	<0.20	<0.59	<1.00	<0.86	<0.84	<0.016
Dibromochloromethane	<0.20	<1.00	<1.70	<1.47	<1.43	<0.027
Dichlorodifluoromethane	<0.20	<0.59	<1.00	<0.86	<0.84	<0.016
1,2-Dichloroethane	<0.20	<0.48	<0.81	<0.70	<0.68	<0.013
trans,1,2-Dichloroethene	<0.20	<0.47	<0.79	<0.68	<0.67	<0.012
1,1-Dichloroethene	<0.20	<0.47	<0.79	<0.68	<0.67	<0.012
1,2-Dichloropropane	<0.20	<0.53	<0.90	<0.78	<0.76	<0.014
Ethylbenzene	0.41	1.05	1.78	1.53	1.50	0.028
Ethylene Dibromide	<0.20	<0.88	<1.50	<1.29	<1.26	<0.023
Mesitylene (1,3,5-Trimethylbenzene)	<0.20	<0.59	<1.00	<0.86	<0.84	<0.016
Methylene Chloride	0.93	1.90	3.23	2.78	2.72	0.050
Styrene	<0.20	<0.50	<0.85	<0.73	<0.72	<0.013
Tetrachloroethene	<0.20	<0.82	<1.40	<1.21	<1.18	<0.022
Toluene	4.94	10.9	18.6	16.0	15.7	0.29
1,1,1-Trichloroethane	<0.20	<0.65	<1.10	<0.95	<0.93	<0.017
Trichloroethene/1,1,2-Trichloroethene	<0.20	<0.65	<1.10	<0.95	<0.93	<0.017
Trichlorotrifluoroethane	<0.20	<0.88	<1.50	<1.29	<1.26	<0.023
Trichlorofluoromethane	<0.20	<0.65	<1.10	<0.95	<0.93	<0.017
M&P-Xylene	0.99	2.53	4.30	3.71	3.63	0.067
O-Xylene	0.21	0.54	0.91	0.78	0.77	0.014
Vinyl Chloride	<0.20	<0.30	<0.51	<0.44	<0.43	<0.0080
Total	<15.9	<38.4	<65.2	<56.2	<55.0	<1.02

Actual Flowrate (m ³ /s) :	26.5
Dry Reference Flowrate (Rm ³ /s*) :	15.6
Dry Adjusted Flowrate (Rm ³ /s**) :	18.1
Wet Reference Flowrate (Rm ³ /s*) :	18.5

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected. Any analyte that was not detected was assigned a value equal to the detection limit for calculation purposes.

TABLE 83
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Volatile Organic Emission Data
Test No. 2

Compound	Total Collected ppb	Actual Concentration $\mu\text{g}/\text{m}^3$	Dry Reference Concentration $\mu\text{g}/\text{Rm}^3*$	Dry Adjusted Concentration $\mu\text{g}/\text{Rm}^{3**}$	Wet Reference Concentration $\mu\text{g}/\text{Rm}^3*$	Emission Rate mg/s
Acetone	<1.0	<1.41	<2.40	<2.07	<2.02	<0.037
Benzene	0.34	0.64	1.09	0.94	0.92	0.017
Bromodichloromethane	<0.21	<0.82	<1.40	<1.21	<1.18	<0.022
Bromoform	<0.21	<1.30	<2.20	<1.90	<1.86	<0.034
Bromomethane	<1.00	<2.28	<3.88	<3.34	<3.27	<0.061
1,3-Butadiene	<0.21	<0.27	<0.46	<0.40	<0.39	<0.0072
2-Butanone	2.21	3.84	6.52	5.62	5.50	0.10
Carbon Tetrachloride	<0.21	<0.78	<1.32	<1.14	<1.11	<0.021
Chloroform	0.34	0.98	1.66	1.43	1.40	0.026
Cumene (Isopropylbenzene)	<0.21	<0.59	<1.00	<0.86	<0.84	<0.016
Dibromochloromethane	<0.21	<1.06	<1.80	<1.55	<1.52	<0.028
Dichlorodifluoromethane	<0.21	<0.59	<1.00	<0.86	<0.84	<0.016
1,2-Dichloroethane	<0.21	<0.50	<0.85	<0.73	<0.72	<0.013
trans,1,2-Dichloroethene	<0.21	<0.49	<0.83	<0.72	<0.70	<0.013
1,1-Dichloroethene	<0.21	<0.49	<0.83	<0.72	<0.70	<0.013
1,2-Dichloropropane	<0.21	<0.59	<1.00	<0.86	<0.84	<0.016
Ethylbenzene	0.19	0.48	0.82	0.71	0.69	0.013
Ethylene Dibromide	<0.21	<0.94	<1.60	<1.38	<1.35	<0.025
Mesitylene (1,3,5-Trimethylbenzene)	<0.21	<0.59	<1.00	<0.86	<0.84	<0.016
Methylene Chloride	0.61	1.25	2.12	1.83	1.79	0.033
Styrene	<0.21	<0.52	<0.89	<0.77	<0.75	<0.014
Tetrachloroethene	<0.21	<0.82	<1.40	<1.21	<1.18	<0.022
Toluene	0.98	2.17	3.69	3.18	3.11	0.058
1,1,1-Trichloroethane	<0.21	<0.65	<1.10	<0.95	<0.93	<0.017
Trichloroethene/1,1,2-Trichloroethene	<0.21	<0.65	<1.10	<0.95	<0.93	<0.017
Trichlorotrifluoroethane	<0.21	<0.94	<1.60	<1.38	<1.35	<0.025
Trichlorofluoromethane	<0.21	<0.71	<1.20	<1.03	<1.01	<0.019
M&P-Xylene	0.28	0.72	1.22	1.05	1.03	0.019
O-Xylene	<0.10	<0.25	<0.43	<0.37	<0.36	<0.0067
Vinyl Chloride	<0.21	<0.32	<0.54	<0.47	<0.46	<0.0084
Total	<11.3	<27.6	<47.0	<40.5	<39.6	<0.73

Actual Flowrate (m^3/s) :	26.5
Dry Reference Flowrate (Rm^3/s^*) :	15.6
Dry Adjusted Flowrate ($\text{Rm}^3/\text{s}^{**}$) :	18.1
Wet Reference Flowrate (Rm^3/s^*) :	18.5

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected. Any analyte that was not detected was assigned a value equal to the detection limit for calculation purposes.

TABLE 84
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Volatile Organic Emission Data
Test No. 3

Compound	Total Collected ppb	Actual Concentration $\mu\text{g}/\text{m}^3$	Dry Reference Concentration $\mu\text{g}/\text{Rm}^3^*$	Dry Adjusted Concentration $\mu\text{g}/\text{Rm}^3^{**}$	Wet Reference Concentration $\mu\text{g}/\text{Rm}^3^*$	Emission Rate mg/s
Acetone	32.1	44.9	76.2	65.7	64.3	1.19
Benzene	0.36	0.68	1.15	0.99	0.97	0.018
Bromodichloromethane	<0.20	<0.77	<1.30	<1.12	<1.10	<0.020
Bromoform	<0.20	<1.24	<2.10	<1.81	<1.77	<0.033
Bromomethane	<1.00	<2.28	<3.88	<3.34	<3.27	<0.061
1,3-Butadiene	<0.20	<0.26	<0.44	<0.38	<0.37	<0.0069
2-Butanone	1.54	2.67	4.54	3.91	3.83	0.071
Carbon Tetrachloride	<0.20	<0.74	<1.26	<1.09	<1.06	<0.020
Chloroform	0.37	1.07	1.81	1.56	1.53	0.028
Cumene (Isopropylbenzene)	<0.20	<0.59	<1.00	<0.86	<0.84	<0.016
Dibromochloromethane	<0.20	<1.00	<1.70	<1.47	<1.43	<0.027
Dichlorodifluoromethane	<0.20	<0.59	<1.00	<0.86	<0.84	<0.016
1,2-Dichloroethane	<0.20	<0.48	<0.81	<0.70	<0.68	<0.013
trans,1,2-Dichloroethene	<0.20	<0.47	<0.79	<0.68	<0.67	<0.012
1,1-Dichloroethene	<0.20	<0.47	<0.79	<0.68	<0.67	<0.012
1,2-Dichloropropane	<0.20	<0.53	<0.90	<0.78	<0.76	<0.014
Ethylbenzene	<0.10	<0.25	<0.43	<0.37	<0.36	<0.0067
Ethylene Dibromide	<0.20	<0.88	<1.50	<1.29	<1.26	<0.023
Mesitylene (1,3,5-Trimethylbenzene)	<0.20	<0.59	<1.00	<0.86	<0.84	<0.016
Methylene Chloride	0.61	1.25	2.12	1.83	1.79	0.033
Styrene	<0.20	<0.50	<0.85	<0.73	<0.72	<0.013
Tetrachloroethene	<0.20	<0.82	<1.40	<1.21	<1.18	<0.022
Toluene	0.46	1.02	1.73	1.49	1.46	0.027
1,1,1-Trichloroethane	<0.20	<0.65	<1.10	<0.95	<0.93	<0.017
Trichloroethene/1,1,2-Trichloroethene	<0.20	<0.65	<1.10	<0.95	<0.93	<0.017
Trichlorotrifluoroethane	<0.20	<0.88	<1.50	<1.29	<1.26	<0.023
Trichlorofluoromethane	<0.20	<0.65	<1.10	<0.95	<0.93	<0.017
M&P-Xylene	<0.20	<0.51	<0.87	<0.75	<0.73	<0.014
O-Xylene	<0.10	<0.25	<0.43	<0.37	<0.36	<0.0067
Vinyl Chloride	<0.20	<0.30	<0.51	<0.44	<0.43	<0.0080
Total	<40.84	<67.9	<115	<99.4	<97.2	<1.80

Actual Flowrate (m^3/s) :	26.5
Dry Reference Flowrate (Rm^3/s^*) :	15.6
Dry Adjusted Flowrate ($\text{Rm}^3/\text{s}^{**}$) :	18.1
Wet Reference Flowrate (Rm^3/s^*) :	18.5

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected. Any analyte that was not detected was assigned a value equal to the detection limit for calculation purposes.

TABLE 85
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Volatile Organic Actual Concentrations

Compound	Actual Concentration			Average	Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3		
	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	%
Acetone	<1.41	<1.41	44.9	<15.9	158
Benzene	0.77	0.64	0.68	0.70	9.6
Bromodichloromethane	<0.77	<0.82	<0.77	<0.78	4.3
Bromoform	<1.24	<1.30	<1.24	<1.26	2.7
Bromomethane	<2.28	<2.28	<2.28	<2.28	0.0
1,3-Butadiene	<0.26	<0.27	<0.26	<0.26	2.6
2-Butanone	3.00	3.84	2.67	3.17	18.9
Carbon Tetrachloride	<0.74	<0.78	<0.74	<0.75	2.7
Chloroform	0.92	0.98	1.07	0.99	7.5
Cumene (Isopropylbenzene)	<0.59	<0.59	<0.59	<0.59	0.0
Dibromochloromethane	<1.00	<1.06	<1.00	<1.02	3.3
Dichlorodifluoromethane	<0.59	<0.59	<0.59	<0.59	0.0
1,2-Dichloroethane	<0.48	<0.50	<0.48	<0.48	2.8
trans,1,2-Dichloroethene	<0.47	<0.49	<0.47	<0.47	2.9
1,1-Dichloroethene	<0.47	<0.49	<0.47	<0.47	2.9
1,2-Dichloropropane	<0.53	<0.59	<0.53	<0.55	6.2
Ethylbenzene	1.05	0.48	<0.25	<0.59	68.8
Ethylene Dibromide	<0.88	<0.94	<0.88	<0.90	3.8
Mesitylene (1,3,5-Trimethylbenzene)	<0.59	<0.59	<0.59	<0.59	0.0
Methylene Chloride	1.90	1.25	1.25	1.47	25.7
Styrene	<0.50	<0.52	<0.50	<0.51	2.7
Tetrachloroethene	<0.82	<0.82	<0.82	<0.82	0.0
Toluene	10.9	2.17	1.02	4.71	115
1,1,1-Trichloroethane	<0.65	<0.65	<0.65	<0.65	0.0
Trichloroethene/1,1,2-Trichloroethene	<0.65	<0.65	<0.65	<0.65	0.0
Trichlorotrifluoroethane	<0.88	<0.94	<0.88	<0.90	3.8
Trichlorofluoromethane	<0.65	<0.71	<0.65	<0.67	5.1
M&P-Xylene	2.53	0.72	<0.51	<1.25	88.6
O-Xylene	0.54	<0.25	<0.25	<0.35	47.0
Vinyl Chloride	<0.30	<0.32	<0.30	<0.31	3.3
Total	<38.4	<27.6	<67.9	<44.6	46.7

TABLE 86
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Volatile Organic Dry Reference Concentrations

Compound	Dry Reference Concentration				Coefficient of Variation %
	Test No. 1	Test No. 2	Test No. 3	Average	
	$\mu\text{g}/\text{Rm}^3*$	$\mu\text{g}/\text{Rm}^3*$	$\mu\text{g}/\text{Rm}^3*$	$\mu\text{g}/\text{Rm}^3*$	
Acetone	<2.40	<2.40	76.2	<27.0	158
Benzene	1.31	1.09	1.15	1.18	9.6
Bromodichloromethane	<1.30	<1.40	<1.30	<1.33	4.3
Bromoform	<2.10	<2.20	<2.10	<2.13	2.7
Bromomethane	<3.88	<3.88	<3.88	<3.88	0.0
1,3-Butadiene	<0.44	<0.46	<0.44	<0.45	2.6
2-Butanone	5.10	6.52	4.54	5.39	18.9
Carbon Tetrachloride	<1.26	<1.32	<1.26	<1.28	2.7
Chloroform	1.56	1.66	1.81	1.68	7.5
Cumene (Isopropylbenzene)	<1.00	<1.00	<1.00	<1.00	0.0
Dibromochloromethane	<1.70	<1.80	<1.70	<1.73	3.3
Dichlorodifluoromethane	<1.00	<1.00	<1.00	<1.00	0.0
1,2-Dichloroethane	<0.81	<0.85	<0.81	<0.82	2.8
trans,1,2-Dichloroethene	<0.79	<0.83	<0.79	<0.80	2.9
1,1-Dichloroethene	<0.79	<0.83	<0.79	<0.80	2.9
1,2-Dichloropropane	<0.90	<1.00	<0.90	<0.93	6.2
Ethylbenzene	1.78	0.82	<0.43	<1.01	68.8
Ethylene Dibromide	<1.50	<1.60	<1.50	<1.53	3.8
Mesitylene (1,3,5-Trimethylbenzene)	<1.00	<1.00	<1.00	<1.00	0.0
Methylene Chloride	3.23	2.12	2.12	2.49	25.7
Styrene	<0.85	<0.89	<0.85	<0.86	2.7
Tetrachloroethene	<1.40	<1.40	<1.40	<1.40	0.0
Toluene	18.6	3.69	1.73	8.01	115
1,1,1-Trichloroethane	<1.10	<1.10	<1.10	<1.10	0.0
Trichloroethene/1,1,2-Trichloroethene	<1.10	<1.10	<1.10	<1.10	0.0
Trichlorotrifluoroethane	<1.50	<1.60	<1.50	<1.53	3.8
Trichlorofluoromethane	<1.10	<1.20	<1.10	<1.13	5.1
M&P-Xylene	4.30	1.22	<0.87	<2.13	88.6
O-Xylene	0.91	<0.43	<0.43	<0.59	47.0
Vinyl Chloride	<0.51	<0.54	<0.51	<0.52	3.3
Total	<65.2	<47.0	<115	<75.8	46.7

* At 25°C and 1 atmosphere

TABLE 87
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Volatile Organic Dry Adjusted Concentrations

Compound	Dry Adjusted Concentration				Coefficient of Variation
	Test No. 1 $\mu\text{g}/\text{Rm}^3*$	Test No. 2 $\mu\text{g}/\text{Rm}^3*$	Test No. 3 $\mu\text{g}/\text{Rm}^3*$	Average $\mu\text{g}/\text{Rm}^3*$	
Acetone	<2.07	<2.07	65.7	<23.3	158
Benzene	1.13	0.94	0.99	1.02	9.6
Bromodichloromethane	<1.12	<1.21	<1.12	<1.15	4.3
Bromoform	<1.81	<1.90	<1.81	<1.84	2.7
Bromomethane	<3.34	<3.34	<3.34	<3.34	0.0
1,3-Butadiene	<0.38	<0.40	<0.38	<0.38	2.6
2-Butanone	4.40	5.62	3.91	4.64	18.9
Carbon Tetrachloride	<1.09	<1.14	<1.09	<1.10	2.7
Chloroform	1.34	1.43	1.56	1.45	7.5
Cumene (Isopropylbenzene)	<0.86	<0.86	<0.86	<0.86	0.0
Dibromochloromethane	<1.47	<1.55	<1.47	<1.49	3.3
Dichlorodifluoromethane	<0.86	<0.86	<0.86	<0.86	0.0
1,2-Dichloroethane	<0.70	<0.73	<0.70	<0.71	2.8
trans,1,2-Dichloroethene	<0.68	<0.72	<0.68	<0.69	2.9
1,1-Dichloroethene	<0.68	<0.72	<0.68	<0.69	2.9
1,2-Dichloropropane	<0.78	<0.86	<0.78	<0.80	6.2
Ethylbenzene	1.53	0.71	<0.37	<0.87	68.8
Ethylene Dibromide	<1.29	<1.38	<1.29	<1.32	3.8
Mesitylene (1,3,5-Trimethylbenzene)	<0.86	<0.86	<0.86	<0.86	0.0
Methylene Chloride	2.78	1.83	1.83	2.15	25.7
Styrene	<0.73	<0.77	<0.73	<0.74	2.7
Tetrachloroethene	<1.21	<1.21	<1.21	<1.21	0.0
Toluene	16.0	3.18	1.49	6.90	115
1,1,1-Trichloroethane	<0.95	<0.95	<0.95	<0.95	0.0
Trichloroethene/1,1,2-Trichloroethene	<0.95	<0.95	<0.95	<0.95	0.0
Trichlorotrifluoroethane	<1.29	<1.38	<1.29	<1.32	3.8
Trichlorofluoromethane	<0.95	<1.03	<0.95	<0.98	5.1
M&P-Xylene	3.71	1.05	<0.75	<1.84	88.6
O-Xylene	0.78	<0.37	<0.37	<0.51	47.0
Vinyl Chloride	<0.44	<0.47	<0.44	<0.45	3.3
Total	<56.2	<40.5	<99.4	<65.4	46.7

* At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 88
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Volatile Organic Wet Reference Concentrations

Compound	Wet Reference Concentration				Coefficient of Variation %
	Test No. 1	Test No. 2	Test No. 3	Average	
	µg/Rm ³ *	µg/Rm ³ *	µg/Rm ³ *	µg/Rm ³ *	
Acetone	<2.02	<2.02	64.3	<22.8	158
Benzene	1.10	0.92	0.97	1.00	9.6
Bromodichloromethane	<1.10	<1.18	<1.10	<1.12	4.3
Bromoform	<1.77	<1.86	<1.77	<1.80	2.7
Bromomethane	<3.27	<3.27	<3.27	<3.27	0.0
1,3-Butadiene	<0.37	<0.39	<0.37	<0.38	2.6
2-Butanone	4.30	5.50	3.83	4.54	18.9
Carbon Tetrachloride	<1.06	<1.11	<1.06	<1.08	2.7
Chloroform	1.32	1.40	1.53	1.41	7.5
Cumene (Isopropylbenzene)	<0.84	<0.84	<0.84	<0.84	0.0
Dibromochloromethane	<1.43	<1.52	<1.43	<1.46	3.3
Dichlorodifluoromethane	<0.84	<0.84	<0.84	<0.84	0.0
1,2-Dichloroethane	<0.68	<0.72	<0.68	<0.69	2.8
trans,1,2-Dichloroethene	<0.67	<0.70	<0.67	<0.68	2.9
1,1-Dichloroethene	<0.67	<0.70	<0.67	<0.68	2.9
1,2-Dichloropropane	<0.76	<0.84	<0.76	<0.79	6.2
Ethylbenzene	1.50	0.69	<0.36	<0.85	68.8
Ethylene Dibromide	<1.26	<1.35	<1.26	<1.29	3.8
Mesitylene (1,3,5-Trimethylbenzene)	<0.84	<0.84	<0.84	<0.84	0.0
Methylene Chloride	2.72	1.79	1.79	2.10	25.7
Styrene	<0.72	<0.75	<0.72	<0.73	2.7
Tetrachloroethene	<1.18	<1.18	<1.18	<1.18	0.0
Toluene	15.7	3.11	1.46	6.75	115
1,1,1-Trichloroethane	<0.93	<0.93	<0.93	<0.93	0.0
Trichloroethene/1,1,2-Trichloroethene	<0.93	<0.93	<0.93	<0.93	0.0
Trichlorotrifluoroethane	<1.26	<1.35	<1.26	<1.29	3.8
Trichlorofluoromethane	<0.93	<1.01	<0.93	<0.96	5.1
M&P-Xylene	3.63	1.03	<0.73	<1.80	88.6
O-Xylene	0.77	<0.36	<0.36	<0.50	47.0
Vinyl Chloride	<0.43	<0.46	<0.43	<0.44	3.3
Total	<55.0	<39.6	<97.2	<63.9	46.7

* At 25°C and 1 atmosphere

TABLE 89
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Volatile Organic Emission Rates

Compound	Emission Rate			Average mg/s	Coefficient of Variation %
	Test No. 1 mg/s	Test No. 2 mg/s	Test No. 3 mg/s		
Acetone	<0.037	<0.037	1.19	<0.42	158
Benzene	0.020	0.017	0.018	0.018	9.6
Bromodichloromethane	<0.020	<0.022	<0.020	<0.021	4.3
Bromoform	<0.033	<0.034	<0.033	<0.033	2.7
Bromomethane	<0.061	<0.061	<0.061	<0.061	0.0
1,3-Butadiene	<0.0069	<0.0072	<0.0069	<0.0070	2.6
2-Butanone	0.080	0.10	0.071	0.084	18.9
Carbon Tetrachloride	<0.020	<0.021	<0.020	<0.020	2.7
Chloroform	0.024	0.026	0.028	0.026	7.5
Cumene (Isopropylbenzene)	<0.016	<0.016	<0.016	<0.016	0.0
Dibromochloromethane	<0.027	<0.028	<0.027	<0.027	3.3
Dichlorodifluoromethane	<0.016	<0.016	<0.016	<0.016	0.0
1,2-Dichloroethane	<0.013	<0.013	<0.013	<0.013	2.8
trans,1,2-Dichloroethene	<0.012	<0.013	<0.012	<0.013	2.9
1,1-Dichloroethene	<0.012	<0.013	<0.012	<0.013	2.9
1,2-Dichloropropane	<0.014	<0.016	<0.014	<0.015	6.2
Ethylbenzene	0.028	0.013	<0.0067	<0.016	68.8
Ethylene Dibromide	<0.023	<0.025	<0.023	<0.024	3.8
Mesitylene (1,3,5-Trimethylbenzene)	<0.016	<0.016	<0.016	<0.016	0.0
Methylene Chloride	0.050	0.033	0.033	0.039	25.7
Styrene	<0.013	<0.014	<0.013	<0.013	2.7
Tetrachloroethene	<0.022	<0.022	<0.022	<0.022	0.0
Toluene	0.29	0.058	0.027	0.12	115
1,1,1-Trichloroethane	<0.017	<0.017	<0.017	<0.017	0.0
Trichloroethene/1,1,2-Trichloroethene	<0.017	<0.017	<0.017	<0.017	0.0
Trichlorotrifluoroethane	<0.023	<0.025	<0.023	<0.024	3.8
Trichlorofluoromethane	<0.017	<0.019	<0.017	<0.018	5.1
M&P-Xylene	0.067	0.019	<0.014	<0.033	88.6
O-Xylene	0.014	<0.0067	<0.0067	<0.0092	47.0
Vinyl Chloride	<0.0080	<0.0084	<0.0080	<0.0081	3.3
Total	<1.02	<0.73	<1.80	<1.18	46.7

TABLE 90
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Summary of Volatile Organic Emission Data

Compound	Actual Concentration $\mu\text{g}/\text{m}^3$	Dry Reference Concentration $\mu\text{g}/\text{Rm}^3*$	Dry Adjusted Concentration $\mu\text{g}/\text{Rm}^3*$	Wet Reference Concentration $\mu\text{g}/\text{Rm}^3*$	Emission Rate mg/s
Acetone	<15.9	<27.0	<23.3	<22.8	<0.42
Benzene	0.70	1.18	1.02	1.00	0.018
Bromodichloromethane	<0.78	<1.33	<1.15	<1.12	<0.021
Bromoform	<1.26	<2.13	<1.84	<1.80	<0.033
Bromomethane	<2.28	<3.88	<3.34	<3.27	<0.061
1,3-Butadiene	<0.26	<0.45	<0.38	<0.38	<0.0070
2-Butanone	3.17	5.39	4.64	4.54	0.084
Carbon Tetrachloride	<0.75	<1.28	<1.10	<1.08	<0.020
Chloroform	0.99	1.68	1.45	1.41	0.026
Cumene (Isopropylbenzene)	<0.59	<1.00	<0.86	<0.84	<0.016
Dibromochloromethane	<1.02	<1.73	<1.49	<1.46	<0.027
Dichlorodifluoromethane	<0.59	<1.00	<0.86	<0.84	<0.016
1,2-Dichloroethane	<0.48	<0.82	<0.71	<0.69	<0.013
trans,1,2-Dichloroethene	<0.47	<0.80	<0.69	<0.68	<0.013
1,1-Dichloroethene	<0.47	<0.80	<0.69	<0.68	<0.013
1,2-Dichloropropane	<0.55	<0.93	<0.80	<0.79	<0.015
Ethylbenzene	<0.59	<1.01	<0.87	<0.85	<0.016
Ethylene Dibromide	<0.90	<1.53	<1.32	<1.29	<0.024
Mesitylene (1,3,5-Trimethylbenzene)	<0.59	<1.00	<0.86	<0.84	<0.016
Methylene Chloride	1.47	2.49	2.15	2.10	0.039
Styrene	<0.51	<0.86	<0.74	<0.73	<0.013
Tetrachloroethene	<0.82	<1.40	<1.21	<1.18	<0.022
Toluene	4.71	8.01	6.90	6.75	0.12
1,1,1-Trichloroethane	<0.65	<1.10	<0.95	<0.93	<0.017
Trichloroethene/1,1,2-Trichloroethene	<0.65	<1.10	<0.95	<0.93	<0.017
Trichlorotrifluoroethane	<0.90	<1.53	<1.32	<1.29	<0.024
Trichlorofluoromethane	<0.67	<1.13	<0.98	<0.96	<0.018
M&P-Xylene	<1.25	<2.13	<1.84	<1.80	<0.033
O-Xylene	<0.35	<0.59	<0.51	<0.50	<0.0092
Vinyl Chloride	<0.31	<0.52	<0.45	<0.44	<0.0081
Total	<44.6	<75.8	<65.4	<63.9	<1.18

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 91
Reworld Durham York Renewable Energy L.P.
Boiler No. 1 BH Outlet
Blank Volatile Organic Analyses

Compound	Field Blank ppb
Acetone	<1.0
Benzene	<0.10
Bromodichloromethane	<0.20
Bromoform	<0.20
Bromomethane	<1.0
1,3-Butadiene	<0.20
2-Butanone	<0.20
Carbon Tetrachloride	<0.20
Chloroform	<0.20
Cumene (Isopropylbenzene)	<0.20
Dibromochloromethane	<0.20
Dichlorodifluoromethane	<0.20
1,2-Dichloroethane	<0.20
trans,1,2-Dichloroethene	<0.20
1,1-Dichloroethene	<0.20
1,2-Dichloropropane	<0.20
Ethylbenzene	<0.10
Ethylene Dibromide	<0.20
Mesitylene (1,3,5-Trimethylbenzene)	<0.20
Methylene Chloride	<0.20
Styrene	<0.20
Tetrachloroethene	<0.20
Toluene	<0.10
1,1,1-Trichloroethane	<0.20
Trichloroethene/1,1,2-Trichloroethene	<0.20
Trichlorotrifluoroethane	<0.20
Trichlorofluoromethane	<0.20
M&P-Xylene	<0.20
O-Xylene	<0.10
Vinyl Chloride	<0.20
Total	<7.20

Note: "<" indicates that the analyte was not detected. Any analyte that was not detected was assigned a value equal to the detection limit for calculation purposes.

APPENDIX 2

Boiler No. 2 BH Outlet Data Tables (93 pages)

TABLE 1
Reworld Durham York Renewable Energy L.P.
Boiler No. 2
Isokinetic Sampling Train Test Schedules

Particulate and Metals Trains

Test Number	Test Date	Sampling Period		Sampling Time* min
		Start	Finish	
1	October 27, 2025	16:01	19:09	180
2	October 28, 2025	7:35	10:44	180
3	October 28, 2025	11:34	14:40	180

Particle Size Distribution Trains

Test Number	Test Date	Sampling Period		Sampling Time* min
		Start	Finish	
1	October 27, 2025	8:48	10:51	120
2	October 27, 2025	11:43	13:47	120
3	October 27, 2025	14:28	16:33	120

Acid Gases Trains

Test Number	Test Date	Sampling Period		Sampling Time* min
		Start	Finish	
1	October 28, 2025	7:37	8:37	60
2	October 28, 2025	9:23	10:23	60
3	October 28, 2025	11:08	12:08	60

Semi-Volatile Organic Compounds Trains

Test Number	Test Date	Sampling Period		Sampling Time* min
		Start	Finish	
1	October 29, 2025	7:57	12:08	240
2	October 29, 2025	13:09	17:21	240
3	October 30, 2025	7:49	11:57	240

* Actual sampling time excluding leak-checks, traverse changes and process down time.

TABLE 2
Reworld Durham York Renewable Energy L.P.
Boiler No. 2
Organic Compounds Test Schedules

Acrolein and Aldehydes Trains

Test Number	Test Date	Sampling Period		Sampling Time min
		Start	Finish	
1	October 29, 2025	8:05	9:05	60
2	October 29, 2025	9:34	10:34	60
3	October 29, 2025	11:15	12:15	60

Volatile Organic Compounds Trains

Test Number	Test Date	Sampling Period		Sampling Time min
		Start	Finish	
1	October 29, 2025	8:05	9:30	85
2	October 29, 2025	9:33	10:36	63
3	October 29, 2025	11:13	12:45	92

Total Hydrocarbons Trains

Sampling Location	Test Number	Test Date	Sampling Period		Sampling Time min
			Start	Finish	
BH Outlet	1	October 28, 2025	7:35	8:35	60
BH Outlet	2	October 28, 2025	9:00	10:00	60
BH Outlet	3	October 28, 2025	10:20	11:20	60
Quench Inlet	1	October 28, 2025	7:35	8:35	60
Quench Inlet	2	October 28, 2025	9:00	10:00	60
Quench Inlet	3	October 28, 2025	10:20	11:20	60

TABLE 3
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Stack Gas Sampling Parameters

Particulate and Metals Trains

Test No.	Pitot Tube Coefficient	Dry Gas Meter Factor	Nozzle Diameter mm	Gas Volume Sampled Rm ³ *	Percentage of Isokineticity %
1	0.841	0.986	6.20	3.721	101.9
2	0.842	0.990	6.34	4.050	101.0
3	0.842	0.990	6.34	4.052	100.6

Particle Size Distribution Trains

Test No.	Pitot Tube Coefficient	Dry Gas Meter Factor	Nozzle Diameter mm	Gas Volume Sampled Rm ³ *	Percentage of Isokineticity %
1	0.840	1.001	4.51	1.156	91.7
2	0.840	1.001	4.51	1.156	91.7
3	0.840	1.001	4.51	1.211	91.4

Acid Gases Trains

Test No.	Pitot Tube Coefficient	Dry Gas Meter Factor	Nozzle Diameter mm	Gas Volume Sampled Rm ³ *	Percentage of Isokineticity %
1	0.841	0.986	6.20	1.257	101.4
2	0.841	0.986	6.20	1.209	100.6
3	0.841	0.986	6.20	1.301	100.3

Semi-Volatile Organic Compounds Trains

Test No.	Pitot Tube Coefficient	Dry Gas Meter Factor	Nozzle Diameter mm	Gas Volume Sampled Rm ³ *	Percentage of Isokineticity %
1	0.844	0.990	6.34	4.983	99.7
2	0.844	0.990	6.34	5.014	100.8
3	0.844	0.990	6.34	4.934	99.9

* Dry at 25°C and 1 atmosphere

TABLE 4
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Stack Gas Physical Parameters

Particulate and Metals Trains

Test No.	Gas Temp. °C	Moisture by Volume %	Gas Velocity m/s	Static Pressure kPa	Absolute Pressure kPa	Carbon Dioxide by Volume % *	Oxygen by Volume % *
1	135	16.1	18.7	-2.70	99.0	9.97	9.22
2	135	16.5	19.7	-2.46	99.0	9.59	9.75
3	134	16.3	19.7	-2.46	99.0	9.62	9.67
Average	135	16.3	19.4	-2.54	99.0	9.73	9.55

Particle Size Distribution Trains

Test No.	Gas Temp. °C	Moisture by Volume %	Gas Velocity m/s	Static Pressure kPa	Absolute Pressure kPa	Carbon Dioxide by Volume % *	Oxygen by Volume % *
1	138	14.6	18.2	-2.59	99.1	10.0	9.33
2	137	14.7	18.2	-2.59	99.1	10.1	9.29
3	136	15.2	18.7	-2.59	99.0	10.1	9.25
Average	137	14.8	18.4	-2.59	99.0	10.0	9.29

Acid Gases Trains **

Test No.	Gas Temp. °C	Moisture by Volume %	Gas Velocity m/s	Static Pressure kPa	Absolute Pressure kPa	Carbon Dioxide by Volume % *	Oxygen by Volume % *
1	134	16.5	19.1	-2.46	99.0	9.74	9.58
2	134	15.7	18.3	-2.46	99.0	9.51	9.80
3	136	16.1	19.9	-2.46	99.0	9.56	9.78
Average	134	16.1	19.1	-2.46	99.0	9.60	9.72

Semi-Volatile Organics Trains

Test No.	Gas Temp. °C	Moisture by Volume %	Gas Velocity m/s	Static Pressure kPa	Absolute Pressure kPa	Carbon Dioxide by Volume % *	Oxygen by Volume % *
1	134	15.4	18.3	-2.52	98.4	10.1	9.08
2	134	16.3	18.4	-2.52	98.4	10.1	8.99
3	134	16.0	18.5	-2.80	97.1	10.0	9.02
Average	134	15.9	18.4	-2.62	97.9	10.1	9.03

* Dry basis, measured by the DYEC CEMS

** Sampling was conducted isokinetically on a single traverse in the duct.

TABLE 5
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Stack Gas Volumetric Flowrates

Particulate and Metals Trains

Test No.	Actual Flowrate m ³ /s	Dry Reference Flowrate Rm ³ /s *	Dry Adjusted Flowrate Rm ³ /s **	Wet Reference Flowrate Rm ³ /s*
1	27.7	16.6	19.5	19.7
2	29.2	17.4	19.6	20.8
3	29.2	17.5	19.8	20.9
Average	28.7	17.1	19.7	20.5

Particle Size Distribution Trains

Test No.	Actual Flowrate m ³ /s	Dry Reference Flowrate Rm ³ /s *	Dry Adjusted Flowrate Rm ³ /s **	Wet Reference Flowrate Rm ³ /s*
1	26.9	16.3	19.1	19.1
2	26.9	16.3	19.1	19.1
3	27.6	16.7	19.6	19.6
Average	27.1	16.4	19.2	19.3

Acid Gases Trains ***

Test No.	Actual Flowrate m ³ /s	Dry Reference Flowrate Rm ³ /s *	Dry Adjusted Flowrate Rm ³ /s **	Wet Reference Flowrate Rm ³ /s*
1	28.2	16.9	19.3	20.2
2	27.1	16.4	18.3	19.4
3	29.5	17.6	19.8	21.0
Average	28.3	16.9	19.1	20.2

Semi-Volatile Organics Trains

Test No.	Actual Flowrate m ³ /s	Dry Reference Flowrate Rm ³ /s *	Dry Adjusted Flowrate Rm ³ /s **	Wet Reference Flowrate Rm ³ /s*
1	27.1	16.3	19.4	19.2
2	27.2	16.2	19.5	19.3
3	27.3	16.1	19.3	19.2
Average	27.2	16.2	19.4	19.2

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

*** Sampling was conducted isokinetically on a single traverse in the duct. Volumetric flowrates from the corresponding particulate and metals tests were used to calculate emission data.

TABLE 6
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Particulate Emission Data

Test No.	Particulate Collected			Dry Gas Volume Sampled Rm ³ *	Actual mg/m ³	Particulate Concentration			Particulate Emission Rate mg/s
	Main Filter	Probe Rinse	Total			Dry Reference	Dry Adjusted	Wet Reference	
	mg	mg	mg			mg/Rm ³ *	mg/Rm ^{3**}	mg/Rm ³ *	
1	<0.6	<0.4	<1.0	3.721	<0.16	<0.27	<0.23	<0.23	<4.45
2	1.0	1.1	2.1	4.050	0.31	0.52	0.46	0.43	9.02
3	<0.6	1.1	<1.7	4.052	<0.25	<0.42	<0.37	<0.35	<7.33
Average					<0.24	<0.40	<0.35	<0.34	<6.93
Blank	2.1	0.5	2.6						

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

* At 25 °C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 7
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
PM_{2.5} and PM₁₀ Emission Data

PM_{2.5}

Test No.	Total Collected	Dry Volume Sampled	PM _{2.5} Concentration			Wet Reference	Emission Rate
	mg	Rm ^{3*}	Actual mg/m ³	Dry Reference mg/Rm ^{3*}	Dry Adjusted mg/Rm ^{3**}	mg/Rm ^{3*}	
1	<1.0	1.156	<0.52	<0.87	<0.74	<0.74	<14.1
2	<1.0	1.156	<0.52	<0.87	<0.74	<0.74	<14.1
3	<1.0	1.211	<0.50	<0.83	<0.70	<0.70	<13.7
Average			<0.52	<0.85	<0.73	<0.73	<14.0
Blank	<1.0						

PM₁₀

Test No.	Total Collected	Dry Volume Sampled	PM ₁₀ Concentration			Wet Reference	Emission Rate
	mg	Rm ^{3*}	Actual mg/m ³	Dry Reference mg/Rm ^{3*}	Dry Adjusted mg/Rm ^{3**}	mg/Rm ^{3*}	
1	<1.4	1.156	<0.73	<1.21	<1.04	<1.03	<19.8
2	<1.4	1.156	<0.73	<1.21	<1.03	<1.03	<19.7
3	<1.4	1.211	<0.70	<1.16	<0.98	<0.98	<19.2
Average			<0.72	<1.19	<1.02	<1.02	<19.6
Blank	<1.4						

* At 25 °C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 8
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Condensable Particulate Emission Data

Inorganic Condensable Particulate

Test No.	Total Collected mg	Dry Volume Sampled Rm ³ *	Inorganic Condensable Particulate Concentration				Emission Rate mg/s
			Actual mg/m ³	Dry Reference mg/Rm ³ *	Dry Adjusted mg/Rm ^{3**}	Wet Reference mg/Rm ³ *	
1	1.9	1.156	1.00	1.64	1.41	1.40	26.8
2	2.4	1.156	1.26	2.08	1.77	1.77	33.8
3	2.3	1.211	1.14	1.90	1.61	1.61	31.6
Average			1.13	1.87	1.60	1.59	30.7
Blank	0.6						

Organic Condensable Particulate

Test No.	Total Collected mg	Dry Volume Sampled Rm ³ *	Organic Condensable Particulate Concentration				Emission Rate mg/s
			Actual mg/m ³	Dry Reference mg/Rm ³ *	Dry Adjusted mg/Rm ^{3**}	Wet Reference mg/Rm ³ *	
1	1.5	1.156	0.79	1.30	1.11	1.11	21.2
2	1.5	1.156	0.79	1.30	1.11	1.11	21.1
3	1.4	1.211	0.70	1.16	0.98	0.98	19.2
Average			0.76	1.25	1.07	1.06	20.5
Blank	0.9						

* At 25 °C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 9
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Halides and Ammonia Emission Data

Hydrogen Chloride

Test No.	HCl Collected	Dry Volume Sampled	Hydrogen Chloride Concentration				HCl Emission Rate
	mg	Rm ³ *	Actual mg/m ³	Dry Reference mg/Rm ³ *	Dry Adjusted mg/Rm ^{3**}	Wet Reference mg/Rm ³ *	mg/s
1	3.08	1.257	1.46	2.45	2.18	2.05	42.6
2	3.33	1.209	1.64	2.75	2.45	2.30	47.9
3	3.36	1.301	1.55	2.58	2.28	2.16	45.1
Average			1.55	2.60	2.30	2.17	45.2
Blank	<0.156						

Hydrogen Fluoride

Test No.	HF Collected	Dry Volume Sampled	Hydrogen Fluoride Concentration				HF Emission Rate
	mg	Rm ³ *	Actual mg/m ³	Dry Reference mg/Rm ³ *	Dry Adjusted mg/Rm ^{3**}	Wet Reference mg/Rm ³ *	mg/s
1	<0.157	1.257	<0.074	<0.12	<0.11	<0.10	<2.17
2	<0.157	1.209	<0.077	<0.13	<0.12	<0.11	<2.26
3	<0.163	1.301	<0.075	<0.13	<0.11	<0.10	<2.19
Average			<0.076	<0.13	<0.11	<0.11	<2.21
Blank	<0.107						

Ammonia

Test No.	Ammonia Collected	Dry Volume Sampled	Ammonia Concentration				Ammonia Emission Rate
	mg	Rm ³ *	Actual mg/m ³	Dry Reference mg/Rm ³ *	Dry Adjusted mg/Rm ^{3**}	Wet Reference mg/Rm ³ *	mg/s
1	0.936	1.257	0.44	0.74	0.66	0.62	13.0
2	0.983	1.209	0.48	0.81	0.72	0.68	14.1
3	0.995	1.301	0.46	0.76	0.67	0.64	13.4
Average			0.46	0.77	0.69	0.65	13.5
Blank	<0.020						

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

* At 25 °C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 10
Reworld Durham York Renewable Energy L.P.
Boiler No. 2
Combustion Gas Analyses

Data measured by the DYEC CEMS from October 27 to October 30, 2025

Sampling Location	Parameter	Minimum	Average	Maximum
BH Outlet	Oxygen (% , 1 hr Avg)	8.53	9.39	10.16
BH Outlet	Carbon Monoxide (mg/Rm ³ , 1 hr Avg) *	6	14	43
BH Outlet	Carbon Monoxide (mg/Rm ³ , 4 hr Avg) *	7.0	13.4	21.8
BH Outlet	Sulphur Dioxide (mg/Rm ³ , 1 hr Avg) *	0	1.1	54
BH Outlet	Sulphur Dioxide (mg/Rm ³ , 24 hr Avg) *	0.1	1.4	3.5
BH Outlet	Nitrogen Oxides (mg/Rm ³ , 1 hr Avg) *	94	109	127
BH Outlet	Nitrogen Oxides (mg/Rm ³ , 24 hr Avg) *	107	109	110
BH Outlet	Hydrogen Chloride (mg/Rm ³ , 1 hr Avg) *	0	1	4
BH Outlet	Hydrogen Chloride (mg/Rm ³ , 24 hr Avg) *	0.3	0.8	1.0
BH Outlet	Total Hydrocarbons (mg/Rm ³ , 1 hr Avg) *	0	0.1	1.0
Quench Inlet	Oxygen (% , 1 hr Avg)	6	7	8

Data measured by the Alliance CEMS on October 28, 2025

Sampling Location	Test No.	Parameter	Minimum	Average	Maximum
BH Outlet	1	Total Hydrocarbons (ppm dry, 1-min Avg)	0	0.01	0.51
BH Outlet	2	Total Hydrocarbons (ppm dry, 1-min Avg)	0	0.58	1.56
BH Outlet	3	Total Hydrocarbons (ppm dry, 1-min Avg)	0	0.20	1.17
Average		Total Hydrocarbons (ppm dry, 1-min Avg)		0.26	
Quench Inlet	1	Total Hydrocarbons (ppm dry, 1-min Avg)	0.41	0.62	0.86
Quench Inlet	2	Total Hydrocarbons (ppm dry, 1-min Avg)	0.30	0.48	0.70
Quench Inlet	3	Total Hydrocarbons (ppm dry, 1-min Avg)	0	0.50	1.01
Average		Total Hydrocarbons (ppm dry, 1-min Avg)		0.53	
Quench Inlet	1	Total Hydrocarbons (ppm dry, 10-min Avg)	0.54	0.63	0.70
Quench Inlet	2	Total Hydrocarbons (ppm dry, 10-min Avg)	0.35	0.49	0.68
Quench Inlet	3	Total Hydrocarbons (ppm dry, 10-min Avg)	0.14	0.48	0.85
Average		Total Hydrocarbons (ppm dry, 10-min Avg)		0.53	

* Reference conditions, dry basis adjusted to 11% oxygen

TABLE 11
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Metals Analyses Test No. 1

Metal	Probe & Filter Hydrofluoric Acid Digest	Impingers & Rinses	Total Collected
	µg	µg	µg
Antimony	<0.20	<0.10	<0.20
Arsenic	<1.0	<0.50	<0.50
Barium	12.2	<2.5	12.2
Beryllium	<0.20	<0.10	<0.20
Cadmium	<0.10	0.15	0.15
Chromium	3.70	0.53	4.23
Cobalt	<0.20	<0.10	<0.20
Copper	2.10	4.02	6.12
Lead	0.58	1.07	1.65
Mercury *	<0.022	<0.285	<0.29
Molybdenum	19.3	<0.10	19.3
Nickel	2.04	3.99	6.03
Selenium	<2.0	<1.0	<1.00
Silver	<0.20	<0.10	<0.20
Thallium	<0.20	<0.10	<0.20
Vanadium	<1.0	<0.50	<0.50
Zinc	11.4	3.70	15.1
Total			<68.1

* Includes the permanganate impingers

Note: "<" indicates that the analyte was not detected. Where all values were reported below the detection limit for a given metal, the value of the detection limit for the fraction most likely to contain that metal was used to calculate emission data, the remaining fractions were assigned a value of zero. In instances where only one fraction was below the detection limit, that fraction was assigned a value of zero to calculate emission data.

TABLE 12
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Metals Analyses Test No. 2

Metal	Probe & Filter Hydrofluoric Acid Digest	Impingers & Rinses	Total Collected
	µg	µg	µg
Antimony	<0.20	<0.10	<0.20
Arsenic	<1.0	<0.50	<0.50
Barium	11.8	<2.5	11.8
Beryllium	<0.20	<0.10	<0.20
Cadmium	0.12	<0.050	0.12
Chromium	2.70	0.67	3.37
Cobalt	<0.20	<0.10	<0.20
Copper	2.80	3.88	6.68
Lead	0.70	2.68	3.38
Mercury *	<0.022	<0.285	<0.29
Molybdenum	18.7	<0.10	18.7
Nickel	1.52	0.94	2.46
Selenium	<2.0	<1.0	<1.00
Silver	<0.20	<0.10	<0.20
Thallium	<0.20	<0.10	<0.20
Vanadium	<1.0	<0.50	<0.50
Zinc	18.5	6.20	24.7
Total			<74.5

* Includes the permanganate impingers

Note: "<" indicates that the analyte was not detected. Where all values were reported below the detection limit for a given metal, the value of the detection limit for the fraction most likely to contain that metal was used to calculate emission data, the remaining fractions were assigned a value of zero. In instances where only one fraction was below the detection limit, that fraction was assigned a value of zero to calculate emission data.

TABLE 13
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Metals Analyses Test No. 3

Metal	Probe & Filter	Impingers	Total
	Hydrofluoric Acid Digest	& Rinses	Collected
	µg	µg	µg
Antimony	<0.20	<0.10	<0.20
Arsenic	<1.0	<0.50	<0.50
Barium	14.4	<2.5	14.4
Beryllium	<0.20	<0.10	<0.20
Cadmium	0.16	0.074	0.23
Chromium	2.20	<0.50	2.20
Cobalt	<0.20	<0.10	<0.20
Copper	3.40	3.82	7.22
Lead	0.74	2.60	3.34
Mercury *	<0.022	<0.285	<0.29
Molybdenum	18.4	<0.10	18.4
Nickel	1.54	0.77	2.31
Selenium	<2.0	<1.0	<1.00
Silver	<0.20	<0.10	<0.20
Thallium	<0.20	<0.10	<0.20
Vanadium	<1.0	<0.50	<0.50
Zinc	18.1	7.20	25.3
Total			<76.7

* Includes the permanganate impingers

Note: "<" indicates that the analyte was not detected. Where all values were reported below the detection limit for a given metal, the value of the detection limit for the fraction most likely to contain that metal was used to calculate emission data, the remaining fractions were assigned a value of zero. In instances where only one fraction was below the detection limit, that fraction was assigned a value of zero to calculate emission data.

TABLE 14
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Metals Emission Data Test No. 1

Metal	Total Collected	Actual Concentration	Dry Reference Concentration	Dry Adjusted Concentration	Wet Reference Concentration	Emission Rate
	µg	µg/m ³	µg/Rm ^{3*}	µg/Rm ^{3**}	µg/Rm ^{3*}	mg/s
Antimony	<0.20	<0.032	<0.054	<0.046	<0.045	<0.00089
Arsenic	<0.50	<0.081	<0.13	<0.11	<0.11	<0.0022
Barium	12.2	1.96	3.28	2.79	2.76	0.054
Beryllium	<0.20	<0.032	<0.054	<0.046	<0.045	<0.00089
Cadmium	0.15	0.025	0.041	0.035	0.035	0.00068
Chromium	4.23	0.68	1.14	0.97	0.96	0.019
Cobalt	<0.20	<0.032	<0.054	<0.046	<0.045	<0.00089
Copper	6.12	0.99	1.64	1.40	1.39	0.027
Lead	1.65	0.27	0.44	0.38	0.37	0.0074
Mercury	<0.29	<0.046	<0.077	<0.065	<0.065	<0.0013
Molybdenum	19.3	3.11	5.19	4.42	4.37	0.086
Nickel	6.03	0.97	1.62	1.38	1.37	0.027
Selenium	<1.00	<0.16	<0.27	<0.23	<0.23	<0.0045
Silver	<0.20	<0.032	<0.054	<0.046	<0.045	<0.00089
Thallium	<0.20	<0.032	<0.054	<0.046	<0.045	<0.00089
Vanadium	<0.50	<0.081	<0.13	<0.11	<0.11	<0.0022
Zinc	15.1	2.43	4.06	3.45	3.42	0.067
Total	<68.1	<11.0	<18.3	<15.6	<15.4	<0.30

Dry Gas Volume Sampled (Rm ^{3*}) :	3.721
Actual Flowrate (m ³ /s) :	27.7
Dry Reference Flowrate (Rm ³ /s*) :	16.6
Dry Adjusted Flowrate (Rm ³ /s**) :	19.5
Wet Reference Flowrate (Rm ³ /s*) :	19.7

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 15
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Metals Emission Data Test No. 2

Metal	Total Collected μg	Actual Concentration $\mu\text{g}/\text{m}^3$	Dry Reference Concentration $\mu\text{g}/\text{Rm}^{3*}$	Dry Adjusted Concentration $\mu\text{g}/\text{Rm}^{3**}$	Wet Reference Concentration $\mu\text{g}/\text{Rm}^{3*}$	Emission Rate mg/s
Antimony	<0.20	<0.029	<0.049	<0.044	<0.041	<0.00086
Arsenic	<0.50	<0.074	<0.12	<0.11	<0.10	<0.0021
Barium	11.8	1.74	2.91	2.59	2.44	0.051
Beryllium	<0.20	<0.029	<0.049	<0.044	<0.041	<0.00086
Cadmium	0.12	0.018	0.030	0.026	0.025	0.00052
Chromium	3.37	0.50	0.83	0.74	0.70	0.014
Cobalt	<0.20	<0.029	<0.049	<0.044	<0.041	<0.00086
Copper	6.68	0.98	1.65	1.46	1.38	0.029
Lead	3.38	0.50	0.83	0.74	0.70	0.015
Mercury	<0.29	<0.042	<0.070	<0.062	<0.059	<0.0012
Molybdenum	18.7	2.75	4.62	4.10	3.86	0.080
Nickel	2.46	0.36	0.61	0.54	0.51	0.011
Selenium	<1.00	<0.15	<0.25	<0.22	<0.21	<0.0043
Silver	<0.20	<0.029	<0.049	<0.044	<0.041	<0.00086
Thallium	<0.20	<0.029	<0.049	<0.044	<0.041	<0.00086
Vanadium	<0.50	<0.074	<0.12	<0.11	<0.10	<0.0021
Zinc	24.7	3.63	6.10	5.41	5.10	0.11
Total	<74.5	<11.0	<18.4	<16.3	<15.4	<0.32

Dry Gas Volume Sampled (Rm^3 *) :	4.050
Actual Flowrate (m^3/s) :	29.2
Dry Reference Flowrate (Rm^3/s *) :	17.4
Dry Adjusted Flowrate (Rm^3/s **) :	19.6
Wet Reference Flowrate (Rm^3/s *) :	20.8

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 16
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Metals Emission Data Test No. 3

Metal	Total Collected μg	Actual Concentration $\mu\text{g}/\text{m}^3$	Dry Reference Concentration $\mu\text{g}/\text{Rm}^{3*}$	Dry Adjusted Concentration $\mu\text{g}/\text{Rm}^{3**}$	Wet Reference Concentration $\mu\text{g}/\text{Rm}^{3*}$	Emission Rate mg/s
Antimony	<0.20	<0.030	<0.049	<0.044	<0.041	<0.00086
Arsenic	<0.50	<0.074	<0.12	<0.11	<0.10	<0.0022
Barium	14.4	2.13	3.55	3.14	2.98	0.062
Beryllium	<0.20	<0.030	<0.049	<0.044	<0.041	<0.00086
Cadmium	0.23	0.035	0.058	0.051	0.048	0.0010
Chromium	2.20	0.33	0.54	0.48	0.45	0.0095
Cobalt	<0.20	<0.030	<0.049	<0.044	<0.041	<0.00086
Copper	7.22	1.07	1.78	1.57	1.49	0.031
Lead	3.34	0.49	0.82	0.73	0.69	0.014
Mercury	<0.29	<0.042	<0.070	<0.062	<0.059	<0.0012
Molybdenum	18.4	2.72	4.54	4.01	3.80	0.079
Nickel	2.31	0.34	0.57	0.50	0.48	0.010
Selenium	<1.00	<0.15	<0.25	<0.22	<0.21	<0.0043
Silver	<0.20	<0.030	<0.049	<0.044	<0.041	<0.00086
Thallium	<0.20	<0.030	<0.049	<0.044	<0.041	<0.00086
Vanadium	<0.50	<0.074	<0.12	<0.11	<0.10	<0.0022
Zinc	25.3	3.74	6.24	5.52	5.23	0.11
Total	<76.7	<11.3	<18.9	<16.7	<15.8	<0.33

Dry Gas Volume Sampled (Rm^3) :	4.052
Actual Flowrate (m^3/s) :	29.2
Dry Reference Flowrate (Rm^3/s^*) :	17.5
Dry Adjusted Flowrate ($\text{Rm}^3/\text{s}^{**}$) :	19.8
Wet Reference Flowrate (Rm^3/s^*) :	20.9

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 17
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Summary of Metal Actual Concentrations

Metal	Actual Concentration				Coefficient of Variation
	Test No. 1 $\mu\text{g}/\text{m}^3$	Test No. 2 $\mu\text{g}/\text{m}^3$	Test No. 3 $\mu\text{g}/\text{m}^3$	Average $\mu\text{g}/\text{m}^3$	
Antimony	<0.032	<0.029	<0.030	<0.030	5.1
Arsenic	<0.081	<0.074	<0.074	<0.076	5.1
Barium	1.96	1.74	2.13	1.94	10.2
Beryllium	<0.032	<0.029	<0.030	<0.030	5.1
Cadmium	0.025	0.018	0.035	0.026	33.2
Chromium	0.68	0.50	0.33	0.50	35.5
Cobalt	<0.032	<0.029	<0.030	<0.030	5.1
Copper	0.99	0.98	1.07	1.01	4.8
Lead	0.27	0.50	0.49	0.42	31.7
Mercury	<0.046	<0.042	<0.042	<0.043	5.1
Molybdenum	3.11	2.75	2.72	2.86	7.5
Nickel	0.97	0.36	0.34	0.56	64.1
Selenium	<0.16	<0.15	<0.15	<0.15	5.1
Silver	<0.032	<0.029	<0.030	<0.030	5.1
Thallium	<0.032	<0.029	<0.030	<0.030	5.1
Vanadium	<0.081	<0.074	<0.074	<0.076	5.1
Zinc	2.43	3.63	3.74	3.27	22.2
Total	<11.0	<11.0	<11.3	<11.1	2.0

TABLE 18
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Summary of Metal Dry Reference Concentrations

Metal	Dry Reference Concentration			Average	Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3		
	µg/Rm ³ *	µg/Rm ³ *	µg/Rm ³ *	µg/Rm ³ *	%
Antimony	<0.054	<0.049	<0.049	<0.051	5.0
Arsenic	<0.13	<0.12	<0.12	<0.13	5.0
Barium	3.28	2.91	3.55	3.25	9.9
Beryllium	<0.054	<0.049	<0.049	<0.051	5.0
Cadmium	0.041	0.030	0.058	0.043	33.0
Chromium	1.14	0.83	0.54	0.84	35.5
Cobalt	<0.054	<0.049	<0.049	<0.051	5.0
Copper	1.64	1.65	1.78	1.69	4.6
Lead	0.44	0.83	0.82	0.70	31.8
Mercury	<0.077	<0.070	<0.070	<0.072	5.0
Molybdenum	5.19	4.62	4.54	4.78	7.4
Nickel	1.62	0.61	0.57	0.93	63.9
Selenium	<0.27	<0.25	<0.25	<0.25	5.0
Silver	<0.054	<0.049	<0.049	<0.051	5.0
Thallium	<0.054	<0.049	<0.049	<0.051	5.0
Vanadium	<0.13	<0.12	<0.12	<0.13	5.0
Zinc	4.06	6.10	6.24	5.47	22.4
Total	<18.3	<18.4	<18.9	<18.5	1.8

* At 25°C and 1 atmosphere

TABLE 19
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Summary of Metal Dry Adjusted Concentrations

Metal	Dry Adjusted Concentration				Coefficient of Variation %
	Test No. 1 $\mu\text{g}/\text{Rm}^{3**}$	Test No. 2 $\mu\text{g}/\text{Rm}^{3**}$	Test No. 3 $\mu\text{g}/\text{Rm}^{3**}$	Average $\mu\text{g}/\text{Rm}^{3**}$	
Antimony	<0.046	<0.044	<0.044	<0.044	2.6
Arsenic	<0.11	<0.11	<0.11	<0.11	2.6
Barium	2.79	2.59	3.14	2.84	9.9
Beryllium	<0.046	<0.044	<0.044	<0.044	2.6
Cadmium	0.035	0.026	0.051	0.037	33.5
Chromium	0.97	0.74	0.48	0.73	33.5
Cobalt	<0.046	<0.044	<0.044	<0.044	2.6
Copper	1.40	1.46	1.57	1.48	6.0
Lead	0.38	0.74	0.73	0.62	33.5
Mercury	<0.065	<0.062	<0.062	<0.063	2.6
Molybdenum	4.42	4.10	4.01	4.18	5.1
Nickel	1.38	0.54	0.50	0.81	61.4
Selenium	<0.23	<0.22	<0.22	<0.22	2.6
Silver	<0.046	<0.044	<0.044	<0.044	2.6
Thallium	<0.046	<0.044	<0.044	<0.044	2.6
Vanadium	<0.11	<0.11	<0.11	<0.11	2.6
Zinc	3.45	5.41	5.52	4.80	24.2
Total	<15.6	<16.3	<16.7	<16.2	3.6

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 20
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Summary of Metal Wet Reference Concentrations

Metal	Wet Reference Concentration			Average	Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3		
	µg/Rm ³ *	µg/Rm ³ *	µg/Rm ³ *	µg/Rm ³ *	%
Antimony	<0.045	<0.041	<0.041	<0.043	5.4
Arsenic	<0.11	<0.10	<0.10	<0.11	5.4
Barium	2.76	2.44	2.98	2.73	9.9
Beryllium	<0.045	<0.041	<0.041	<0.043	5.4
Cadmium	0.035	0.025	0.048	0.036	32.9
Chromium	0.96	0.70	0.45	0.70	35.8
Cobalt	<0.045	<0.041	<0.041	<0.043	5.4
Copper	1.39	1.38	1.49	1.42	4.4
Lead	0.37	0.70	0.69	0.59	31.5
Mercury	<0.065	<0.059	<0.059	<0.061	5.4
Molybdenum	4.37	3.86	3.80	4.01	7.8
Nickel	1.37	0.51	0.48	0.78	64.3
Selenium	<0.23	<0.21	<0.21	<0.21	5.4
Silver	<0.045	<0.041	<0.041	<0.043	5.4
Thallium	<0.045	<0.041	<0.041	<0.043	5.4
Vanadium	<0.11	<0.10	<0.10	<0.11	5.4
Zinc	3.42	5.10	5.23	4.58	22.0
Total	<15.4	<15.4	<15.8	<15.5	1.7

* At 25°C and 1 atmosphere

TABLE 21
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Summary of Metal Emission Rates

Metal	Emission Rate				Coefficient of Variation %
	Test No. 1 mg/s	Test No. 2 mg/s	Test No. 3 mg/s	Average mg/s	
Antimony	<0.00089	<0.00086	<0.00086	<0.00087	2.1
Arsenic	<0.0022	<0.0021	<0.0022	<0.0022	2.1
Barium	0.054	0.051	0.062	0.056	10.5
Beryllium	<0.00089	<0.00086	<0.00086	<0.00087	2.1
Cadmium	0.00068	0.00052	0.0010	0.00074	34.2
Chromium	0.019	0.014	0.0095	0.014	32.8
Cobalt	<0.00089	<0.00086	<0.00086	<0.00087	2.1
Copper	0.027	0.029	0.031	0.029	6.8
Lead	0.0074	0.015	0.014	0.012	33.9
Mercury	<0.0013	<0.0012	<0.0012	<0.0012	2.1
Molybdenum	0.086	0.080	0.079	0.082	4.4
Nickel	0.027	0.011	0.010	0.016	60.7
Selenium	<0.0045	<0.0043	<0.0043	<0.0044	2.1
Silver	<0.00089	<0.00086	<0.00086	<0.00087	2.1
Thallium	<0.00089	<0.00086	<0.00086	<0.00087	2.1
Vanadium	<0.0022	<0.0021	<0.0022	<0.0022	2.1
Zinc	0.067	0.11	0.11	0.094	24.8
Total	<0.30	<0.32	<0.33	<0.32	4.4

TABLE 22
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Summary of Metal Emission Data

Metal	Actual Concentration $\mu\text{g}/\text{m}^3$	Dry Reference Concentration $\mu\text{g}/\text{Rm}^{3*}$	Dry Adjusted Concentration $\mu\text{g}/\text{Rm}^{3**}$	Wet Reference Concentration $\mu\text{g}/\text{Rm}^{3*}$	Emission Rate mg/s
Antimony	<0.030	<0.051	<0.044	<0.043	<0.00087
Arsenic	<0.076	<0.13	<0.11	<0.11	<0.0022
Barium	1.94	3.25	2.84	2.73	0.056
Beryllium	<0.030	<0.051	<0.044	<0.043	<0.00087
Cadmium	0.026	0.043	0.037	0.036	0.00074
Chromium	0.50	0.84	0.73	0.70	0.014
Cobalt	<0.030	<0.051	<0.044	<0.043	<0.00087
Copper	1.01	1.69	1.48	1.42	0.029
Lead	0.42	0.70	0.62	0.59	0.012
Mercury	<0.043	<0.072	<0.063	<0.061	<0.0012
Molybdenum	2.86	4.78	4.18	4.01	0.082
Nickel	0.56	0.93	0.81	0.78	0.016
Selenium	<0.15	<0.25	<0.22	<0.21	<0.0044
Silver	<0.030	<0.051	<0.044	<0.043	<0.00087
Thallium	<0.030	<0.051	<0.044	<0.043	<0.00087
Vanadium	<0.076	<0.13	<0.11	<0.11	<0.0022
Zinc	3.27	5.47	4.80	4.58	0.094
Total	<11.1	<18.5	<16.2	<15.5	<0.32

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 23
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Blank Train Metal Analyses

Metal	Probe & Filter Hydrofluoric Acid Digest µg	Impingers & Rinses µg	Total Collected µg
Antimony	<0.20	<0.10	<0.20
Arsenic	<1.0	<0.50	<0.50
Barium	10.6	<2.5	10.6
Beryllium	<0.20	<0.10	<0.20
Cadmium	<0.10	<0.050	<0.10
Chromium	2.60	0.57	3.17
Cobalt	<0.20	0.12	0.12
Copper	3.60	3.33	6.93
Lead	<0.50	0.73	0.73
Mercury *	<0.022	<0.285	<0.29
Molybdenum	18.4	<0.10	18.4
Nickel	1.36	0.62	1.98
Selenium	<2.0	<1.0	<1.00
Silver	<0.20	<0.10	<0.20
Thallium	<0.20	<0.10	<0.20
Vanadium	<1.0	<0.50	<0.50
Zinc	<6.0	<3.0	<6.00
Total			<51.1

* Includes the permanganate impingers.

Note: "<" indicates that the analyte was not detected. Where all values are reported below the detection limit for a given metal, the value of the detection limit for the fraction most likely to contain that metal was used to calculate the total collected in the blank, the remaining fractions are assigned a value of zero. In instances where only one fraction was below the detection limit, that fraction was assigned a value of zero to calculate the total collected in the blank.

TABLE 24
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Dioxin and Furan Congener Group Emission Data
Test No. 1

Dioxins

Congener Group	Total Collected	Actual Concentration	Dry Reference Concentration	Dry Adjusted Concentration	Wet Reference Concentration	Emission Rate
	pg	ng/m ³	ng/Rm ^{3*}	ng/Rm ^{3**}	ng/Rm ^{3*}	ng/s
Tetrachlorodibenzo-p-dioxins	<3.4	<0.00041	<0.00068	<0.00057	<0.00058	<0.011
Pentachlorodibenzo-p-dioxins	30.7	0.0037	0.0062	0.0052	0.0052	0.10
Hexachlorodibenzo-p-dioxins	72.4	0.0087	0.015	0.012	0.012	0.24
Heptachlorodibenzo-p-dioxins	<1.7	<0.00021	<0.00034	<0.00029	<0.00029	<0.0056
Octachlorodibenzo-p-dioxin	<46	<0.0056	<0.0092	<0.0078	<0.0078	<0.15
Total	<154	<0.019	<0.031	<0.026	<0.026	<0.50

Furans

Congener Group	Total Collected	Actual Concentration	Dry Reference Concentration	Dry Adjusted Concentration	Wet Reference Concentration	Emission Rate
	pg	ng/m ³	ng/Rm ^{3*}	ng/Rm ^{3**}	ng/Rm ^{3*}	ng/s
Tetrachlorodibenzofurans	7.43	0.00090	0.0015	0.0013	0.0013	0.024
Pentachlorodibenzofurans	5.58	0.00067	0.0011	0.00094	0.00095	0.018
Hexachlorodibenzofurans	11.7	0.0014	0.0023	0.0020	0.0020	0.038
Heptachlorodibenzofurans	<1.3	<0.00016	<0.00026	<0.00022	<0.00022	<0.0043
Octachlorodibenzofuran	<12	<0.0014	<0.0024	<0.0020	<0.0020	<0.039
Total	<38.0	<0.0046	<0.0076	<0.0064	<0.0065	<0.12

Dry Gas Volume Sampled (Rm ^{3*}) :	4.983
Actual Flowrate (m ³ /s) :	27.1
Dry Reference Flowrate (Rm ³ /s*) :	16.3
Dry Adjusted Flowrate (Rm ³ /s**) :	19.4
Wet Reference Flowrate (Rm ³ /s*) :	19.2

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 25
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Dioxin and Furan Congener Group Emission Data
Test No. 2

Dioxins

Congener Group	Total Collected	Actual Concentration	Dry Reference Concentration	Dry Adjusted Concentration	Wet Reference Concentration	Emission Rate
	pg	ng/m ³	ng/Rm ^{3*}	ng/Rm ^{3**}	ng/Rm ^{3*}	ng/s
Tetrachlorodibenzo-p-dioxins	22.3	0.0026	0.0044	0.0037	0.0037	0.072
Pentachlorodibenzo-p-dioxins	32.4	0.0038	0.0065	0.0054	0.0054	0.10
Hexachlorodibenzo-p-dioxins	85.7	0.010	0.017	0.014	0.014	0.28
Heptachlorodibenzo-p-dioxins	52.1	0.0062	0.010	0.0086	0.0087	0.17
Octachlorodibenzo-p-dioxin	42.4	0.0050	0.0085	0.0070	0.0071	0.14
Total	235	0.028	0.047	0.039	0.039	0.76

Furans

Congener Group	Total Collected	Actual Concentration	Dry Reference Concentration	Dry Adjusted Concentration	Wet Reference Concentration	Emission Rate
	pg	ng/m ³	ng/Rm ^{3*}	ng/Rm ^{3**}	ng/Rm ^{3*}	ng/s
Tetrachlorodibenzofurans	10.6	0.0013	0.0021	0.0018	0.0018	0.034
Pentachlorodibenzofurans	12.1	0.0014	0.0024	0.0020	0.0020	0.039
Hexachlorodibenzofurans	10.6	0.0013	0.0021	0.0018	0.0018	0.034
Heptachlorodibenzofurans	6.59	0.00078	0.0013	0.0011	0.0011	0.021
Octachlorodibenzofuran	15.1	0.0018	0.0030	0.0025	0.0025	0.049
Total	55.0	0.0065	0.011	0.0091	0.0092	0.18

Dry Gas Volume Sampled (Rm ^{3*}) :	5.014
Actual Flowrate (m ³ /s) :	27.2
Dry Reference Flowrate (Rm ³ /s*) :	16.2
Dry Adjusted Flowrate (Rm ³ /s**) :	19.5
Wet Reference Flowrate (Rm ³ /s*) :	19.3

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 26
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Dioxin and Furan Congener Group Emission Data
Test No. 3

Dioxins

Congener Group	Total Collected	Actual Concentration	Dry Reference Concentration	Dry Adjusted Concentration	Wet Reference Concentration	Emission Rate
	pg	ng/m ³	ng/Rm ^{3*}	ng/Rm ^{3**}	ng/Rm ^{3*}	ng/s
Tetrachlorodibenzo-p-dioxins	21.8	0.0026	0.0044	0.0037	0.0037	0.071
Pentachlorodibenzo-p-dioxins	25.5	0.0030	0.0052	0.0043	0.0043	0.083
Hexachlorodibenzo-p-dioxins	3.83	0.00046	0.00078	0.00065	0.00065	0.012
Heptachlorodibenzo-p-dioxins	29.1	0.0035	0.0059	0.0049	0.0049	0.095
Octachlorodibenzo-p-dioxin	45.2	0.0054	0.0092	0.0076	0.0077	0.15
Total	125	0.015	0.025	0.021	0.021	0.41

Furans

Congener Group	Total Collected	Actual Concentration	Dry Reference Concentration	Dry Adjusted Concentration	Wet Reference Concentration	Emission Rate
	pg	ng/m ³	ng/Rm ^{3*}	ng/Rm ^{3**}	ng/Rm ^{3*}	ng/s
Tetrachlorodibenzofurans	11.6	0.0014	0.0024	0.0020	0.0020	0.038
Pentachlorodibenzofurans	6.86	0.00082	0.0014	0.0012	0.0012	0.022
Hexachlorodibenzofurans	12.9	0.0015	0.0026	0.0022	0.0022	0.042
Heptachlorodibenzofurans	<2.0	<0.00024	<0.00041	<0.00034	<0.00034	<0.0065
Octachlorodibenzofuran	<9.9	<0.0012	<0.0020	<0.0017	<0.0017	<0.032
Total	<43.3	<0.0052	<0.0088	<0.0073	<0.0074	<0.14

Dry Gas Volume Sampled (Rm ^{3*}) :	4.934
Actual Flowrate (m ³ /s) :	27.3
Dry Reference Flowrate (Rm ³ /s*) :	16.1
Dry Adjusted Flowrate (Rm ³ /s**) :	19.3
Wet Reference Flowrate (Rm ³ /s*) :	19.2

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 27
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Dioxin and Furan Congener Group Actual Concentrations

Dioxins

Congener Group	Actual Concentration			Average	Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3		
	ng/m ³	ng/m ³	ng/m ³	ng/m ³	%
Tetrachlorodibenzo-p-dioxins	<0.00041	0.0026	0.0026	<0.0019	67.8
Pentachlorodibenzo-p-dioxins	0.0037	0.0038	0.0030	0.0035	12.1
Hexachlorodibenzo-p-dioxins	0.0087	0.010	0.00046	0.0065	81.2
Heptachlorodibenzo-p-dioxins	<0.00021	0.0062	0.0035	<0.0033	91.0
Octachlorodibenzo-p-dioxin	<0.0056	0.0050	0.0054	<0.0053	5.0
Total	<0.019	0.028	0.015	<0.021	32.5

Furans

Congener Group	Actual Concentration			Average	Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3		
	ng/m ³	ng/m ³	ng/m ³	ng/m ³	%
Tetrachlorodibenzofurans	0.00090	0.0013	0.0014	0.0012	21.5
Pentachlorodibenzofurans	0.00067	0.0014	0.00082	0.00098	41.5
Hexachlorodibenzofurans	0.0014	0.0013	0.0015	0.0014	10.1
Heptachlorodibenzofurans	<0.00016	0.00078	<0.00024	<0.00039	86.6
Octachlorodibenzofuran	<0.0014	0.0018	<0.0012	<0.0015	20.7
Total	<0.0046	0.0065	<0.0052	<0.0054	18.4

TABLE 28
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Dioxin and Furan Congener Group Dry Reference Concentrations

Dioxins

Congener Group	Dry Reference Concentration				Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3	Average	
	ng/Rm ^{3*}	ng/Rm ^{3*}	ng/Rm ^{3*}	ng/Rm ^{3*}	%
Tetrachlorodibenzo-p-dioxins	<0.00068	0.0044	0.0044	<0.0032	68.0
Pentachlorodibenzo-p-dioxins	0.0062	0.0065	0.0052	0.0059	11.4
Hexachlorodibenzo-p-dioxins	0.015	0.017	0.00078	0.011	81.2
Heptachlorodibenzo-p-dioxins	<0.00034	0.010	0.0059	<0.0055	90.8
Octachlorodibenzo-p-dioxin	<0.0092	0.0085	0.0092	<0.0089	4.8
Total	<0.031	0.047	0.025	<0.034	32.3

Furans

Congener Group	Dry Reference Concentration				Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3	Average	
	ng/Rm ^{3*}	ng/Rm ^{3*}	ng/Rm ^{3*}	ng/Rm ^{3*}	%
Tetrachlorodibenzofurans	0.0015	0.0021	0.0024	0.0020	22.4
Pentachlorodibenzofurans	0.0011	0.0024	0.0014	0.0016	41.6
Hexachlorodibenzofurans	0.0023	0.0021	0.0026	0.0024	10.6
Heptachlorodibenzofurans	<0.00026	0.0013	<0.00041	<0.00066	86.5
Octachlorodibenzofuran	<0.0024	0.0030	<0.0020	<0.0025	20.4
Total	<0.0076	0.011	<0.0088	<0.0091	18.6

* At 25°C and 1 atmosphere

TABLE 29
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Dioxin and Furan Congener Group Dry Adjusted Concentrations

Dioxins

Congener Group	Dry Adjusted Concentration				Coefficient of Variation %
	Test No. 1 ng/Rm ^{3*}	Test No. 2 ng/Rm ^{3*}	Test No. 3 ng/Rm ^{3*}	Average ng/Rm ^{3*}	
Tetrachlorodibenzo-p-dioxins	<0.00057	0.0037	0.0037	<0.0027	67.9
Pentachlorodibenzo-p-dioxins	0.0052	0.0054	0.0043	0.0050	11.4
Hexachlorodibenzo-p-dioxins	0.012	0.014	0.00065	0.0090	81.1
Heptachlorodibenzo-p-dioxins	<0.00029	0.0086	0.0049	<0.0046	90.6
Octachlorodibenzo-p-dioxin	<0.0078	0.0070	0.0076	<0.0075	5.3
Total	<0.026	0.039	0.021	<0.029	31.9

Furans

Congener Group	Dry Adjusted Concentration				Coefficient of Variation %
	Test No. 1 ng/Rm ^{3*}	Test No. 2 ng/Rm ^{3*}	Test No. 3 ng/Rm ^{3*}	Average ng/Rm ^{3*}	
Tetrachlorodibenzofurans	0.0013	0.0018	0.0020	0.0017	22.0
Pentachlorodibenzofurans	0.00094	0.0020	0.0012	0.0014	41.1
Hexachlorodibenzofurans	0.0020	0.0018	0.0022	0.0020	10.8
Heptachlorodibenzofurans	<0.00022	0.0011	<0.00034	<0.00055	86.1
Octachlorodibenzofuran	<0.0020	0.0025	<0.0017	<0.0021	20.1
Total	<0.0064	0.0091	<0.0073	<0.0076	18.1

* At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 30
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Dioxin and Furan Congener Group Wet Reference Concentrations

Dioxins

Congener Group	Wet Reference Concentration				Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3	Average	
	ng/Rm ^{3*}	ng/Rm ^{3*}	ng/Rm ^{3*}	ng/Rm ^{3*}	%
Tetrachlorodibenzo-p-dioxins	<0.00058	0.0037	0.0037	<0.0027	67.8
Pentachlorodibenzo-p-dioxins	0.0052	0.0054	0.0043	0.0050	11.6
Hexachlorodibenzo-p-dioxins	0.012	0.014	0.00065	0.0091	81.2
Heptachlorodibenzo-p-dioxins	<0.00029	0.0087	0.0049	<0.0047	90.8
Octachlorodibenzo-p-dioxin	<0.0078	0.0071	0.0077	<0.0075	5.2
Total	<0.026	0.039	0.021	<0.029	32.1

Furans

Congener Group	Wet Reference Concentration				Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3	Average	
	ng/Rm ^{3*}	ng/Rm ^{3*}	ng/Rm ^{3*}	ng/Rm ^{3*}	%
Tetrachlorodibenzofurans	0.0013	0.0018	0.0020	0.0017	21.8
Pentachlorodibenzofurans	0.00095	0.0020	0.0012	0.0014	41.2
Hexachlorodibenzofurans	0.0020	0.0018	0.0022	0.0020	10.5
Heptachlorodibenzofurans	<0.00022	0.0011	<0.00034	<0.00055	86.2
Octachlorodibenzofuran	<0.0020	0.0025	<0.0017	<0.0021	20.3
Total	<0.0065	0.0092	<0.0074	<0.0077	18.2

* At 25°C and 1 atmosphere

TABLE 31
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Dioxin and Furan Congener Group Emission Rates

Dioxins

Congener Group	Emission Rate			Average ng/s	Coefficient of Variation %
	Test No. 1 ng/s	Test No. 2 ng/s	Test No. 3 ng/s		
Tetrachlorodibenzo-p-dioxins	<0.011	0.072	0.071	<0.051	67.9
Pentachlorodibenzo-p-dioxins	0.10	0.10	0.083	0.096	11.8
Hexachlorodibenzo-p-dioxins	0.24	0.28	0.012	0.18	81.2
Heptachlorodibenzo-p-dioxins	<0.0056	0.17	0.095	<0.090	91.0
Octachlorodibenzo-p-dioxin	<0.15	0.14	0.15	<0.14	4.9
Total	<0.50	0.76	0.41	<0.56	32.4

Furans

Congener Group	Emission Rate			Average ng/s	Coefficient of Variation %
	Test No. 1 ng/s	Test No. 2 ng/s	Test No. 3 ng/s		
Tetrachlorodibenzofurans	0.024	0.034	0.038	0.032	21.8
Pentachlorodibenzofurans	0.018	0.039	0.022	0.027	41.5
Hexachlorodibenzofurans	0.038	0.034	0.042	0.038	10.3
Heptachlorodibenzofurans	<0.0043	0.021	<0.0065	<0.011	86.5
Octachlorodibenzofuran	<0.039	0.049	<0.032	<0.040	20.6
Total	<0.12	0.18	<0.14	<0.15	18.5

TABLE 32
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Summary of Dioxin and Furan Congener Group Emission Data

Dioxins

Congener Group	Actual Concentration ng/m ³	Dry Reference Concentration ng/Rm ^{3*}	Dry Adjusted Concentration ng/Rm ^{3**}	Wet Reference Concentration ng/Rm ^{3*}	Emission Rate ng/s
Tetrachlorodibenzo-p-dioxins	<0.0019	<0.0032	<0.0027	<0.0027	<0.051
Pentachlorodibenzo-p-dioxins	0.0035	0.0059	0.0050	0.0050	0.096
Hexachlorodibenzo-p-dioxins	0.0065	0.011	0.0090	0.0091	0.18
Heptachlorodibenzo-p-dioxins	<0.0033	<0.0055	<0.0046	<0.0047	<0.090
Octachlorodibenzo-p-dioxin	<0.0053	<0.0089	<0.0075	<0.0075	<0.14
Total	<0.021	<0.034	<0.029	<0.029	<0.56

Furans

Congener Group	Actual Concentration ng/m ³	Dry Reference Concentration ng/Rm ^{3*}	Dry Adjusted Concentration ng/Rm ^{3**}	Wet Reference Concentration ng/Rm ^{3*}	Emission Rate ng/s
Tetrachlorodibenzofurans	0.0012	0.0020	0.0017	0.0017	0.032
Pentachlorodibenzofurans	0.00098	0.0016	0.0014	0.0014	0.027
Hexachlorodibenzofurans	0.0014	0.0024	0.0020	0.0020	0.038
Heptachlorodibenzofurans	<0.00039	<0.00066	<0.00055	<0.00055	<0.011
Octachlorodibenzofuran	<0.0015	<0.0025	<0.0021	<0.0021	<0.040
Total	<0.0054	<0.0091	<0.0076	<0.0077	<0.15

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 33
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Blank Dioxin and Furan Congener Group Analyses

Dioxins

Congener Group	Blank Train	Method Blank
	pg	pg
Tetrachlorodibenzo-p-dioxins	<1.8	<4.0
Pentachlorodibenzo-p-dioxins	<2.0	<1.3
Hexachlorodibenzo-p-dioxins	<1.7	2.9
Heptachlorodibenzo-p-dioxins	3.30	<1.4
Octachlorodibenzo-p-dioxin	15.6	<14
Total	<24.4	<23.6

Furans

Congener Group	Blank Train	Method Blank
	pg	pg
Tetrachlorodibenzofurans	<2.0	<1.5
Pentachlorodibenzofurans	<1.3	<1.6
Hexachlorodibenzofurans	<1.2	<2.3
Heptachlorodibenzofurans	<4.0	<5.9
Octachlorodibenzofuran	<6.5	6.88
Total	<15.0	<18.2

"<" indicates that the amount detected is less than the detection limit
In these cases the value of the detection limit was used to calculate
the total collected.

TABLE 34
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Dioxin and Furan Specific Isomer Emission Data
Test No. 1

Specific Isomer	Total Collected pg	Actual Concentration pg/m ³	Dry Reference Concentration pg/Rm ^{3*}	Dry Adjusted Concentration pg/Rm ^{3**}	Wet Reference Concentration pg/Rm ^{3*}	Emission Rate ng/s
2378-tetrachlorodibenzo-p-dioxin	<3.4	<0.41	<0.68	<0.57	<0.58	<0.011
12378-pentachlorodibenzo-p-dioxin	<3.5	<0.42	<0.70	<0.59	<0.60	<0.011
123478-hexachlorodibenzo-p-dioxin	<2.4	<0.29	<0.48	<0.40	<0.41	<0.0079
123678-hexachlorodibenzo-p-dioxin	<4.4	<0.53	<0.88	<0.74	<0.75	<0.014
123789-hexachlorodibenzo-p-dioxin	2.61	0.32	0.52	0.44	0.44	0.0085
1234678-heptachlorodibenzo-p-dioxin	<26	<3.14	<5.22	<4.38	<4.43	<0.085
Octachlorodibenzo-p-dioxin	<46	<5.55	<9.23	<7.76	<7.84	<0.15
2378-tetrachlorodibenzofuran	<3.3	<0.40	<0.66	<0.56	<0.56	<0.011
12378-pentachlorodibenzofuran	<4.4	<0.53	<0.88	<0.74	<0.75	<0.014
23478-pentachlorodibenzofuran	<3.8	<0.46	<0.76	<0.64	<0.65	<0.012
123478-hexachlorodibenzofuran	2.64	0.32	0.53	0.45	0.45	0.0086
123678-hexachlorodibenzofuran	<2.5	<0.30	<0.50	<0.42	<0.43	<0.0082
234678-hexachlorodibenzofuran	3.64	0.44	0.73	0.61	0.62	0.012
123789-hexachlorodibenzofuran	<1.3	<0.16	<0.26	<0.22	<0.22	<0.0043
1234678-heptachlorodibenzofuran	<11	<1.33	<2.21	<1.85	<1.87	<0.036
1234789-heptachlorodibenzofuran	<1.3	<0.16	<0.26	<0.22	<0.22	<0.0043
Octachlorodibenzofuran	<12	<1.45	<2.41	<2.02	<2.04	<0.039
PCB 81	9.99	1.21	2.00	1.68	1.70	0.033
PCB 77	157	19.0	31.5	26.5	26.7	0.51
PCB 123	63.2	7.63	12.7	10.7	10.8	0.21
PCB 118	3830	462	769	646	653	12.5
PCB 114	88.7	10.7	17.8	15.0	15.1	0.29
PCB 105	1270	153	255	214	216	4.15
PCB 126	<8.4	<1.01	<1.69	<1.42	<1.43	<0.027
PCB 167	33.6	4.06	6.74	5.67	5.72	0.11
PCB 156/157	<89	<10.7	<17.9	<15.0	<15.2	<0.29
PCB 169	<4.2	<0.51	<0.84	<0.71	<0.72	<0.014
PCB 189	<4.4	<0.53	<0.88	<0.74	<0.75	<0.014
Total Dioxins & Furans Only	<134	<16.2	<26.9	<22.6	<22.9	<0.44
Total PCBs Only	<5558	<671	<1115	<937	<947	<18.2
Total Dioxins & Furans and PCBs	<5693	<687	<1142	<960	<970	<18.6

Dry Gas Volume Sampled (Rm ^{3*}) :	4.983
Actual Flowrate (m ³ /s) :	27.1
Dry Reference Flowrate (Rm ³ /s*) :	16.3
Dry Adjusted Flowrate (Rm ³ /s**) :	19.4
Wet Reference Flowrate (Rm ³ /s*) :	19.2

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 35
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Dioxin and Furan Specific Isomer Emission Data
Test No. 2

Specific Isomer	Total Collected pg	Actual Concentration pg/m ³	Dry Reference Concentration pg/Rm ^{3*}	Dry Adjusted Concentration pg/Rm ^{3**}	Wet Reference Concentration pg/Rm ^{3*}	Emission Rate ng/s
2378-tetrachlorodibenzo-p-dioxin	<2.1	<0.25	<0.42	<0.35	<0.35	<0.0068
12378-pentachlorodibenzo-p-dioxin	<2.9	<0.34	<0.58	<0.48	<0.49	<0.0094
123478-hexachlorodibenzo-p-dioxin	<3.1	<0.37	<0.62	<0.51	<0.52	<0.010
123678-hexachlorodibenzo-p-dioxin	<5.0	<0.59	<1.00	<0.83	<0.84	<0.016
123789-hexachlorodibenzo-p-dioxin	<3.3	<0.39	<0.66	<0.55	<0.55	<0.011
1234678-heptachlorodibenzo-p-dioxin	22.6	2.68	4.51	3.74	3.78	0.073
Octachlorodibenzo-p-dioxin	42.4	5.04	8.46	7.03	7.10	0.14
2378-tetrachlorodibenzofuran	<3.1	<0.37	<0.62	<0.51	<0.52	<0.010
12378-pentachlorodibenzofuran	<3.1	<0.37	<0.62	<0.51	<0.52	<0.010
23478-pentachlorodibenzofuran	<3.3	<0.39	<0.66	<0.55	<0.55	<0.011
123478-hexachlorodibenzofuran	2.94	0.35	0.59	0.49	0.49	0.0095
123678-hexachlorodibenzofuran	<3.1	<0.37	<0.62	<0.51	<0.52	<0.010
234678-hexachlorodibenzofuran	5.81	0.69	1.16	0.96	0.97	0.019
123789-hexachlorodibenzofuran	1.86	0.22	0.37	0.31	0.31	0.0060
1234678-heptachlorodibenzofuran	<13	<1.54	<2.59	<2.15	<2.18	<0.042
1234789-heptachlorodibenzofuran	<2.0	<0.24	<0.40	<0.33	<0.33	<0.0065
Octachlorodibenzofuran	15.1	1.79	3.01	2.50	2.53	0.049
PCB 81	13.5	1.60	2.69	2.24	2.26	0.044
PCB 77	212	25.2	42.3	35.1	35.5	0.68
PCB 123	91.7	10.9	18.3	15.2	15.4	0.30
PCB 118	6020	715	1201	997	1008	19.5
PCB 114	158	18.8	31.5	26.2	26.5	0.51
PCB 105	2280	271	455	378	382	7.37
PCB 126	8.62	1.02	1.72	1.43	1.44	0.028
PCB 167	55.6	6.60	11.1	9.21	9.31	0.18
PCB 156/157	<110	<13.1	<21.9	<18.2	<18.4	<0.36
PCB 169	<5.4	<0.64	<1.08	<0.89	<0.90	<0.017
PCB 189	<5.0	<0.59	<1.00	<0.83	<0.84	<0.016
Total Dioxins & Furans Only	<135	<16.0	<26.9	<22.3	<22.6	<0.44
Total PCBs Only	<8960	<1064	<1787	<1485	<1500	<28.9
Total Dioxins & Furans and PCBs	<9095	<1080	<1814	<1507	<1522	<29.4

Dry Gas Volume Sampled (Rm ^{3*}) :	5.014
Actual Flowrate (m ³ /s) :	27.2
Dry Reference Flowrate (Rm ³ /s*) :	16.2
Dry Adjusted Flowrate (Rm ³ /s**) :	19.5
Wet Reference Flowrate (Rm ³ /s*) :	19.3

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 36
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Dioxin and Furan Specific Isomer Emission Data
Test No. 3

Specific Isomer	Total Collected pg	Actual Concentration pg/m ³	Dry Reference Concentration pg/Rm ³ *	Dry Adjusted Concentration pg/Rm ³ **	Wet Reference Concentration pg/Rm ³ *	Emission Rate ng/s
2378-tetrachlorodibenzo-p-dioxin	<3.0	<0.36	<0.61	<0.51	<0.51	<0.0098
12378-pentachlorodibenzo-p-dioxin	<2.5	<0.30	<0.51	<0.42	<0.42	<0.0082
123478-hexachlorodibenzo-p-dioxin	<2.6	<0.31	<0.53	<0.44	<0.44	<0.008
123678-hexachlorodibenzo-p-dioxin	3.83	0.46	0.78	0.65	0.65	0.012
123789-hexachlorodibenzo-p-dioxin	<3.5	<0.42	<0.71	<0.59	<0.59	<0.011
1234678-heptachlorodibenzo-p-dioxin	<22	<2.63	<4.46	<3.72	<3.74	<0.072
Octachlorodibenzo-p-dioxin	45.2	5.40	9.16	7.64	7.68	0.15
2378-tetrachlorodibenzofuran	<3.3	<0.39	<0.67	<0.56	<0.56	<0.011
12378-pentachlorodibenzofuran	<2.9	<0.35	<0.59	<0.49	<0.49	<0.0095
23478-pentachlorodibenzofuran	3.45	0.41	0.70	0.58	0.59	0.011
123478-hexachlorodibenzofuran	<3.0	<0.36	<0.61	<0.51	<0.51	<0.0098
123678-hexachlorodibenzofuran	<1.7	<0.20	<0.34	<0.29	<0.29	<0.0055
234678-hexachlorodibenzofuran	<5.1	<0.61	<1.03	<0.86	<0.87	<0.017
123789-hexachlorodibenzofuran	<2.2	<0.26	<0.45	<0.37	<0.37	<0.0072
1234678-heptachlorodibenzofuran	<17	<2.03	<3.45	<2.87	<2.89	<0.055
1234789-heptachlorodibenzofuran	<2.0	<0.24	<0.41	<0.34	<0.34	<0.0065
Octachlorodibenzofuran	<9.9	<1.18	<2.01	<1.67	<1.68	<0.032
PCB 81	<6.6	<0.79	<1.34	<1.12	<1.12	<0.022
PCB 77	100	12.0	20.3	16.9	17.0	0.33
PCB 123	20.4	2.44	4.13	3.45	3.47	0.067
PCB 118	1390	166	282	235	236	4.54
PCB 114	30.7	3.67	6.22	5.19	5.22	0.10
PCB 105	473	56.5	95.9	80.0	80.4	1.54
PCB 126	<4.8	<0.57	<0.97	<0.81	<0.82	<0.016
PCB 167	15.8	1.89	3.20	2.67	2.69	0.052
PCB 156/157	<32	<3.82	<6.49	<5.41	<5.44	<0.10
PCB 169	<3.9	<0.47	<0.79	<0.66	<0.66	<0.013
PCB 189	<7.4	<0.88	<1.50	<1.25	<1.26	<0.024
Total Dioxins & Furans Only	<133	<15.9	<27.0	<22.5	<22.6	<0.43
Total PCBs Only	<2085	<249	<422	<352	<354	<6.80
Total Dioxins & Furans and PCBs	<2218	<265	<449	<375	<377	<7.24

Dry Gas Volume Sampled (Rm ³ *) :	4.934
Actual Flowrate (m ³ /s) :	27.3
Dry Reference Flowrate (Rm ³ /s*) :	16.1
Dry Adjusted Flowrate (Rm ³ /s**) :	19.3
Wet Reference Flowrate (Rm ³ /s*) :	19.2

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 37
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Dioxin and Furan Specific Isomer Actual Concentrations

Specific Isomer	Actual Concentration			Average	Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3		
	pg/m ³	pg/m ³	pg/m ³	pg/m ³	%
2378-tetrachlorodibenzo-p-dioxin	<0.41	<0.25	<0.36	<0.34	24.2
12378-pentachlorodibenzo-p-dioxin	<0.42	<0.34	<0.30	<0.36	17.6
123478-hexachlorodibenzo-p-dioxin	<0.29	<0.37	<0.31	<0.32	12.6
123678-hexachlorodibenzo-p-dioxin	<0.53	<0.59	0.46	0.53	12.9
123789-hexachlorodibenzo-p-dioxin	0.32	<0.39	<0.42	<0.38	14.3
1234678-heptachlorodibenzo-p-dioxin	<3.14	2.68	<2.63	<2.82	9.9
Octachlorodibenzo-p-dioxin	<5.55	5.04	5.40	<5.33	5.0
2378-tetrachlorodibenzofuran	<0.40	<0.37	<0.39	<0.39	4.2
12378-pentachlorodibenzofuran	<0.53	<0.37	<0.35	<0.42	24.3
23478-pentachlorodibenzofuran	<0.46	<0.39	0.41	<0.42	8.1
123478-hexachlorodibenzofuran	0.32	0.35	<0.36	<0.34	6.1
123678-hexachlorodibenzofuran	<0.30	<0.37	<0.20	<0.29	28.5
234678-hexachlorodibenzofuran	0.44	0.69	<0.61	<0.58	22.1
123789-hexachlorodibenzofuran	<0.16	0.22	<0.26	<0.21	25.0
1234678-heptachlorodibenzofuran	<1.33	<1.54	<2.03	<1.63	22.1
1234789-heptachlorodibenzofuran	<0.16	<0.24	<0.24	<0.21	22.3
Octachlorodibenzofuran	<1.45	1.79	<1.18	<1.48	20.7
PCB 81	1.21	1.60	<0.79	<1.20	34.0
PCB 77	19.0	25.2	12.0	18.7	35.4
PCB 123	7.63	10.9	2.44	6.99	61.0
PCB 118	462	715	166	448	61.4
PCB 114	10.7	18.8	3.67	11.0	68.4
PCB 105	153	271	56.5	160	67.0
PCB 126	<1.01	1.02	<0.57	<0.87	29.5
PCB 167	4.06	6.60	1.89	4.18	56.4
PCB 156/157	<10.7	<13.1	<3.82	<9.21	52.2
PCB 169	<0.51	<0.64	<0.47	<0.54	17.0
PCB 189	<0.53	<0.59	<0.88	<0.67	28.1
Total Dioxins & Furans Only	<16.2	<16.0	<15.9	<16.0	0.9
Total PCBs Only	<671	<1064	<249	<661	61.6
Total Dioxins & Furans and PCBs	<687	<1080	<265	<678	60.2

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 38
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Dioxin and Furan Specific Isomer Dry Reference Concentrations

Specific Isomer	Dry Reference Concentration				Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3	Average	
	pg/Rm ³ *	pg/Rm ³ *	pg/Rm ³ *	pg/Rm ³ *	%
2378-tetrachlorodibenzo-p-dioxin	<0.68	<0.42	<0.61	<0.57	23.8
12378-pentachlorodibenzo-p-dioxin	<0.70	<0.58	<0.51	<0.60	16.6
123478-hexachlorodibenzo-p-dioxin	<0.48	<0.62	<0.53	<0.54	12.8
123678-hexachlorodibenzo-p-dioxin	<0.88	<1.00	0.78	0.89	12.5
123789-hexachlorodibenzo-p-dioxin	0.52	<0.66	<0.71	<0.63	15.2
1234678-heptachlorodibenzo-p-dioxin	<5.22	4.51	<4.46	<4.73	9.0
Octachlorodibenzo-p-dioxin	<9.23	8.46	9.16	<8.95	4.8
2378-tetrachlorodibenzofuran	<0.66	<0.62	<0.67	<0.65	4.2
12378-pentachlorodibenzofuran	<0.88	<0.62	<0.59	<0.70	23.3
23478-pentachlorodibenzofuran	<0.76	<0.66	0.70	<0.71	7.4
123478-hexachlorodibenzofuran	0.53	0.59	<0.61	<0.57	7.0
123678-hexachlorodibenzofuran	<0.50	<0.62	<0.34	<0.49	28.1
234678-hexachlorodibenzofuran	0.73	1.16	<1.03	<0.97	22.6
123789-hexachlorodibenzofuran	<0.26	0.37	<0.45	<0.36	25.9
1234678-heptachlorodibenzofuran	<2.21	<2.59	<3.45	<2.75	23.0
1234789-heptachlorodibenzofuran	<0.26	<0.40	<0.41	<0.36	23.0
Octachlorodibenzofuran	<2.41	3.01	<2.01	<2.48	20.4
PCB 81	2.00	2.69	<1.34	<2.01	33.7
PCB 77	31.5	42.3	20.3	31.4	35.1
PCB 123	12.7	18.3	4.13	11.7	60.9
PCB 118	769	1201	282	750	61.3
PCB 114	17.8	31.5	6.22	18.5	68.4
PCB 105	255	455	95.9	268	67.0
PCB 126	<1.69	1.72	<0.97	<1.46	28.9
PCB 167	6.74	11.1	3.20	7.01	56.3
PCB 156/157	<17.9	<21.9	<6.49	<15.4	51.9
PCB 169	<0.84	<1.08	<0.79	<0.90	16.9
PCB 189	<0.88	<1.00	<1.50	<1.13	29.1
Total Dioxins & Furans Only	<26.9	<26.9	<27.0	<26.9	0.2
Total PCBs Only	<1115	<1787	<422	<1108	61.6
Total Dioxins & Furans and PCBs	<1142	<1814	<449	<1135	60.1

* At 25°C and 1 atmosphere

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 39
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Dioxin and Furan Specific Isomer Dry Adjusted Concentrations

Specific Isomer	Dry Adjusted Concentration				Coefficient of Variation
	Test No. 1 pg/Rm ³ *	Test No. 2 pg/Rm ³ *	Test No. 3 pg/Rm ³ *	Average pg/Rm ³ *	
2378-tetrachlorodibenzo-p-dioxin	<0.57	<0.35	<0.51	<0.48	24.3
12378-pentachlorodibenzo-p-dioxin	<0.59	<0.48	<0.42	<0.50	17.1
123478-hexachlorodibenzo-p-dioxin	<0.40	<0.51	<0.44	<0.45	12.3
123678-hexachlorodibenzo-p-dioxin	<0.74	<0.83	0.65	0.74	12.2
123789-hexachlorodibenzo-p-dioxin	0.44	<0.55	<0.59	<0.53	14.8
1234678-heptachlorodibenzo-p-dioxin	<4.38	3.74	<3.72	<3.95	9.5
Octachlorodibenzo-p-dioxin	<7.76	7.03	7.64	<7.47	5.3
2378-tetrachlorodibenzofuran	<0.56	<0.51	<0.56	<0.54	4.6
12378-pentachlorodibenzofuran	<0.74	<0.51	<0.49	<0.58	23.9
23478-pentachlorodibenzofuran	<0.64	<0.55	0.58	<0.59	8.0
123478-hexachlorodibenzofuran	0.45	0.49	<0.51	<0.48	6.6
123678-hexachlorodibenzofuran	<0.42	<0.51	<0.29	<0.41	27.9
234678-hexachlorodibenzofuran	0.61	0.96	<0.86	<0.81	22.1
123789-hexachlorodibenzofuran	<0.22	0.31	<0.37	<0.30	25.6
1234678-heptachlorodibenzofuran	<1.85	<2.15	<2.87	<2.29	22.8
1234789-heptachlorodibenzofuran	<0.22	<0.33	<0.34	<0.30	22.6
Octachlorodibenzofuran	<2.02	2.50	<1.67	<2.07	20.1
PCB 81	1.68	2.24	<1.12	<1.68	33.4
PCB 77	26.5	35.1	16.9	26.2	34.8
PCB 123	10.7	15.2	3.45	9.77	60.6
PCB 118	646	997	235	626	61.0
PCB 114	15.0	26.2	5.19	15.4	68.0
PCB 105	214	378	80.0	224	66.6
PCB 126	<1.42	1.43	<0.81	<1.22	28.9
PCB 167	5.67	9.21	2.67	5.85	56.0
PCB 156/157	<15.0	<18.2	<5.41	<12.9	51.8
PCB 169	<0.71	<0.89	<0.66	<0.75	16.5
PCB 189	<0.74	<0.83	<1.25	<0.94	29.0
Total Dioxins & Furans Only	<22.6	<22.3	<22.5	<22.5	0.7
Total PCBs Only	<937	<1485	<352	<925	61.2
Total Dioxins & Furans and PCBs	<960	<1507	<375	<947	59.8

* At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 40
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Dioxin and Furan Specific Isomer Wet Reference Concentrations

Specific Isomer	Wet Reference Concentration				Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3	Average	
	pg/Rm ³ *	pg/Rm ³ *	pg/Rm ³ *	pg/Rm ³ *	
2378-tetrachlorodibenzo-p-dioxin	<0.58	<0.35	<0.51	<0.48	24.3
12378-pentachlorodibenzo-p-dioxin	<0.60	<0.49	<0.42	<0.50	17.3
123478-hexachlorodibenzo-p-dioxin	<0.41	<0.52	<0.44	<0.46	12.4
123678-hexachlorodibenzo-p-dioxin	<0.75	<0.84	0.65	0.75	12.5
123789-hexachlorodibenzo-p-dioxin	0.44	<0.55	<0.59	<0.53	14.6
1234678-heptachlorodibenzo-p-dioxin	<4.43	3.78	<3.74	<3.98	9.7
Octachlorodibenzo-p-dioxin	<7.84	7.10	7.68	<7.54	5.2
2378-tetrachlorodibenzofuran	<0.56	<0.52	<0.56	<0.55	4.5
12378-pentachlorodibenzofuran	<0.75	<0.52	<0.49	<0.59	24.1
23478-pentachlorodibenzofuran	<0.65	<0.55	0.59	<0.60	8.1
123478-hexachlorodibenzofuran	0.45	0.49	<0.51	<0.48	6.4
123678-hexachlorodibenzofuran	<0.43	<0.52	<0.29	<0.41	28.1
234678-hexachlorodibenzofuran	0.62	0.97	<0.87	<0.82	22.1
123789-hexachlorodibenzofuran	<0.22	0.31	<0.37	<0.30	25.3
1234678-heptachlorodibenzofuran	<1.87	<2.18	<2.89	<2.31	22.5
1234789-heptachlorodibenzofuran	<0.22	<0.33	<0.34	<0.30	22.4
Octachlorodibenzofuran	<2.04	2.53	<1.68	<2.08	20.3
PCB 81	1.70	2.26	<1.12	<1.69	33.6
PCB 77	26.7	35.5	17.0	26.4	35.0
PCB 123	10.8	15.4	3.47	9.86	60.8
PCB 118	653	1008	236	632	61.1
PCB 114	15.1	26.5	5.22	15.6	68.1
PCB 105	216	382	80.4	226	66.7
PCB 126	<1.43	1.44	<0.82	<1.23	29.2
PCB 167	5.72	9.31	2.69	5.91	56.1
PCB 156/157	<15.2	<18.4	<5.44	<13.0	51.9
PCB 169	<0.72	<0.90	<0.66	<0.76	16.7
PCB 189	<0.75	<0.84	<1.26	<0.95	28.6
Total Dioxins & Furans Only	<22.9	<22.6	<22.6	<22.7	0.7
Total PCBs Only	<947	<1500	<354	<934	61.4
Total Dioxins & Furans and PCBs	<970	<1522	<377	<956	59.9

* At 25°C and 1 atmosphere

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 41
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Dioxin and Furan Specific Isomer Emission Rates

Specific Isomer	Emission Rate				Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3	Average	
	ng/s	ng/s	ng/s	ng/s	%
2378-tetrachlorodibenzo-p-dioxin	<0.011	<0.0068	<0.0098	<0.0092	24.1
12378-pentachlorodibenzo-p-dioxin	<0.011	<0.0094	<0.0082	<0.0097	17.2
123478-hexachlorodibenzo-p-dioxin	<0.0079	<0.010	<0.008	<0.0088	12.7
123678-hexachlorodibenzo-p-dioxin	<0.014	<0.016	0.012	0.014	12.7
123789-hexachlorodibenzo-p-dioxin	0.0085	<0.011	<0.011	<0.010	14.6
1234678-heptachlorodibenzo-p-dioxin	<0.085	0.073	<0.072	<0.077	9.6
Octachlorodibenzo-p-dioxin	<0.15	0.14	0.15	<0.14	4.9
2378-tetrachlorodibenzofuran	<0.011	<0.010	<0.011	<0.011	4.2
12378-pentachlorodibenzofuran	<0.014	<0.010	<0.0095	<0.011	23.9
23478-pentachlorodibenzofuran	<0.012	<0.011	0.011	<0.011	7.9
123478-hexachlorodibenzofuran	0.0086	0.0095	<0.0098	<0.0093	6.4
123678-hexachlorodibenzofuran	<0.0082	<0.010	<0.0055	<0.0079	28.4
234678-hexachlorodibenzofuran	0.012	0.019	<0.017	<0.016	22.3
123789-hexachlorodibenzofuran	<0.0043	0.0060	<0.0072	<0.0058	25.3
1234678-heptachlorodibenzofuran	<0.036	<0.042	<0.055	<0.044	22.4
1234789-heptachlorodibenzofuran	<0.0043	<0.0065	<0.0065	<0.0057	22.5
Octachlorodibenzofuran	<0.039	0.049	<0.032	<0.040	20.6
PCB 81	0.033	0.044	<0.022	<0.033	33.9
PCB 77	0.51	0.68	0.33	0.51	35.3
PCB 123	0.21	0.30	0.067	0.19	61.0
PCB 118	12.5	19.5	4.54	12.2	61.3
PCB 114	0.29	0.51	0.10	0.30	68.4
PCB 105	4.15	7.37	1.54	4.35	67.0
PCB 126	<0.027	0.028	<0.016	<0.024	29.3
PCB 167	0.11	0.18	0.052	0.11	56.4
PCB 156/157	<0.29	<0.36	<0.10	<0.25	52.1
PCB 169	<0.014	<0.017	<0.013	<0.015	17.0
PCB 189	<0.014	<0.016	<0.024	<0.018	28.5
Total Dioxins & Furans Only	<0.44	<0.44	<0.43	<0.44	0.5
Total PCBs Only	<18.2	<28.9	<6.80	<18.0	61.6
Total Dioxins & Furans and PCBs	<18.6	<29.4	<7.24	<18.4	60.1

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 42
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Summary of Dioxin and Furan Specific Isomer Emission Data

Specific Isomer	Actual Concentration pg/m ³	Dry Reference Concentration pg/Rm ^{3*}	Dry Adjusted Concentration pg/Rm ^{3**}	Wet Reference Concentration pg/Rm ^{3*}	Emission Rate ng/s
2378-tetrachlorodibenzo-p-dioxin	<0.34	<0.57	<0.48	<0.48	<0.0092
12378-pentachlorodibenzo-p-dioxin	<0.36	<0.60	<0.50	<0.50	<0.0097
123478-hexachlorodibenzo-p-dioxin	<0.32	<0.54	<0.45	<0.46	<0.0088
123678-hexachlorodibenzo-p-dioxin	0.53	0.89	0.74	0.75	0.014
123789-hexachlorodibenzo-p-dioxin	<0.38	<0.63	<0.53	<0.53	<0.010
1234678-heptachlorodibenzo-p-dioxin	<2.82	<4.73	<3.95	<3.98	<0.077
Octachlorodibenzo-p-dioxin	<5.33	<8.95	<7.47	<7.54	<0.14
2378-tetrachlorodibenzofuran	<0.39	<0.65	<0.54	<0.55	<0.011
12378-pentachlorodibenzofuran	<0.42	<0.70	<0.58	<0.59	<0.011
23478-pentachlorodibenzofuran	<0.42	<0.71	<0.59	<0.60	<0.011
123478-hexachlorodibenzofuran	<0.34	<0.57	<0.48	<0.48	<0.0093
123678-hexachlorodibenzofuran	<0.29	<0.49	<0.41	<0.41	<0.0079
234678-hexachlorodibenzofuran	<0.58	<0.97	<0.81	<0.82	<0.016
123789-hexachlorodibenzofuran	<0.21	<0.36	<0.30	<0.30	<0.0058
1234678-heptachlorodibenzofuran	<1.63	<2.75	<2.29	<2.31	<0.044
1234789-heptachlorodibenzofuran	<0.21	<0.36	<0.30	<0.30	<0.0057
Octachlorodibenzofuran	<1.48	<2.48	<2.07	<2.08	<0.040
PCB 81	<1.20	<2.01	<1.68	<1.69	<0.033
PCB 77	18.7	31.4	26.2	26.4	0.51
PCB 123	6.99	11.7	9.77	9.86	0.19
PCB 118	448	750	626	632	12.2
PCB 114	11.0	18.5	15.4	15.6	0.30
PCB 105	160	268	224	226	4.35
PCB 126	<0.87	<1.46	<1.22	<1.23	<0.024
PCB 167	4.18	7.01	5.85	5.91	0.11
PCB 156/157	<9.21	<15.4	<12.9	<13.0	<0.25
PCB 169	<0.54	<0.90	<0.75	<0.76	<0.015
PCB 189	<0.67	<1.13	<0.94	<0.95	<0.018
Total Dioxins & Furans Only	<16.0	<26.9	<22.5	<22.7	<0.44
Total PCBs Only	<661	<1108	<925	<934	<18.0
Total Dioxins & Furans and PCBs	<678	<1135	<947	<956	<18.4

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 43
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Blank Dioxin and Furan Specific Isomer Analyses

Specific Isomer	Blank Train pg	Method Blank pg
2378-tetrachlorodibenzo-p-dioxin	<1.8	<4.0
12378-pentachlorodibenzo-p-dioxin	<2.0	<1.3
123478-hexachlorodibenzo-p-dioxin	<1.7	<2.9
123678-hexachlorodibenzo-p-dioxin	<1.7	<2.7
123789-hexachlorodibenzo-p-dioxin	<1.6	<2.7
1234678-heptachlorodibenzo-p-dioxin	3.30	<4.6
Octachlorodibenzo-p-dioxin	15.6	<14
2378-tetrachlorodibenzofuran	<2.0	<1.5
12378-pentachlorodibenzofuran	<1.3	<1.7
23478-pentachlorodibenzofuran	<1.2	<1.5
123478-hexachlorodibenzofuran	<0.96	<1.9
123678-hexachlorodibenzofuran	<0.92	<1.8
234678-hexachlorodibenzofuran	<0.95	<1.9
123789-hexachlorodibenzofuran	<1.2	<2.3
1234678-heptachlorodibenzofuran	<3.3	<4.8
1234789-heptachlorodibenzofuran	<4.0	<5.9
Octachlorodibenzofuran	<6.5	6.88
PCB 81	<4.5	<6.1
PCB 77	<4.3	<6.0
PCB 123	<2.8	<3.3
PCB 118	<56	<2.8
PCB 114	<2.7	<3.0
PCB 105	20.5	<3.1
PCB 126	<2.7	<3.3
PCB 167	<1.5	<2.5
PCB 156/157	2.59	<4.1
PCB 169	<1.9	<3.0
PCB 189	<2.0	7.21
Total Dioxins & Furans Only	<50.0	<62.4
Total PCBs Only	<101	<44.4
Total Dioxins & Furans and PCBs	<152	<107

"<" indicates that the amount detected is less than the detection limit
In these cases the value of the detection limit was used to calculate
the total collected.

TABLE 44
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Dioxin and Furan Toxicity Equivalent Actual Concentrations

Specific Isomer	Toxicity Equivalency Factor	Test No. 1 pg TEQ/m ³	Actual Concentration			Average pg TEQ/m ³
			Test No. 2 pg TEQ/m ³	Test No. 3 pg TEQ/m ³		
2378-tetrachlorodibenzo-p-dioxin	1.00000	<0.41	<0.25	<0.36		<0.34
12378-pentachlorodibenzo-p-dioxin	1.00000	<0.42	<0.34	<0.30		<0.36
123478-hexachlorodibenzo-p-dioxin	0.10000	<0.029	<0.037	<0.031		<0.032
123678-hexachlorodibenzo-p-dioxin	0.10000	<0.053	<0.059	0.046		0.053
123789-hexachlorodibenzo-p-dioxin	0.10000	0.032	<0.039	<0.042		<0.038
1234678-heptachlorodibenzo-p-dioxin	0.01000	<0.031	0.027	<0.026		<0.028
Octachlorodibenzo-p-dioxin	0.00030	<0.0017	0.0015	0.0016		<0.0016
2378-tetrachlorodibenzofuran	0.10000	<0.040	<0.037	<0.039		<0.039
12378-pentachlorodibenzofuran	0.03000	<0.016	<0.011	<0.010		<0.012
23478-pentachlorodibenzofuran	0.30000	<0.14	<0.12	0.12		<0.13
123478-hexachlorodibenzofuran	0.10000	0.032	0.035	<0.036		<0.034
123678-hexachlorodibenzofuran	0.10000	<0.030	<0.037	<0.020		<0.029
234678-hexachlorodibenzofuran	0.10000	0.044	0.069	<0.061		<0.058
123789-hexachlorodibenzofuran	0.10000	<0.016	0.022	<0.026		<0.021
1234678-heptachlorodibenzofuran	0.01000	<0.013	<0.015	<0.020		<0.016
1234789-heptachlorodibenzofuran	0.01000	<0.0016	<0.0024	<0.0024		<0.0021
Octachlorodibenzofuran	0.00030	<0.00043	0.00054	<0.00035		<0.00044
PCB 81	0.00030	0.00036	0.00048	<0.00024		<0.00036
PCB 77	0.00010	0.0019	0.0025	0.0012		0.0019
PCB 123	0.00003	0.00023	0.00033	0.000073		0.00021
PCB 118	0.00003	0.014	0.021	0.0050		0.013
PCB 114	0.00003	0.00032	0.00056	0.00011		0.00033
PCB 105	0.00003	0.0046	0.0081	0.0017		0.0048
PCB 126	0.10000	<0.10	0.10	<0.057		<0.087
PCB 167	0.00003	0.00012	0.00020	0.000057		0.00013
PCB 156/157	0.00003	<0.00032	<0.00039	<0.00011		<0.00028
PCB 169	0.03000	<0.015	<0.019	<0.014		<0.016
PCB 189	0.00003	<0.000016	<0.000018	<0.000027		<0.000020
Total Dioxins & Furans Only		<1.31	<1.10	<1.14		<1.19
Total PCBs Only		<0.14	<0.16	<0.080		<0.12
Total Dioxins & Furans and PCBs		<1.45	<1.26	<1.22		<1.31

World Health Organization Toxicity Equivalency Factors as detailed in O. Reg. 419/05.

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 45
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Dioxin and Furan Toxicity Equivalent Dry Reference Concentrations

Specific Isomer	Toxicity Equivalency Factor	Dry Reference Concentration			
		Test No. 1 pg TEQ/Rm ³ *	Test No. 2 pg TEQ/Rm ³ *	Test No. 3 pg TEQ/Rm ³ *	Average pg TEQ/Rm ³ *
2378-tetrachlorodibenzo-p-dioxin	1.00000	<0.68	<0.42	<0.61	<0.57
12378-pentachlorodibenzo-p-dioxin	1.00000	<0.70	<0.58	<0.51	<0.60
123478-hexachlorodibenzo-p-dioxin	0.10000	<0.048	<0.062	<0.053	<0.054
123678-hexachlorodibenzo-p-dioxin	0.10000	<0.088	<0.10	0.078	0.089
123789-hexachlorodibenzo-p-dioxin	0.10000	0.052	<0.066	<0.071	<0.063
1234678-heptachlorodibenzo-p-dioxin	0.01000	<0.052	0.045	<0.045	<0.047
Octachlorodibenzo-p-dioxin	0.00030	<0.0028	0.0025	0.0027	<0.0027
2378-tetrachlorodibenzofuran	0.10000	<0.066	<0.062	<0.067	<0.065
12378-pentachlorodibenzofuran	0.03000	<0.026	<0.019	<0.018	<0.021
23478-pentachlorodibenzofuran	0.30000	<0.23	<0.20	0.21	<0.21
123478-hexachlorodibenzofuran	0.10000	0.053	0.059	<0.061	<0.057
123678-hexachlorodibenzofuran	0.10000	<0.050	<0.062	<0.034	<0.049
234678-hexachlorodibenzofuran	0.10000	0.073	0.12	<0.10	<0.097
123789-hexachlorodibenzofuran	0.10000	<0.026	0.037	<0.045	<0.036
1234678-heptachlorodibenzofuran	0.01000	<0.022	<0.026	<0.034	<0.027
1234789-heptachlorodibenzofuran	0.01000	<0.0026	<0.0040	<0.0041	<0.0036
Octachlorodibenzofuran	0.00030	<0.00072	0.00090	<0.00060	<0.00074
PCB 81	0.00030	0.00060	0.00081	<0.00040	<0.00060
PCB 77	0.00010	0.0032	0.0042	0.0020	0.0031
PCB 123	0.00003	0.00038	0.00055	0.00012	0.00035
PCB 118	0.00003	0.023	0.036	0.0085	0.023
PCB 114	0.00003	0.00053	0.00095	0.00019	0.00056
PCB 105	0.00003	0.0076	0.014	0.0029	0.0081
PCB 126	0.10000	<0.17	0.17	<0.097	<0.15
PCB 167	0.00003	0.00020	0.00033	0.000096	0.00021
PCB 156/157	0.00003	<0.00054	<0.00066	<0.00019	<0.00046
PCB 169	0.03000	<0.025	<0.032	<0.024	<0.027
PCB 189	0.00003	<0.000026	<0.000030	<0.000045	<0.000034
Total Dioxins & Furans Only		<2.18	<1.85	<1.94	<1.99
Total PCBs Only		<0.23	<0.26	<0.14	<0.21
Total Dioxins & Furans and PCBs		<2.41	<2.12	<2.08	<2.20

* At 25°C and 1 atmosphere

World Health Organization Toxicity Equivalency Factors as detailed in O. Reg. 419/05.

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 46
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Dioxin and Furan Toxicity Equivalent Dry Adjusted Concentrations
Calculated Using the Full Detection Limit

Specific Isomer	Toxicity Equivalency Factor	Dry Adjusted Concentration			
		Test No. 1 pg TEQ/Rm ³ *	Test No. 2 pg TEQ/Rm ³ *	Test No. 3 pg TEQ/Rm ³ *	Average pg TEQ/Rm ³ *
2378-tetrachlorodibenzo-p-dioxin	1.00000	<0.57	<0.35	<0.51	<0.48
12378-pentachlorodibenzo-p-dioxin	1.00000	<0.59	<0.48	<0.42	<0.50
123478-hexachlorodibenzo-p-dioxin	0.10000	<0.040	<0.051	<0.044	<0.045
123678-hexachlorodibenzo-p-dioxin	0.10000	<0.074	<0.083	0.065	0.074
123789-hexachlorodibenzo-p-dioxin	0.10000	0.044	<0.055	<0.059	<0.053
1234678-heptachlorodibenzo-p-dioxin	0.01000	<0.044	0.037	<0.037	<0.039
Octachlorodibenzo-p-dioxin	0.00030	<0.0023	0.0021	0.0023	<0.0022
2378-tetrachlorodibenzofuran	0.10000	<0.056	<0.051	<0.056	<0.054
12378-pentachlorodibenzofuran	0.03000	<0.022	<0.015	<0.015	<0.017
23478-pentachlorodibenzofuran	0.30000	<0.19	<0.16	0.17	<0.18
123478-hexachlorodibenzofuran	0.10000	0.045	0.049	<0.051	<0.048
123678-hexachlorodibenzofuran	0.10000	<0.042	<0.051	<0.029	<0.041
234678-hexachlorodibenzofuran	0.10000	0.061	0.096	<0.086	<0.081
123789-hexachlorodibenzofuran	0.10000	<0.022	0.031	<0.037	<0.030
1234678-heptachlorodibenzofuran	0.01000	<0.019	<0.022	<0.029	<0.023
1234789-heptachlorodibenzofuran	0.01000	<0.0022	<0.0033	<0.0034	<0.0030
Octachlorodibenzofuran	0.00030	<0.00061	0.00075	<0.00050	<0.00062
PCB 81	0.00030	0.00051	0.00067	<0.00033	<0.00050
PCB 77	0.00010	0.0026	0.0035	0.0017	0.0026
PCB 123	0.00003	0.00032	0.00046	0.00010	0.00029
PCB 118	0.00003	0.019	0.030	0.0071	0.019
PCB 114	0.00003	0.00045	0.00079	0.00016	0.00046
PCB 105	0.00003	0.0064	0.011	0.0024	0.0067
PCB 126	0.10000	<0.14	0.14	<0.081	<0.12
PCB 167	0.00003	0.00017	0.00028	0.000080	0.00018
PCB 156/157	0.00003	<0.00045	<0.00055	<0.00016	<0.00039
PCB 169	0.03000	<0.021	<0.027	<0.020	<0.023
PCB 189	0.00003	<0.000022	<0.000025	<0.000038	<0.000028
Total Dioxins & Furans Only		<1.83	<1.54	<1.62	<1.66
Total PCBs Only		<0.19	<0.22	<0.11	<0.17
Total Dioxins & Furans and PCBs		<2.02	<1.76	<1.73	<1.84

* At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

World Health Organization Toxicity Equivalency Factors as detailed in O. Reg. 419/05.

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 46A
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Dioxin and Furan Toxicity Equivalent Dry Adjusted Concentrations
Calculated Using Half the Detection Limit

Specific Isomer	Toxicity Equivalency Factor	Dry Adjusted Concentration			
		Test No. 1 pg TEQ/Rm ³ *	Test No. 2 pg TEQ/Rm ³ *	Test No. 3 pg TEQ/Rm ³ *	Average pg TEQ/Rm ³ *
2378-tetrachlorodibenzo-p-dioxin	1.00000	0.29	0.17	0.25	0.24
12378-pentachlorodibenzo-p-dioxin	1.00000	0.30	0.24	0.21	0.25
123478-hexachlorodibenzo-p-dioxin	0.10000	0.020	0.026	0.022	0.023
123678-hexachlorodibenzo-p-dioxin	0.10000	0.037	0.041	0.065	0.048
123789-hexachlorodibenzo-p-dioxin	0.10000	0.044	0.027	0.030	0.034
1234678-heptachlorodibenzo-p-dioxin	0.01000	0.022	0.037	0.019	0.026
Octachlorodibenzo-p-dioxin	0.00030	0.0012	0.0021	0.0023	0.0019
2378-tetrachlorodibenzofuran	0.10000	0.028	0.026	0.028	0.027
12378-pentachlorodibenzofuran	0.03000	0.011	0.0077	0.0074	0.0087
23478-pentachlorodibenzofuran	0.30000	0.096	0.082	0.17	0.12
123478-hexachlorodibenzofuran	0.10000	0.045	0.049	0.025	0.040
123678-hexachlorodibenzofuran	0.10000	0.021	0.026	0.014	0.020
234678-hexachlorodibenzofuran	0.10000	0.061	0.096	0.043	0.067
123789-hexachlorodibenzofuran	0.10000	0.011	0.031	0.019	0.020
1234678-heptachlorodibenzofuran	0.01000	0.0093	0.011	0.014	0.011
1234789-heptachlorodibenzofuran	0.01000	0.0011	0.0017	0.0017	0.0015
Octachlorodibenzofuran	0.00030	0.00030	0.00075	0.00025	0.00044
PCB 81	0.00030	0.00051	0.00067	0.00017	0.00045
PCB 77	0.00010	0.0026	0.0035	0.0017	0.0026
PCB 123	0.00003	0.00032	0.00046	0.00010	0.00029
PCB 118	0.00003	0.019	0.030	0.0071	0.019
PCB 114	0.00003	0.00045	0.00079	0.00016	0.00046
PCB 105	0.00003	0.0064	0.011	0.0024	0.0067
PCB 126	0.10000	0.071	0.14	0.041	0.085
PCB 167	0.00003	0.00017	0.00028	0.000080	0.00018
PCB 156/157	0.00003	0.00023	0.00027	0.000081	0.00019
PCB 169	0.03000	0.011	0.013	0.0099	0.011
PCB 189	0.00003	0.000011	0.000012	0.000019	0.000014
Total Dioxins & Furans Only		0.99	0.88	0.93	0.93
Total PCBs Only		0.11	0.20	0.062	0.13
Total Dioxins & Furans and PCBs		1.10	1.08	0.99	1.06

* At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

World Health Organization Toxicity Equivalency Factors as detailed in O. Reg. 419/05.

Note: The value of half the detection limit was used to calculate emission data for those analytes not detected.

TABLE 46B
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Dioxin and Furan Toxicity Equivalent Dry Adjusted Concentrations
Calculated Using the Full Detection Limit

Specific Isomer	Toxicity Equivalency Factor	Dry Adjusted Concentration			
		Test No. 1 pg TEQ/Rm ³ *	Test No. 2 pg TEQ/Rm ³ *	Test No. 3 pg TEQ/Rm ³ *	Average pg TEQ/Rm ³ *
2378-tetrachlorodibenzo-p-dioxin	1.0000	<0.57	<0.35	<0.51	<0.48
12378-pentachlorodibenzo-p-dioxin	0.5000	<0.30	<0.24	<0.21	<0.25
123478-hexachlorodibenzo-p-dioxin	0.1000	<0.040	<0.051	<0.044	<0.045
123678-hexachlorodibenzo-p-dioxin	0.1000	<0.074	<0.083	0.065	0.074
123789-hexachlorodibenzo-p-dioxin	0.1000	0.044	<0.055	<0.059	<0.053
1234678-heptachlorodibenzo-p-dioxin	0.0100	<0.044	0.037	<0.037	<0.039
Octachlorodibenzo-p-dioxin	0.0010	<0.0078	0.0070	0.0076	<0.0075
2378-tetrachlorodibenzofuran	0.1000	<0.056	<0.051	<0.056	<0.054
12378-pentachlorodibenzofuran	0.0500	<0.037	<0.026	<0.025	<0.029
23478-pentachlorodibenzofuran	0.5000	<0.32	<0.27	0.29	<0.30
123478-hexachlorodibenzofuran	0.1000	0.045	0.049	<0.051	<0.048
123678-hexachlorodibenzofuran	0.1000	<0.042	<0.051	<0.029	<0.041
234678-hexachlorodibenzofuran	0.1000	0.061	0.096	<0.086	<0.081
123789-hexachlorodibenzofuran	0.1000	<0.022	0.031	<0.037	<0.030
1234678-heptachlorodibenzofuran	0.0100	<0.019	<0.022	<0.029	<0.023
1234789-heptachlorodibenzofuran	0.0100	<0.0022	<0.0033	<0.0034	<0.0030
Octachlorodibenzofuran	0.0010	<0.0020	0.0025	<0.0017	<0.0021
Total Dioxins & Furans		<1.68	<1.43	<1.54	<1.55
In-Stack Emission Limit					60

* At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

NATO/CCMS (1989) Toxicity Equivalency Factors

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 47
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Dioxin and Furan Toxicity Equivalent Wet Reference Concentrations

Specific Isomer	Toxicity Equivalency Factor	Wet Reference Concentration			
		Test No. 1 pg TEQ/Rm ³ *	Test No. 2 pg TEQ/Rm ³ *	Test No. 3 pg TEQ/Rm ³ *	Average pg TEQ/Rm ³ *
2378-tetrachlorodibenzo-p-dioxin	1.00000	<0.58	<0.35	<0.51	<0.48
12378-pentachlorodibenzo-p-dioxin	1.00000	<0.60	<0.49	<0.42	<0.50
123478-hexachlorodibenzo-p-dioxin	0.10000	<0.041	<0.052	<0.044	<0.046
123678-hexachlorodibenzo-p-dioxin	0.10000	<0.075	<0.084	0.065	0.075
123789-hexachlorodibenzo-p-dioxin	0.10000	0.044	<0.055	<0.059	<0.053
1234678-heptachlorodibenzo-p-dioxin	0.01000	<0.044	0.038	<0.037	<0.040
Octachlorodibenzo-p-dioxin	0.00030	<0.0024	0.0021	0.0023	<0.0023
2378-tetrachlorodibenzofuran	0.10000	<0.056	<0.052	<0.056	<0.055
12378-pentachlorodibenzofuran	0.03000	<0.022	<0.016	<0.015	<0.018
23478-pentachlorodibenzofuran	0.30000	<0.19	<0.17	0.18	<0.18
123478-hexachlorodibenzofuran	0.10000	0.045	0.049	<0.051	<0.048
123678-hexachlorodibenzofuran	0.10000	<0.043	<0.052	<0.029	<0.041
234678-hexachlorodibenzofuran	0.10000	0.062	0.097	<0.087	<0.082
123789-hexachlorodibenzofuran	0.10000	<0.022	0.031	<0.037	<0.030
1234678-heptachlorodibenzofuran	0.01000	<0.019	<0.022	<0.029	<0.023
1234789-heptachlorodibenzofuran	0.01000	<0.0022	<0.0033	<0.0034	<0.0030
Octachlorodibenzofuran	0.00030	<0.00061	0.00076	<0.00050	<0.00063
PCB 81	0.00030	0.00051	0.00068	<0.00034	<0.00051
PCB 77	0.00010	0.0027	0.0035	0.0017	0.0026
PCB 123	0.00003	0.00032	0.00046	0.00010	0.00030
PCB 118	0.00003	0.020	0.030	0.0071	0.019
PCB 114	0.00003	0.00045	0.00079	0.00016	0.00047
PCB 105	0.00003	0.0065	0.011	0.0024	0.0068
PCB 126	0.10000	<0.14	0.14	<0.082	<0.12
PCB 167	0.00003	0.00017	0.00028	0.000081	0.00018
PCB 156/157	0.00003	<0.00045	<0.00055	<0.00016	<0.00039
PCB 169	0.03000	<0.021	<0.027	<0.020	<0.023
PCB 189	0.00003	<0.000022	<0.000025	<0.000038	<0.000028
Total Dioxins & Furans Only		<1.85	<1.56	<1.63	<1.68
Total PCBs Only		<0.20	<0.22	<0.11	<0.18
Total Dioxins & Furans and PCBs		<2.04	<1.78	<1.74	<1.85

* At 25°C and 1 atmosphere

World Health Organization Toxicity Equivalency Factors as detailed in O. Reg. 419/05.

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 48
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Dioxin and Furan Toxicity Equivalent Emission Rates

Specific Isomer	Toxicity Equivalency Factor	Emission Rate			
		Test No. 1 ng TEQ/s	Test No. 2 ng TEQ/s	Test No. 3 ng TEQ/s	Average ng TEQ/s
2378-tetrachlorodibenzo-p-dioxin	1.00000	<0.011	<0.0068	<0.0098	<0.0092
12378-pentachlorodibenzo-p-dioxin	1.00000	<0.011	<0.0094	<0.0082	<0.0097
123478-hexachlorodibenzo-p-dioxin	0.10000	<0.00079	<0.0010	<0.00085	<0.00088
123678-hexachlorodibenzo-p-dioxin	0.10000	<0.0014	<0.0016	0.0012	0.0014
123789-hexachlorodibenzo-p-dioxin	0.10000	0.00085	<0.0011	<0.0011	<0.0010
1234678-heptachlorodibenzo-p-dioxin	0.01000	<0.00085	0.00073	<0.00072	<0.00077
Octachlorodibenzo-p-dioxin	0.00030	<0.000045	0.000041	0.000044	<0.000043
2378-tetrachlorodibenzofuran	0.10000	<0.0011	<0.0010	<0.0011	<0.0011
12378-pentachlorodibenzofuran	0.03000	<0.00043	<0.00030	<0.00028	<0.00034
23478-pentachlorodibenzofuran	0.30000	<0.0037	<0.0032	0.0034	<0.0034
123478-hexachlorodibenzofuran	0.10000	0.00086	0.00095	<0.00098	<0.00093
123678-hexachlorodibenzofuran	0.10000	<0.00082	<0.0010	<0.00055	<0.00079
234678-hexachlorodibenzofuran	0.10000	0.0012	0.0019	<0.0017	<0.0016
123789-hexachlorodibenzofuran	0.10000	<0.00043	0.00060	<0.00072	<0.00058
1234678-heptachlorodibenzofuran	0.01000	<0.00036	<0.00042	<0.00055	<0.00044
1234789-heptachlorodibenzofuran	0.01000	<0.000043	<0.000065	<0.000065	<0.000057
Octachlorodibenzofuran	0.00030	<0.000012	0.000015	<0.0000097	<0.000012
PCB 81	0.00030	0.0000098	0.000013	<0.0000065	<0.0000098
PCB 77	0.00010	0.000051	0.000068	0.000033	0.000051
PCB 123	0.00003	0.0000062	0.0000089	0.0000020	0.0000057
PCB 118	0.00003	0.00038	0.00058	0.00014	0.00037
PCB 114	0.00003	0.0000087	0.000015	0.0000030	0.0000090
PCB 105	0.00003	0.00012	0.00022	0.000046	0.00013
PCB 126	0.10000	<0.0027	0.0028	<0.0016	<0.0024
PCB 167	0.00003	0.0000033	0.0000054	0.0000015	0.0000034
PCB 156/157	0.00003	<0.0000087	<0.000011	<0.0000031	<0.0000075
PCB 169	0.03000	<0.00041	<0.00052	<0.00038	<0.00044
PCB 189	0.00003	<0.00000043	<0.00000048	<0.00000072	<0.00000055
Total Dioxins & Furans Only		<0.035	<0.030	<0.031	<0.032
Total PCBs Only		<0.0037	<0.0042	<0.0022	<0.0034
Total Dioxins & Furans and PCBs		<0.039	<0.034	<0.033	<0.036

World Health Organization Toxicity Equivalency Factors as detailed in O. Reg. 419/05.

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 49
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Summary of Dioxin and Furan Toxicity Equivalent Emission Data
Calculated Using the Full Detection Limit

Specific Isomer	Actual Concentration pg TEQ/m ³	Dry Reference Concentration pg TEQ/Rm ^{3*}	Dry Adjusted Concentration pg TEQ/Rm ^{3**}	Wet Reference Concentration pg TEQ/Rm ^{3*}	Emission Rate ng TEQ/s
2378-tetrachlorodibenzo-p-dioxin	<0.34	<0.57	<0.48	<0.48	<0.0092
12378-pentachlorodibenzo-p-dioxin	<0.36	<0.60	<0.50	<0.50	<0.0097
123478-hexachlorodibenzo-p-dioxin	<0.032	<0.054	<0.045	<0.046	<0.00088
123678-hexachlorodibenzo-p-dioxin	0.053	0.089	0.074	0.075	0.0014
123789-hexachlorodibenzo-p-dioxin	<0.038	<0.063	<0.053	<0.053	<0.0010
1234678-heptachlorodibenzo-p-dioxin	<0.028	<0.047	<0.039	<0.040	<0.00077
Octachlorodibenzo-p-dioxin	<0.0016	<0.0027	<0.0022	<0.0023	<0.000043
2378-tetrachlorodibenzofuran	<0.039	<0.065	<0.054	<0.055	<0.0011
12378-pentachlorodibenzofuran	<0.012	<0.021	<0.017	<0.018	<0.00034
23478-pentachlorodibenzofuran	<0.13	<0.21	<0.18	<0.18	<0.0034
123478-hexachlorodibenzofuran	<0.034	<0.057	<0.048	<0.048	<0.00093
123678-hexachlorodibenzofuran	<0.029	<0.049	<0.041	<0.041	<0.00079
234678-hexachlorodibenzofuran	<0.058	<0.097	<0.081	<0.082	<0.0016
123789-hexachlorodibenzofuran	<0.021	<0.036	<0.030	<0.030	<0.00058
1234678-heptachlorodibenzofuran	<0.016	<0.027	<0.023	<0.023	<0.00044
1234789-heptachlorodibenzofuran	<0.0021	<0.0036	<0.0030	<0.0030	<0.000057
Octachlorodibenzofuran	<0.00044	<0.00074	<0.00062	<0.00063	<0.000012
PCB 81	<0.00036	<0.00060	<0.00050	<0.00051	<0.0000098
PCB 77	0.0019	0.0031	0.0026	0.0026	0.000051
PCB 123	0.00021	0.00035	0.00029	0.00030	0.0000057
PCB 118	0.013	0.023	0.019	0.019	0.00037
PCB 114	0.00033	0.00056	0.00046	0.00047	0.0000090
PCB 105	0.0048	0.0081	0.0067	0.0068	0.00013
PCB 126	<0.087	<0.15	<0.12	<0.12	<0.0024
PCB 167	0.00013	0.00021	0.00018	0.00018	0.0000034
PCB 156/157	<0.00028	<0.00046	<0.00039	<0.00039	<0.0000075
PCB 169	<0.016	<0.027	<0.023	<0.023	<0.00044
PCB 189	<0.000020	<0.000034	<0.000028	<0.000028	<0.00000055
Total Dioxins & Furans Only	<1.19	<1.99	<1.66	<1.68	<0.032
Total PCBs Only	<0.12	<0.21	<0.17	<0.18	<0.0034
Total Dioxins & Furans and PCBs	<1.31	<2.20	<1.84	<1.85	<0.036

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

World Health Organization Toxicity Equivalency Factors as detailed in O. Reg. 419/05.

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 50
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Summary of Dioxin and Furan Toxicity Equivalent Emission Data
Calculated Using Half the Detection Limit

Specific Isomer	Actual Concentration pg TEQ/m ³	Dry Reference Concentration pg TEQ/Rm ^{3*}	Dry Adjusted Concentration pg TEQ/Rm ^{3**}	Wet Reference Concentration pg TEQ/Rm ^{3*}	Emission Rate ng TEQ/s
2378-tetrachlorodibenzo-p-dioxin	0.17	0.28	0.24	0.24	0.0046
12378-pentachlorodibenzo-p-dioxin	0.18	0.30	0.25	0.25	0.0048
123478-hexachlorodibenzo-p-dioxin	0.016	0.027	0.023	0.023	0.00044
123678-hexachlorodibenzo-p-dioxin	0.034	0.057	0.048	0.048	0.00093
123789-hexachlorodibenzo-p-dioxin	0.024	0.040	0.034	0.034	0.00065
1234678-heptachlorodibenzo-p-dioxin	0.019	0.031	0.026	0.026	0.00050
Octachlorodibenzo-p-dioxin	0.0013	0.0022	0.0019	0.0019	0.000036
2378-tetrachlorodibenzofuran	0.019	0.032	0.027	0.027	0.00053
12378-pentachlorodibenzofuran	0.0062	0.010	0.0087	0.0088	0.00017
23478-pentachlorodibenzofuran	0.084	0.14	0.12	0.12	0.0023
123478-hexachlorodibenzofuran	0.028	0.047	0.040	0.040	0.00077
123678-hexachlorodibenzofuran	0.015	0.024	0.020	0.021	0.00040
234678-hexachlorodibenzofuran	0.048	0.080	0.067	0.068	0.0013
123789-hexachlorodibenzofuran	0.014	0.024	0.020	0.020	0.00039
1234678-heptachlorodibenzofuran	0.0082	0.014	0.011	0.012	0.00022
1234789-heptachlorodibenzofuran	0.0011	0.0018	0.0015	0.0015	0.000029
Octachlorodibenzofuran	0.00031	0.00052	0.00044	0.00044	0.0000085
PCB 81	0.00032	0.00054	0.00045	0.00045	0.0000087
PCB 77	0.0019	0.0031	0.0026	0.0026	0.000051
PCB 123	0.00021	0.00035	0.00029	0.00030	0.0000057
PCB 118	0.013	0.023	0.019	0.019	0.00037
PCB 114	0.00033	0.00056	0.00046	0.00047	0.0000090
PCB 105	0.0048	0.0081	0.0067	0.0068	0.00013
PCB 126	0.061	0.10	0.085	0.086	0.0016
PCB 167	0.00013	0.00021	0.00018	0.00018	0.0000034
PCB 156/157	0.00014	0.00023	0.00019	0.00020	0.0000038
PCB 169	0.0081	0.014	0.011	0.011	0.00022
PCB 189	0.000010	0.000017	0.000014	0.000014	0.00000027
Total Dioxins & Furans Only	0.67	1.12	0.93	0.94	0.018
Total PCBs Only	0.090	0.15	0.13	0.13	0.0024
Total Dioxins & Furans and PCBs	0.76	1.27	1.06	1.07	0.021

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

World Health Organization Toxicity Equivalency Factors as detailed in O. Reg. 419/05.

Note: The value of half the detection limit was used to calculate emission data for those analytes not detected.

TABLE 51
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Emission Data for Chlorobenzenes
Test No. 1

Specific Isomer	Total Collected ng	Actual Concentration ng/m ³	Dry Reference Concentration ng/Rm ^{3*}	Dry Adjusted Concentration ng/Rm ^{3**}	Wet Reference Concentration ng/Rm ^{3*}	Emission Rate µg/s
Monochlorobenzene	1510	182	303	255	257	4.94
1,3-Dichlorobenzene	155	18.7	31.1	26.1	26.4	0.51
1,4-Dichlorobenzene	92.4	11.2	18.5	15.6	15.7	0.30
1,2-Dichlorobenzene	112	13.5	22.5	18.9	19.1	0.37
Total Dichlorobenzene	359	43.4	72.1	60.6	61.2	1.18
1,3,5-trichlorobenzene	<12	<1.45	<2.41	<2.02	<2.04	<0.039
1,2,4-trichlorobenzene	25.4	3.07	5.10	4.28	4.33	0.083
1,2,3-trichlorobenzene	<12	<1.45	<2.41	<2.02	<2.04	<0.039
Total Trichlorobenzene	<49	<5.96	<9.91	<8.33	<8.42	<0.16
1,2,3,5- & 1,2,4,5-tetrachlorobenzenes	<12	<1.45	<2.41	<2.02	<2.04	<0.039
1,2,3,4-tetrachlorobenzene	<12	<1.45	<2.41	<2.02	<2.04	<0.039
Total Tetrachlorobenzene	<24.0	<2.90	<4.82	<4.05	<4.09	<0.079
Pentachlorobenzene	<12	<1.45	<2.41	<2.02	<2.04	<0.039
Hexachlorobenzene	<12	<1.45	<2.41	<2.02	<2.04	<0.039
Total Chlorobenzenes	<1967	<237	<395	<332	<335	<6.43

Dry Gas Volume Sampled (Rm ^{3*}) :	4.983
Actual Flowrate (m ³ /s) :	27.1
Dry Reference Flowrate (Rm ³ /s*) :	16.3
Dry Adjusted Flowrate (Rm ³ /s**) :	19.4
Wet Reference Flowrate (Rm ³ /s*) :	19.2

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 52
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Emission Data for Chlorobenzenes
Test No. 2

Specific Isomer	Total Collected ng	Actual Concentration ng/m ³	Dry Reference Concentration ng/Rm ^{3*}	Dry Adjusted Concentration ng/Rm ^{3**}	Wet Reference Concentration ng/Rm ^{3*}	Emission Rate µg/s
Monochlorobenzene	1280	152	255	212	214	4.14
1,3-Dichlorobenzene	163	19.4	32.5	27.0	27.3	0.53
1,4-Dichlorobenzene	88.8	10.5	17.7	14.7	14.9	0.29
1,2-Dichlorobenzene	111	13.2	22.1	18.4	18.6	0.36
Total Dichlorobenzene	363	43.1	72.4	60.1	60.7	1.17
1,3,5-trichlorobenzene	14.1	1.67	2.81	2.34	2.36	0.046
1,2,4-trichlorobenzene	28.1	3.34	5.60	4.66	4.70	0.091
1,2,3-trichlorobenzene	13.4	1.59	2.67	2.22	2.24	0.043
Total Trichlorobenzene	55.6	6.60	11.1	9.21	9.31	0.18
1,2,3,5- & 1,2,4,5-tetrachlorobenzenes	<12	<1.43	<2.39	<1.99	<2.01	<0.039
1,2,3,4-tetrachlorobenzene	<12	<1.43	<2.39	<1.99	<2.01	<0.039
Total Tetrachlorobenzene	<24.0	<2.85	<4.79	<3.98	<4.02	<0.078
Pentachlorobenzene	<12	<1.43	<2.39	<1.99	<2.01	<0.039
Hexachlorobenzene	<12	<1.43	<2.39	<1.99	<2.01	<0.039
Total Chlorobenzenes	<1746	<207	<348	<289	<292	<5.64

Dry Gas Volume Sampled (Rm ^{3*}) :	5.014
Actual Flowrate (m ³ /s) :	27.2
Dry Reference Flowrate (Rm ³ /s*) :	16.2
Dry Adjusted Flowrate (Rm ³ /s**) :	19.5
Wet Reference Flowrate (Rm ³ /s*) :	19.3

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 53
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Emission Data for Chlorobenzenes
Test No. 3

Specific Isomer	Total Collected ng	Actual Concentration ng/m ³	Dry Reference Concentration ng/Rm ^{3*}	Dry Adjusted Concentration ng/Rm ^{3**}	Wet Reference Concentration ng/Rm ^{3*}	Emission Rate µg/s
Monochlorobenzene	1450	173	294	245	246	4.73
1,3-Dichlorobenzene	166	19.8	33.6	28.1	28.2	0.54
1,4-Dichlorobenzene	83.6	9.99	16.9	14.1	14.2	0.27
1,2-Dichlorobenzene	115	13.7	23.3	19.4	19.5	0.38
Total Dichlorobenzene	365	43.6	73.9	61.6	62.0	1.19
1,3,5-trichlorobenzene	<12	<1.43	<2.43	<2.03	<2.04	<0.039
1,2,4-trichlorobenzene	25.8	3.08	5.23	4.36	4.38	0.084
1,2,3-trichlorobenzene	12.3	1.47	2.49	2.08	2.09	0.040
Total Trichlorobenzene	<50.1	<5.99	<10.2	<8.47	<8.51	<0.16
1,2,3,5- & 1,2,4,5-tetrachlorobenzenes	<12	<1.43	<2.43	<2.03	<2.04	<0.039
1,2,3,4-tetrachlorobenzene	<12	<1.43	<2.43	<2.03	<2.04	<0.039
Total Tetrachlorobenzene	<24.0	<2.87	<4.86	<4.06	<4.08	<0.078
Pentachlorobenzene	<12	<1.43	<2.43	<2.03	<2.04	<0.039
Hexachlorobenzene	<12	<1.43	<2.43	<2.03	<2.04	<0.039
Total Chlorobenzenes	<1913	<229	<388	<323	<325	<6.24

Dry Gas Volume Sampled (Rm ^{3*}) :	4.934
Actual Flowrate (m ³ /s) :	27.3
Dry Reference Flowrate (Rm ³ /s*) :	16.1
Dry Adjusted Flowrate (Rm ³ /s**) :	19.3
Wet Reference Flowrate (Rm ³ /s*) :	19.2

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 54
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Actual Concentrations for Chlorobenzenes

Specific Isomer	Actual Concentration			Average	Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3		
	ng/m ³	ng/m ³	ng/m ³	ng/m ³	%
Monochlorobenzene	182	152	173	169	9.2
1,3-Dichlorobenzene	18.7	19.4	19.8	19.3	2.9
1,4-Dichlorobenzene	11.2	10.5	9.99	10.6	5.5
1,2-Dichlorobenzene	13.5	13.2	13.7	13.5	2.1
Total Dichlorobenzene	43.4	43.1	43.6	43.4	0.6
1,3,5-trichlorobenzene	<1.45	1.67	<1.43	<1.52	8.9
1,2,4-trichlorobenzene	3.07	3.34	3.08	3.16	4.8
1,2,3-trichlorobenzene	<1.45	1.59	1.47	<1.50	5.1
Total Trichlorobenzene	<5.96	6.60	<5.99	<6.19	5.9
1,2,3,5- & 1,2,4,5-tetrachlorobenzenes	<1.45	<1.43	<1.43	<1.44	0.8
1,2,3,4-tetrachlorobenzene	<1.45	<1.43	<1.43	<1.44	0.8
Total Tetrachlorobenzene	<2.90	<2.85	<2.87	<2.87	0.8
Pentachlorobenzene	<1.45	<1.43	<1.43	<1.44	0.8
Hexachlorobenzene	<1.45	<1.43	<1.43	<1.44	0.8
Total Chlorobenzenes	<237	<207	<229	<224	6.9

TABLE 55
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Dry Reference Concentrations for Chlorobenzenes

Specific Isomer	Dry Reference Concentration				Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3	Average	
	ng/Rm ³ *	ng/Rm ³ *	ng/Rm ³ *	ng/Rm ³ *	%
Monochlorobenzene	303	255	294	284	8.9
1,3-Dichlorobenzene	31.1	32.5	33.6	32.4	3.9
1,4-Dichlorobenzene	18.5	17.7	16.9	17.7	4.5
1,2-Dichlorobenzene	22.5	22.1	23.3	22.6	2.7
Total Dichlorobenzene	72.1	72.4	73.9	72.8	1.3
1,3,5-trichlorobenzene	<2.41	2.81	<2.43	<2.55	8.9
1,2,4-trichlorobenzene	5.10	5.60	5.23	5.31	5.0
1,2,3-trichlorobenzene	<2.41	2.67	2.49	<2.52	5.3
Total Trichlorobenzene	<9.91	11.1	<10.2	<10.4	6.0
1,2,3,5- & 1,2,4,5-tetrachlorobenzenes	<2.41	<2.39	<2.43	<2.41	0.8
1,2,3,4-tetrachlorobenzene	<2.41	<2.39	<2.43	<2.41	0.8
Total Tetrachlorobenzene	<4.82	<4.79	<4.86	<4.82	0.8
Pentachlorobenzene	<2.41	<2.39	<2.43	<2.41	0.8
Hexachlorobenzene	<2.41	<2.39	<2.43	<2.41	0.8
Total Chlorobenzenes	<395	<348	<388	<377	6.6

* At 25°C and 1 atmosphere

TABLE 56
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Dry Adjusted Concentrations for Chlorobenzenes

Specific Isomer	Dry Adjusted Concentration				Coefficient of Variation %
	Test No. 1 ng/Rm ³ *	Test No. 2 ng/Rm ³ *	Test No. 3 ng/Rm ³ *	Average ng/Rm ³ *	
Monochlorobenzene	255	212	245	237	9.4
1,3-Dichlorobenzene	26.1	27.0	28.1	27.1	3.6
1,4-Dichlorobenzene	15.6	14.7	14.1	14.8	4.9
1,2-Dichlorobenzene	18.9	18.4	19.4	18.9	2.8
Total Dichlorobenzene	60.6	60.1	61.6	60.8	1.3
1,3,5-trichlorobenzene	<2.02	2.34	<2.03	<2.13	8.4
1,2,4-trichlorobenzene	4.28	4.66	4.36	4.43	4.4
1,2,3-trichlorobenzene	<2.02	2.22	2.08	<2.11	4.8
Total Trichlorobenzene	<8.33	9.21	<8.47	<8.67	5.5
1,2,3,5- & 1,2,4,5-tetrachlorobenzenes	<2.02	<1.99	<2.03	<2.01	1.1
1,2,3,4-tetrachlorobenzene	<2.02	<1.99	<2.03	<2.01	1.1
Total Tetrachlorobenzene	<4.05	<3.98	<4.06	<4.03	1.1
Pentachlorobenzene	<2.02	<1.99	<2.03	<2.01	1.1
Hexachlorobenzene	<2.02	<1.99	<2.03	<2.01	1.1
Total Chlorobenzenes	<332	<289	<323	<315	7.1

* At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 57
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Wet Reference Concentrations for Chlorobenzenes

Specific Isomer	Wet Reference Concentration				Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3	Average	
	ng/Rm ³ *	ng/Rm ³ *	ng/Rm ³ *	ng/Rm ³ *	%
Monochlorobenzene	257	214	246	239	9.3
1,3-Dichlorobenzene	26.4	27.3	28.2	27.3	3.3
1,4-Dichlorobenzene	15.7	14.9	14.2	14.9	5.2
1,2-Dichlorobenzene	19.1	18.6	19.5	19.1	2.5
Total Dichlorobenzene	61.2	60.7	62.0	61.3	1.0
1,3,5-trichlorobenzene	<2.04	2.36	<2.04	<2.15	8.6
1,2,4-trichlorobenzene	4.33	4.70	4.38	4.47	4.5
1,2,3-trichlorobenzene	<2.04	2.24	2.09	<2.13	4.9
Total Trichlorobenzene	<8.42	9.31	<8.51	<8.75	5.6
1,2,3,5- & 1,2,4,5-tetrachlorobenzenes	<2.04	<2.01	<2.04	<2.03	0.9
1,2,3,4-tetrachlorobenzene	<2.04	<2.01	<2.04	<2.03	0.9
Total Tetrachlorobenzene	<4.09	<4.02	<4.08	<4.06	0.9
Pentachlorobenzene	<2.04	<2.01	<2.04	<2.03	0.9
Hexachlorobenzene	<2.04	<2.01	<2.04	<2.03	0.9
Total Chlorobenzenes	<335	<292	<325	<318	7.0

* At 25°C and 1 atmosphere

TABLE 58
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Emission Rates for Chlorobenzenes

Specific Isomer	Emission Rate			Average µg/s	Coefficient of Variation %
	Test No. 1 µg/s	Test No. 2 µg/s	Test No. 3 µg/s		
Monochlorobenzene	4.94	4.14	4.73	4.60	9.1
1,3-Dichlorobenzene	0.51	0.53	0.54	0.53	3.3
1,4-Dichlorobenzene	0.30	0.29	0.27	0.29	5.1
1,2-Dichlorobenzene	0.37	0.36	0.38	0.37	2.3
Total Dichlorobenzene	1.18	1.17	1.19	1.18	0.8
1,3,5-trichlorobenzene	<0.039	0.046	<0.039	<0.041	8.9
1,2,4-trichlorobenzene	0.083	0.091	0.084	0.086	4.8
1,2,3-trichlorobenzene	<0.039	0.043	0.040	<0.041	5.2
Total Trichlorobenzene	<0.16	0.18	<0.16	<0.17	5.9
1,2,3,5- & 1,2,4,5-tetrachlorobenzenes	<0.039	<0.039	<0.039	<0.039	0.7
1,2,3,4-tetrachlorobenzene	<0.039	<0.039	<0.039	<0.039	0.7
Total Tetrachlorobenzene	<0.079	<0.078	<0.078	<0.078	0.7
Pentachlorobenzene	<0.039	<0.039	<0.039	<0.039	0.7
Hexachlorobenzene	<0.039	<0.039	<0.039	<0.039	0.7
Total Chlorobenzenes	<6.43	<5.64	<6.24	<6.11	6.8

TABLE 59
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Summary of Emission Data for Chlorobenzenes

Specific Isomer	Actual Concentration ng/m ³	Dry Reference Concentration ng/Rm ^{3*}	Dry Adjusted Concentration ng/Rm ^{3**}	Wet Reference Concentration ng/Rm ^{3*}	Emission Rate µg/s
Monochlorobenzene	169	284	237	239	4.60
1,3-Dichlorobenzene	19.3	32.4	27.1	27.3	0.53
1,4-Dichlorobenzene	10.6	17.7	14.8	14.9	0.29
1,2-Dichlorobenzene	13.5	22.6	18.9	19.1	0.37
Total Dichlorobenzene	43.4	72.8	60.8	61.3	1.18
1,3,5-trichlorobenzene	<1.52	<2.55	<2.13	<2.15	<0.041
1,2,4-trichlorobenzene	3.16	5.31	4.43	4.47	0.086
1,2,3-trichlorobenzene	<1.50	<2.52	<2.11	<2.13	<0.041
Total Trichlorobenzene	<6.19	<10.4	<8.67	<8.75	<0.17
1,2,3,5- & 1,2,4,5-tetrachlorobenzenes	<1.44	<2.41	<2.01	<2.03	<0.039
1,2,3,4-tetrachlorobenzene	<1.44	<2.41	<2.01	<2.03	<0.039
Total Tetrachlorobenzene	<2.87	<4.82	<4.03	<4.06	<0.078
Pentachlorobenzene	<1.44	<2.41	<2.01	<2.03	<0.039
Hexachlorobenzene	<1.44	<2.41	<2.01	<2.03	<0.039
Total Chlorobenzenes	<224	<377	<315	<318	<6.11

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 60
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Chlorobenzene Blank Analyses

Isomers and Congener Group Totals	Blank Train Total ng	Method Blank Total ng
Monochlorobenzene	<12	<12
1,3-Dichlorobenzene	<12	<12
1,4-Dichlorobenzene	<12	<12
1,2-Dichlorobenzene	<12	<12
Total Dichlorobenzene	<36.0	<36.0
1,3,5-trichlorobenzene	<12	<12
1,2,4-trichlorobenzene	<12	<12
1,2,3-trichlorobenzene	<12	<12
Total Trichlorobenzene	<36.0	<36.0
1,2,3,5- & 1,2,4,5-tetrachlorobenzenes	<12	<12
1,2,3,4-tetrachlorobenzene	<12	<12
Total Tetrachlorobenzene	<24.0	<24.0
Pentachlorobenzene	<12	<12
Hexachlorobenzene	<12	<12
Total Chlorobenzenes	<132	<132

"<" indicates that the amount detected is less than the detection limit. In these cases the value of the detection limit was used to calculate the total collected.

TABLE 61
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Chlorophenol Isomer and Congener Group Analysis and Emission Data
Test No. 1

Specific Isomer	Total Collected ng	Actual Concentration ng/m ³	Dry Reference Concentration ng/Rm ^{3*}	Dry Adjusted Concentration ng/Rm ^{3**}	Wet Reference Concentration ng/Rm ^{3*}	Emission Rate µg/s
2-monochlorophenol	<60	<7.24	<12.0	<10.1	<10.2	<0.20
3 & 4-monochlorophenol	<60	<7.24	<12.0	<10.1	<10.2	<0.20
Total Monochlorophenols	<120	<14.5	<24.1	<20.2	<20.4	<0.39
2,6-dichlorophenol	<60	<7.24	<12.0	<10.1	<10.2	<0.20
2,4 & 2,5-dichlorophenol	<60	<7.24	<12.0	<10.1	<10.2	<0.20
3,5-dichlorophenol	<60	<7.24	<12.0	<10.1	<10.2	<0.20
2,3-dichlorophenol	<60	<7.24	<12.0	<10.1	<10.2	<0.20
3,4-dichlorophenol	<60	<7.24	<12.0	<10.1	<10.2	<0.20
Total Dichlorophenols	<300	<36.2	<60.2	<50.6	<51.1	<0.98
2,4,6-trichlorophenol	<60	<7.24	<12.0	<10.1	<10.2	<0.20
2,3,6-trichlorophenol	<60	<7.24	<12.0	<10.1	<10.2	<0.20
2,3,5-trichlorophenol	<60	<7.24	<12.0	<10.1	<10.2	<0.20
2,4,5-trichlorophenol	<60	<7.24	<12.0	<10.1	<10.2	<0.20
2,3,4-trichlorophenol	<60	<7.24	<12.0	<10.1	<10.2	<0.20
3,4,5-trichlorophenol	<60	<7.24	<12.0	<10.1	<10.2	<0.20
Total Trichlorophenols	<360	<43.5	<72.2	<60.7	<61.3	<1.18
2,3,5,6/2,3,4,6-tetrachlorophenol	<60	<7.24	<12.0	<10.1	<10.2	<0.20
2,3,4,5-tetrachlorophenol	<60	<7.24	<12.0	<10.1	<10.2	<0.20
Total Tetrachlorophenols	<120	<14.5	<24.1	<20.2	<20.4	<0.39
Pentachlorophenol	<60	<7.24	<12.0	<10.1	<10.2	<0.20
Total Chlorophenols	<960	<116	<193	<162	<164	<3.14

Dry Gas Volume Sampled (Rm ^{3*}) :	4.983
Actual Flowrate (m ³ /s) :	27.1
Dry Reference Flowrate (Rm ³ /s*) :	16.3
Dry Adjusted Flowrate (Rm ³ /s**) :	19.4
Wet Reference Flowrate (Rm ³ /s*) :	19.2

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 62
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Chlorophenol Isomer and Congener Group Analysis and Emission Data
Test No. 2

Specific Isomer	Total Collected ng	Actual Concentration ng/m ³	Dry Reference Concentration ng/Rm ^{3*}	Dry Adjusted Concentration ng/Rm ^{3**}	Wet Reference Concentration ng/Rm ^{3*}	Emission Rate µg/s
2-monochlorophenol	<60	<7.13	<12.0	<9.94	<10.0	<0.19
3 & 4-monochlorophenol	<60	<7.13	<12.0	<9.94	<10.0	<0.19
Total Monochlorophenols	<120	<14.3	<23.9	<19.9	<20.1	<0.39
2,6-dichlorophenol	<60	<7.13	<12.0	<9.94	<10.0	<0.19
2,4 & 2,5-dichlorophenol	<60	<7.13	<12.0	<9.94	<10.0	<0.19
3,5-dichlorophenol	<60	<7.13	<12.0	<9.94	<10.0	<0.19
2,3-dichlorophenol	<60	<7.13	<12.0	<9.94	<10.0	<0.19
3,4-dichlorophenol	<60	<7.13	<12.0	<9.94	<10.0	<0.19
Total Dichlorophenols	<300	<35.6	<59.8	<49.7	<50.2	<0.97
2,4,6-trichlorophenol	<60	<7.13	<12.0	<9.94	<10.0	<0.19
2,3,6-trichlorophenol	<60	<7.13	<12.0	<9.94	<10.0	<0.19
2,3,5-trichlorophenol	<60	<7.13	<12.0	<9.94	<10.0	<0.19
2,4,5-trichlorophenol	<60	<7.13	<12.0	<9.94	<10.0	<0.19
2,3,4-trichlorophenol	<60	<7.13	<12.0	<9.94	<10.0	<0.19
3,4,5-trichlorophenol	<60	<7.13	<12.0	<9.94	<10.0	<0.19
Total Trichlorophenols	<360	<42.8	<71.8	<59.6	<60.3	<1.16
2,3,5,6/2,3,4,6-tetrachlorophenol	<60	<7.13	<12.0	<9.94	<10.0	<0.19
2,3,4,5-tetrachlorophenol	<60	<7.13	<12.0	<9.94	<10.0	<0.19
Total Tetrachlorophenols	<120	<14.3	<23.9	<19.9	<20.1	<0.39
Pentachlorophenol	<60	<7.13	<12.0	<9.94	<10.0	<0.19
Total Chlorophenols	<960	<114	<191	<159	<161	<3.10

Dry Gas Volume Sampled (Rm ^{3*}) :	5.014
Actual Flowrate (m ³ /s) :	27.2
Dry Reference Flowrate (Rm ³ /s*) :	16.2
Dry Adjusted Flowrate (Rm ³ /s**) :	19.5
Wet Reference Flowrate (Rm ³ /s*) :	19.3

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 63
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Chlorophenol Isomer and Congener Group Analysis and Emission Data
Test No. 3

Specific Isomer	Total Collected ng	Actual Concentration ng/m ³	Dry Reference Concentration ng/Rm ^{3*}	Dry Adjusted Concentration ng/Rm ^{3**}	Wet Reference Concentration ng/Rm ^{3*}	Emission Rate µg/s
2-monochlorophenol	<60	<7.17	<12.2	<10.1	<10.2	<0.20
3 & 4-monochlorophenol	<60	<7.17	<12.2	<10.1	<10.2	<0.20
Total Monochlorophenols	<120	<14.3	<24.3	<20.3	<20.4	<0.39
2,6-dichlorophenol	<60	<7.17	<12.2	<10.1	<10.2	<0.20
2,4 & 2,5-dichlorophenol	<60	<7.17	<12.2	<10.1	<10.2	<0.20
3,5-dichlorophenol	<60	<7.17	<12.2	<10.1	<10.2	<0.20
2,3-dichlorophenol	<60	<7.17	<12.2	<10.1	<10.2	<0.20
3,4-dichlorophenol	<60	<7.17	<12.2	<10.1	<10.2	<0.20
Total Dichlorophenols	<300	<35.9	<60.8	<50.7	<51.0	<0.98
2,4,6-trichlorophenol	<60	<7.17	<12.2	<10.1	<10.2	<0.20
2,3,6-trichlorophenol	<60	<7.17	<12.2	<10.1	<10.2	<0.20
2,3,5-trichlorophenol	<60	<7.17	<12.2	<10.1	<10.2	<0.20
2,4,5-trichlorophenol	<60	<7.17	<12.2	<10.1	<10.2	<0.20
2,3,4-trichlorophenol	<60	<7.17	<12.2	<10.1	<10.2	<0.20
3,4,5-trichlorophenol	<60	<7.17	<12.2	<10.1	<10.2	<0.20
Total Trichlorophenols	<360	<43.0	<73.0	<60.9	<61.2	<1.17
2,3,5,6/2,3,4,6-tetrachlorophenol	<60	<7.17	<12.2	<10.1	<10.2	<0.20
2,3,4,5-tetrachlorophenol	<60	<7.17	<12.2	<10.1	<10.2	<0.20
Total Tetrachlorophenols	<120	<14.3	<24.3	<20.3	<20.4	<0.39
Pentachlorophenol	<60	<7.17	<12.2	<10.1	<10.2	<0.20
Total Chlorophenols	<960	<115	<195	<162	<163	<3.13

Dry Gas Volume Sampled (Rm ^{3*}) :	4.934
Actual Flowrate (m ³ /s) :	27.3
Dry Reference Flowrate (Rm ³ /s*) :	16.1
Dry Adjusted Flowrate (Rm ³ /s**) :	19.3
Wet Reference Flowrate (Rm ³ /s*) :	19.2

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 64
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Chlorophenol Isomer and Congener Group Actual Concentrations

Specific Isomer	Actual Concentration			Average	Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3		
	ng/m ³	ng/m ³	ng/m ³	ng/m ³	%
2-monochlorophenol	<7.24	<7.13	<7.17	<7.18	0.8
3 & 4-monochlorophenol	<7.24	<7.13	<7.17	<7.18	0.8
Total Monochlorophenols	<14.5	<14.3	<14.3	<14.4	0.8
2,6-dichlorophenol	<7.24	<7.13	<7.17	<7.18	0.8
2,4 & 2,5-dichlorophenol	<7.24	<7.13	<7.17	<7.18	0.8
3,5-dichlorophenol	<7.24	<7.13	<7.17	<7.18	0.8
2,3-dichlorophenol	<7.24	<7.13	<7.17	<7.18	0.8
3,4-dichlorophenol	<7.24	<7.13	<7.17	<7.18	0.8
Total Dichlorophenols	<36.2	<35.6	<35.9	<35.9	0.8
2,4,6-trichlorophenol	<7.24	<7.13	<7.17	<7.18	0.8
2,3,6-trichlorophenol	<7.24	<7.13	<7.17	<7.18	0.8
2,3,5-trichlorophenol	<7.24	<7.13	<7.17	<7.18	0.8
2,4,5-trichlorophenol	<7.24	<7.13	<7.17	<7.18	0.8
2,3,4-trichlorophenol	<7.24	<7.13	<7.17	<7.18	0.8
3,4,5-trichlorophenol	<7.24	<7.13	<7.17	<7.18	0.8
Total Trichlorophenols	<43.5	<42.8	<43.0	<43.1	0.8
2,3,5,6/2,3,4,6-tetrachlorophenol	<7.24	<7.13	<7.17	<7.18	0.8
2,3,4,5-tetrachlorophenol	<7.24	<7.13	<7.17	<7.18	0.8
Total Tetrachlorophenols	<14.5	<14.3	<14.3	<14.4	0.8
Pentachlorophenol	<7.24	<7.13	<7.17	<7.18	0.8
Total Chlorophenols	<116	<114	<115	<115	0.8

TABLE 65
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Chlorophenol Isomer and Congener Group Dry Reference Concentrations

Specific Isomer	Dry Reference Concentration				Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3	Average	
	ng/Rm ³ *	ng/Rm ³ *	ng/Rm ³ *	ng/Rm ³ *	%
2-monochlorophenol	<12.0	<12.0	<12.2	<12.1	0.8
3 & 4-monochlorophenol	<12.0	<12.0	<12.2	<12.1	0.8
Total Monochlorophenols	<24.1	<23.9	<24.3	<24.1	0.8
2,6-dichlorophenol	<12.0	<12.0	<12.2	<12.1	0.8
2,4 & 2,5-dichlorophenol	<12.0	<12.0	<12.2	<12.1	0.8
3,5-dichlorophenol	<12.0	<12.0	<12.2	<12.1	0.8
2,3-dichlorophenol	<12.0	<12.0	<12.2	<12.1	0.8
3,4-dichlorophenol	<12.0	<12.0	<12.2	<12.1	0.8
Total Dichlorophenols	<60.2	<59.8	<60.8	<60.3	0.8
2,4,6-trichlorophenol	<12.0	<12.0	<12.2	<12.1	0.8
2,3,6-trichlorophenol	<12.0	<12.0	<12.2	<12.1	0.8
2,3,5-trichlorophenol	<12.0	<12.0	<12.2	<12.1	0.8
2,4,5-trichlorophenol	<12.0	<12.0	<12.2	<12.1	0.8
2,3,4-trichlorophenol	<12.0	<12.0	<12.2	<12.1	0.8
3,4,5-trichlorophenol	<12.0	<12.0	<12.2	<12.1	0.8
Total Trichlorophenols	<72.2	<71.8	<73.0	<72.3	0.8
2,3,5,6/2,3,4,6-tetrachlorophenol	<12.0	<12.0	<12.2	<12.1	0.8
2,3,4,5-tetrachlorophenol	<12.0	<12.0	<12.2	<12.1	0.8
Total Tetrachlorophenols	<24.1	<23.9	<24.3	<24.1	0.8
Pentachlorophenol	<12.0	<12.0	<12.2	<12.1	0.8
Total Chlorophenols	<193	<191	<195	<193	0.8

* At 25°C and 1 atmosphere

TABLE 66
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Chlorophenol Isomer and Congener Group Dry Adjusted Concentrations

Specific Isomer	Dry Adjusted Concentration				Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3	Average	
	ng/Rm ³ *	ng/Rm ³ *	ng/Rm ³ *	ng/Rm ³ *	%
2-monochlorophenol	<10.1	<9.94	<10.1	<10.1	1.1
3 & 4-monochlorophenol	<10.1	<9.94	<10.1	<10.1	1.1
Total Monochlorophenols	<20.2	<19.9	<20.3	<20.1	1.1
2,6-dichlorophenol	<10.1	<9.94	<10.1	<10.1	1.1
2,4 & 2,5-dichlorophenol	<10.1	<9.94	<10.1	<10.1	1.1
3,5-dichlorophenol	<10.1	<9.94	<10.1	<10.1	1.1
2,3-dichlorophenol	<10.1	<9.94	<10.1	<10.1	1.1
3,4-dichlorophenol	<10.1	<9.94	<10.1	<10.1	1.1
Total Dichlorophenols	<50.6	<49.7	<50.7	<50.3	1.1
2,4,6-trichlorophenol	<10.1	<9.94	<10.1	<10.1	1.1
2,3,6-trichlorophenol	<10.1	<9.94	<10.1	<10.1	1.1
2,3,5-trichlorophenol	<10.1	<9.94	<10.1	<10.1	1.1
2,4,5-trichlorophenol	<10.1	<9.94	<10.1	<10.1	1.1
2,3,4-trichlorophenol	<10.1	<9.94	<10.1	<10.1	1.1
3,4,5-trichlorophenol	<10.1	<9.94	<10.1	<10.1	1.1
Total Trichlorophenols	<60.7	<59.6	<60.9	<60.4	1.1
2,3,5,6/2,3,4,6-tetrachlorophenol	<10.1	<9.94	<10.1	<10.1	1.1
2,3,4,5-tetrachlorophenol	<10.1	<9.94	<10.1	<10.1	1.1
Total Tetrachlorophenols	<20.2	<19.9	<20.3	<20.1	1.1
Pentachlorophenol	<10.1	<9.94	<10.1	<10.1	1.1
Total Chlorophenols	<162	<159	<162	<161	1.1

* At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 67
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Chlorophenol Isomer and Congener Group Wet Reference Concentrations

Specific Isomer	Wet Reference Concentration				Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3	Average	
	ng/Rm ³ *	ng/Rm ³ *	ng/Rm ³ *	ng/Rm ³ *	%
2-monochlorophenol	<10.2	<10.0	<10.2	<10.2	0.9
3 & 4-monochlorophenol	<10.2	<10.0	<10.2	<10.2	0.9
Total Monochlorophenols	<20.4	<20.1	<20.4	<20.3	0.9
2,6-dichlorophenol	<10.2	<10.0	<10.2	<10.2	0.9
2,4 & 2,5-dichlorophenol	<10.2	<10.0	<10.2	<10.2	0.9
3,5-dichlorophenol	<10.2	<10.0	<10.2	<10.2	0.9
2,3-dichlorophenol	<10.2	<10.0	<10.2	<10.2	0.9
3,4-dichlorophenol	<10.2	<10.0	<10.2	<10.2	0.9
Total Dichlorophenols	<51.1	<50.2	<51.0	<50.8	0.9
2,4,6-trichlorophenol	<10.2	<10.0	<10.2	<10.2	0.9
2,3,6-trichlorophenol	<10.2	<10.0	<10.2	<10.2	0.9
2,3,5-trichlorophenol	<10.2	<10.0	<10.2	<10.2	0.9
2,4,5-trichlorophenol	<10.2	<10.0	<10.2	<10.2	0.9
2,3,4-trichlorophenol	<10.2	<10.0	<10.2	<10.2	0.9
3,4,5-trichlorophenol	<10.2	<10.0	<10.2	<10.2	0.9
Total Trichlorophenols	<61.3	<60.3	<61.2	<60.9	0.9
2,3,5,6/2,3,4,6-tetrachlorophenol	<10.2	<10.0	<10.2	<10.2	0.9
2,3,4,5-tetrachlorophenol	<10.2	<10.0	<10.2	<10.2	0.9
Total Tetrachlorophenols	<20.4	<20.1	<20.4	<20.3	0.9
Pentachlorophenol	<10.2	<10.0	<10.2	<10.2	0.9
Total Chlorophenols	<164	<161	<163	<162	0.9

* At 25°C and 1 atmosphere

TABLE 68
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Chlorophenol Isomer and Congener Group Emission Rates

Specific Isomer	Emission Rate			Average µg/s	Coefficient of Variation %
	Test No. 1 µg/s	Test No. 2 µg/s	Test No. 3 µg/s		
2-monochlorophenol	<0.20	<0.19	<0.20	<0.20	0.7
3 & 4-monochlorophenol	<0.20	<0.19	<0.20	<0.20	0.7
Total Monochlorophenols	<0.39	<0.39	<0.39	<0.39	0.7
2,6-dichlorophenol	<0.20	<0.19	<0.20	<0.20	0.7
2,4 & 2,5-dichlorophenol	<0.20	<0.19	<0.20	<0.20	0.7
3,5-dichlorophenol	<0.20	<0.19	<0.20	<0.20	0.7
2,3-dichlorophenol	<0.20	<0.19	<0.20	<0.20	0.7
3,4-dichlorophenol	<0.20	<0.19	<0.20	<0.20	0.7
Total Dichlorophenols	<0.98	<0.97	<0.98	<0.98	0.7
2,4,6-trichlorophenol	<0.20	<0.19	<0.20	<0.20	0.7
2,3,6-trichlorophenol	<0.20	<0.19	<0.20	<0.20	0.7
2,3,5-trichlorophenol	<0.20	<0.19	<0.20	<0.20	0.7
2,4,5-trichlorophenol	<0.20	<0.19	<0.20	<0.20	0.7
2,3,4-trichlorophenol	<0.20	<0.19	<0.20	<0.20	0.7
3,4,5-trichlorophenol	<0.20	<0.19	<0.20	<0.20	0.7
Total Trichlorophenols	<1.18	<1.16	<1.17	<1.17	0.7
2,3,5,6/2,3,4,6-tetrachlorophenol	<0.20	<0.19	<0.20	<0.20	0.7
2,3,4,5-tetrachlorophenol	<0.20	<0.19	<0.20	<0.20	0.7
Total Tetrachlorophenols	<0.39	<0.39	<0.39	<0.39	0.7
Pentachlorophenol	<0.20	<0.19	<0.20	<0.20	0.7
Total Chlorophenols	<3.14	<3.10	<3.13	<3.12	0.7

TABLE 69
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Summary of Emission Data for Chlorophenol Isomer and Congener Groups

Specific Isomer	Actual Concentration ng/m ³	Dry Reference Concentration ng/Rm ^{3*}	Dry Adjusted Concentration ng/Rm ^{3**}	Wet Reference Concentration ng/Rm ^{3*}	Emission Rate µg/s
2-monochlorophenol	<7.18	<12.1	<10.1	<10.2	<0.20
3 & 4-monochlorophenol	<7.18	<12.1	<10.1	<10.2	<0.20
Total Monochlorophenols	<14.4	<24.1	<20.1	<20.3	<0.39
2,6-dichlorophenol	<7.2	<12.1	<10.1	<10.2	<0.20
2,4 & 2,5-dichlorophenol	<7.2	<12.1	<10.1	<10.2	<0.20
3,5-dichlorophenol	<7.2	<12.1	<10.1	<10.2	<0.20
2,3-dichlorophenol	<7.2	<12.1	<10.1	<10.2	<0.20
3,4-dichlorophenol	<7.2	<12.1	<10.1	<10.2	<0.20
Total Dichlorophenols	<35.9	<60.3	<50.3	<50.8	<0.98
2,4,6-trichlorophenol	<7.18	<12.1	<10.1	<10.2	<0.20
2,3,6-trichlorophenol	<7.18	<12.1	<10.1	<10.2	<0.20
2,3,5-trichlorophenol	<7.18	<12.1	<10.1	<10.2	<0.20
2,4,5-trichlorophenol	<7.18	<12.1	<10.1	<10.2	<0.20
2,3,4-trichlorophenol	<7.18	<12.1	<10.1	<10.2	<0.20
3,4,5-trichlorophenol	<7.18	<12.1	<10.1	<10.2	<0.20
Total Trichlorophenols	<43.1	<72.3	<60.4	<60.9	<1.17
2,3,5,6/2,3,4,6-tetrachlorophenol	<7.18	<12.1	<10.1	<10.2	<0.20
2,3,4,5-tetrachlorophenol	<7.18	<12.1	<10.1	<10.2	<0.20
Total Tetrachlorophenols	<14.4	<24.1	<20.1	<20.3	<0.39
Pentachlorophenol	<7.18	<12.1	<10.1	<10.2	<0.20
Total Chlorophenols	<115	<193	<161	<162	<3.12

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 70
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Chlorophenol Blank Analyses

Congener Group	Media Blank Total ng	Blank Train Total ng
2-monochlorophenol	<60	<60
3 & 4-monochlorophenol	<60	<60
Total Monochlorophenols	<120	<120
2,6-dichlorophenol	<60	<60
2,4 & 2,5-dichlorophenol	<60	<60
3,5-dichlorophenol	<60	<60
2,3-dichlorophenol	<60	<60
3,4-dichlorophenol	<60	<60
Total Dichlorophenols	<300	<300
2,4,6-trichlorophenol	<60	<60
2,3,6-trichlorophenol	<60	<60
2,3,5-trichlorophenol	<60	<60
2,4,5-trichlorophenol	<60	<60
2,3,4-trichlorophenol	<60	<60
3,4,5-trichlorophenol	<60	<60
Total Trichlorophenols	<360	<360
2,3,5,6/2,3,4,6-tetrachlorophenol	<60	<60
2,3,4,5-tetrachlorophenol	<60	<60
Total Tetrachlorophenols	<120	<120
Pentachlorophenol	<60	<60
Total Chlorophenols	<960	<960

"<" indicates that the amount detected is less than the detection limit. In these cases the value of the detection limit was used to calculate the total collected.

TABLE 71
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Polycyclic Aromatic Hydrocarbon Emission Data
Test No. 1

Compound	Total Collected	Actual Concentration	Dry Reference Concentration	Dry Adjusted Concentration	Wet Reference Concentration	Emission Rate
	ng	ng/m ³	ng/Rm ^{3*}	ng/Rm ^{3**}	ng/Rm ^{3*}	µg/s
Acenaphthene	<12	<1.45	<2.41	<2.02	<2.04	<0.039
Acenaphthylene	39.1	4.72	7.85	6.59	6.66	0.13
Anthracene	<12	<1.45	<2.41	<2.02	<2.04	<0.039
Benzo(a)Anthracene	<12	<1.45	<2.41	<2.02	<2.04	<0.039
Benzo(b)Fluoranthene	48.6	5.87	9.75	8.19	8.28	0.16
Benzo(k)Fluoranthene	23.1	2.79	4.64	3.89	3.94	0.076
Benzo(a)fluorene	<12	<1.45	<2.41	<2.02	<2.04	<0.039
Benzo(b)fluorene	<12	<1.45	<2.41	<2.02	<2.04	<0.039
Benzo(g,h,i)Perylene	37.2	4.49	7.47	6.27	6.34	0.12
Benzo(a)Pyrene	<12	<1.45	<2.41	<2.02	<2.04	<0.039
Benzo(e)Pyrene	22.7	2.74	4.56	3.83	3.87	0.074
Biphenyl	119	14.4	23.9	20.1	20.3	0.39
2-Chloronaphthalene	<12	<1.45	<2.41	<2.02	<2.04	<0.039
Chrysene	32.2	3.89	6.46	5.43	5.49	0.11
Coronene	57.0	6.88	11.4	9.61	9.71	0.19
Dibenzo(a,c/a,h)Anthracene	26.4	3.19	5.30	4.45	4.50	0.086
Dibenzo(a,e)pyrene	<12	<1.45	<2.41	<2.02	<2.04	<0.039
9,10-dimethylanthracene	<12	<1.45	<2.41	<2.02	<2.04	<0.039
7,12-Dimethylbenzo(a)anthracene	<12	<1.45	<2.41	<2.02	<2.04	<0.039
Fluoranthene	40.8	4.92	8.19	6.88	6.95	0.13
Fluorene	23.2	2.80	4.66	3.91	3.95	0.076
Indeno(1,2,3-cd)Pyrene	27.0	3.26	5.42	4.55	4.60	0.088
2-methylanthracene	19.5	2.35	3.91	3.29	3.32	0.064
3-Methylcholanthrene	<12	<1.45	<2.41	<2.02	<2.04	<0.039
1-Methylnaphthalene	30.4	3.67	6.10	5.13	5.18	0.099
2-Methylnaphthalene	57.9	6.99	11.6	9.76	9.86	0.19
1-Methylphenanthrene	20.6	2.49	4.13	3.47	3.51	0.067
9-Methylphenanthrene	<12	<1.45	<2.41	<2.02	<2.04	<0.039
Naphthalene	643	77.6	129	108	110	2.10
Perylene	<12	<1.45	<2.41	<2.02	<2.04	<0.039
Phenanthrene	156	18.8	31.3	26.3	26.6	0.51
Picene	17.4	2.10	3.49	2.93	2.96	0.057
Pyrene	34.4	4.15	6.90	5.80	5.86	0.11
Tetralin	725	87.5	145	122	124	2.37
m-terphenyl	<12	<1.45	<2.41	<2.02	<2.04	<0.039
o-Terphenyl	<12	<1.45	<2.41	<2.02	<2.04	<0.039
p-terphenyl	<12	<1.45	<2.41	<2.02	<2.04	<0.039
Triphenylene/Benzo(b)anthracene	<12	<1.45	<2.41	<2.02	<2.04	<0.039
Total	<2405	<290	<483	<405	<410	<7.87

Dry Gas Volume Sampled (Rm ^{3*}) :	4.983
Actual Flowrate (m ³ /s) :	27.1
Dry Reference Flowrate (Rm ³ /s*) :	16.3
Dry Adjusted Flowrate (Rm ³ /s**) :	19.4
Wet Reference Flowrate (Rm ³ /s*) :	19.2

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 72
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Polycyclic Aromatic Hydrocarbon Emission Data
Test No. 2

Compound	Total Collected	Actual Concentration	Dry Reference Concentration	Dry Adjusted Concentration	Wet Reference Concentration	Emission Rate
	ng	ng/m ³	ng/Rm ^{3*}	ng/Rm ^{3**}	ng/Rm ^{3*}	µg/s
Acenaphthene	<12	<1.43	<2.39	<1.99	<2.01	<0.039
Acenaphthylene	14.0	1.66	2.79	2.32	2.34	0.045
Anthracene	16.6	1.97	3.31	2.75	2.78	0.054
Benzo(a)Anthracene	<12	<1.43	<2.39	<1.99	<2.01	<0.039
Benzo(b)Fluoranthene	83.3	9.89	16.6	13.8	13.9	0.27
Benzo(k)Fluoranthene	42.5	5.05	8.48	7.04	7.11	0.14
Benzo(a)fluorene	<12	<1.43	<2.39	<1.99	<2.01	<0.039
Benzo(b)fluorene	<12	<1.43	<2.39	<1.99	<2.01	<0.039
Benzo(g,h,i)Perylene	81.5	9.68	16.3	13.5	13.6	0.26
Benzo(a)Pyrene	<12	<1.43	<2.39	<1.99	<2.01	<0.039
Benzo(e)Pyrene	36.5	4.34	7.28	6.05	6.11	0.12
Biphenyl	110	13.1	21.9	18.2	18.4	0.36
2-Chloronaphthalene	<12	<1.43	<2.39	<1.99	<2.01	<0.039
Chrysene	61.4	7.29	12.2	10.2	10.3	0.20
Coronene	95.2	11.3	19.0	15.8	15.9	0.31
Dibenzo(a,c/a,h)Anthracene	22.8	2.71	4.55	3.78	3.82	0.074
Dibenzo(a,e)pyrene	<12	<1.43	<2.39	<1.99	<2.01	<0.039
9,10-dimethylanthracene	<12	<1.43	<2.39	<1.99	<2.01	<0.039
7,12-Dimethylbenzo(a)anthracene	<12	<1.43	<2.39	<1.99	<2.01	<0.039
Fluoranthene	150	17.8	29.9	24.9	25.1	0.48
Fluorene	28.4	3.37	5.66	4.71	4.75	0.092
Indeno(1,2,3-cd)Pyrene	43.3	5.14	8.64	7.17	7.25	0.14
2-methylanthracene	32.0	3.80	6.38	5.30	5.36	0.10
3-Methylcholanthrene	<12	<1.43	<2.39	<1.99	<2.01	<0.039
1-Methylnaphthalene	28.3	3.36	5.64	4.69	4.74	0.091
2-Methylnaphthalene	44.7	5.31	8.92	7.41	7.48	0.14
1-Methylphenanthrene	30.9	3.67	6.16	5.12	5.17	0.10
9-Methylphenanthrene	<12	<1.43	<2.39	<1.99	<2.01	<0.039
Naphthalene	540	64.1	108	89.5	90.4	1.74
Perylene	<12	<1.43	<2.39	<1.99	<2.01	<0.039
Phenanthrene	419	49.8	83.6	69.4	70.1	1.35
Picene	14.9	1.77	2.97	2.47	2.49	0.048
Pyrene	95.2	11.3	19.0	15.8	15.9	0.31
Tetralin	696	82.7	139	115	117	2.25
m-terphenyl	<12	<1.43	<2.39	<1.99	<2.01	<0.039
o-Terphenyl	15.2	1.81	3.03	2.52	2.54	0.049
p-terphenyl	<12	<1.43	<2.39	<1.99	<2.01	<0.039
Triphenylene/Benzo(b)anthracene	19.8	2.35	3.95	3.28	3.31	0.064
Total	<2890	<343	<576	<479	<484	<9.34

Dry Gas Volume Sampled (Rm ^{3*}) :	5.014
Actual Flowrate (m ³ /s) :	27.2
Dry Reference Flowrate (Rm ³ /s*) :	16.2
Dry Adjusted Flowrate (Rm ³ /s**) :	19.5
Wet Reference Flowrate (Rm ³ /s*) :	19.3

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 73
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Polycyclic Aromatic Hydrocarbon Emission Data
Test No. 3

Compound	Total Collected	Actual Concentration	Dry Reference Concentration	Dry Adjusted Concentration	Wet Reference Concentration	Emission Rate
	ng	ng/m ³	ng/Rm ^{3*}	ng/Rm ^{3**}	ng/Rm ^{3*}	µg/s
Acenaphthene	<12	<1.43	<2.43	<2.03	<2.04	<0.039
Acenaphthylene	<12	<1.43	<2.43	<2.03	<2.04	<0.039
Anthracene	<12	<1.43	<2.43	<2.03	<2.04	<0.039
Benzo(a)Anthracene	<12	<1.43	<2.43	<2.03	<2.04	<0.039
Benzo(b)Fluoranthene	105	12.6	21.3	17.8	17.8	0.34
Benzo(k)Fluoranthene	54.5	6.51	11.0	9.21	9.26	0.18
Benzo(a)fluorene	<12	<1.43	<2.43	<2.03	<2.04	<0.039
Benzo(b)fluorene	<12	<1.43	<2.43	<2.03	<2.04	<0.039
Benzo(g,h,i)Perylene	124	14.8	25.1	21.0	21.1	0.40
Benzo(a)Pyrene	<12	<1.43	<2.43	<2.03	<2.04	<0.039
Benzo(e)Pyrene	70.9	8.47	14.4	12.0	12.0	0.23
Biphenyl	75.1	8.98	15.2	12.7	12.8	0.25
2-Chloronaphthalene	<12	<1.43	<2.43	<2.03	<2.04	<0.039
Chrysene	63.6	7.60	12.9	10.8	10.8	0.21
Coronene	124	14.8	25.1	21.0	21.1	0.40
Dibenzo(a,c/a,h)Anthracene	40.1	4.79	8.13	6.78	6.82	0.13
Dibenzo(a,e)pyrene	<12	<1.43	<2.43	<2.03	<2.04	<0.039
9,10-dimethylantracene	<12	<1.43	<2.43	<2.03	<2.04	<0.039
7,12-Dimethylbenzo(a)anthracene	<12	<1.43	<2.43	<2.03	<2.04	<0.039
Fluoranthene	52.7	6.30	10.7	8.91	8.96	0.17
Fluorene	15.4	1.84	3.12	2.60	2.62	0.050
Indeno(1,2,3-cd)Pyrene	66.4	7.94	13.5	11.2	11.3	0.22
2-methylantracene	15.1	1.80	3.06	2.55	2.57	0.049
3-Methylcholanthrene	<12	<1.43	<2.43	<2.03	<2.04	<0.039
1-Methylnaphthalene	19.2	2.29	3.89	3.25	3.26	0.063
2-Methylnaphthalene	32.3	3.86	6.55	5.46	5.49	0.11
1-Methylphenanthrene	14.8	1.77	3.00	2.50	2.52	0.048
9-Methylphenanthrene	<12	<1.43	<2.43	<2.03	<2.04	<0.039
Naphthalene	393	47.0	79.7	66.4	66.8	1.28
Perylene	<12	<1.43	<2.43	<2.03	<2.04	<0.039
Phenanthrene	153	18.3	31.0	25.9	26.0	0.50
Picene	19.7	2.35	3.99	3.33	3.35	0.064
Pyrene	38.3	4.58	7.76	6.48	6.51	0.12
Tetralin	487	58.2	98.7	82.3	82.8	1.59
m-terphenyl	<12	<1.43	<2.43	<2.03	<2.04	<0.039
o-Terphenyl	<12	<1.43	<2.43	<2.03	<2.04	<0.039
p-terphenyl	<12	<1.43	<2.43	<2.03	<2.04	<0.039
Triphenylene/Benzo(b)anthracene	19.7	2.35	3.99	3.33	3.35	0.064
Total	<2188	<262	<443	<370	<372	<7.14

Dry Gas Volume Sampled (Rm ^{3*}) :	4.934
Actual Flowrate (m ³ /s) :	27.3
Dry Reference Flowrate (Rm ³ /s*) :	16.1
Dry Adjusted Flowrate (Rm ³ /s**) :	19.3
Wet Reference Flowrate (Rm ³ /s*) :	19.2

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

TABLE 74
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Polycyclic Aromatic Hydrocarbon Actual Concentrations

Compound	Actual Concentration			Average	Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3		
	ng/m ³	ng/m ³	ng/m ³	ng/m ³	%
Acenaphthene	<1.45	<1.43	<1.43	<1.44	0.8
Acenaphthylene	4.72	1.66	<1.43	<2.61	70.4
Anthracene	<1.45	1.97	<1.43	<1.62	18.9
Benzo(a)Anthracene	<1.45	<1.43	<1.43	<1.44	0.8
Benzo(b)Fluoranthene	5.87	9.89	12.6	9.44	35.7
Benzo(k)Fluoranthene	2.79	5.05	6.51	4.78	39.2
Benzo(a)fluorene	<1.45	<1.43	<1.43	<1.44	0.8
Benzo(b)fluorene	<1.45	<1.43	<1.43	<1.44	0.8
Benzo(g,h,i)Perylene	4.49	9.68	14.8	9.66	53.5
Benzo(a)Pyrene	<1.45	<1.43	<1.43	<1.44	0.8
Benzo(e)Pyrene	2.74	4.34	8.47	5.18	57.1
Biphenyl	14.4	13.1	8.98	12.1	23.2
2-Chloronaphthalene	<1.45	<1.43	<1.43	<1.44	0.8
Chrysene	3.89	7.29	7.60	6.26	32.9
Coronene	6.88	11.3	14.8	11.0	36.2
Dibenzo(a,c/a,h)Anthracene	3.19	2.71	4.79	3.56	30.7
Dibenzo(a,e)pyrene	<1.45	<1.43	<1.43	<1.44	0.8
9,10-dimethylanthracene	<1.45	<1.43	<1.43	<1.44	0.8
7,12-Dimethylbenzo(a)anthracene	<1.45	<1.43	<1.43	<1.44	0.8
Fluoranthene	4.92	17.8	6.30	9.68	73.1
Fluorene	2.80	3.37	1.84	2.67	29.0
Indeno(1,2,3-cd)Pyrene	3.26	5.14	7.94	5.45	43.2
2-methylanthracene	2.35	3.80	1.80	2.65	38.9
3-Methylcholanthrene	<1.45	<1.43	<1.43	<1.44	0.8
1-Methylnaphthalene	3.67	3.36	2.29	3.11	23.2
2-Methylnaphthalene	6.99	5.31	3.86	5.39	29.1
1-Methylphenanthrene	2.49	3.67	1.77	2.64	36.3
9-Methylphenanthrene	<1.45	<1.43	<1.43	<1.44	0.8
Naphthalene	77.6	64.1	47.0	62.9	24.4
Perylene	<1.45	<1.43	<1.43	<1.44	0.8
Phenanthrene	18.8	49.8	18.3	29.0	62.2
Picene	2.10	1.77	2.35	2.07	14.1
Pyrene	4.15	11.3	4.58	6.68	60.1
Tetralin	87.5	82.7	58.2	76.1	20.6
m-terphenyl	<1.45	<1.43	<1.43	<1.44	0.8
o-Terphenyl	<1.45	1.81	<1.43	<1.56	13.5
p-terphenyl	<1.45	<1.43	<1.43	<1.44	0.8
Triphenylene/Benzo(b)anthracene	<1.45	2.35	2.35	<2.05	25.5
Total	<290	<343	<262	<298	13.9

TABLE 75
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Polycyclic Aromatic Hydrocarbon Dry Reference Concentrations

Compound	Dry Reference Concentration				Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3	Average	
	ng/Rm ^{3*}	ng/Rm ^{3*}	ng/Rm ^{3*}	ng/Rm ^{3*}	%
Acenaphthene	<2.41	<2.39	<2.43	<2.41	0.8
Acenaphthylene	7.85	2.79	<2.43	<4.36	69.5
Anthracene	<2.41	3.31	<2.43	<2.72	18.9
Benzo(a)Anthracene	<2.41	<2.39	<2.43	<2.41	0.8
Benzo(b)Fluoranthene	9.75	16.6	21.3	15.9	36.5
Benzo(k)Fluoranthene	4.64	8.48	11.0	8.05	40.1
Benzo(a)fluorene	<2.41	<2.39	<2.43	<2.41	0.8
Benzo(b)fluorene	<2.41	<2.39	<2.43	<2.41	0.8
Benzo(g,h,i)Perylene	7.47	16.3	25.1	16.3	54.2
Benzo(a)Pyrene	<2.41	<2.39	<2.43	<2.41	0.8
Benzo(e)Pyrene	4.56	7.28	14.4	8.73	58.0
Biphenyl	23.9	21.9	15.2	20.3	22.3
2-Chloronaphthalene	<2.41	<2.39	<2.43	<2.41	0.8
Chrysene	6.46	12.2	12.9	10.5	33.6
Coronene	11.4	19.0	25.1	18.5	37.0
Dibenzo(a,c/a,h)Anthracene	5.30	4.55	8.13	5.99	31.5
Dibenzo(a,e)pyrene	<2.41	<2.39	<2.43	<2.41	0.8
9,10-dimethylantracene	<2.41	<2.39	<2.43	<2.41	0.8
7,12-Dimethylbenzo(a)anthracene	<2.41	<2.39	<2.43	<2.41	0.8
Fluoranthene	8.19	29.9	10.7	16.3	73.1
Fluorene	4.66	5.66	3.12	4.48	28.6
Indeno(1,2,3-cd)Pyrene	5.42	8.64	13.5	9.17	44.1
2-methylantracene	3.91	6.38	3.06	4.45	38.8
3-Methylcholanthrene	<2.41	<2.39	<2.43	<2.41	0.8
1-Methylnaphthalene	6.10	5.64	3.89	5.21	22.4
2-Methylnaphthalene	11.6	8.92	6.55	9.03	28.1
1-Methylphenanthrene	4.13	6.16	3.00	4.43	36.2
9-Methylphenanthrene	<2.41	<2.39	<2.43	<2.41	0.8
Naphthalene	129	108	79.7	105	23.5
Perylene	<2.41	<2.39	<2.43	<2.41	0.8
Phenanthrene	31.3	83.6	31.0	48.6	62.2
Picene	3.49	2.97	3.99	3.49	14.6
Pyrene	6.90	19.0	7.76	11.2	60.1
Tetralin	145	139	98.7	128	19.8
m-terphenyl	<2.41	<2.39	<2.43	<2.41	0.8
o-Terphenyl	<2.41	3.03	<2.43	<2.62	13.5
p-terphenyl	<2.41	<2.39	<2.43	<2.41	0.8
Triphenylene/Benzo(b)anthracene	<2.41	3.95	3.99	<3.45	26.2
Total	<483	<576	<443	<501	13.6

* At 25°C and 1 atmosphere

TABLE 76
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Polycyclic Aromatic Hydrocarbon Dry Adjusted Concentrations

Compound	Dry Adjusted Concentration			Average	Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3		
	ng/Rm ^{3*}	ng/Rm ^{3*}	ng/Rm ^{3*}	ng/Rm ^{3*}	%
Acenaphthene	<2.02	<1.99	<2.03	<2.01	1.1
Acenaphthylene	6.59	2.32	<2.03	<3.65	70.1
Anthracene	<2.02	2.75	<2.03	<2.27	18.4
Benzo(a)Anthracene	<2.02	<1.99	<2.03	<2.01	1.1
Benzo(b)Fluoranthene	8.19	13.8	17.8	13.2	36.2
Benzo(k)Fluoranthene	3.89	7.04	9.21	6.72	39.8
Benzo(a)fluorene	<2.02	<1.99	<2.03	<2.01	1.1
Benzo(b)fluorene	<2.02	<1.99	<2.03	<2.01	1.1
Benzo(g,h,i)Perylene	6.27	13.5	21.0	13.6	54.1
Benzo(a)Pyrene	<2.02	<1.99	<2.03	<2.01	1.1
Benzo(e)Pyrene	3.83	6.05	12.0	7.29	57.9
Biphenyl	20.1	18.2	12.7	17.0	22.6
2-Chloronaphthalene	<2.02	<1.99	<2.03	<2.01	1.1
Chrysene	5.43	10.2	10.8	8.8	33.2
Coronene	9.61	15.8	21.0	15.4	36.8
Dibenzo(a,c/a,h)Anthracene	4.45	3.78	6.78	5.00	31.5
Dibenzo(a,e)pyrene	<2.02	<1.99	<2.03	<2.01	1.1
9,10-dimethylantracene	<2.02	<1.99	<2.03	<2.01	1.1
7,12-Dimethylbenzo(a)anthracene	<2.02	<1.99	<2.03	<2.01	1.1
Fluoranthene	6.88	24.9	8.91	13.5	72.7
Fluorene	3.91	4.71	2.60	3.74	28.4
Indeno(1,2,3-cd)Pyrene	4.55	7.17	11.2	7.65	43.9
2-methylantracene	3.29	5.30	2.55	3.71	38.3
3-Methylcholanthrene	<2.02	<1.99	<2.03	<2.01	1.1
1-Methylnaphthalene	5.13	4.69	3.25	4.35	22.6
2-Methylnaphthalene	9.76	7.41	5.46	7.54	28.6
1-Methylphenanthrene	3.47	5.12	2.50	3.70	35.8
9-Methylphenanthrene	<2.02	<1.99	<2.03	<2.01	1.1
Naphthalene	108	89.5	66.4	88.1	23.9
Perylene	<2.02	<1.99	<2.03	<2.01	1.1
Phenanthrene	26.3	69.4	25.9	40.5	61.7
Picene	2.93	2.47	3.33	2.91	14.8
Pyrene	5.80	15.8	6.48	9.35	59.6
Tetralin	122	115	82.3	107	20.0
m-terphenyl	<2.02	<1.99	<2.03	<2.01	1.1
o-Terphenyl	<2.02	2.52	<2.03	<2.19	13.0
p-terphenyl	<2.02	<1.99	<2.03	<2.01	1.1
Triphenylene/Benzo(b)anthracene	<2.02	3.28	3.33	<2.88	25.7
Total	<405	<479	<370	<418	13.3

* At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 77
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Polycyclic Aromatic Hydrocarbon Wet Reference Concentrations

Compound	Wet Reference Concentration			Average	Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3		
	ng/Rm ^{3*}	ng/Rm ^{3*}	ng/Rm ^{3*}	ng/Rm ^{3*}	%
Acenaphthene	<2.04	<2.01	<2.04	<2.03	0.9
Acenaphthylene	6.66	2.34	<2.04	<3.68	70.2
Anthracene	<2.04	2.78	<2.04	<2.29	18.6
Benzo(a)Anthracene	<2.04	<2.01	<2.04	<2.03	0.9
Benzo(b)Fluoranthene	8.28	13.9	17.8	13.4	36.0
Benzo(k)Fluoranthene	3.94	7.11	9.26	6.77	39.6
Benzo(a)fluorene	<2.04	<2.01	<2.04	<2.03	0.9
Benzo(b)fluorene	<2.04	<2.01	<2.04	<2.03	0.9
Benzo(g,h,i)Perylene	6.34	13.6	21.1	13.7	53.8
Benzo(a)Pyrene	<2.04	<2.01	<2.04	<2.03	0.9
Benzo(e)Pyrene	3.87	6.11	12.0	7.34	57.6
Biphenyl	20.3	18.4	12.8	17.2	22.8
2-Chloronaphthalene	<2.04	<2.01	<2.04	<2.03	0.9
Chrysene	5.49	10.3	10.8	8.86	33.1
Coronene	9.71	15.9	21.1	15.6	36.5
Dibenzo(a,c/a,h)Anthracene	4.50	3.82	6.82	5.04	31.2
Dibenzo(a,e)pyrene	<2.04	<2.01	<2.04	<2.03	0.9
9,10-dimethylantracene	<2.04	<2.01	<2.04	<2.03	0.9
7,12-Dimethylbenzo(a)anthracene	<2.04	<2.01	<2.04	<2.03	0.9
Fluoranthene	6.95	25.1	8.96	13.7	72.8
Fluorene	3.95	4.75	2.62	3.77	28.6
Indeno(1,2,3-cd)Pyrene	4.60	7.25	11.3	7.71	43.7
2-methylantracene	3.32	5.36	2.57	3.75	38.5
3-Methylcholanthrene	<2.04	<2.01	<2.04	<2.03	0.9
1-Methylnaphthalene	5.18	4.74	3.26	4.39	22.8
2-Methylnaphthalene	9.86	7.48	5.49	7.61	28.8
1-Methylphenanthrene	3.51	5.17	2.52	3.73	36.0
9-Methylphenanthrene	<2.04	<2.01	<2.04	<2.03	0.9
Naphthalene	110	90.4	66.8	88.9	24.1
Perylene	<2.04	<2.01	<2.04	<2.03	0.9
Phenanthrene	26.6	70.1	26.0	40.9	61.9
Picene	2.96	2.49	3.35	2.94	14.6
Pyrene	5.86	15.9	6.51	9.44	59.8
Tetralin	124	117	82.8	108	20.3
m-terphenyl	<2.04	<2.01	<2.04	<2.03	0.9
o-Terphenyl	<2.04	2.54	<2.04	<2.21	13.1
p-terphenyl	<2.04	<2.01	<2.04	<2.03	0.9
Triphenylene/Benzo(b)anthracene	<2.04	3.31	3.35	<2.90	25.6
Total	<410	<484	<372	<422	13.5

* At 25°C and 1 atmosphere

TABLE 78
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Polycyclic Aromatic Hydrocarbon Emission Rates

Compound	Emission Rate			Average µg/s	Coefficient of Variation %
	Test No. 1 µg/s	Test No. 2 µg/s	Test No. 3 µg/s		
Acenaphthene	<0.039	<0.039	<0.039	<0.039	0.7
Acenaphthylene	0.13	0.045	<0.039	<0.071	70.1
Anthracene	<0.039	0.054	<0.039	<0.044	18.9
Benzo(a)Anthracene	<0.039	<0.039	<0.039	<0.039	0.7
Benzo(b)Fluoranthene	0.16	0.27	0.34	0.26	36.0
Benzo(k)Fluoranthene	0.076	0.14	0.18	0.13	39.5
Benzo(a)fluorene	<0.039	<0.039	<0.039	<0.039	0.7
Benzo(b)fluorene	<0.039	<0.039	<0.039	<0.039	0.7
Benzo(g,h,i)Perylene	0.12	0.26	0.40	0.26	53.7
Benzo(a)Pyrene	<0.039	<0.039	<0.039	<0.039	0.7
Benzo(e)Pyrene	0.074	0.12	0.23	0.14	57.4
Biphenyl	0.39	0.36	0.25	0.33	22.9
2-Chloronaphthalene	<0.039	<0.039	<0.039	<0.039	0.7
Chrysene	0.11	0.20	0.21	0.17	33.2
Coronene	0.19	0.31	0.40	0.30	36.5
Dibenzo(a,c/a,h)Anthracene	0.086	0.074	0.13	0.097	31.0
Dibenzo(a,e)pyrene	<0.039	<0.039	<0.039	<0.039	0.7
9,10-dimethylanthracene	<0.039	<0.039	<0.039	<0.039	0.7
7,12-Dimethylbenzo(a)anthracene	<0.039	<0.039	<0.039	<0.039	0.7
Fluoranthene	0.13	0.48	0.17	0.26	73.1
Fluorene	0.076	0.092	0.050	0.073	28.8
Indeno(1,2,3-cd)Pyrene	0.088	0.14	0.22	0.15	43.6
2-methylanthracene	0.064	0.10	0.049	0.072	38.8
3-Methylcholanthrene	<0.039	<0.039	<0.039	<0.039	0.7
1-Methylnaphthalene	0.099	0.091	0.063	0.085	22.9
2-Methylnaphthalene	0.19	0.14	0.11	0.15	28.7
1-Methylphenanthrene	0.067	0.10	0.048	0.072	36.3
9-Methylphenanthrene	<0.039	<0.039	<0.039	<0.039	0.7
Naphthalene	2.10	1.74	1.28	1.71	24.1
Perylene	<0.039	<0.039	<0.039	<0.039	0.7
Phenanthrene	0.51	1.35	0.50	0.79	62.2
Picene	0.057	0.048	0.064	0.056	14.3
Pyrene	0.11	0.31	0.12	0.18	60.1
Tetralin	2.37	2.25	1.59	2.07	20.3
m-terphenyl	<0.039	<0.039	<0.039	<0.039	0.7
o-Terphenyl	<0.039	0.049	<0.039	<0.043	13.5
p-terphenyl	<0.039	<0.039	<0.039	<0.039	0.7
Triphenylene/Benzo(b)anthracene	<0.039	0.064	0.064	<0.056	25.7
Total	<7.87	<9.34	<7.14	<8.11	13.8

TABLE 79
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Summary of Polycyclic Aromatic Hydrocarbon Emission Data

Compound	Actual Concentration	Dry Reference Concentration	Dry Adjusted Concentration	Wet Reference Concentration	Emission Rate
	ng/m ³	ng/Rm ^{3*}	ng/Rm ^{3**}	ng/Rm ^{3*}	µg/s
Acenaphthene	<1.44	<2.41	<2.01	<2.03	<0.039
Acenaphthylene	<2.61	<4.36	<3.65	<3.68	<0.071
Anthracene	<1.62	<2.72	<2.27	<2.29	<0.044
Benzo(a)Anthracene	<1.44	<2.41	<2.01	<2.03	<0.039
Benzo(b)Fluoranthene	9.44	15.9	13.2	13.4	0.26
Benzo(k)Fluoranthene	4.78	8.05	6.72	6.77	0.13
Benzo(a)fluorene	<1.44	<2.41	<2.01	<2.03	<0.039
Benzo(b)fluorene	<1.44	<2.41	<2.01	<2.03	<0.039
Benzo(g,h,i)Perylene	9.66	16.3	13.6	13.7	0.26
Benzo(a)Pyrene	<1.44	<2.41	<2.01	<2.03	<0.039
Benzo(e)Pyrene	5.18	8.73	7.29	7.34	0.14
Biphenyl	12.1	20.3	17.0	17.2	0.33
2-Chloronaphthalene	<1.44	<2.41	<2.01	<2.03	<0.039
Chrysene	6.26	10.5	8.79	8.86	0.17
Coronene	11.0	18.5	15.4	15.6	0.30
Dibenzo(a,c/a,h)Anthracene	3.56	5.99	5.00	5.04	0.097
Dibenzo(a,e)pyrene	<1.44	<2.41	<2.01	<2.03	<0.039
9,10-dimethylantracene	<1.44	<2.41	<2.01	<2.03	<0.039
7,12-Dimethylbenzo(a)anthracene	<1.44	<2.41	<2.01	<2.03	<0.039
Fluoranthene	9.68	16.3	13.5	13.7	0.26
Fluorene	2.67	4.48	3.74	3.77	0.073
Indeno(1,2,3-cd)Pyrene	5.45	9.17	7.65	7.71	0.15
2-methylantracene	2.65	4.45	3.71	3.75	0.072
3-Methylcholanthrene	<1.44	<2.41	<2.01	<2.03	<0.039
1-Methylnaphthalene	3.11	5.21	4.35	4.39	0.085
2-Methylnaphthalene	5.39	9.03	7.54	7.61	0.15
1-Methylphenanthrene	2.64	4.43	3.70	3.73	0.072
9-Methylphenanthrene	<1.44	<2.41	<2.01	<2.03	<0.039
Naphthalene	62.9	105	88.1	88.9	1.71
Perylene	<1.44	<2.41	<2.01	<2.03	<0.039
Phenanthrene	29.0	48.6	40.5	40.9	0.79
Picene	2.07	3.49	2.91	2.94	0.056
Pyrene	6.68	11.2	9.35	9.44	0.18
Tetralin	76.1	128	107	108	2.07
m-terphenyl	<1.44	<2.41	<2.01	<2.03	<0.039
o-Terphenyl	<1.56	<2.62	<2.19	<2.21	<0.043
p-terphenyl	<1.44	<2.41	<2.01	<2.03	<0.039
Triphenylene/Benzo(b)anthracene	<2.05	<3.45	<2.88	<2.90	<0.056
Total	<298	<501	<418	<422	<8.11

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 80
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Blank Polycyclic Aromatic Hydrocarbon Analyses

Compound	Blank Train ng	Method Blank ng
Acenaphthene	<12	<12
Acenaphthylene	<12	<12
Anthracene	<12	<12
Benzo(a)Anthracene	<12	<12
Benzo(b)Fluoranthene	28.3	<12
Benzo(k)Fluoranthene	<12	<12
Benzo(a)fluorene	<12	<12
Benzo(b)fluorene	<12	<12
Benzo(g,h,i)Perylene	28.8	<12
Benzo(a)Pyrene	<12	<12
Benzo(e)Pyrene	13.8	<12
Biphenyl	65.5	24.4
2-Chloronaphthalene	<12	<12
Chrysene	23.2	<12
Coronene	<12	<12
Dibenzo(a,c/a,h)Anthracene	<12	<12
Dibenzo(a,e)pyrene	<12	16.9
9,10-dimethylantracene	<12	<12
7,12-Dimethylbenzo(a)anthracene	<12	<12
Fluoranthene	28.1	<12
Fluorene	<12	<12
Indeno(1,2,3-cd)Pyrene	27.2	<12
2-methylantracene	<12	<12
3-Methylcholanthrene	<12	<12
1-Methylnaphthalene	<12	<12
2-Methylnaphthalene	<12	<12
1-Methylphenanthrene	<12	<12
9-Methylphenanthrene	<12	<12
Naphthalene	334	290
Perylene	<12	<12
Phenanthrene	87.9	<12
Picene	<12	<12
Pyrene	27.3	<12
Tetralin	517	466
m-terphenyl	<12	<12
o-Terphenyl	<12	<12
p-terphenyl	<12	<12
Triphenylene/Benzo(b)anthracene	<12	<12
Total	<1505	<1205

"<" indicates that the amount detected is less than the detection limit. In these cases the value of the detection limit was used to calculate the total collected.

TABLE 81
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Acetaldehyde, Formaldehyde and Acrolein Emission Data

Acetaldehyde

Test No.	Total Collected μg	Dry Volume Sampled Rm^3 *	Actual $\mu\text{g}/\text{m}^3$	Acetaldehyde Concentration		Wet Reference $\mu\text{g}/\text{Rm}^3$ *	Acetaldehyde Emission Rate mg/s
				Dry Reference $\mu\text{g}/\text{Rm}^3$ *	Dry Adjusted $\mu\text{g}/\text{Rm}^{3**}$		
1	95.5	0.0313	1835	3051	2556	2581	49.6
2	97.0	0.0321	1817	3022	2532	2557	49.2
3	54.6	0.0313	1049	1744	1461	1476	28.4
Average			1567	2606	2183	2205	42.4
Blank Train	40.8						
Field Blank	9.30						

Formaldehyde

Test No.	Total Collected μg	Dry Volume Sampled Rm^3 *	Actual $\mu\text{g}/\text{m}^3$	Formaldehyde Concentration		Wet Reference $\mu\text{g}/\text{Rm}^3$ *	Formaldehyde Emission Rate mg/s
				Dry Reference $\mu\text{g}/\text{Rm}^3$ *	Dry Adjusted $\mu\text{g}/\text{Rm}^{3**}$		
1	28.2	0.0313	542	901	755	762	14.7
2	32.5	0.0321	609	1012	848	857	16.5
3	42.4	0.0313	814	1355	1135	1146	22.0
Average			655	1089	913	922	17.7
Blank Train	27.6						
Field Blank	15.0						

Acrolein

Test No.	Total Collected μg	Dry Volume Sampled Rm^3 *	Actual $\mu\text{g}/\text{m}^3$	Acrolein Concentration		Wet Reference $\mu\text{g}/\text{Rm}^3$ *	Acrolein Emission Rate mg/s
				Dry Reference $\mu\text{g}/\text{Rm}^3$ *	Dry Adjusted $\mu\text{g}/\text{Rm}^{3**}$		
1	<0.50	0.0313	<9.60	<16.0	<13.4	<13.5	<0.26
2	<0.50	0.0321	<9.37	<15.6	<13.0	<13.2	<0.25
3	<0.50	0.0313	<9.60	<16.0	<13.4	<13.5	<0.26
Average			<9.52	<15.8	<13.3	<13.4	<0.26
Blank Train	<0.50						
Field Blank	<0.50						

Note: "<" indicates that the analyte was not detected and the value of the detection limit was used to calculate the emission data.

* At 25 °C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 82
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Volatile Organic Emission Data
Test No. 1

Compound	Total Collected ppb	Actual Concentration $\mu\text{g}/\text{m}^3$	Dry Reference Concentration $\mu\text{g}/\text{Rm}^3*$	Dry Adjusted Concentration $\mu\text{g}/\text{Rm}^{3**}$	Wet Reference Concentration $\mu\text{g}/\text{Rm}^3*$	Emission Rate mg/s
Acetone	<1.1	<1.56	<2.60	<2.18	<2.21	<0.042
Benzene	0.47	0.90	1.50	1.26	1.27	0.024
Bromodichloromethane	<0.22	<0.90	<1.50	<1.26	<1.27	<0.024
Bromoform	<0.22	<1.38	<2.30	<1.93	<1.95	<0.037
Bromomethane	<1.0	<2.33	<3.88	<3.26	<3.29	<0.063
1,3-Butadiene	<0.22	<0.29	<0.49	<0.41	<0.42	<0.0080
2-Butanone	2.35	4.17	6.93	5.82	5.88	0.11
Carbon Tetrachloride	<0.22	<0.83	<1.38	<1.16	<1.17	<0.022
Chloroform	0.44	1.29	2.15	1.81	1.83	0.035
Cumene (Isopropylbenzene)	<0.22	<0.66	<1.10	<0.92	<0.93	<0.018
Dibromochloromethane	<0.22	<1.14	<1.90	<1.60	<1.61	<0.031
Dichlorodifluoromethane	<0.22	<0.66	<1.10	<0.92	<0.93	<0.018
1,2-Dichloroethane	<0.22	<0.54	<0.89	<0.75	<0.76	<0.015
trans,1,2-Dichloroethene	<0.22	<0.52	<0.87	<0.73	<0.74	<0.014
1,1-Dichloroethene	<0.22	<0.52	<0.87	<0.73	<0.74	<0.014
1,2-Dichloropropane	<0.22	<0.60	<1.00	<0.84	<0.85	<0.016
Ethylbenzene	0.48	1.25	2.08	1.75	1.77	0.034
Ethylene Dibromide	<0.22	<1.02	<1.70	<1.43	<1.44	<0.028
Mesitylene (1,3,5-Trimethylbenzene)	<0.22	<0.66	<1.10	<0.92	<0.93	<0.018
Methylene Chloride	2.22	4.64	7.71	6.48	6.55	0.13
Styrene	<0.22	<0.57	<0.94	<0.79	<0.80	<0.015
Tetrachloroethene	<0.22	<0.90	<1.50	<1.26	<1.27	<0.024
Toluene	3.99	9.02	15.0	12.6	12.7	0.24
1,1,1-Trichloroethane	<0.22	<0.72	<1.20	<1.01	<1.02	<0.020
Trichloroethene/1,1,2-Trichloroethene	<0.22	<0.72	<1.20	<1.01	<1.02	<0.020
Trichlorotrifluoroethane	<0.22	<1.02	<1.70	<1.43	<1.44	<0.028
Trichlorofluoromethane	<0.22	<0.72	<1.20	<1.01	<1.02	<0.020
M&P-Xylene	1.00	2.61	4.34	3.65	3.68	0.071
O-Xylene	0.23	0.60	1.00	0.84	0.85	0.016
Vinyl Chloride	<0.22	<0.34	<0.56	<0.47	<0.48	<0.0091
Total	<17.7	<43.1	<71.7	<60.2	<60.9	<1.17

Actual Flowrate (m^3/s) :	27.1
Dry Reference Flowrate (Rm^3/s^*) :	16.3
Dry Adjusted Flowrate ($\text{Rm}^3/\text{s}^{**}$) :	19.4
Wet Reference Flowrate (Rm^3/s^*) :	19.2

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected. Any analyte that was not detected was assigned a value equal to the detection limit for calculation purposes.

TABLE 83
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Volatile Organic Emission Data
Test No. 2

Compound	Total Collected ppb	Actual Concentration $\mu\text{g}/\text{m}^3$	Dry Reference Concentration $\mu\text{g}/\text{Rm}^3^*$	Dry Adjusted Concentration $\mu\text{g}/\text{Rm}^3^{**}$	Wet Reference Concentration $\mu\text{g}/\text{Rm}^3^*$	Emission Rate mg/s
Acetone	<1.0	<1.44	<2.40	<2.02	<2.04	<0.039
Benzene	0.34	0.66	1.09	0.92	0.93	0.018
Bromodichloromethane	<0.20	<0.78	<1.30	<1.09	<1.10	<0.021
Bromoform	<0.20	<1.26	<2.10	<1.76	<1.78	<0.034
Bromomethane	<1.0	<2.33	<3.88	<3.26	<3.29	<0.063
1,3-Butadiene	<0.20	<0.26	<0.44	<0.37	<0.37	<0.0072
2-Butanone	2.18	3.87	6.43	5.40	5.46	0.10
Carbon Tetrachloride	<0.20	<0.76	<1.26	<1.06	<1.07	<0.021
Chloroform	0.45	1.32	2.20	1.85	1.87	0.036
Cumene (Isopropylbenzene)	<0.20	<0.60	<1.00	<0.84	<0.85	<0.016
Dibromochloromethane	<0.20	<1.02	<1.70	<1.43	<1.44	<0.028
Dichlorodifluoromethane	<0.20	<0.60	<1.00	<0.84	<0.85	<0.016
1,2-Dichloroethane	<0.20	<0.49	<0.81	<0.68	<0.69	<0.013
trans,1,2-Dichloroethene	<0.20	<0.48	<0.79	<0.66	<0.67	<0.013
1,1-Dichloroethene	<0.20	<0.48	<0.79	<0.66	<0.67	<0.013
1,2-Dichloropropane	<0.20	<0.54	<0.90	<0.76	<0.76	<0.015
Ethylbenzene	0.16	0.42	0.69	0.58	0.59	0.011
Ethylene Dibromide	<0.20	<0.90	<1.50	<1.26	<1.27	<0.024
Mesitylene (1,3,5-Trimethylbenzene)	<0.20	<0.60	<1.00	<0.84	<0.85	<0.016
Methylene Chloride	0.82	1.71	2.85	2.39	2.42	0.046
Styrene	<0.20	<0.51	<0.85	<0.71	<0.72	<0.014
Tetrachloroethene	<0.20	<0.84	<1.40	<1.18	<1.19	<0.023
Toluene	1.02	2.31	3.84	3.23	3.26	0.063
1,1,1-Trichloroethane	<0.20	<0.66	<1.10	<0.92	<0.93	<0.018
Trichloroethene/1,1,2-Trichloroethene	<0.20	<0.66	<1.10	<0.92	<0.93	<0.018
Trichlorotrifluoroethane	<0.20	<0.90	<1.50	<1.26	<1.27	<0.024
Trichlorofluoromethane	<0.20	<0.66	<1.10	<0.92	<0.93	<0.018
M&P-Xylene	0.22	0.58	0.96	0.81	0.82	0.016
O-Xylene	<0.10	<0.26	<0.43	<0.36	<0.37	<0.0070
Vinyl Chloride	<0.20	<0.31	<0.51	<0.43	<0.43	<0.0083
Total	<11.3	<28.2	<46.9	<39.4	<39.8	<0.76

Actual Flowrate (m^3/s) :	27.1
Dry Reference Flowrate (Rm^3/s^*) :	16.3
Dry Adjusted Flowrate ($\text{Rm}^3/\text{s}^{**}$) :	19.4
Wet Reference Flowrate (Rm^3/s^*) :	19.2

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected. Any analyte that was not detected was assigned a value equal to the detection limit for calculation purposes.

TABLE 84
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Volatile Organic Emission Data
Test No. 3

Compound	Total Collected ppb	Actual Concentration $\mu\text{g}/\text{m}^3$	Dry Reference Concentration $\mu\text{g}/\text{Rm}^3*$	Dry Adjusted Concentration $\mu\text{g}/\text{Rm}^{3**}$	Wet Reference Concentration $\mu\text{g}/\text{Rm}^3*$	Emission Rate mg/s
Acetone	<1.0	<1.44	<2.40	<2.02	<2.04	<0.039
Benzene	0.28	0.54	0.89	0.75	0.76	0.015
Bromodichloromethane	<0.20	<0.78	<1.30	<1.09	<1.10	<0.021
Bromoform	<0.20	<1.26	<2.10	<1.76	<1.78	<0.034
Bromomethane	<1.0	<2.33	<3.88	<3.26	<3.29	<0.063
1,3-Butadiene	<0.20	<0.26	<0.44	<0.37	<0.37	<0.0072
2-Butanone	2.68	4.75	7.90	6.64	6.71	0.13
Carbon Tetrachloride	<0.20	<0.76	<1.26	<1.06	<1.07	<0.021
Chloroform	0.50	1.47	2.44	2.05	2.07	0.040
Cumene (Isopropylbenzene)	<0.20	<0.60	<1.00	<0.84	<0.85	<0.016
Dibromochloromethane	<0.20	<1.02	<1.70	<1.43	<1.44	<0.028
Dichlorodifluoromethane	<0.20	<0.60	<1.00	<0.84	<0.85	<0.016
1,2-Dichloroethane	<0.20	<0.49	<0.81	<0.68	<0.69	<0.013
trans,1,2-Dichloroethene	<0.20	<0.48	<0.79	<0.66	<0.67	<0.013
1,1-Dichloroethene	<0.20	<0.48	<0.79	<0.66	<0.67	<0.013
1,2-Dichloropropane	<0.20	<0.54	<0.90	<0.76	<0.76	<0.015
Ethylbenzene	0.12	0.31	0.52	0.44	0.44	0.0085
Ethylene Dibromide	<0.20	<0.90	<1.50	<1.26	<1.27	<0.024
Mesitylene (1,3,5-Trimethylbenzene)	<0.20	<0.60	<1.00	<0.84	<0.85	<0.016
Methylene Chloride	0.69	1.44	2.40	2.02	2.04	0.039
Styrene	<0.20	<0.51	<0.85	<0.71	<0.72	<0.014
Tetrachloroethene	<0.20	<0.84	<1.40	<1.18	<1.19	<0.023
Toluene	0.91	2.06	3.43	2.88	2.91	0.056
1,1,1-Trichloroethane	<0.20	<0.66	<1.10	<0.92	<0.93	<0.018
Trichloroethene/1,1,2-Trichloroethene	<0.20	<0.66	<1.10	<0.92	<0.93	<0.018
Trichlorotrifluoroethane	<0.20	<0.90	<1.50	<1.26	<1.27	<0.024
Trichlorofluoromethane	<0.20	<0.66	<1.10	<0.92	<0.93	<0.018
M&P-Xylene	<0.20	<0.52	<0.87	<0.73	<0.74	<0.014
O-Xylene	<0.10	<0.26	<0.43	<0.36	<0.37	<0.0070
Vinyl Chloride	<0.20	<0.31	<0.51	<0.43	<0.43	<0.0083
Total	<11.5	<28.5	<47.3	<39.8	<40.2	<0.77

Actual Flowrate (m^3/s) :	27.1
Dry Reference Flowrate (Rm^3/s^*) :	16.3
Dry Adjusted Flowrate ($\text{Rm}^3/\text{s}^{**}$) :	19.4
Wet Reference Flowrate (Rm^3/s^*) :	19.2

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

Note: "<" indicates that the analyte was not detected. Any analyte that was not detected was assigned a value equal to the detection limit for calculation purposes.

TABLE 85
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Volatile Organic Actual Concentrations

Compound	Actual Concentration			Average	Coefficient of Variation
	Test No. 1	Test No. 2	Test No. 3		
	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	%
Acetone	<1.56	<1.44	<1.44	<1.48	4.7
Benzene	0.90	0.66	0.54	0.70	26.8
Bromodichloromethane	<0.90	<0.78	<0.78	<0.82	8.4
Bromoform	<1.38	<1.26	<1.26	<1.30	5.3
Bromomethane	<2.33	<2.33	<2.33	<2.33	0.0
1,3-Butadiene	<0.29	<0.26	<0.26	<0.27	6.3
2-Butanone	4.17	3.87	4.75	4.26	10.5
Carbon Tetrachloride	<0.83	<0.76	<0.76	<0.78	5.3
Chloroform	1.29	1.32	1.47	1.36	6.8
Cumene (Isopropylbenzene)	<0.66	<0.60	<0.60	<0.62	5.6
Dibromochloromethane	<1.14	<1.02	<1.02	<1.06	6.5
Dichlorodifluoromethane	<0.66	<0.60	<0.60	<0.62	5.6
1,2-Dichloroethane	<0.54	<0.49	<0.49	<0.50	5.5
trans,1,2-Dichloroethene	<0.52	<0.48	<0.48	<0.49	5.7
1,1-Dichloroethene	<0.52	<0.48	<0.48	<0.49	5.7
1,2-Dichloropropane	<0.60	<0.54	<0.54	<0.56	6.2
Ethylbenzene	1.25	0.42	0.31	0.66	78.0
Ethylene Dibromide	<1.02	<0.90	<0.90	<0.94	7.4
Mesitylene (1,3,5-Trimethylbenzene)	<0.66	<0.60	<0.60	<0.62	5.6
Methylene Chloride	4.64	1.71	1.44	2.60	68.2
Styrene	<0.57	<0.51	<0.51	<0.53	5.9
Tetrachloroethene	<0.90	<0.84	<0.84	<0.86	4.0
Toluene	9.02	2.31	2.06	4.46	88.4
1,1,1-Trichloroethane	<0.72	<0.66	<0.66	<0.68	5.1
Trichloroethene/1,1,2-Trichloroethene	<0.72	<0.66	<0.66	<0.68	5.1
Trichlorotrifluoroethane	<1.02	<0.90	<0.90	<0.94	7.4
Trichlorofluoromethane	<0.72	<0.66	<0.66	<0.68	5.1
M&P-Xylene	2.61	0.58	<0.52	<1.24	96.2
O-Xylene	0.60	<0.26	<0.26	<0.37	53.1
Vinyl Chloride	<0.34	<0.31	<0.31	<0.32	5.5
Total	<43.1	<28.2	<28.5	<33.3	25.7

TABLE 86
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Volatile Organic Dry Reference Concentrations

Compound	Dry Reference Concentration				Coefficient of Variation %
	Test No. 1	Test No. 2	Test No. 3	Average	
	µg/Rm ³ *	µg/Rm ³ *	µg/Rm ³ *	µg/Rm ³ *	
Acetone	<2.60	<2.40	<2.40	<2.47	4.7
Benzene	1.50	1.09	0.89	1.16	26.8
Bromodichloromethane	<1.50	<1.30	<1.30	<1.37	8.4
Bromoform	<2.30	<2.10	<2.10	<2.17	5.3
Bromomethane	<3.88	<3.88	<3.88	<3.88	0.0
1,3-Butadiene	<0.49	<0.44	<0.44	<0.46	6.3
2-Butanone	6.93	6.43	7.90	7.09	10.5
Carbon Tetrachloride	<1.38	<1.26	<1.26	<1.30	5.3
Chloroform	2.15	2.20	2.44	2.26	6.8
Cumene (Isopropylbenzene)	<1.10	<1.00	<1.00	<1.03	5.6
Dibromochloromethane	<1.90	<1.70	<1.70	<1.77	6.5
Dichlorodifluoromethane	<1.10	<1.00	<1.00	<1.03	5.6
1,2-Dichloroethane	<0.89	<0.81	<0.81	<0.84	5.5
trans,1,2-Dichloroethene	<0.87	<0.79	<0.79	<0.82	5.7
1,1-Dichloroethene	<0.87	<0.79	<0.79	<0.82	5.7
1,2-Dichloropropane	<1.00	<0.90	<0.90	<0.93	6.2
Ethylbenzene	2.08	0.69	0.52	1.10	78.0
Ethylene Dibromide	<1.70	<1.50	<1.50	<1.57	7.4
Mesitylene (1,3,5-Trimethylbenzene)	<1.10	<1.00	<1.00	<1.03	5.6
Methylene Chloride	7.71	2.85	2.40	4.32	68.2
Styrene	<0.94	<0.85	<0.85	<0.88	5.9
Tetrachloroethene	<1.50	<1.40	<1.40	<1.43	4.0
Toluene	15.0	3.84	3.43	7.42	88.4
1,1,1-Trichloroethane	<1.20	<1.10	<1.10	<1.13	5.1
Trichloroethene/1,1,2-Trichloroethene	<1.20	<1.10	<1.10	<1.13	5.1
Trichlorotrifluoroethane	<1.70	<1.50	<1.50	<1.57	7.4
Trichlorofluoromethane	<1.20	<1.10	<1.10	<1.13	5.1
M&P-Xylene	4.34	0.96	<0.87	<2.06	96.2
O-Xylene	1.00	<0.43	<0.43	<0.62	53.1
Vinyl Chloride	<0.56	<0.51	<0.51	<0.53	5.5
Total	<71.7	<46.9	<47.3	<55.3	25.7

* At 25°C and 1 atmosphere

TABLE 87
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Volatile Organic Dry Adjusted Concentrations

Compound	Dry Adjusted Concentration				Coefficient of Variation %
	Test No. 1	Test No. 2	Test No. 3	Average	
	$\mu\text{g}/\text{Rm}^3*$	$\mu\text{g}/\text{Rm}^3*$	$\mu\text{g}/\text{Rm}^3*$	$\mu\text{g}/\text{Rm}^3*$	
Acetone	<2.18	<2.02	<2.02	<2.07	4.7
Benzene	1.26	0.92	0.75	0.97	26.8
Bromodichloromethane	<1.26	<1.09	<1.09	<1.15	8.4
Bromoform	<1.93	<1.76	<1.76	<1.82	5.3
Bromomethane	<3.26	<3.26	<3.26	<3.26	0.0
1,3-Butadiene	<0.41	<0.37	<0.37	<0.38	6.3
2-Butanone	5.82	5.40	6.64	5.95	10.5
Carbon Tetrachloride	<1.16	<1.06	<1.06	<1.09	5.3
Chloroform	1.81	1.85	2.05	1.90	6.8
Cumene (Isopropylbenzene)	<0.92	<0.84	<0.84	<0.87	5.6
Dibromochloromethane	<1.60	<1.43	<1.43	<1.48	6.5
Dichlorodifluoromethane	<0.92	<0.84	<0.84	<0.87	5.6
1,2-Dichloroethane	<0.75	<0.68	<0.68	<0.70	5.5
trans,1,2-Dichloroethene	<0.73	<0.66	<0.66	<0.69	5.7
1,1-Dichloroethene	<0.73	<0.66	<0.66	<0.69	5.7
1,2-Dichloropropane	<0.84	<0.76	<0.76	<0.78	6.2
Ethylbenzene	1.75	0.58	0.44	0.92	78.0
Ethylene Dibromide	<1.43	<1.26	<1.26	<1.32	7.4
Mesitylene (1,3,5-Trimethylbenzene)	<0.92	<0.84	<0.84	<0.87	5.6
Methylene Chloride	6.48	2.39	2.02	3.63	68.2
Styrene	<0.79	<0.71	<0.71	<0.74	5.9
Tetrachloroethene	<1.26	<1.18	<1.18	<1.20	4.0
Toluene	12.6	3.23	2.88	6.24	88.4
1,1,1-Trichloroethane	<1.01	<0.92	<0.92	<0.95	5.1
Trichloroethene/1,1,2-Trichloroethene	<1.01	<0.92	<0.92	<0.95	5.1
Trichlorotrifluoroethane	<1.43	<1.26	<1.26	<1.32	7.4
Trichlorofluoromethane	<1.01	<0.92	<0.92	<0.95	5.1
M&P-Xylene	3.65	0.81	<0.73	<1.73	96.2
O-Xylene	0.84	<0.36	<0.36	<0.52	53.1
Vinyl Chloride	<0.47	<0.43	<0.43	<0.44	5.5
Total	<60.2	<39.4	<39.8	<46.5	25.7

* At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 88
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Volatile Organic Wet Reference Concentrations

Compound	Wet Reference Concentration				Coefficient of Variation %
	Test No. 1 $\mu\text{g}/\text{Rm}^3^*$	Test No. 2 $\mu\text{g}/\text{Rm}^3^*$	Test No. 3 $\mu\text{g}/\text{Rm}^3^*$	Average $\mu\text{g}/\text{Rm}^3^*$	
Acetone	<2.21	<2.04	<2.04	<2.09	4.7
Benzene	1.27	0.93	0.76	0.98	26.8
Bromodichloromethane	<1.27	<1.10	<1.10	<1.16	8.4
Bromoform	<1.95	<1.78	<1.78	<1.84	5.3
Bromomethane	<3.29	<3.29	<3.29	<3.29	0.0
1,3-Butadiene	<0.42	<0.37	<0.37	<0.39	6.3
2-Butanone	5.88	5.46	6.71	6.02	10.5
Carbon Tetrachloride	<1.17	<1.07	<1.07	<1.10	5.3
Chloroform	1.83	1.87	2.07	1.92	6.8
Cumene (Isopropylbenzene)	<0.93	<0.85	<0.85	<0.88	5.6
Dibromochloromethane	<1.61	<1.44	<1.44	<1.50	6.5
Dichlorodifluoromethane	<0.93	<0.85	<0.85	<0.88	5.6
1,2-Dichloroethane	<0.76	<0.69	<0.69	<0.71	5.5
trans,1,2-Dichloroethene	<0.74	<0.67	<0.67	<0.69	5.7
1,1-Dichloroethene	<0.74	<0.67	<0.67	<0.69	5.7
1,2-Dichloropropane	<0.85	<0.76	<0.76	<0.79	6.2
Ethylbenzene	1.77	0.59	0.44	0.93	78.0
Ethylene Dibromide	<1.44	<1.27	<1.27	<1.33	7.4
Mesitylene (1,3,5-Trimethylbenzene)	<0.93	<0.85	<0.85	<0.88	5.6
Methylene Chloride	6.55	2.42	2.04	3.67	68.2
Styrene	<0.80	<0.72	<0.72	<0.75	5.9
Tetrachloroethene	<1.27	<1.19	<1.19	<1.22	4.0
Toluene	12.7	3.26	2.91	6.30	88.4
1,1,1-Trichloroethane	<1.02	<0.93	<0.93	<0.96	5.1
Trichloroethene/1,1,2-Trichloroethene	<1.02	<0.93	<0.93	<0.96	5.1
Trichlorotrifluoroethane	<1.44	<1.27	<1.27	<1.33	7.4
Trichlorofluoromethane	<1.02	<0.93	<0.93	<0.96	5.1
M&P-Xylene	3.68	0.82	<0.74	<1.75	96.2
O-Xylene	0.85	<0.37	<0.37	<0.53	53.1
Vinyl Chloride	<0.48	<0.43	<0.43	<0.45	5.5
Total	<60.9	<39.8	<40.2	<47.0	25.7

* At 25°C and 1 atmosphere

TABLE 89
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Volatile Organic Emission Rates

Compound	Emission Rate				Coefficient of Variation %
	Test No. 1 mg/s	Test No. 2 mg/s	Test No. 3 mg/s	Average mg/s	
Acetone	<0.042	<0.039	<0.039	<0.040	4.7
Benzene	0.024	0.018	0.015	0.019	26.8
Bromodichloromethane	<0.024	<0.021	<0.021	<0.022	8.4
Bromoform	<0.037	<0.034	<0.034	<0.035	5.3
Bromomethane	<0.063	<0.063	<0.063	<0.063	0.0
1,3-Butadiene	<0.0080	<0.0072	<0.0072	<0.0074	6.3
2-Butanone	0.11	0.10	0.13	0.12	10.5
Carbon Tetrachloride	<0.022	<0.021	<0.021	<0.021	5.3
Chloroform	0.035	0.036	0.040	0.037	6.8
Cumene (Isopropylbenzene)	<0.018	<0.016	<0.016	<0.017	5.6
Dibromochloromethane	<0.031	<0.028	<0.028	<0.029	6.5
Dichlorodifluoromethane	<0.018	<0.016	<0.016	<0.017	5.6
1,2-Dichloroethane	<0.015	<0.013	<0.013	<0.014	5.5
trans,1,2-Dichloroethene	<0.014	<0.013	<0.013	<0.013	5.7
1,1-Dichloroethene	<0.014	<0.013	<0.013	<0.013	5.7
1,2-Dichloropropane	<0.016	<0.015	<0.015	<0.015	6.2
Ethylbenzene	0.034	0.011	0.0085	0.018	78.0
Ethylene Dibromide	<0.028	<0.024	<0.024	<0.026	7.4
Mesitylene (1,3,5-Trimethylbenzene)	<0.018	<0.016	<0.016	<0.017	5.6
Methylene Chloride	0.13	0.046	0.039	0.070	68.2
Styrene	<0.015	<0.014	<0.014	<0.014	5.9
Tetrachloroethene	<0.024	<0.023	<0.023	<0.023	4.0
Toluene	0.24	0.063	0.056	0.12	88.4
1,1,1-Trichloroethane	<0.020	<0.018	<0.018	<0.018	5.1
Trichloroethene/1,1,2-Trichloroethene	<0.020	<0.018	<0.018	<0.018	5.1
Trichlorotrifluoroethane	<0.028	<0.024	<0.024	<0.026	7.4
Trichlorofluoromethane	<0.020	<0.018	<0.018	<0.018	5.1
M&P-Xylene	0.071	0.016	<0.014	<0.034	96.2
O-Xylene	0.016	<0.0070	<0.0070	<0.010	53.1
Vinyl Chloride	<0.0091	<0.0083	<0.0083	<0.0086	5.5
Total	<1.17	<0.76	<0.77	<0.90	25.7

TABLE 90
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Summary of Volatile Organic Emission Data

Compound	Actual Concentration $\mu\text{g}/\text{m}^3$	Dry Reference Concentration $\mu\text{g}/\text{Rm}^3^*$	Dry Adjusted Concentration $\mu\text{g}/\text{Rm}^3^*$	Wet Reference Concentration $\mu\text{g}/\text{Rm}^3^*$	Emission Rate mg/s
Acetone	<1.48	<2.47	<2.07	<2.09	<0.040
Benzene	0.70	1.16	0.97	0.98	0.019
Bromodichloromethane	<0.82	<1.37	<1.15	<1.16	<0.022
Bromoform	<1.30	<2.17	<1.82	<1.84	<0.035
Bromomethane	<2.33	<3.88	<3.26	<3.29	<0.063
1,3-Butadiene	<0.27	<0.46	<0.38	<0.39	<0.0074
2-Butanone	4.26	7.09	5.95	6.02	0.12
Carbon Tetrachloride	<0.78	<1.30	<1.09	<1.10	<0.021
Chloroform	1.36	2.26	1.90	1.92	0.037
Cumene (Isopropylbenzene)	<0.62	<1.03	<0.87	<0.88	<0.017
Dibromochloromethane	<1.06	<1.77	<1.48	<1.50	<0.029
Dichlorodifluoromethane	<0.62	<1.03	<0.87	<0.88	<0.017
1,2-Dichloroethane	<0.50	<0.84	<0.70	<0.71	<0.014
trans,1,2-Dichloroethene	<0.49	<0.82	<0.69	<0.69	<0.013
1,1-Dichloroethene	<0.49	<0.82	<0.69	<0.69	<0.013
1,2-Dichloropropane	<0.56	<0.93	<0.78	<0.79	<0.015
Ethylbenzene	0.66	1.10	0.92	0.93	0.018
Ethylene Dibromide	<0.94	<1.57	<1.32	<1.33	<0.026
Mesitylene (1,3,5-Trimethylbenzene)	<0.62	<1.03	<0.87	<0.88	<0.017
Methylene Chloride	2.60	4.32	3.63	3.67	0.070
Styrene	<0.53	<0.88	<0.74	<0.75	<0.014
Tetrachloroethene	<0.86	<1.43	<1.20	<1.22	<0.023
Toluene	4.46	7.42	6.24	6.30	0.12
1,1,1-Trichloroethane	<0.68	<1.13	<0.95	<0.96	<0.018
Trichloroethene/1,1,2-Trichloroethene	<0.68	<1.13	<0.95	<0.96	<0.018
Trichlorotrifluoroethane	<0.94	<1.57	<1.32	<1.33	<0.026
Trichlorofluoromethane	<0.68	<1.13	<0.95	<0.96	<0.018
M&P-Xylene	<1.24	<2.06	<1.73	<1.75	<0.034
O-Xylene	<0.37	<0.62	<0.52	<0.53	<0.010
Vinyl Chloride	<0.32	<0.53	<0.44	<0.45	<0.0086
Total	<33.3	<55.3	<46.5	<47.0	<0.90

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

TABLE 91
Reworld Durham York Renewable Energy L.P.
Boiler No. 2 BH Outlet
Blank Volatile Organic Analyses

Compound	Field Blank ppb
Acetone	<1.0
Benzene	<0.10
Bromodichloromethane	<0.20
Bromoform	<0.20
Bromomethane	<1.0
1,3-Butadiene	<0.20
2-Butanone	<0.20
Carbon Tetrachloride	<0.20
Chloroform	<0.20
Cumene (Isopropylbenzene)	<0.20
Dibromochloromethane	<0.20
Dichlorodifluoromethane	<0.20
1,2-Dichloroethane	<0.20
trans,1,2-Dichloroethene	<0.20
1,1-Dichloroethene	<0.20
1,2-Dichloropropane	<0.20
Ethylbenzene	<0.10
Ethylene Dibromide	<0.20
Mesitylene (1,3,5-Trimethylbenzene)	<0.20
Methylene Chloride	<0.20
Styrene	<0.20
Tetrachloroethene	<0.20
Toluene	<0.10
1,1,1-Trichloroethane	<0.20
Trichloroethene/1,1,2-Trichloroethene	<0.20
Trichlorotrifluoroethane	<0.20
Trichlorofluoromethane	<0.20
M&P-Xylene	<0.20
O-Xylene	<0.10
Vinyl Chloride	<0.20
Total	<7.20

Note: "<" indicates that the analyte was not detected. Any analyte that was not detected was assigned a value equal to the detection limit for calculation purposes.

APPENDIX 3

**Pre-Test Plan Letter
and ECA No. 7306-8FDKNX
(107 pages)**

If you require this information in an accessible format, please contact The Regional Municipality of Durham at 1-800-372-1102 ext. 3560.



Sent via email (celeste.dugas@ontario.ca and julie.schroeder@ontario.ca)

September 9, 2025

Celeste Dugas, Manager,
York Durham District Office
Ministry of the Environment, Conservation and Parks
230 Westney Road South, Floor 5
Ajax, Ontario L1S 7J5

and

Dr. Julie Schroeder, Director
Technical Assessment and Standards Development Branch
Ministry of the Environment, Conservation and Parks
40 St. Clair Avenue West, Floor 7 - Foster Building
Toronto, Ontario M4V 1M2

Dear Ms. Dugas and Ms. Schroeder:

**RE: Durham York Energy Centre
Voluntary Fall 2025 Source Test
Environmental Compliance Approval #7306-8FDKNX**

The Regional Municipalities of Durham and York (Regions) are planning to complete a voluntary Source Test at the Durham York Energy Centre (DYEC) commencing on October 27, 2025. The purpose of this Source Test is to measure DYEC emissions under a directive from the Regional Municipality of Durham's Council. Conduct of this Source Test is not a requirement of the Environmental Assessment (EA) approval or the Environmental Compliance Approval (ECA) for the facility.

Alliance Technical Group (Alliance) is the contractor selected to conduct the Source Test. Alliance will be following the April 2025 Pre-Test Plan for Source Testing (Pre-Test Plan #AST-2025-2049). The approved 2025 Pre-Test Plan was used to conduct the Spring 2025 Compliance source test.

The analytical laboratories performing analysis are ALS Environmental in Burlington, Ontario, along with Test America Eurofins in Knoxville, Tennessee, as a subcontractor. The laboratories are certified to conduct the analysis.

Please accept this courtesy notification of the planned voluntary Source Test. If you have any questions regarding this notification and the impending conduct of the DYEC Source Testing Program, please do not hesitate to contact the undersigned.

Sincerely,



Andrew Evans, M.A.Sc., P.Eng.
Director, Waste Management Services
The Regional Municipality of Durham
905-668-7711 extension 4102
Andrew.Evans@durham.ca



Lindsay Milne
Director, Waste Management and Forestry
The Regional Municipality of York
905-830-4444 extension 75714
Lindsay.Milne@york.ca

- c. J. McKerrall, Manager (Acting), Technology Standards Section, MECP
B. Fullerton, Source Assessment Specialist, Technology Standards Section, MECP
C. Ruddy, Senior Source Assessment Specialist, Technology Standards Section, MECP
P. Dunn, Senior Environmental Officer, York Durham District Office, MECP
D. Keene, Senior Environmental Officer, York Durham District Office, MECP
J. Buchar, Issues Project Coordinator, York Durham District Office, MECP
N. Victor, Facility Manager, Reworld
S. Kaur, Environmental and Compliance Manager, Reworld
L. Saha, Manager, Waste Planning and Technical Services, The Regional Municipality of Durham
N. Williams, Project Manager, Waste Planning and Technical Services, The Regional Municipality of Durham
M. Farid, Contract Management Engineer, Waste Management, The Regional Municipality of York



Ministry of the Environment
Ministère de l'Environnement

CERTIFICATE OF APPROVAL
MULTI-MEDIA
Number 7306-8FDKNX
Issue Date: June 28, 2011

The Regional Municipality of Durham
605 Rossland Rd E 5th Floor
Whitby, Ontario
L1N 6A3

and

The Regional Municipality of York
17250 Yonge Street
Newmarket, Ontario
L3Y 6Z1

and

Covanta Durham York Renewable Energy Limited Partnership
445 South Street
Morristown, New Jersey
United States of America
07960

Site Location: Durham York Energy Centre
72 Osbourne Road
Lot 27, Concession Broken Front, Part 1
Clarington Municipality, Regional Municipality of Durham

You have applied in accordance with Sections 9 and 27 of the Environmental Protection Act and Section 53 of the Ontario Water Resources Act for approval of:

A thermal treatment facility to be used for the receipt and manual and/or mechanical sorting of solid non-hazardous post-diversion municipal waste (Waste), temporary storage and thermal treatment of the Waste, abatement of the emissions from the processes and activities undertaken at the Site, handling, screening, sorting and/or conditioning of the residual wastes and management of the wastewater and the non-contact stormwater generated at the Site. The Facility's maximum Waste thermal treatment rate is 140,000 tonnes per year of Waste, the nominal electricity generation rate is 20 Megawatts and the nominal steam generation rate 72,000 kilograms per hour of steam.

The facility consists of the following major processes and support units:

- (1) two (2) identical combustion trains, each having a nominal capacity of 218 tonnes of Waste per day venting into the atmosphere via a common exhaust stack, having an exit diameter of 1.71 metres, extending 87.6 metres above grade.

Each combustion train is an independent process train and it consists of the following main components:

- (a) a stoker grate steam Boiler, having a design heat input of 118 Gigajoules per hour, equipped with a natural gas fired auxiliary Low NOx burner, having a nominal heat input of 59.5 Gigajoules per hour; and
- (b) the following air pollution control equipment:
 - (i) a Selective Non Catalytic Reduction System (SNCR System) with ammonia injection for NOx control;
 - (ii) an activated carbon injection system, to reduce mercury and dioxins in flue gas;
 - (iii) a dry recirculation lime injection scrubber to control acid gases;
 - (iv) a pulse jet type baghouse to control particulate emissions;
- (2) one (1) steam turbine generator set having a rated capacity of 20 Megawatts;
- (3) waste and reagent storage as described in Condition 2.:
- (4) fly ash conditioning system including two (2) surge bins, two (2) pugmills and seven (7) curing/storage bunkers;
- (5) bottom ash sorting system including conveyors, screens, a rotary drum magnet and an eddy separator;
- (6) one (1) emergency diesel generator, rated at 250 Kilowatts;
- (7) natural gas-fired combustion equipment for comfort heating;
- (8) a wastewater management system for collection, recirculation and reuse of the process water; and
- (9) a stormwater management facility for collection, transmission and discharge of non-contact runoff at the Site, as described in the attached Schedule "G",

Note: Use of the site for any other type of waste is not approved under this Certificate, and requires obtaining a separate approval amending this Certificate.

For the purpose of this Provisional Certificate of Approval and the terms and conditions specified below, the following definitions apply:

"Acoustic Assessment Report" means the report, prepared in accordance with *Publication NPC-233* by Paul Niejadlik / Golder Associates Ltd. and dated March 2011 submitted in support of the application, that documents all sources of noise emissions and Noise Control Measures present at the Facility;

"Acoustic Assessment Summary Table" means a table summarizing the results of the Acoustic Assessment Report;

"Acoustic Audit" means an investigative procedure consisting of measurements of all noise emissions due to the operation of the Facility, assessed in comparison to the Performance Limits for the Facility regarding noise emissions, completed in accordance with the procedures set in the Ministry's *Publication NPC-103* and reported in accordance with the Ministry's *Publication NPC-233*;

"Acoustic Audit Report" means a report presenting the results of an Acoustic Audit, prepared in accordance with the Ministry's *Publication NPC-233*;

"Acoustical Consultant" means a person currently active in the field of environmental acoustics and noise/vibration control, who is familiar with Ministry noise guidelines and procedures and has a combination of formal university education, training and experience necessary to assess noise emissions from a Facility;

"Air Standards Manager" means the Manager, Human Toxicology and Air Standards Section, Standards Development Branch, or any other person who represents and carries out the duties of the Manager, Human Toxicology and Air Standards Section, Standards Development Branch, as those duties relate to the conditions of this Certificate;

"APC Building" means the building at the Site where the APC Equipment and the reagent indoor storage tanks are located;

"APC Equipment" means all the air pollution control equipment at the Facility, including the SNCR System, the activated carbon injection system, the dry recirculation lime injection scrubber and the pulse jet type baghouse to control emissions from the combustion chamber of the Boilers, the dust collectors to control emissions from the Residue Building and the dust collectors to control emissions from the reagent storage silos;

"Boiler Building" means the building at the Site where the Boilers, turbine generator and the air cooled condenser(s) are located;

"Boilers" means the two (2) steam boilers firing the approved Waste described in this Certificate;

"Bulky Unprocessable Items" means the incoming Waste received at the Site that cannot be processed in the Equipment;

"CEM Systems" means the continuous monitoring and recording systems used to measure and record the temperature and the emissions from the Boilers as specified in the attached Schedule "F";

"Certificate" means this entire provisional Certificate of Approval, issued in accordance with Sections 39 and 9 of the *EPA* and Section 53 of the *OWRA*, and includes any schedules attached to it, the application and the supporting documentation listed in the attached Schedule "A";

"40 CFR 60" means title 40, part 60 under the Code of Federal Regulations (Air Programs, U.S. Environmental Protection Agency), revised as of July 1, 1990, published by the Office of the Federal Register, National Archives and Records, Administration in the United States of America;

"Complaint" means a complaint received either by the Owner or the District Manager that has been confirmed by staff of the Ministry and the cause of which is attributed to the Owner's activities at the Facility;

"Commencement Date of Operation" means the date when the approved Waste is first received at the Site;

"Compound of Concern" means a contaminant that, based on generally available information, may be emitted to the atmosphere in a quantity from any source at the Facility that is significant either in comparison to the relevant Ministry Point of Impingement Limit or if a Ministry Point of Impingement Limit is not available for the compound then, based on generally available toxicological information, the compound has the potential to cause an adverse effect as defined by the *EPA* at a Point of Impingement;

"Controlled Shutdown" means an immediate cut-off of all waste into the Boilers, while maintaining the operation of the combustion chamber and the APC Equipment within the Performance Requirements;

"Description Section" means the section on page one of the Certificate describing the Owner's operations and the Equipment located at the Facility and specifying the Facility Production Limit for the Facility;

"Dioxins and Furans" means polychlorinated dibenzo-dioxins and polychlorinated dibenzofurans;

"Director" means any person appointed in writing by the Minister of the Environment pursuant to section 5 of the *EPA* and pursuant to section 5 of the *OWRA* as a Director for the purposes of Part V of the *EPA*, section 9 of the *EPA* and section 53 of the *OWRA*;

"District Manager" means the District Manager of the York Durham District Office of the Ministry;

"Emergency Shutdown" means an immediate cut-off of all waste feed into the Boilers, followed by an accelerated extinction of all combustion in the Boilers, while maintaining the combustion temperature within the Performance Requirements, except when unreasonable;

"Emission Summary Table" means the table prepared in accordance with *O. Reg. 419/05* and the Procedure Document listing the appropriate Point of Impingement concentrations of each Compound of Concern from the Facility and providing comparison to the corresponding Ministry Point of Impingement Limit;

"EAA" means the Environmental Assessment Act, R.S.O. 1990, c. E.18, as amended;

"EA Approval" means the Notice of Approval to Proceed with the Undertaking signed by the Minister of the Environment on November 3, 2010, EA File No. 04-EA-02-08;

"EPA" means the Environmental Protection Act, R.S.O. 1990, c. E.19, as amended;

"Equipment" means equipment or processes associated with the thermal treatment of the approved Waste described in this Certificate and in the Supporting Documentation referred to herein and any other equipment or processes handling wastes and reagents;

"ESDM Report" means the Emission Summary and Dispersion Modelling Report prepared in accordance with the Procedure Document by Golder Associates and dated March 2011 submitted in support of the application, and includes any amendments to the ESDM Report listed in the attached Schedule "A" and all subsequent up-dated ESDM Reports as applicable;

"Facility" means the entire operation associated with thermal treatment of Waste located on the property where the Equipment is located;

"Facility Production Limit" means the production limit placed on the main product(s) or raw materials used by the Facility that represents the design capacity of the Facility and assists in the definition of the operations approved by the Director;

"Grizzly Building" means the building at the Site where the bottom ash is screened and where the oversized constituents of the bottom ash (grizzly overs) are temporarily stored prior to transport for subsequent storage in the Residue Building;

"Independent Acoustical Consultant" means an Acoustical Consultant who is not representing the Owner and was not involved in preparing the Acoustic Assessment Report or the design/implementation of Noise Control Measures for the Facility and/or Equipment. The Independent Acoustical Consultant shall not be retained by the Acoustical Consultant involved in the noise impact assessment or the design/implementation of Noise Control Measures for the Facility and/or Equipment;

"I-TEF" means International Toxic Equivalency Factor derived for each dioxin and furan congener by comparing its toxicity to the toxicity of 2,3,7,8 tetrachloro dibenzo-p-dioxin, as recommended by the North Atlantic Treaty Organization Committee on Challenges to Modern Society (NATO CCMS) in 1989 and adopted by Canada in 1990;

"I-TEQ" means International Toxic Equivalent of dioxins and furans calculated using the I-TEFs, as recommended by the NATO CCMS in 1989 and adopted by Canada in 1990;

"Manager" means the Manager, Technology Standards Section, Standards Development Branch, who has been appointed under Section 5 of the *EPA* for the purposes of Section 11(1)2 of the *O. Reg. 419/05*, or any other person who represents and carries out the duties of the Manager,

Technology Standards Section, Standards Development Branch, as those duties relate to the conditions of this Certificate;

"**Ministry**" means the ministry of the government of Ontario responsible for the *EPA* and the *OWRA* and includes all officials, employees or other persons acting on its behalf or the Ontario Ministry of the Environment;

"**Municipality**" means the Municipality of Clarington;

"**NMA**" means the *Nutrient Management Act*, 2002, S.O. 2002, c. 4, as amended;

"**Noise Control Measures**" means measures to reduce the noise emission from the Facility and/or Equipment including, but not limited to silencers, acoustic louvers, enclosures, absorptive treatment, plenums and barriers;

"**LDR**" means the Lands Disposal Restrictions referred to in sections 74 through 85 of the *O. Reg. 347*, which prohibit the disposal of hazardous wastes on land until they have been treated to meet the treatment standards under the *O. Reg. 347*;

"**Leachate Toxicity Criteria**" means the concentrations of any of the contaminants listed in Schedule 4 at a concentration equal to or in excess of the concentration specified for that contaminant in Schedule 4 using the Toxicity Characteristic Leaching Procedure, defined in the *O. Reg. 347*;

"**O. Reg. 419/05**" means the *Ontario Regulation 419/05*, Air Pollution – Local Air Quality enacted under the *EPA*, as amended;

"**O. Reg. 347**" means the *Ontario Regulation 347*, R.R.O 1990 (General –Waste Management) enacted under the *EPA*, as amended;

"**OWRA**" means the *Ontario Water Resources Act*, R.S.O. 1990, c. O.40, as amended;

"**Owner**" means any person that is responsible for the establishment and operation of the Site being approved by this Certificate, and it includes The Regional Municipality of Durham, The Regional Municipality of York, and Covanta Durham York Renewable Energy Limited Partnership (operator), their successors and assignees;

"**PA**" means the *Pesticides Act*, R.S.O. 1990, c.P. 11, as amended;

"**Performance Requirements**" means the performance requirements and emission limits specified in the section of this Certificate entitled "Performance Requirements";

"**Point of Impingement**" means any point outside the Facility in the natural environment and as defined by s.2 of the *O. Reg. 419/05*;

"**Point of Reception**" means the Point of Reception as defined by *Publication NPC-205* and/or *Publication NPC-232*, as applicable;

"**Pre-test Information**" means the information outlined in Section 1.1 of the Source Testing Code;

"Procedure Document" means the Ministry's document entitled "Procedure for Preparing an Emission Summary and Dispersion Modelling Report" dated July 2005, as amended;

"Professional Engineer" means a Professional Engineer as defined within the Professional Engineers Act, R.S.O. 1990, c. P.28, as amended;

"Provincial Officer" means any person designated in writing by the Minister as a provincial officer pursuant to Section 5 of the *OWRA* or Section 5 of the *EPA* or Section 17 of the *PA* or Section 4 of the *NMA* or Section 8 of the *SDWA*;

"Publication NPC-103" means the Ministry's Publication NPC-103 of the Model Municipal Noise Control By-Law, Final Report, dated August 1978, published by the Ministry, as amended;

"Publication NPC-205" means the Ministry's Publication NPC-205, entitled "Sound Level Limits for Stationary Sources in Class 1 & 2 Areas (Urban)", dated October, 1995, as amended;

"Publication NPC-207" means the Ministry's draft technical publication entitled "Impulse Vibration in Residential Buildings", dated November 1983, supplementing the Model Municipal Noise Control By-Law, Final Report, dated August 1978, published by the Ministry, as amended;

"Publication NPC-232" means the Ministry's Publication NPC-232, entitled "Sound Level Limits for Stationary Sources in Class 3 Areas (Rural)", dated October, 1995, as amended;

"Publication NPC-233" means the Ministry's Publication NPC-233, entitled "Information to be Submitted for Approval of Stationary Sources of Sound", dated October, 1995, as amended;

"Rejected Waste" means either municipal waste which cannot be processed at the Facility or waste which the Site is not approved to accept. Rejected Waste includes but is not limited to the Bulky Unprocessable Items and the Unacceptable Waste;

"Regional Director" means the Regional Director of the Central Region of the Ministry;

"Regions" means The Regional Municipality of Durham and The Regional Municipality of York;

"Report EPS 1/PG/7" means the Environment Canada Report EPS 1/PG/7, entitled "Protocols and Performance Specifications for Continuous Monitoring of Gaseous Emissions from Thermal Generation", dated September, 1993, as amended;

"Residual Waste" means waste resulting from the Waste processing activities at the Site. Residual Waste is limited to the recovered ferrous metals, the recovered non-ferrous metals, the bottom ash (consisting of the ash fines and the grizzly overs) and the fly ash (untreated and following conditioning);

"Residue Building" means the building at the Site where the bottom ash and the fly ash are processed, temporarily stored and loaded in transport vehicles for off-site disposal;

"**Schedules**" means the following schedules "A", "B", "C", "D", "F" and "G", attached to the Certificate and forming part of the Certificate;

"**SDWA**" means the *Safe Drinking Water Act*, 2002, S.O. 2002, c. 32, as amended;

"**Sensitive Receptor**" means any location where routine or normal activities occurring at reasonably expected times would experience adverse effect(s) from odour discharges from the Facility, including one or a combination of:

- (a) private residences or public facilities where people sleep (e.g.: single and multi-unit dwellings, nursing homes, hospitals, trailer parks, camping grounds, etc.);
- (b) institutional facilities (e.g.: schools, churches, community centres, day care centres, recreational centres, etc.);
- (c) outdoor public recreational areas (e.g.: trailer parks, play grounds, picnic areas, etc.); and
- (d) other outdoor public areas where there are continuous human activities (e.g.: commercial plazas and office buildings);

"**Site**" means the property where the Owner has located and operates the Facility and the Works and located at 72 Osbourne Road, 27, Concession Broken Front, Part 1 in the Municipality of Clarington, Regional Municipality of Durham;

"**Source Testing**" means monitoring, sampling and testing to measure emissions resulting from operating the Facility under conditions which yield the worst case emissions within the approved operating range of the Facility;

"**Source Testing Code**" means the Ministry's document entitled "Source Testing Code, Version 2, Report No. ARB-66-80", dated November 1980, as amended;

"**Stack**" means the stack that discharges emissions from the Boilers after those emissions have been controlled by the associated APC Equipment;

"**Substantial Completion**" has the same meaning as "substantial performance" in the *Construction Lien Act* R.S.O. 1990, c.C-30, as amended;

"**Supporting Documentation**" means the documents listed in the attached Schedule "A" of this Certificate which forms part of this Certificate;

"**Test Contaminants**" means the contaminants set out in the attached Schedule "D";

"**Tipping Building**" means the building at the Site where the incoming Waste is received, sorted and temporarily stored;

"**Total Power Failure**" means the loss of the external power supply and concurrent loss of all in-plant power generation;

"Trained Personnel" means one or more Site personnel trained in accordance with the requirements of Condition 9.;

"Waste" means municipal solid waste as defined in the *O. Reg. 347* and limited to the approved waste set out in Condition No. 2.(2);

"Waste Processing Rate" means the mass of Waste fed into one of the Boilers;

"Works" means the sewage works described in the Owner's application, this Certificate and in the Supporting Documentation referred to herein, to the extent approved by this Certificate;

"Unacceptable Waste" means the incoming Waste received at the Site that does not meet the incoming Waste quality criteria set out in this Certificate, is of hazardous nature and requires caution when handling; and

"Undiluted Gases" means the flue gas stream which contains oxygen, carbon monoxide, total hydrocarbons and all contaminants in the same concentrations as they exist in the flue gas stream emerging from an individual piece of equipment, such as the combustion chamber of one Boiler or one baghouse, and into which gas stream no ambient air and/or no other gas stream originating from another piece of equipment, except for dilution air introduced within the CEM Systems, has been introduced.

You are hereby notified that this approval is issued to you subject to the terms and conditions outlined below:

GENERAL PROVISIONS

1. GENERAL

Compliance

- (1) The Owner shall ensure compliance with all the conditions of this Certificate and shall ensure that any person authorized to carry out work on or operate any aspect of the Site, including the Works, is notified of this Certificate and the conditions herein and shall take all reasonable measures to ensure any such person complies with the same.
- (2) Any person authorized to carry out work on or operate any aspect of the Site shall comply with the conditions of this Certificate.

Build in Accordance

- (3) (a) Except as otherwise provided by this Certificate, the Site shall be designed, developed, built, operated, monitored, inspected and maintained in accordance with the following applications:
 - (i) Applications for a Certificate of Approval (Air) dated March 2, 2011, each signed by Cliff Curtis, Commissioner of Works, The Regional Municipality of Durham, by Erin Mahoney, Commissioner of

Environmental Services, The Regional Municipality of York and by Matthew R. Mulcahy, Senior Vice President, Business Development, Covanta Durham York Renewable Energy Limited Partnership, and the Supporting Documentation listed in the attached Schedule "A".

- (ii) Applications for a Provisional Certificate of Approval (Waste Disposal Site) dated March 2, 2011, each signed by Cliff Curtis, Commissioner of Works, The Regional Municipality of Durham, by Erin Mahoney, Commissioner of Environmental Services, The Regional Municipality of York and by Matthew R. Mulcahy, Senior Vice President, Business Development, Covanta Durham York Renewable Energy Limited Partnership, and the Supporting Documentation listed in the attached Schedule "A".
 - (iii) Applications for a Certificate of Approval of Municipal and Private Sewage Works dated March 2, 2011, each signed by Cliff Curtis, Commissioner of Works, The Regional Municipality of Durham, by Erin Mahoney, Commissioner of Environmental Services, The Regional Municipality of York and by Matthew R. Mulcahy, Senior Vice President, Business Development, Covanta Durham York Renewable Energy Limited Partnership, and the Supporting Documentation listed in the attached Schedule "A".
- (b) (i) Any design optimization or modification that is inconsistent with the conceptual design set out in the Supporting Documentation in Schedule "A" shall be clearly identified, along with an explanation of the reasons for the change and submitted to the Director for approval.
 - (ii) If a change to the conceptual design is submitted to the Director for approval, no construction of the Site shall commence prior to the Director approving, in writing, the final conceptual design of the Site.

As-built Drawings

- (4) (a) Within ninety (90) days of the completion of the initial successful Source Testing program, a set of as-built drawings showing the Facility and the Works and bearing the stamp of a Professional Engineer, shall be prepared and retained at the Site.
- (b) These drawings shall be kept up-to-date through revisions undertaken from time to time and a copy shall be retained at the location of the Site or at the operational office of the Owner for the operational life of the Site.
- (c) Notwithstanding provisions of Condition 1.(4)(b), an amendment to this Certificate shall be sought for changes to the as-built drawings, requiring approval.
- (d) The as-built drawings shall be made available to Ministry staff upon request.

Interpretation

- (5) Where there is a conflict between a provision of any document, including the application referred to in this Certificate and the conditions of this Certificate, the conditions in this Certificate shall take precedence.
- (6) Where there is a conflict between the applications and a provision in any documents listed in Schedule "A", the applications shall take precedence, unless it is clear that the purpose of the document was to amend the applications and that the Ministry approved the amendment.
- (7) Where there is a conflict between any two documents listed in Schedule "A", other than the applications, the document bearing the most recent date shall take precedence.
- (8) The requirements of this Certificate are severable. If any requirement of this Certificate, or the application of any requirement of this Certificate to any circumstance, is held invalid or unenforceable, the application of such requirement to other circumstances and the remainder of this Certificate shall not be affected thereby.

Other Legal Obligations

- (9) The issuance of, and compliance with the conditions of this Certificate does not:
 - (a) relieve any person of any obligation to comply with any provision of any applicable statute, regulation or other legal requirement; or
 - (b) limit in any way the authority of the Ministry to require certain steps be taken or to require the Owner to furnish any further information related to compliance with this Certificate.

Adverse Effects

- (10) The Site shall be constructed, operated and maintained in a manner which ensures the health and safety of all persons and prevents adverse effects on the natural environment or on any persons.
- (11) The Owner shall take steps to minimize and ameliorate any adverse effect on the natural environment or impairment of water quality resulting from the approved operations at the Site, including such accelerated or additional monitoring as may be necessary to determine the nature and extent of the effect or impairment.
- (12) Despite the Owner or any other person fulfilling any obligations imposed by this Certificate, the person remains responsible for any contravention of any other condition of this Certificate or any applicable statute, regulation, or other legal requirement resulting from any act or emission that caused the adverse effect to the natural environment or impairment of water quality.

- (13) If at any time odours, pests, litter, dust, noise or other such negative effects are generated at this Site and cause an adverse effect, the Owner shall take immediate appropriate remedial action that may be necessary to alleviate the adverse effect, including suspension of all waste management activities if necessary.

Change of Ownership

- (14) The Owner shall notify the Director in writing, and forward a copy of the notification to the District Manager, within thirty (30) days of the occurrence of any changes:
- (a) the ownership of the Site;
 - (b) the operator of the Site;
 - (c) the address of the Owner;
 - (d) the partners, where the Owner is or at any time becomes a partnership and a copy of the most recent declaration filed under the Business Names Act, R.S.O. 1990, c. B.17, as amended, shall be included in the notification;
 - (e) the name of the corporation where the Owner is or at any time becomes a corporation, other than a municipal corporation, and a copy of the most current information filed under the Corporations Information Act, R.S.O. 1990, c. C.39, as amended, shall be included in the notification.
- (15) No portion of this Site shall be transferred or encumbered prior to or after closing of the Site unless the Director is notified in advance. In the event of any change in ownership of the Site, other than change to a successor municipality, the Owner shall notify the successor of and provide the successor with a copy of this Certificate, and the Owner shall provide a copy of the notification to the District Manager and the Director.

Inspections by the Ministry

- (16) No person shall hinder or obstruct a Provincial Officer from carrying out any and all inspections authorized by the *OWRA*, the *EPA*, the *PA*, the *SDWA* or the *NMA* of any place to which this Certificate relates, and without limiting the foregoing:
- (a) to enter upon the premises where the approved processing is undertaken, or the location where the records required by the conditions of this Certificate are kept;
 - (b) to have access to, inspect, and copy any records required to be kept by the conditions of this Certificate;
 - (c) to inspect the Site, related equipment and appurtenances;
 - (d) to inspect the practices, procedures, or operations required by the conditions of this Certificate;
 - (e) to conduct interviews with staff, contractors, agents and assignees of the Owner; and
 - (f) to sample and monitor for the purposes of assessing compliance with the terms and conditions of this Certificate or the *EPA*, the *OWRA*, the *PA*, the *SDWA* or the *NMA*.

Information

- (17) Any information requested by the Ministry, concerning the operation of the Site and its operation under this Certificate, including but not limited to any records required to be kept by this Certificate, manuals, plans, records, data, procedures and supporting documentation shall be provided to the Ministry, in a timely manner, upon request.
- (18) The receipt of any information by the Ministry or the failure of the Ministry to prosecute any person or to require any person to take any action, under this Certificate or under any statute, regulation or other legal requirement, in relation to the information, shall not be construed as:
 - (a) an approval, waiver, or justification by the Ministry of any act or omission of any person that contravenes any term or condition of this Certificate or any statute, regulation or other legal requirement; or
 - (b) acceptance by the Ministry of the information's completeness or accuracy.
- (19) The Owner shall ensure that a copy of this Certificate, in its entirety and including all its Notices of Amendment and the Supporting Documentation listed in Schedule "A" are retained at the Site at all times.

2. **SERVICE AREA, APPROVED WASTE TYPES, RATES and STORAGE**

- (1) The service area for the Site is the area within the jurisdictional boundaries of The Regional Municipality of Durham and The Regional Municipality of York.
- (2) The operation of this Site is limited to:
 - (a) receipt, temporary storage, transfer and processing, including thermal treatment, of solid non-hazardous waste remaining after Waste Diversion required by the EA Approval, limited to Waste from the following sources:
 - (i) domestic waste and Industrial Commercial and Institutional waste from the Regions' curbside collection and/or from the Regions' waste management facilities; and
 - (ii) waste generated on-Site through activities not relating to the handling and processing of Waste (ie. office, lunch room, etc.);
 - (b) collection and management of the stormwater run-off generated at the Site.
- (3) The following Unacceptable Waste is prohibited from being accepted at the Site:
 - (a) hazardous waste, as defined in the *O. Reg. 347*;
 - (b) wastes which have been source-separated for the purposes of diversion;

- (c) international waste generated outside of Canada, but collected within the jurisdictional boundaries of The Regional Municipality of Durham and The Regional Municipality of York.
- (4) Waste Receipt Rate:
 - (a) The maximum daily amount of Waste that is approved to be accepted at the Site shall not exceed 1,520 tonnes per day.
- (5) Storage Restrictions:

Solids:

 - (a) A maximum of 7,350 cubic metres shall be stored inside the Waste pit within the Tipping Building as shown in the Supporting Documentation.
 - (b) Rejected Waste, limited to the Bulky Unprocessable Items removed from the incoming Waste in the Tipping Building shall be stored:
 - (i) in two (2) roll-off bins having a maximum total storage capacity of 30 cubic metres, located within the confines of the Tipping Building; and/or
 - (ii) in the appropriate dedicated bunkers, located within the confines of the Residue Building and described in Conditions 2.(5)(c), 2.(5)(d) and 2.(5)(d), below.
 - (c) A maximum of approximately 77 tonnes or 106 cubic metres of the Residual Waste, limited to the recovered ferrous metals, shall be stored in one (1) dedicated bunker, located within the confines of the Residue Building, described in the Supporting Documentation. The storage duration is limited to a maximum of seven (7) days.
 - (d) A maximum of approximately 120 tonnes or 100 cubic metres of the Residual Waste, limited to the recovered non-ferrous metals, shall be stored in one (1) dedicated bunker, located within the confines of the Residue Building, described in the Supporting Documentation. The storage duration is limited to a maximum of seven (7) days.
 - (e) A maximum of 630 tonnes of the Residual Waste, limited to bottom ash shall be stored in two (2) dedicated bunkers, located within the confines of the Residue Building, described in the Supporting Documentation. The storage duration is limited to a maximum of seven (7) days.
 - (f) A maximum of 700 tonnes of the Residual Waste, limited to the fly ash shall be stored in seven (7) dedicated bunkers, located within the confines of the Residue Building, described in the Supporting Documentation. The storage duration is limited to a maximum of thirty six (36) days.

- (g) A maximum of 85 cubic metres of activated carbon for the carbon injection system shall be stored in one (1) outdoor tank, located adjacent to the APC Building.
- (h) A maximum of 150 cubic metres of lime for the dry scrubber shall be stored in one (1) or more indoor tank(s), located within the confines of the APC Building.
- (i) If required, recirculated residue shall be stored in one (1) or more indoor tank(s), located within the confines of the APC Building.
- (j) A maximum of 35 tonnes or 25 cubic metres of cement for fly ash conditioning shall be stored in one (1) outdoor silo, located adjacent to the Residue Building.
- (k) A maximum of 25 tonnes or 45 cubic metres of pozzolan for fly ash conditioning shall be stored in one (1) outdoor silo, located adjacent to the Residue Building.

Liquids:

- (l) (i) A maximum of 36 cubic metres or 40 tonnes of aqueous ammonia for the SNCR System shall be stored in one (1) outdoor tank, located adjacent to the APC Building.
- (ii) The Owner shall ensure that the aqueous ammonia storage tank is equipped with a liquid level monitoring device designed to provide a visual and an auditory alarm when the high level setpoint is reached.
- (iii) The aqueous ammonia storage tank spill containment area and the loading area shall be designed in accordance with the requirements in the Ministry's document entitled *"Guidelines for Environmental Protection Measures at Chemical and Waste Storage Facilities"* dated May 2007, as amended.
- (6) No outdoor storage of waste, including storage in vehicles, is approved under this Certificate.
- (7) The Owner shall ensure that storage of all wastes is undertaken in a manner that does not cause an adverse effect or a hazard to the environment or any person.
- (8) (a) Waste received at the Site shall be processed within four (4) days from its receipt at the Site.
- (b) Emergency Waste storage duration extension:
 - (i) The Owner may store the incoming Waste inside the tipping pit within the confines of the Tipping Building for up-to seven (7) days from its receipt at the Site, on an emergency basis only.

- (ii) Within twenty four (24) hours from the start of the emergency storage of the incoming Waste, the Owner shall notify, in writing, the District Manager that the incoming Waste is being stored longer than four (4) days.
 - (iii) Should there be public complaints about the extended incoming Waste storage, the Owner, in consultation with the District Manager, shall determine the cause of the complaints, propose appropriate abatement measures, including but not be limited to the removal and off-site disposal of the Waste contained in the tipping pit, and implement the said measures upon receiving written concurrence from the District Manager within the time frame acceptable to the District Manager.
- (9) In the event that Waste cannot be processed at the Site and the Site is at its approved storage capacity, the Owner shall cease accepting additional Waste. Receipt of additional Waste may be resumed once such receipt complies with the waste storage limitations approved in this Certificate.

3. **SIGNS and SITE SECURITY**

- (1) Prior to receipt of Waste at the Site, the Owner shall ensure that a sign is posted at the entrance to the Site. The sign shall be visible from the main road leading to the Site. The following information shall be included on the sign:
- (a) name of the Owner;
 - (b) this Certificate number;
 - (c) hours during which the Site is open;
 - (d) waste types that are approved to be accepted at the Site;
 - (e) Owner's telephone number to which complaints may be directed;
 - (f) Owner's twenty-four hour emergency telephone number (if different from above);
 - (g) a warning against unauthorized access; and
 - (h) a warning against dumping at the Site.
- (2) The Owner shall ensure that appropriate and visible signs are posted at the Site clearly identifying the wastes and the process reagents and stating warnings about the nature and any possible hazards of the wastes and the reagents.
- (3) The Owner shall ensure that appropriate and visible signs are posted at the Site to prohibit smoking, open flames or sources of ignition from being allowed near any flammable materials storage areas.
- (4) The Owner shall install and maintain appropriate and visible signs at the Site to direct vehicles to the Waste receiving and Residual Waste removal areas and to the reagent unloading areas.
- (5) The Owner shall post appropriate and visible signs along the traffic route providing clear directions to the Site.

- (6) The Owner shall ensure that the Site is fenced in and that all entrances are secured by lockable gates to restrict access only to authorized personnel when the Site is not open.
- (7) The Owner shall ensure that access to the Site, with the exception of the area designated as a Public Information Centre, is regulated and that no unauthorized persons are permitted at the Site without the Trained Personnel escort.
- (8) The Owner shall ensure that the Site is operated in a safe and secure manner, and that Waste, the Residual Waste and the Unacceptable Waste are properly handled, packaged or contained and stored so as not to pose any threat to the general public and the Site personnel.

4. **SITE OPERATIONS**

(1) **Operating hours:**

- (a) The Site is approved to operate twenty-four (24) hours per day three hundred and sixty-five (365) days per year.
- (b) Notwithstanding Condition 4.(1)(a), Waste shall only be received at the Site and the Residual Waste shall only be transferred from the Site between 7:00 a.m. and 7:00 p.m. Monday to Saturday. No receipt of the Waste or transfer of the Residual Waste shall be undertaken on statutory holidays.
- (c) Emergency Receipt of Waste:
 - (i) The Owner may receive Waste at the Site outside of the operating hours specified in Condition 4.(1)(b), above, on an emergency basis only.
 - (ii) Within twenty four (24) hours from the receipt of Waste outside of the approved receiving hours, the Owner shall notify, in writing, the District Manager that Waste was received outside of the approved receiving hours.
 - (iii) Should there be complaints about Waste shipments outside of the approved hours, the Owner, in consultation with the District Manager, shall determine the cause of the complaint, propose appropriate abatement measures and implement the said measures upon receiving written concurrence from the District Manager within the time frame acceptable to the District Manager.

(2) **Incoming Waste receipt:**

- (a) At the weigh scale, the Trained Personnel shall:
 - (i) inspect the required documentation prior to acceptance of the incoming Waste at the Site; and

- (ii) inspect the incoming Waste with radiation detection equipment.
 - (b) In the Tipping Building, the Trained Personnel shall:
 - (i) visually inspect all incoming Waste being unloaded into the Waste pit; and
 - (ii) once per hour, or as accepted by the District Manager, unload the incoming Waste on the tipping floor for a manual visual inspection and sorting of the incoming Waste.
 - (c) The Owner shall only accept the incoming Waste that is delivered in vehicles that have been approved by the Ministry.
 - (d) The Owner shall ensure that all unloading of incoming Waste at the Site takes place entirely within the confines of the Tipping Building.
- (3) **Unacceptable Waste handling:**
- (a) In the event that waste that is not approved under this Certificate is inadvertently accepted at the Site, the Owner shall ensure that the Unacceptable Waste:
 - (i) is stored in a way that ensures that no adverse effects result from its storage;
 - (ii) is segregated from all other waste;
 - (iii) is handled and removed from the Site in accordance with the *O. Reg. 347* and the *EPA*; and
 - (iv) is removed from the Site within (4) days of its receipt or as acceptable to the District Manager.
 - (b) The Owner shall ensure that all loading of the Unacceptable Waste into transport vehicles is carried out entirely within the confines of the Tipping Building.
- (4) **Waste Sorting:**
- (a) The Trained Personnel shall remove the Bulky Unprocessable Items and Unacceptable Waste from the incoming Waste prior to charging of the Waste to the Boilers.
 - (b) All sorting of the incoming Waste at the Site shall be undertaken indoors, within the confines of the Tipping Building and/or the Refuse Building.
- (5) **Residual Waste Handling and Disposal:**
- (a)
 - (i) Except for transportation of the Residual Waste between the Grizzly Building and the Residue Building, the Owner shall ensure that all

handling of the bottom ash and its segregated constituents, and of the fly ash, is undertaken within the confines of enclosed conveyors and enclosed buildings.

- (ii) The Owner shall ensure that all loading of the Residual Waste into vehicles for its transport from the Site is carried out entirely within the confines of the Residue Building.
 - (b)
 - (i) Different constituents of the Residual Waste shall not be comingled prior to the required compliance testing, unless all Residual Waste is to be disposed of at a Waste Disposal Site that is approved to accept hazardous waste.
 - (ii) The Owner shall ensure that the equipment used in handling of the hazardous wastes or that came in direct contact with the hazardous wastes is not used to handle other wastes.
 - (iii) On an emergency basis, the Owner may use equipment used to handle the hazardous wastes to handle other wastes provided that prior to such use the equipment has been thoroughly cleaned first.
 - (c)
 - (i) Only haulers approved by the Ministry shall be used to transport the Residual Waste from the Site.
 - (ii) The Residual Waste shall be transported from the Site in appropriately covered vehicles that will not allow fugitive dust emissions to be emitted into the natural environment during the said transport.
 - d) Residual Waste generated at the Site shall be disposed of shall only be disposed of at an approved waste disposal site in accordance with the requirements in the *EPA* and the *O. Reg. 347* or at a location with the appropriate jurisdictional approval or a license, if required.
 - (e) Should the Residual Waste limited to the conditioned fly ash and/or the bottom ash be deemed a hazardous waste, the ash shall be disposed of at an approved waste disposal site in accordance with the Land Disposal Restrictions requirements in the *EPA* and the *O. Reg. 347* or at a location with the appropriate jurisdictional approval or a license, if required.
- (6) **Wastewater Management**
- (a) The Owner shall ensure that all wastewater generated at the Site is contained within enclosed buildings, tanks, pipes and conveyors at the Site and the approved outdoor Wastewater Settling Basin.
 - (b) The Owner shall ensure that all wastewater generated at the Site is collected in leak-proof and sufficiently designed wastewater storage facilities:

- (i) Wastewater Holding Tank, to collect the continuous reject water flow from the Boiler make-up water treatment system and the Boiler blowdown, having an approximate holding capacity of 100 cubic metres, located within the confines of the Boiler Building and venting to the atmosphere; and
 - (ii) Wastewater Settling Basin, to collect the wastewater from the floor drains in the buildings at the Site, except for the Tipping Building and the Residue Building, the ash discharger overflow and drain water, the Boiler and turbine-generator washdown water and the APC Equipment area washdown water, having an approximate holding capacity of 38 cubic metres, located outdoors, open to the atmosphere and equipped with a filter basket and an oil skimmer board.
- (c) The wastewater pumps shall be located in the area designed in accordance with the Supporting Documentation to ensure that any potential leaks or drips are contained and directed to the Wastewater Settling Basin.
- (d) (i) The wastewater level in the Wastewater Holding Tank shall be monitored and controlled to ensure that the wastewater inflow to the Tank does not cause the Tank overflow.
- (ii) The wastewater level in the Wastewater Settling Basin shall be monitored and controlled to ensure that the atmospheric precipitation does not cause an overflow from the Basin.
- (e) The Owner shall regularly empty, and clean as necessary, all sumps, wastewater storage/holding areas and equipment that are used to contain, collect and handling the wastewater generated at the Site.
- (f) Should the Owner find it necessary to remove the wastewater from the Site, the wastewater shall only be disposed of at a Ministry-approved site in accordance with the site's certificate of approval or be discharged to the sanitary sewer in accordance with the agreement with the municipality accepting the discharge.
- (g) The floors of the Tipping Building and the Residue Building shall be sufficiently sloped to facilitate the flow of the wastewater generated from the floor cleaning activities and from the truck washdown towards the designated wastewater collection area.
- (h) The Owner shall ensure that the Wastewater Settling Basin is regularly cleaned out and that it does not become a source of odour emissions.
- (7) All activities approved under this Certificate shall only be carried out by appropriately Trained Personnel.

5. EQUIPMENT and SITE INSPECTIONS and MAINTENANCE

Operation and Maintenance

- (1) Prior to the receipt of the Waste at the Site, the Owner shall prepare and update as necessary, an Operation and Maintenance Manual for all the Equipment, the APC Equipment, the CEM Systems, the Works and any other equipment associated with managing of the Waste and with the control of environmental impacts from the Facility. The Manual shall be prepared in accordance with the written manufacturer's and/or supplier's specifications and good engineering practice.

As a minimum, the Operation and Maintenance Manual shall specify:

- (a) operation procedures of the Equipment, the APC Equipment, the CEM Systems, the Works, and any other equipment associated with managing of the Waste and with the control of environmental impacts from the Facility, in accordance with manufacturers' recommendations and good engineering practices to achieve compliance with this Certificate, the *EPA*, the *OWRA* and their Regulations;
 - (b) calibration procedures for the CEM Systems as required by this Certificate;
 - (c) procedures for start-up and shutdown, including Controlled Shutdown and Emergency Shutdown;
 - (d) quality assurance procedures for the operation and calibration of the CEM Systems in accordance with *40 CFR 60*, Appendix F or *Report EPS 1/PG/7*, as appropriate;
 - (e) Waste receiving and screening procedures;
 - (f) Waste, Rejected Waste and Residual Waste handling procedures;
 - (g) testing and monitoring procedures as required by this Certificate;
 - (h) maintenance and preventative maintenance procedures as required by this Certificate;
 - (i) Facility inspection, including frequency of inspections, procedures;
 - (j) procedure for handling complaints as required by this Certificate.
 - (k) contingency measures to resolve upset conditions and/or minimize the environmental impacts from the Facility;
 - (l) emergency response procedures, including procedures for dealing with power failure, fire, explosion, spills and any other potential emergencies;
 - (m) procedures for record keeping activities as required by this Certificate;
 - (n) description of the responsibilities of the Site personnel and the personnel training protocols; and
 - (o) a list of personnel positions responsible for operation and maintenance, including supervisory personnel and personnel responsible for handling of the emergency situations, recording and reporting pursuant to the requirements of this Certificate, along with the training and experience required for the positions and a description of the responsibilities.
- (2) A copy of this Operations and Maintenance Manual shall be kept at the Site, be accessible to the Site personnel at all times and be updated, as required. The Operations and Maintenance Manual shall be available for inspection by a Provincial Officer upon request.

- (3) The Owner shall implement the operation, maintenance, preventative maintenance and calibration procedures set out in the Operations and Maintenance Manual required by this Certificate.

Critical Spare Parts

- (4) (a) The Owner shall prepare a list of critical spare parts, update this list annually or more frequently, if necessary, to ensure that this list is maintained up-to-date and shall be available for inspection by a Provincial Officer upon request.
- (b) The Owner shall ensure that the critical spare parts are available at the Site at all times or are immediately available from an off-Site supplier.

Inspections

- (5) Prior to receipt of the Waste at the Site, the Owner shall prepare a comprehensive written inspection program which includes inspections of all aspects of the Site's operations including, but not limited to the following:
- (a) buildings and the indoor waste storage facilities and presence of dust and odour and leaks in or near any openings, such as doorways, window, vent, louver or any other opening;
 - (b) outdoor Residual Waste transport equipment, and the presence of dust and leaks at or near transfer points or the equipment seams;
 - (c) the Equipment, the APC Equipment, the CEM Systems, the Works and any other equipment associated with managing of the Waste and with the control of environmental impacts from the Facility;
 - (d) spill containment areas, loading areas and the conditions around the Wastewater Settling Basin;
 - (e) security fencing, gates, barriers and signs;
 - (f) off-site nuisance impacts such as odour, dust, litter, etc.
 - (g) presence of stormwater pooling at the Site; and
 - (h) condition of the on-Site roads for presence of leaks and drips from the waste delivery trucks or excessive dust emissions.
- (6) The inspections, except for the inspection of the Works, are to be undertaken daily by the Trained Personnel in accordance with the inspection program to ensure that the Facility is maintained in good working order at all times and that no off-Site impacts are occurring. Any deficiencies detected during these regular inspections must be promptly corrected.

Inspections and Maintenance of the Works

- (7) The Owner shall inspect the Works at least once a year and, if necessary, clean and maintain the Works to prevent the excessive build-up of sediments and/or vegetation.

6. PERFORMANCE REQUIREMENTS

- (1) The Owner shall, ensure that the Facility/Equipment is designed and operated in such a manner as to ensure that the following Performance Requirements are met:
 - (a) the maximum 10-minute average concentration of odour at the most impacted Sensitive Receptor, resulting from the operation of the Facility/Equipment, calculated in accordance with the procedures outlined in the attached Schedule "B", shall not exceed 1 odour unit;
 - (b) the noise emissions from the Facility shall comply with the limits set out in *Ministry Publication NPC-205*;
 - (c) the vibration emissions from the Facility shall comply with the limits set out in *Ministry Publication NPC-207*.
- (2) The Owner shall ensure that the Boilers and the associated APC Equipment and the CEM Systems are designed and operated in such a manner as to ensure that the following Performance Requirements are met:
 - (a)
 - (i) The temperature in the combustion zone of each Boiler shall reach a minimum of 1000 degrees Celsius ($^{\circ}\text{C}$) for one second, prior to introduction of the Waste into the combustion chamber of the Boiler during the start-up, and thereafter maintained during the entire thermal treatment cycle and subsequent shutdown until all Waste combustion is completed.
 - (ii) Compliance with the minimum temperature requirement shall be demonstrated by direct measurement at the location where the combustion gases have achieved the residence time of one second at a minimum temperature of 1000°C (the Target Location) or by correlation of the required temperature of 1000°C for one second to the temperature measured downstream of the Target Location as proven by a method acceptable to the Director.
 - (b) The concentration of residual oxygen in the Undiluted Gases leaving the combustion zone via the economizer outlet of each Boiler, as measured and recorded by the CEM System, shall not be less than 6 percent by volume on a dry basis.
 - (c)
 - (i) The operational target for the concentration of carbon monoxide in the Undiluted Gases leaving the combustion zone via the economizer outlet of each Boiler is 40 milligrams per dry cubic metre, as a 4-hour rolling average, normalized to 11 percent oxygen at a reference temperature of 25°C and a reference pressure of 101.3 kilopascals, as measured and recorded by the CEM System, for the period from and including initial commissioning of the facility to twelve months following the completion of the first Source Testing program.

- (ii) The 4-hour average concentration of carbon monoxide in the Undiluted Gases leaving the combustion zone via the economizer outlet of each Boiler, as measured and recorded by the CEM System, shall not be more than 40 milligrams per dry cubic metre, normalized to 11 percent oxygen at a reference temperature of 25°C and a reference pressure of 101.3 kilopascals, after the first twelve months following the completion of the first Source Testing program.
- (d) The emissions from the Boilers after those emissions have been controlled by the associated APC Equipment for discharge into the atmosphere via the Stack shall comply with the emission concentration limits listed in the attached Schedule "C", as measured by a CEM System or by Source Testing as applicable.
- (e) The Boilers shall include combustion air control systems, which are capable of automatically adjusting the distribution and the quantity of combustion air, in such a manner that changes in the Waste Processing Rate and/or Waste composition or irregularities in the loading and/or combustion shall not adversely affect the performance of the Boilers.
- (f) The Boilers shall provide and maintain a high degree of gas turbulence and mixing in the combustion chamber.
- (g) The Boilers shall achieve the temperature, oxygen availability and turbulence requirements over the complete range of operating parameters, including feed rate, feed characteristics, combustion air, flue gas flow rate and heat losses.
- (h) The inlet temperature into each baghouse of the APC Equipment of the Boilers shall not be less than 120°C and not more than 185°C.
- (3) The Owner shall install and maintain visual and audible alarm systems to alert the Facility/Equipment operators of any potential deviation from the above Performance Requirements for parameters that are continuously monitored by applicable CEM Systems and shall forthwith take all reasonable actions to bring the Equipment/Facility into compliance with all Performance Conditions.
- (4) In the event that the CEM Systems indicate that emissions from the Boilers and the Stack exceed any Performance Requirements in the attached Schedule "C" for a continuous three (3) hour period, the Owner shall forthwith cut-off all Waste feed into the affected Boiler and initiate an Emergency Shutdown, while maintaining a temperature of 1000°C, as practicable, in the combustion zone of the Boiler.

Residual Waste Compliance Criteria

- (5) (a) The Residual Waste generated at the Site and destined for a non-hazardous waste disposal site in Ontario shall not meet any of the criteria from the definition of "hazardous waste" set out in the *O. Reg. 347*.

- (b) The Residual Waste that meets any of the criteria from the definition of "hazardous waste" set out in the *O. Reg. 347* shall be handled and disposed of in accordance with the LDR requirements set out in the *EPA* and the *O. Reg. 347*.
- (6) The Residual Waste, limited to the bottom ash, destined for a non-hazardous waste disposal site shall meet the definition of "incinerator ash" set out in the *O. Reg. 347*.

7. TESTING, MONITORING and AUDITING

Source Testing

- (1) The Owner shall perform annual Source Testing in accordance with the procedures and schedule outlined in the attached Schedule "E", to determine the rate of emission of the Test Contaminants from the Stack. The first Source Testing program shall be conducted not later than six (6) months after the Commencement Date of Operation of the Facility/Equipment and subsequent Source Testing program shall be conducted once (1) every calendar year thereafter.

Continuous Monitoring

- (2) The Owner shall select, test and install appropriate CEM Systems and continuous recording devices in accordance with the requirements outlined in the attached Schedule "F" to conduct and maintain a program to continuously monitor, as a minimum, the following parameters prior to commencement of operation of the Boilers:
 - (a) the temperature at one (1) second downstream of the combustion zone of each Boiler where most of the combustion has been completed and the combustion temperature is fully developed;
 - (b) the inlet temperature of the gases into each baghouse of the APC Equipment of each Boiler;
 - (c) the concentration of carbon monoxide, oxygen and organic matter (as methane) in the Undiluted Gases leaving the combustion zone via the economizer outlet of each Boiler;
 - (d) the opacity and moisture content of the flue gas and the concentration of oxygen, nitrogen oxides, sulphur dioxide, hydrogen chloride, hydrogen fluoride and ammonia in the Undiluted Gases leaving the baghouse of the APC Equipment of each Boiler.

Long-Term Sampling for Dioxins and Furans

- (3) (a) The Owner shall develop, install, maintain and update as necessary a long-term sampling system, with a minimum monthly sampling frequency, to measure the concentration of Dioxins and Furans in the Undiluted Gases leaving the APC Equipment associated with each Boiler. The performance of

this sampling system will be evaluated during the annual Source Testing programs in accordance with the principles outlined by 40 CFR 60, Appendix B, Specification 4.

- (b) The Owner shall evaluate the performance of the long-term sampling system in determining Dioxins and Furans emission trends and/or fluctuations as well as demonstrating the ongoing performance of the APC Equipment associated with the Boilers.

Ambient Air Monitoring

- (4) (a) The Regions shall develop and implement the Ambient Air Monitoring and Reporting Plan, in accordance with the requirements set out in the EA Approval and as determined to be acceptable by the Regional Director.
- (b) The Regions shall report the results of the Ambient Air Monitoring program to the Regional Director in accordance with the Ambient Air Monitoring and Reporting Plan and in accordance with the requirements of Condition 14.
- (c) The Regions shall post the Ambient Air Monitoring and Reporting Plan and the results of the Ambient Air Monitoring program on the Owner's web site for the Facility in accordance with the requirements of the EA Approval and Condition 15.

Noise Monitoring - Acoustic Audit

- (5) The Owner:
 - (a) shall carry out Acoustic Audit measurements on the actual noise emissions due to the operation of the Facility. The Acoustic Audit measurements shall be carried out in accordance with the procedures in *Publication NPC-103* and in accordance to the Noise Monitoring and Reporting Plan prepared in accordance with the requirements set out in the EA Approval and as approved by the Director;
 - (b) shall submit an Acoustic Audit Report on the results of the Acoustic Audit, prepared by an Independent Acoustical Consultant, in accordance with the requirements of *Publication NPC-233* and the Noise Monitoring and Reporting Plan prepared in accordance with the requirements set out in the EA Approval and as approved by the Director, to the District Manager and the Director, not later than three (3) months after the commencement of operation of the Facility.
- (6) The Director:
 - (a) may not accept the results of the Acoustic Audit if the requirements of *Publication NPC-233* or the approved Noise Monitoring and Reporting Plan were not followed;

- (b) may require the Owner to repeat the Acoustic Audit if the results of the Acoustic Audit are found unacceptable to the Director.

Residual Waste Testing

- (7)
 - (a) A minimum of six (6) months prior to the Commencement Date of Operation, the Owner shall submit to the Director for approval, a Testing Protocol for testing of the bottom ash for compliance with the criteria set out in the "incinerator ash" definition from the *O. Reg. 347* and for testing of the Residual Waste for compliance with the criteria set out in this Certificate.
 - (b) As a minimum, the Testing Protocol shall comply with the Ministry's regulatory requirements for sampling and testing of waste, including the requirements set out in the Ministry's document entitled "Principles of Sampling and Analysis of Waste for TCLP under Ontario Regulation 347", dated February 2002, as amended.
 - (c) The Testing Protocol shall include the rationale for the proposed methods and the following:
 - (i) a sampling protocol, including the proposed number of samples to be taken and their locations, to ensure that representative sample(s) are being tested for compliance with this Certificate;
 - (ii) sample(s) handling and preserving procedures;
 - (iii) analytical protocol for the applicable contaminants to ensure that appropriate analytical method(s) are being used for compliance testing required by this Certificate; and
 - (iv) a testing protocol for the bottom ash during the Site commissioning period.
 - (d) The Owner shall implement the Testing Protocol on the Commencement Date of Operation.
- (8) For handling of the bottom ash as a solid non-hazardous waste, the Owner shall follow the following schedule for compliance testing:
 - (a) for the Site commissioning period, the bottom ash shall be tested in accordance with the Testing Protocol approved by the Director;
 - (b) for the period following the Site commissioning period, the bottom ash shall be tested for the content of the combustible materials on an annual basis, until the compliance testing results indicate that the bottom ash meets the "incinerator ash" definition from the *O. Reg. 347* for three (3) consecutive years, following which a triennial compliance testing event may be carried out;

- (c) should any annual or triennial compliance testing event indicate that the bottom ash does not meet the "incinerator ash" definition, prior to each of the next three (3) shipments from the Site, compliance testing of each of the three (3) shipments shall be carried out. Once three (3) consecutive tests re-establish compliance with the "incinerator ash" definition from the *O. Reg. 347* and that the bottom ash does not exceed the Leachate Toxicity Criteria, the compliance testing schedule set out in Condition 7.(8)(b) may be resumed; and
 - (d) should the results of any compliance testing of the bottom ash indicate that the concentrations of the leachate toxic contaminants in the bottom ash equal to or exceed the Leachate Toxicity Criteria, the bottom ash shall be handled as a hazardous waste. Once three (3) consecutive tests re-establish that the bottom ash does not exceed the Leachate Toxicity Criteria, the bottom ash compliance testing schedule set out in Condition 7.(8)(b) may be resumed.
- (9) (a) For handling of the bottom ash as a hazardous waste and for handling of the fly ash, prior to final disposal at a hazardous waste landfill site in Ontario, the Owner shall undertake any sampling and testing that would be required to comply with the LDR requirements set out in the *EPA* and the *O. Reg. 347*.
- (b) The Owner shall follow the following schedule for compliance testing:
- (i) prior to each of the first three (3) shipments of the ash from the Site, the ash shall be tested so that for the compliance with the LDR requirements can be demonstrated;
 - (ii) following the three (3) initial compliance testing events, the ash shall be tested on an annual basis, until the compliance testing results indicate that the ash meets the LDR requirements during the three (3) consecutive years, following which a triennial compliance testing may be carried out; and
 - (iii) should any annual or triennial compliance testing event indicate that the ash does not meet the LDR requirements, prior to next three (3) shipments from the Site, compliance testing of each of the three (3) shipments shall be carried out. Once three (3) consecutive tests re-establish compliance with the LDR requirements, the compliance testing schedule set out in Condition 7.(9)(b)(ii) may be resumed.

Soil Testing:

- (10) (a) Within one hundred and twenty (120) days from the date of this Certificate, the Regions shall undertake the soil testing in accordance with the Soil Testing Plan required by this Certificate.
- (b) The soil testing shall be repeated every three (3) years or as agreed upon in writing by the Regional Director.

Disposal of Residual Waste

- (11) The Owners shall ensure that no portion of the Residual Waste undergoing compliance testing is transferred from the Site until the results of the compliance testing required by this Certificate demonstrate compliance with the relevant Ministry's requirements.
- (12) Bottom ash that is not a hazardous waste, as defined in the *O. Reg. 347*, may be disposed of at an approved non-hazardous waste landfill site or at a site approved to accept such waste by an appropriate government agency of equivalent jurisdiction.
- (13) Residual Waste shall be treated to comply with the LDR requirements set out in the *EPA* and the *O. Reg. 347* prior to disposal of at an approved hazardous waste landfill site or at a site approved to accept such waste by an appropriate government agency of equivalent jurisdiction.

Groundwater and Surface Water Monitoring

- (14) (a) The Regions shall develop and implement the Groundwater and Surface Water Monitoring Plan, in accordance with the requirements set out in the EA Approval and as determined to be acceptable to the Regional Director.
- (b) The Regions shall report the results of the Groundwater and Surface Water Monitoring program to the Regional Director and to the Director in accordance with the schedule set out in the EA Approval and in accordance with the requirements of Condition 14.
- (c) The Regions shall post the Groundwater and Surface Water Monitoring Plan and the results of the Groundwater and Surface Water Monitoring program on the Owner's web site for the Facility in accordance with the requirements of the EA Approval and Condition 15.

8. NUISANCE IMPACT CONTROL and HOUSEKEEPING

Odour Management

- (1) (a) The Owner shall maintain a negative air pressure atmosphere in the Tipping Building at all times to contain any potential odours within the confines of the Tipping Building.
- (b) (i) Once per year, or as required by the District Manager, the Owner shall undertake a test to measure the worse case scenario negative air pressure atmosphere throughout the Tipping Building, while the activities approved in this Certificate are carried out in the Tipping Building.
- (ii) Notwithstanding the requirements set out in Condition 8.(1)(b)(i), the Owner shall install sufficient instrumentation to measure the air flow into the Boilers and demonstrate that adequate air flow is maintained

to maintain a negative air pressure atmosphere throughout the Tipping Building.

- (c) In the event that adequate negative air pressure cannot be maintained, the Owner shall implement any necessary additional odour containment and control measures, including, but not necessarily limited to, those in the required Contingency and Emergency Response Plan.
- (2) The Owner shall ensure that the entrance and exit doors into the Tipping Building, the Residue Building and the Grizzly Building are kept closed at all times except to permit the entry or exit of the respective waste transport vehicles and waste handling equipment into and out of these Buildings.
- (3) The Owner shall ensure that, at all times, the air from the Tipping Building, the Residue Building, the Grizzly Building and from the Equipment is exhausted through an appropriate and fully functional APC Equipment approved by this Certificate.
- (4) The Owner shall undertake appropriate housekeeping activities, including regular cleaning of the tipping floor to control potential sources of fugitive odour emissions.
- (5) The Owner shall ensure that no Waste handling equipment or empty storage containers are stored outside, unless they have been washed to prevent fugitive odour emissions.
- (6) The Owner shall regularly clean all equipment and storage areas that are used to handle, process and store waste at the Site, including the surfaces of the outdoor spill containment areas, as required.
- (7)
 - (i) Prior to the receipt of Waste at the Site, the Owner shall provide documentation which outlines the testing carried out by a licensed structural engineer to confirm the effectiveness of the containment in the buildings, conveyors and tanks and silos at the Site.
 - (ii) The testing shall be carried out and repeated as directed by the District Manager in accordance with the test protocol prepared in consultation with and approved by the District Manager.
 - (iii) These tests shall be repeated as directed or agreed by the District Manager.
- (8) The Owner shall prepare and implement an Odour Management and Mitigation Plan in accordance with the requirements set out in the EA Approval and as determined to be acceptable to the Regional Director.
- (9)
 - (a) In addition to the requirements set out in the EA Approval, the Odour Management and Mitigation Plan shall include the following:
 - (i) identification of all potential sources of odourous emissions;

- (ii) description of the preventative and control measures to minimize odorous emissions from the identified sources;
 - (iii) procedures for the implementation of the Odour Management and Mitigation Plan;
 - (iv) inspection and maintenance procedures to ensure effective implementation of the Odour Management and Mitigation Plan; and
 - (v) procedures for verification and recording the progress of the implementation of the Odour Management and Mitigation Plan.
- (b) The Owner shall continue to submit an updated Odour Management and Mitigation Plan until such time as the Regional Director notifies the Owner in writing that further submissions are no longer required.

Vehicles and Traffic

- (10) (a) The Owner shall ensure that all vehicles transporting waste to and from the Site are not leaking or dripping waste when arriving at or leaving the Site.
- (b) Should the Owner become aware that the truck(s) delivering waste to the Site have leaked wastewater on the municipal roadways, the Owner shall immediately report the violation to the owner of the vehicle(s) and to the District Manager.
- (c) The Owner shall ensure that the exterior of all vehicles delivering Waste to the Site or hauling waste from the Site is washed prior to the trucks' departure from the Site, if necessary.
- (d) Any necessary truck washing shall occur only in the designated wash down area of the Tipping Building or the Residue Building.
- (11) The Owner shall ensure that there is no queuing or parking of vehicles that are waiting to enter the Site on any roadway that is not a distinct part of the Site.

Litter

- (12) The Owner shall:
- (a) take all practical steps to prevent the escape of litter from the Site;
 - (b) pick up litter around the Site on a daily basis, or more frequently if necessary; and
 - (c) if necessary, erect litter fences around the areas causing a litter problem.

Dust

- (13) The Owner shall ensure that all on-site roads and operations/yard areas are regularly swept/washed to prevent dust impacts off-Site.

Vermin and Vectors

(14) The Owner shall:

- (a) implement necessary housekeeping procedures to eliminate sources and potential sources of attraction for vermin and vectors; and
- (b) hire a qualified, licensed pest control professional to design and implement a pest control plan for the Site. The pest control plan shall remain in place, and be updated from time to time as necessary, until the Site has been closed and this Certificate has been revoked.

Visual Screening

(15) The Owner shall provide visual screening for the Site in accordance with the documentation included in the attached Schedule "A".

9. STAFF TRAINING

- (1) (a) The Owner shall ensure that all operators of the Site are trained with respect to the following, as per the specific job requirements of each individual operator:
 - (i) terms and conditions of this Certificate and the requirements of the EA Approval;
 - (ii) operation and management of the Site, or area(s) within the Site, as per the specific job requirements of each individual operator, and which may include procedures for receiving, screening and identifying Waste, refusal, handling, processing and temporarily storing wastes, operation of the Equipment, the APC Equipment, the CEM System and the Works;
 - (iii) testing, monitoring and operating requirements;
 - (iv) maintenance and inspection procedures;
 - (v) recording procedures;
 - (vi) nuisance impact control and housekeeping procedures;
 - (vii) procedures for recording and responding to public complaints;
 - (viii) an outline of the responsibilities of Site personnel including roles and responsibilities during emergency situations;
 - (ix) the Contingency and Emergency Response Plan including exit locations and evacuation routing, and location of relevant equipment available for emergency situations;
 - (x) environmental, and occupational health and safety concerns pertaining to the wastes to be handled;
 - (xi) emergency first-aid information; and
 - (xii) relevant waste management legislation and regulations, including the *EPA*, the *OWRA*, the *O. Reg. 347*, the *O. Reg. 419/05* and the Ministry guidelines affecting thermal treatment facilities.
- (2) The Owner shall ensure that all personnel are trained in the requirements of this Certificate relevant to the employee's position:

- (a) upon commencing employment at the Site in a particular position;
- (b) whenever items listed in Condition 9.(1) are changed or updated; and
- (c) during the planned refresher training.

10. **COMPLAINTS / ODOUR-CONTAMINANT EMISSIONS RESPONSE PROCEDURE**

- (1) The Owner or a designated representative of the Owner shall be available to receive public complaints caused by the operations at the Site twenty-four (24) hours per day, seven (7) days per week.
- (2) If at any time, the Owner or the Ministry receives a complaint or the Owner or the Provincial Officer detects an emission of odour or any contaminant, (Emission Event), from the Site, in addition to the requirements set out in the EA approval, the Owner shall record all relevant information in the computerized tracking system and shall respond to the complaint/Emission Event according to the following procedure:

Step 1: Record of Complaint/Emission Event

- (a) (i) The Owner shall record each complaint/Emission Event and each record shall include the following:
 - (A) name, address and the telephone number of the complainant, if known;
 - (B) time and date of the complaint/Emission Event;
 - (C) details of the complaint; and
- (ii) After the complaint/Emission Event has been recorded in the tracking system, the Owner shall immediately report to the District Manager by phone or e-mail during office hours and to the Ministry's Spills Actions Centre at 1-800-268-6060 after office hours on the receipt of the complaint or occurrence of the Emission Event.

Step 2: Investigation and Handling of Complaint/Emission Event

- (b) The Owner shall immediately initiate investigation of the complaint/Emission Event. As a minimum, the investigation shall include the following:
 - (i) determination of the activities being undertaken at the Site at the time of the complaint/Emission Event;
 - (ii) meteorological conditions including, but not limited to the ambient temperature, approximate wind speed and its direction.
 - (iii) determination if the complaint is attributed to activities being undertaken at the Site and if so, the possible cause(s) of the complaint/Emission Event; and

- (iv) determination of the remedial action(s) to address the cause(s) of the Complaint/Emission Event, and the schedule for the implementation of the necessary remedial action(s).
 - (c) The Owner shall respond to the complainant, if known, and the response shall include the results of the investigation of the Complaint, the action(s) taken or planned to be taken to address the cause(s) of the Complaint, and if any follow-up response(s) will be provided.
 - (d) Upon completed investigation of the Complaint/Emission event, the Owner shall, within three (3) business days, submit a report to the District Manager on the Complaint, on the action(s) taken or planned to be taken to address the cause(s) of the Complaint and on all proposed action(s) to prevent recurrence of the Complaint/Emission Event in the future.
- (3) If, in the opinion of the District Manager, failure of the APC Equipment and/or any other process or equipment upset or malfunction results in off-site Complaint/Emission Event, confirmed by the Owner or a Provincial Officer of the Ministry, the Owner shall, immediately upon notification from the District Manager, implement any necessary additional control measures, including, but not necessarily limited to, those in the Contingency and Emergency Response Plan required by this Certificate.
- (4) If the District Manager deems the additional control measures taken as per condition 10.(3) to be unsuitable, insufficient or ineffective, the District Manager may direct the Owner, in writing, to take further measures to address the noted failure, upset or malfunction including pursuant to section 39 of the *EPA* requiring a reduction in the receipt of Waste, cessation of the receipt of Waste, removal and off-site disposal of Waste from the Tipping Building as well as making repairs or modifications to equipment or processes.

11. **CONTINGENCY and EMERGENCY RESPONSE PLAN**

- (1)
 - (a) The Owner shall develop and implement a Contingency and Emergency Response Plan in accordance with the requirements set out in the EA Approval.
 - (b) Notwithstanding the requirements set out in the EA Approval, the Contingency and Emergency Response Plan shall be prepared in consultation with the District Manager or designate, the local Municipality and the Fire Department.
- (2) In addition to the requirements set out in the EA Approval, the Contingency and Emergency Response Plan, as a minimum, shall include the following:
 - (a) the Site plan clearly showing the equipment layout and all storage areas for wastes and reagents;

- (b) a list of Site personnel responsible for the implementation of the contingency measures and various emergency response tasks and their training requirements;
- (c) a list of equipment and materials required for the implementation of the contingency measures and the emergency situation response;
- (d) maintenance and testing program for equipment required for the implementation of the contingency measures and the emergency situation response;
- (e) procedures to be undertaken as part of the implementation of the contingency measures and the emergency situation response;
- (f) names and telephone numbers of waste management companies available for emergency response;
- (g) notification protocol, with names and telephone numbers of persons to be contacted, including the Owner, the Site personnel, the Ministry of the Environment Spills Action Centre and the York Durham District, the local Fire and Police Departments, the local Municipality, the local Medical Officer of Health, and the Ministry of Labour;
- (h) procedures and actions to be taken should the incoming Waste not meet the applicable quality criteria specified in this Certificate;
- (i) procedures and actions to be taken should the outgoing Residual Waste fail to meet the criteria specified in this Certificate;
- (j) procedures and actions to be taken should the current disposal options for the outgoing Residual Waste become unavailable;
- (k) design of the contingency measure, procedures and actions should the emissions from the Site, including the fugitive odour/dust emissions, cause occurrences of public Complaints;
- (l) procedures and actions to be taken should the Owner be unable to maintain the negative pressure in the Tipping Building;
- (m) procedures and actions to be taken should the occurrence of Complaints require the Owner to suspend the waste processing activities at the Site; and
- (n) identification and risk assessment of all reasonably foreseeable incidents that may result in a discharge into the natural environment of any contaminant in an amount, concentration or level in excess of that prescribed by the Regulations and/or imposed by this Certificate, including but not limited to:
 - (i) a breakdown of the Facility/Equipment or part of the Facility/Equipment, including the APC Equipment and the CEM Systems associated with the Boilers;
 - (ii) CEM Systems indicate that the Boilers and associated APC Equipment have been out of compliance with the Performance Requirements;
 - (iii) any change in process parameters which may result in non compliance with the Performance Requirements;
 - (iv) power failure resulting in the use of the Emergency Diesel Generator or Total Power Failure; and
 - (v) description of the preventative and control measures to minimize the occurrence or impacts of the above incidents; and
 - (vi) procedures for corrective measures and timelines to take to address the above incidents in a timely manner to effectively prevent or minimize the discharge of any contaminant into the natural environment and continue to maintain compliance with the *EPA* , the Regulations and

this Certificate, including procedures for Waste Processing Rate reduction, waste feed cut-off, Controlled Shutdown or Emergency Shutdown of the Boilers as applicable.

- (3) The Owner shall submit the finalized Contingency and Emergency Response Plan to the Director a minimum of one hundred and twenty (120) days prior to the Commencement Date of Operation, for approval.
- (4) An up-to-date version of the Contingency and Emergency Response Plan shall be kept at the Site at all times, in a central location available to all staff, and it shall be available for inspection by a Provincial Officer upon request.
- (5) The Owner shall ensure that the names and telephone numbers of the persons to be contacted in the event of an emergency situation are kept up-to-date, and that these numbers are prominently displayed at the Site and at all times available to all staff and emergency response personnel.
- (6) The Contingency and Emergency Response Plan shall be reviewed on a regular basis and updated, as necessary. The revised version of the Contingency and Emergency Response Plan shall be submitted to the local Municipality and the Fire Department for comments and to the District Manager for comments and concurrence.
- (7) The Owner shall implement the recommendations of the updated Contingency and Emergency Response Plan, immediately upon receipt of the written concurrence from the District Manager.

12. **EMERGENCY SITUATION RESPONSE and REPORTING**

- (1) The Owner shall immediately take all measures necessary to contain and clean up any spill or leak which may result from the operation at this Site and manage any emergency situation in accordance with the Contingency and Emergency Response Plan.
- (2) The Owner shall ensure that the equipment and materials listed in the Contingency and Emergency Response Plan are immediately available at the Site, are in a good state of repair, and fully operational at all times.
- (3) The Owner shall ensure that all Site personnel responsible for the emergency situation response are fully trained in the use of the equipment and related materials, and in the procedures to be employed in the event of an emergency.
- (4) All Spills as defined in the *EPA* shall be immediately reported to the **Ministry's Spills Action Centre at 1-800-268-6060** and shall be recorded in the log book as to the nature of the emergency situation, and the action taken for clean-up, correction and prevention of future occurrences.

13. **SUBMISSIONS to the REGIONAL DIRECTOR or DISTRICT MANAGER**

- (1) The Owner shall notify the District Manager in writing, at least six (60) days prior to the scheduled date for the first receipt of Waste at the Site, as to whether or not the construction of the Facility has been carried out in accordance with this Certificate to a point of Substantial Completion.
- (2) (a) The Owner shall forthwith notify the District Manager and the Spills Action Centre by telephone, when any of the following incidents occur that may result in a discharge into the natural environment of any contaminant in an amount, concentration or level in excess of that prescribed by the Regulations and/or imposed by this Certificate:
 - (i) CEM Systems indicate that the Boilers and associated APC Equipment have been out of compliance with the Performance Requirements triggering a Waste Processing Rate Reduction, Waste Feed cut-off, Controlled Shutdown or Emergency Shutdown as specified in the Emergency Response and Contingency Plan;
 - (ii) failure of the APC Equipment associated with the Boilers; and
 - (iii) power failure resulting in the use of the emergency diesel generator or Total Power Failure;
- (b) In addition to fulfilling the notification requirements from the *EPA*, the Owner shall prepare and submit a written report to the District Manager with respect to any of the above said occurrences, within five (5) calendar days of the occurrence, in the following format:
 - (i) date of the occurrence;
 - (ii) general description of the occurrence;
 - (iii) duration of the occurrence;
 - (iv) effect of the occurrence on the emissions from the Facility;
 - (v) measures taken to alleviate the effect of the occurrence on the emissions from the Facility; and
 - (vi) measures taken to prevent the occurrence of the same or similar occurrence in the future.
- (3) Should a Spill, as defined in the *EPA*, occur at the Site, in addition to fulfilling the requirements from the *EPA* and applicable regulations, the Owner shall submit to the District Manager a written report within three (3) calendar days outlining the nature of the Spill, remedial measure taken and the measures taken to prevent future occurrences at the Site.
- (4) (a) Within ninety (90) days from the date of this Certificate, the Regions shall prepare and submit to the District Manager for concurrence, a Soil Testing Plan to monitor the impact of the Site operations at the locations where the ambient air monitoring is proposed by the Owner in accordance with the requirements set out in the EA Approval.

- (b) (i) This Plan shall ensure that representative samples of the soil to be tested are collected in sufficient numbers and that the samples are properly preserved and tested so that reliable data on the soil characteristics is collected.
- (ii) As a minimum, the Plan shall include testing for cadmium, lead, chromium, nickel, cobalt, copper, molybdenum, selenium, zinc and mercury, Dioxins and Furans.
- (iii) This Plan shall comply with the Ministry's regulatory requirements for sampling and testing of soil and it shall include the rationale for the proposed methods.
- (iv) This Plan be kept at the Site at all times and be available for inspection by a Provincial Officer upon request.

14. **RECORDS KEEPING**

- (1) Any information requested by the Ministry concerning the Facility and its operation under this Certificate, including, but not limited to, any records required to be kept by this Certificate, shall be provided to the Ministry, upon request, in a timely manner.
- (2) The Owner shall retain, for a minimum of seven (7) years from the date of their creation, except as noted below, all reports, records and information described in this Certificate.

Daily Activities

- (3) The Owner shall maintain an on-Site written or digital record of activities undertaken at the Site. All measurements shall be recorded in consistent metric units of measurement. As a minimum, the record shall include the following:
 - (a) date of record and the name and signature of the person completing the report;
 - (b) quantity and source of the incoming Waste received at the Site;
 - (c) records of the estimated quantity of Waste thermally treated in the Boilers;
 - (d) quantity of the Unacceptable Waste received at the Site by the end of the approved Waste receipt period and the type(s) of the Unacceptable Waste received;
 - (e) quantity and type of the Residual Waste shipped from the Site, including any required outgoing Residual Waste characterization results;
 - (f) destination and/or receiving site(s) for the Residual Waste shipped from the Site;
 - (g) quantity and type of any Rejected Waste accepted at the Site;
 - (h) destination and/or receiving site(s) for the Rejected Waste shipped from the Site;
 - (i) housekeeping activities, including litter collection and washing/cleaning activities, etc.
 - (j) amount of electricity produced;

- (k) amount of excess electricity exported to the electrical grid.

Monitoring and Testing Records

- (4) The Owner shall maintain an on-Site written or digital record of activities undertaken at the Site. All measurements shall be recorded in consistent metric units of measurement. As a minimum, the record shall include the following:
 - (a) day and time of the activity;
 - (b) all original records produced by the recording devices associated with the CEM Systems;
 - (c) a summary of daily records of readings of the CEM Systems, including:
 - (i) the daily minimum and maximum 4-hour average readings for carbon monoxide;
 - (ii) the daily minimum and maximum one hour average readings for oxygen;
 - (iii) the daily minimum and maximum 10-minute average readings for organic matter;
 - (iv) the daily minimum and maximum 24-hour average readings for sulphur dioxide;
 - (v) the daily minimum and maximum 24-hour average readings for nitrogen oxides;
 - (vi) the daily minimum and maximum 24-hour average readings for hydrogen chloride;
 - (vii) the daily minimum and maximum 6-minute average and 2-hour average opacity readings; and
 - (viii) the daily minimum and maximum one-hour average readings for temperature measurements.
 - (d) records of all excursions from the applicable Performance Requirements as measured by the CEM Systems, duration of the excursions, reasons for the excursions and corrective measures taken to eliminate the excursions;
 - (e) all records produced during any Acoustic Audit;
 - (f) all records produced during any Source Testing;
 - (g) all records produced by the long term sampling program for Dioxins and Furans required by this Certificate;
 - (h) all records produced during the Residual Waste compliance testing;
 - (i) all records produced during the Soil Testing;
 - (j) all records produced during the Groundwater and Surface Water Monitoring required by this Certificate;
 - (k) all records produced during the Ambient Air Monitoring required by this Certificate;
 - (l) all records associated with radiation monitoring of the incoming Waste, including but not limited to:
 - (i) transaction number;
 - (ii) hauler;
 - (iii) vehicle ID;
 - (iv) alarm level;
 - (v) maximum CPS;
 - (vi) uSv/hr;

- (vii) comment;
 - (viii) background CPS;
 - (ix) driver time in and out; and
 - (x) name of the Trainer Personnel that carried out the monitoring.
- (m) results of the containment testing carried out in the buildings, conveyors, tanks and silos, as required;
 - (n) results the negative pressure in the Tipping Building carried out, as required.

Inspections/Maintenance/Repairs

- (5) The Owner shall maintain an on-Site written or digital record of inspections and maintenance as required by this Certificate. As a minimum, the record shall include the following:
 - (a) the name and signature of the Trained Personnel that conducted the inspection;
 - (b) the date and time of the inspection;
 - (c) the list of any deficiencies discovered, including the need for a maintenance or repair activity;
 - (d) the recommendations for remedial action;
 - (e) the date, time and description of actions (repair or maintenance) undertaken;
 - (f) the name and signature of the Trained Personnel who undertook the remedial action; and
 - (g) an estimate of the quantity of any materials removed during cleaning of the Works.

Emergency Situations

- (6) The Owner shall maintain an on-Site written or digital record of the emergency situations. As a minimum, the record shall include the following:
 - (a) the type of an emergency situation;
 - (b) description of how the emergency situation was handled;
 - (c) the type and amount of material spilled, if applicable;
 - (d) a description of how the material was cleaned up and stored, if generated; and
 - (e) the location and time of final disposal, if applicable; and
 - (f) description of the preventative and control measures undertaken to minimize the potential for re-occurrence of the emergency situation in the future.

Complaints Response Records

- (7) The Owner shall establish and maintain a written or digital record of complaints received and the responses made as required by this Certificate.

Training

- (8) The Owner shall maintain an on-Site written or digital record of training as required by this Certificate. As a minimum, the record shall include the following:

- (a) date of training;
- (b) name and signature of person who has been trained; and
- (c) description of the training provided.

Reports

(9) The Owner shall keep at the Site the following reports required by this Certificate:

- (a) the ESDM Report
- (b) the Acoustic Assessment Report;
- (c) the Annual Report; and
- (d) the Third Party Audit.

15. REPORTING

Annual Report

- (1) By March 31st following the end of each operating year, the Owner shall prepare and submit to the District Manager and to the Advisory Committee, an Annual Report summarizing the operation of the Site covering the previous calendar year. This Annual Report shall include, as a minimum, the following information:
- (a) a summary of the quality and the quantity of the Wastes accepted at the Site, including the maximum amount of the Waste received annually and daily and the sources of the Waste;
 - (b) a summary of the quality and the quantity of the Residual Waste shipped from the Site, including the analytical data required to characterize the Residual Waste, the off-Site destinations for the Residual Waste and its subsequent use, if known;
 - (c) estimated material balance for each month documenting the maximum amount of wastes stored at the Site;
 - (d) annual water usage;
 - (e) annual amount of the electricity produced and the annual amount of the electricity exported to the electrical grid;
 - (f) summaries and conclusions from the records required by Conditions 14.(3) through 14.(8) of this Certificate;
 - (g) the Emission Summary Table and the Acoustic Assessment Summary Table for the Facility as of December 31 from the previous calendar year;
 - (h) a summary of dates, duration and reasons for any environmental and operational problems, Boilers downtime, APC Equipment and CEM System malfunctions that may have negatively impacted the quality of the environment or any incidents triggered by the Emergency Response and

Contingency Plan and corrective measures taken to eliminate the environmental impacts of the incidents;

- (i) a summary of the dates, duration and reasons for all excursions from the applicable Performance Requirements as measured by the CEM Systems or as reported by the annual Source Testing, reasons for the excursions and corrective measures taken to eliminate the excursions;
- (j) results of the evaluation of the performance of the long-term sampling system in determining the Dioxins and Furans emission trends and/or fluctuations for the year reported on as well as demonstrating the ongoing performance of the APC Equipment associated with the Boilers;
- (k) dates of all environmental complaints relating to the Site together with cause of the Complaints and actions taken to prevent future Complaints and/or events that could lead to future Complaints;
- (l) any environmental and operational problems that could have negatively impacted the environment, discovered as a result of daily inspections or otherwise and any mitigative actions taken;
- (m) a summary of any emergency situations that have occurred at the Site and how they were handled;
- (n) the results and an interpretive analysis of the results of the groundwater and surface water, including an assessment of the need to amend the monitoring programs;
- (o) summaries of the Advisory Committee meetings, including the issues raised by the public and their current status;
- (p) any recommendations to improve the environmental and process performance of the Site in the future;
- (q) statement of compliance with this Certificate, including compliance with the *O. Reg. 419/05* and all air emission limits based on the results of source testing, continuous monitoring and engineering calculations, as may be appropriate; and
- (r) interpretation of the results and comparison to the results from previous Annual Reports to demonstrate the Facility's impact on the environment.

Third Party Audit

- (2) (a) The Regions shall ensure that an independent technical review of the operations at the Site is undertaken in accordance with the requirements of the EA Approval.
- (b) In addition to the Third Party Audit requirements set out in the EA approval, the Third Party Audit shall include the following:

- (i) a review of the data from the monitoring and testing required by this Certificate;
 - (ii) a review of all complaints received about the operation of the Facility;
 - (iii) any recommendations for improving the operation of the Facility received from the Advisory Committee; and
 - (iv) a recommendation of any improvements that could be made to ensure that the operation of the Facility is optimized and is protective of the health and safety of people and the environment.
- (3) The Regions shall submit a Written Audit Report on the results of the independent technical review to the Regional Director in accordance with the Audit Plan and retain a copy at the Site.

Soil Testing Report

- (4) Within one (1) month of completion of each Soil Testing event, the Regions shall submit to the District Manager a Soil Testing Report, which includes the details on the sampling/testing procedures, the results of the testing and a comparison with the results obtained during the previous Soil Testing.

16. PUBLIC ACCESS TO DOCUMENTATION

- (1) The Owner shall, at all times, maintain documentation that describes the current operations of the Facility. The Owner shall post the documentation at the website for the undertaking and during regular business hours, the Owner shall make the following documents available for inspection at the Site by any interested member of the public, upon submission to the Ministry for review:
- (a) a current ESDM Report that demonstrates compliance with the Performance Limits for the Facility regarding all Compounds of Concern;
 - (b) a current Acoustic Assessment Report that demonstrates compliance with the Performance Limits for the Facility regarding noise emissions;
 - (c) the most recent Annual Report;
 - (d) the most current Third Party Audit Report;
 - (e) Odour Management and Mitigation Plan, prepared in accordance with the requirements of the EA Approval;
 - (f) Noise Monitoring and Reporting Plan, prepared in accordance with the requirements of the EA Approval; and
 - (g) Groundwater and Surface Water Monitoring and Reporting Plan, prepared in accordance with the requirements of the EA Approval.

- (2) The Owner shall ensure that necessary hardware and software are provided at a location available to the public, to provide on-line real-time reporting of the operating parameter data for the Facility, including acceptable operating limits, stack emissions, and all other parameters for which continuous monitoring is required and that continuous records of the same be kept and made available to the public.

17. **ADVISORY COMMITTEE**

- (1) The Regions shall establish an Advisory Committee in accordance with the requirements set out in the EA Approval.

18. **CLOSURE of the SITE**

- (1) A minimum of nine (9) months prior to closure of the Site, the Owner shall submit, for approval by the Director, a written Closure Plan for the Site. This Plan shall include, as a minimum, a description of the work that will be done to facilitate closure of the Site and a schedule for completion of that work.
- (2) Within ten (10) days after closure of the Site, the Owner shall notify the Director and the District Manager, in writing, that the Site is closed and that the approved Closure Plan has been implemented.

SCHEDULE "A"

Supporting Documentation

- (1) Applications for a Certificate of Approval (Air) dated March 2, 2011, each signed by Cliff Curtis, Commissioner of Works, The Regional Municipality of Durham, by Erin Mahoney, Commissioner of Environmental Services, The Regional Municipality of York and by Matthew R. Mulcahy, Senior Vice President, Business Development, Covanta Durham York Renewable Energy Limited Partnership, and the following supporting documentation:
 - (a) Emission Summary and Dispersion Modelling Report, dated March 2011, prepared by Golder Associates;
 - (b) Acoustic Assessment Report prepared by Golder Associates Ltd., dated March 2011 and signed by Paul Niejadlik.
- (2) Applications for a Provisional Certificate of Approval (Waste Disposal Site) dated March 2, 2011, each signed by Cliff Curtis, Commissioner of Works, The Regional Municipality of Durham, by Erin Mahoney, Commissioner of Environmental Services, The Regional Municipality of York and by Matthew R. Mulcahy, Senior Vice President, Business Development, Covanta Durham York Renewable Energy Limited Partnership, and the following supporting documentation:
 - (a) Attachment #1 containing the "Design and Operations Report", dated March 2011, prepared by Golder Associates Ltd.;
 - (b) Attachment #3 containing the "Public Consultation Report", dated March 2011, prepared by Golder Associates Ltd.;
 - (c) Attachment #4 containing the Host Community Agreement
 - (d) Attachment #5 containing the proof of legal name for Covanta Durham York Renewable Energy Limited Partnership; and
 - (e) A letter May 24, 2011 from Anthony Ciccone, Golder Associates Ltd., to Margaret Wojcik, Ontario Ministry of the Environment, providing additional technical information on the proposal and attaching a report entitled "Amendment #1 Durham York Energy Centre Design and Operations Report", dated May 2011;
- (3) Applications for a Certificate of Approval of Municipal and Private Sewage Works dated March 2, 2011, each signed by Cliff Curtis, Commissioner of Works, The Regional Municipality of Durham, by Erin Mahoney, Commissioner of Environmental Services, The Regional Municipality of Durham and by Matthew R. Mulcahy, Senior Vice President, Business Development, Covanta Durham York Renewable Energy Limited Partnership, and the following supporting documentation:

- (a) "Surface Water and Groundwater Technical Study Report" dated July 2009, prepared by Jacques Whitford, Markham, Ontario (CD Report).
- (b) "Stormwater Design Model Output" prepared by Sigma Energy, dated March 2001 (CD Report).
- (c) Clearance letter from Central Lake Ontario Conservation date February 22, 2011.
- (d) A letter dated March 23, 2011, from Brian Bahor, Covanta Energy Corporation, to Stefanos Habtom, Ontario Ministry of the Environment, providing additional technical design information on the proposed stormwater management ponds.

SCHEDULE "B"

Procedure to calculate and record the 10-minute average concentration of odour at the Point of Impingement and at the most impacted Sensitive Receptor

- (a) Calculate and record one-hour average concentration of odour at the Point of Impingement and at the most impacted Sensitive Receptor, employing CALPUFF atmospheric dispersion model or the dispersion model acceptable to the Director that employs at least five (5) years of hourly local meteorological data and that can provide results reported as individual one-hour average odour concentrations.
- (b) Convert and record each of the one-hour average concentrations predicted over the five (5) years of hourly local meteorological data at the Point of Impingement and at the most impacted Sensitive Receptor to 10-minute average concentrations using the One-hour Average to 10-Minute Average Conversion described below; and
- (c) Record and present the 10-Minute Average concentrations predicted to occur over a five (5) year period at the Point of Impingement and at the most impacted Sensitive Receptor in a histogram. The histogram shall identify all predicted 10-minute average odour concentration occurrences in terms of frequency, identifying the number of occurrences over the entire range of predicted odour concentration in increments of not more than 1/10 of one odour unit. The maximum 10-minute average concentration of odour at the Sensitive Receptor will be considered to be the maximum odour concentration at the most impacted Sensitive Receptor that occurs and is represented in the histogram, disregarding outlying data points on the histogram as agreed to by the Director.

One-hour Average To 10-minute Average Conversion

1. Use the following formula to convert and record one-hour average concentrations predicted by the CALPUFF atmospheric dispersion model or by the dispersion model acceptable to the Director to 10-minute average concentrations:

$$X_{10min} = X_{60min} * 1.65$$

where X_{10min} = 10-minute average concentration
 X_{60min} = one-hour average concentration

SCHEDULE "C"

PERFORMANCE REQUIREMENTS In-Stack Emission Limits

Parameter	In-Stack Emission Limit	Verification of Compliance
Total Suspended Particulate Matter (filterable particulate measured in accordance with the Ontario Source Testing Code)	9 mg/Rm3	Results from compliance Source Testing
cadmium	7 µg/Rm3	Results from compliance Source Testing
lead	50 µg/Rm3	Results from compliance Source Testing
mercury	15 µg/Rm3	Results from compliance Source Testing
dioxins and furans	60 pg/Rm3	Results from compliance Source Testing; results expressed as I-TEQ
hydrochloric acid (HCl)	9 mg/Rm3	Calculated as the rolling arithmetic average of 24 hours of data measured by a CEM System that provides data at least once every 15 minutes
sulphur dioxide (SO2)	35 mg/Rm3	Calculated as the rolling arithmetic average of 24 hours of data measured by a CEM System that provides data at least once every 15 minutes
nitrogen oxides (NOx)	121 mg/ Rm3	Calculated as the rolling arithmetic average of 24 hours of data measured by a CEM System that provides data at least once every 15 minutes
organic matter (undiluted, expressed as equivalent methane)	50 ppmdv (33 mg/ Rm3)	Results from compliance source testing
carbon monoxide	35 ppmdv (40 mg/Rm3)	Calculated as the rolling arithmetic average of four (4) hours of data measured by a CEM System that provides data at least once every fifteen minutes, in accordance with condition 6 (2) (c)
opacity	10 percent	Calculated as the rolling arithmetic average of six (6) minutes of data measured by a CEM System that provides data at least once every minute
	5 percent	Calculated as the rolling arithmetic average of two (2) hours of data measured by a CEM System that provides data at least once every

		fifteen minutes
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mg/Rm3- milligrams per reference cubic metre;

pg/Rm3 - picograms per reference cubic metre

ppmdv parts per million by dry volume,

µg/Rm3 - micrograms per reference cubic metre

R- reference conditions - 25 degrees Celsius, 101.3 kilopascals, dry basis, 11% oxygen

SCHEDULE "D"

TEST CONTAMINANTS

Hydrogen Chloride
Hydrogen Fluoride
Oxides of Nitrogen expressed as Nitrogen Dioxide
Sulphur Dioxide
Total Hydrocarbons, expressed as methane on wet basis
Carbon Dioxide
Total Suspended Particulate Matter (< 44 microns)
Total PM-10 including condensables
Total PM-2.5 including condensables

Metals

Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cobalt
Copper
Lead
Mercury
Molybdenum
Nickel
Selenium
Silver
Thallium
Vanadium
Zinc

Schedule "D" - Cont'd

Chlorobenzenes	Chlorophenols
Monochlorobenzene (MCB)	2-monochlorophenol (2-MCP)
1,2-Dichlorobenzene (1,2-DCB)	3-monochlorophenol (3-MCP)
1,3-Dichlorobenzene (1,3-DCB)	4-monochlorophenol (4-MCP)
1,4-Dichlorobenzene (1,4-DCB)	2,3-dichlorophenol (2,3-DCP)
1,2,3-Trichlorobenzene (1,2,3-TCB)	2,4-dichlorophenol (2,4-DCP)
1,2,4-Trichlorobenzene (1,2,4-TCB)	2,5-dichlorophenol (2,5-DCP)
1,3,5-Trichlorobenzene (1,3,5-TCB)	2,6-dichlorophenol (2,6-DCP)
1,2,3,4-Tetrachlorobenzene (1,2,3,4-TeCB)	3,4-dichlorophenol (3,4-DCP)
1,2,3,5-Tetrachlorobenzene (1,2,3,5-TeCB)	3,5-dichlorophenol (3,5-DCP)
1,2,4,5-Tetrachlorobenzene (1,2,4,5-TeCB)	2,3,4-trichlorophenol (2,3,4-T3CP)
Pentachlorobenzene (PeCB)	2,3,5-trichlorophenol (2,3,5-T3CP)
Hexachlorobenzene (HxCB)	2,3,6-trichlorophenol (2,3,6-T3CP)
	2,4,5-trichlorophenol (2,4,5-T3CP)
	2,4,6-trichlorophenol (2,4,6-T3CP)
	3,4,5-trichlorophenol (3,4,5-T3CP)
	2,3,4,5-tetrachlorophenol (2,3,4,5-T4CP)
	2,3,4,6-tetrachlorophenol (2,3,4,6-T4CP)
	2,3,5,6-tetrachlorophenol (2,3,5,6-T4CP)
	Pentachlorophenol (PeCP)

Schedule "D" - Cont'd

Co-Planar PCBs (Dioxin-like PCBs)	Volatile Organic Matter
PCB-077 (3,3',4,4'-TCB)	Acetaldehyde
PCB-081 (3,4,4',5-TCB)	Acetone
PCB-105 (2,3,3',4,4'-PeCB)	Acrolein
PCB-114 (2,3,4,4',5-PeCB)	Benzene
PCB-118 (2,3',4,4',5-PeCB)	Bromodichloromethane
PCB-123 (2',3,4,4',5-PeCB)	Bromoform
PCB-126 (3,3',4,4',5-PeCB)	Bromomethane
PCB-156 (2,3,3',4,4',5-HxCB)	Butadiene, 1,3 -
PCB-157 (2,3,3',4,4',5'-HxCB)	Butanone, 2 -
PCB-167 (2,3',4,4',5,5'-HxCB)	Carbon Tetrachloride
PCB-169 (3,3',4,4',5,5'-HxCB)	Chloroform
PCB-189 (2,3,3',4,4',5,5'-HpCB)	Cumene
	Dibromochloromethane
	Dichlorodifluoromethane
	Dichloroethane, 1,2 -
	Dichloroethene, Trans - 1,2
	Dichloroethene, 1,1 -
	Dichloropropane, 1,2 -
	Ethylbenzene
	Ethylene Dibromide
	Formaldehyde
	Mesitylene
	Methylene Chloride
	Styrene
	Tetrachloroethene
	Toluene
	Trichloroethane, 1,1,1 -
	Trichloroethene
	Trichloroethylene, 1,1,2 -
	Trichlorotrifluoroethane
	Trichlorofluoromethane
	Xylenes, M-, P- and O-
	Vinyl Chloride

Schedule "D" - Cont'd

Polycyclic Organic Matter	Dioxin/Furan Isomers
Acenaphthylene	
Acenaphthene	2,3,7,8-Tetrachlorodibenzo-p-dioxin
Anthracene	1,2,3,7,8-Pentachlorodibenzo-p-dioxin
Benzo(a)anthracene	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin
Benzo(b)fluoranthene	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin
Benzo(k)fluoranthene	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin
Benzo(a)fluorene	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin
Benzo(b)fluorene	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin
Benzo(ghi)perylene	
Benzo(a)pyrene	2,3,7,8-Tetrachlorodibenzofuran
Benzo(e)pyrene	2,3,4,7,8-Pentachlorodibenzofuran
Biphenyl	1,2,3,7,8-Pentachlorodibenzofuran
2-Chloronaphthalene	1,2,3,4,7,8-Hexachlorodibenzofuran
Chrysene	1,2,3,6,7,8-Hexachlorodibenzofuran
Coronene	1,2,3,7,8,9-Hexachlorodibenzofuran
Dibenzo(a,c)anthracene	2,3,4,6,7,8-Hexachlorodibenzofuran
Dibenzo(a,h)anthracene	1,2,3,4,6,7,8-Heptachlorodibenzofuran
Dibenzo(a,e)pyrene	1,2,3,4,7,8,9-Heptachlorodibenzofuran
9,10-Dimethylanthracene	1,2,3,4,6,7,8,9-Octachlorodibenzofuran
7,12-Dimethylbenzo(a)anthracene	
Fluoranthene	
Fluorene	
Indeno(1,2,3-cd)pyrene	
2-Methylanthracene	
3-Methylcholanthrene	
1-Methylnaphthalene	
2-Methylnaphthalene	
1-Methylphenanthrene	
9-Methylphenanthrene	
Naphthalene	
Perylene	
Phenanthrene	
Picene	
Pyrene	
Tetralin	
M-terphenyl	
O-terphenyl	
P-terphenyl	
Triphenylene	

SCHEDULE "E"

SOURCE TESTING PROCEDURES

1. The Owner shall submit, to the Manager a test protocol including the Pre-Test Information required by the Source Testing Code, at least two (2) months prior to the scheduled Source Testing date.
2.
 - (1) For the purpose of the Source Testing program, the Owner is temporarily permitted to operate the Boilers at a residual oxygen concentration below the performance limit outlined in Condition 6.(2)(b) during the period of the Source Testing. The Owner shall ensure that the concentration of residual oxygen in the Undiluted Gases leaving the combustion zone of the Boilers, as measured and recorded by the CEM System, shall not be less than 5 percent by volume on a dry basis, during this Source Testing program.
 - (2) If the Source Testing results demonstrate that compliance with the Performance Requirements can be maintained at a residual oxygen concentration below the performance limit outlined in Condition 6.(2)(b), the Owner may apply to the Director for approval to alter the required residual oxygen concentration.
3. The Owner shall finalize the test protocol in consultation with the Manager.
4. The Owner shall not commence the Source Testing until the Manager has accepted the test protocol.
5. The Owner shall complete the first Source Testing not later than six (6) months after Commencement of Operation of the Facility/Equipment.
6. The Owner shall conduct subsequent Source Testing at least once (1) every calendar year thereafter.
7. The Owner shall notify the District Manager and the Manager in writing of the location, date and time of any impending Source Testing required by this Certificate, at least fifteen (15) days prior to the Source Testing.
8. The Owner shall submit a report on the Source Testing programs to the District Manager and the Manager not later than three (3) months after completing each Source Testing program. The report shall be in the format described in the Source Testing Code, and shall also include, but not be limited to:
 - (1) an executive summary;
 - (2) records of operating conditions; including process description, records of waste composition and feed rate during the Source Testing;
 - (3) all records produced by the CEM Equipment;
 - (4) procedures followed during the Source Testing and any deviation from the proposed test protocol and the reasons therefore;
 - (5) the results of the analyses of the stack emissions;

- (6) a summary table that compares the Source Testing results, the monitoring data and the records of operating conditions during the Source Testing to the requirements imposed by the *EPA*, the Regulation and/or the Performance Requirements;
 - (7) the results of dispersion calculations in accordance with the *O. Reg. 419/05*, indicating the maximum concentration of the Test Contaminants, at the Point of Impingement.
 - (8) an updated site wide emission source inventory to assess the aggregate point of impingement concentrations of the Test Contaminants.
9. The Owner shall ensure that the Source Testing Report is made available and easily accessible for review by the public at the Facility, immediately after the document is submitted to the Ministry.
10. The Director may not accept the results of the Source Testing if:
- (1) the Source Testing Code or the requirements of the Manager were not followed; or
 - (2) the Owner did not notify the District Manager and the Manager of the Source Testing; or
 - (3) the Owner failed to provide a complete report on the Source Testing.
11. If the Director does not accept the results of the Source Testing, the Director may require re-testing.

SCHEDULE "F"

PARAMETER:

Temperature

LOCATION:

The sample point for the Continuous Temperature Monitor shall be located at a point where the temperature in the combustion zone of the Boilers has reached at least 1000°C for a period of not less than one second. Compliance shall be proven by direct measurement or/and a correlation between the measured temperature and the intended target proven by a method acceptable to the Director.

PERFORMANCE:

The Continuous Temperature Monitor shall meet the following minimum performance specifications for the following parameters.

PARAMETERS	SPECIFICATION
1) Type:	"K", "J" or other type or alternative measurement device with equivalent measurement accuracy and suitable to the temperature range being measured
2) Accuracy:	± 1.5 percent of the minimum gas temperature

DATA RECORDER:

The data recorder must be capable of registering continuously the measurement of the monitor without a significant loss of accuracy and with a time resolution of 1 minutes or better. Temperature readings for record keeping and reporting purposes shall be kept as one-hour average values.

RELIABILITY:

The monitor shall be operated and maintained so that accurate data is obtained during a minimum of 95 percent of the time for each calendar quarter.

PARAMETER:

Carbon Monoxide

INSTALLATION:

The Continuous Carbon Monoxide Monitor shall be installed at an accessible location where the measurements are representative of the actual concentration of carbon monoxide in the Undiluted Gases leaving the combustion zone via the economizer outlet of each Boiler, and shall meet the following installation specifications.

PARAMETERS	SPECIFICATION
1) Range (parts per million, ppm):	0 to ≥ 100 ppm
2) Calibration Gas Ports:	close to the sample point

PERFORMANCE:

The Continuous Carbon Monoxide Monitor shall meet the following minimum performance specifications for the following parameters.

PARAMETERS	SPECIFICATION
1) Span Value (nearest ppm equivalent):	2 times the average normal concentration of the source
2) Relative Accuracy:	≤ 10 percent of the mean value of the reference method test data or ± 5 ppm whichever is greater
3) Calibration Error:	≤ 2.5 percent of actual concentration
4) System Bias:	≤ 4 percent of the mean value of the reference method test data
5) Procedure for Zero and Span Calibration Check:	all system components checked
6) Zero Calibration Drift (24-hour):	≤ 5 percent of span value
7) Span Calibration Drift (24-hour):	≤ 5 percent of span value
8) Response Time (90 percent response to a step change):	≤ 180 seconds
9) Operational Test Period:	≥ 168 hours without corrective maintenance

CALIBRATION:

Daily calibration drift checks on the monitor shall be performed and recorded in accordance with the requirements of Report EPS 1/PG/7.

DATA RECORDER:

The data recorder must be capable of registering continuously the measurement of the monitor with an accuracy of 0.5 percent of a full scale reading or better and with a time resolution of 2 minutes or better.

RELIABILITY:

The monitor shall be operated and maintained so that accurate data is obtained during a minimum of 90 percent of the time for each calendar quarter during the first full year of operation, and 95 percent, thereafter.

PARAMETER:

Oxygen

INSTALLATION:

The Continuous Oxygen Monitor shall be installed at an accessible location where the measurements are representative of the actual concentration of oxygen in the Undiluted Gases leaving the combustion zone via the economizer outlet of each Boiler and in the Undiluted Gases leaving the APC Equipment associated with each Boiler, and shall meet the following installation specifications.

PARAMETERS	SPECIFICATION
1) Range (percentage):	0 - 20 or 0 - 25
2) Calibration Gas Ports:	close to the sample point

PERFORMANCE:

The Continuous Oxygen Monitor shall meet the following minimum performance specifications for the following parameters.

PARAMETERS	SPECIFICATION
1) Span Value (percentage):	2 times the average normal concentration of the source
2) Relative Accuracy:	≤10 percent of the mean value of the reference method test data
3) Calibration Error:	0.25 percent O ₂
4) System Bias:	≤ 4 percent of the mean value of the reference method test data
5) Procedure for Zero and Span Calibration Check:	all system components checked
6) Zero Calibration Drift (24-hour):	≤ 0.5 percent O ₂
7) Span Calibration Drift (24-hour):	≤ 0.5 percent O ₂
8) Response Time (90 percent response to a step change):	≤ 90 seconds
9) Operational Test Period:	≥ 168 hours without corrective maintenance

CALIBRATION:

Daily calibration drift checks on the monitor shall be performed and recorded in accordance with the requirements of Report EPS 1/PG/7.

DATA RECORDER:

The data recorder must be capable of registering continuously the measurement of the monitor with an accuracy of 0.5 percent of a full scale reading or better and with a time resolution of 2 minutes or better. Oxygen concentration readings for record keeping and reporting purposes shall be kept as one-hour average values.

RELIABILITY:

The monitor shall be operated and maintained so that accurate data is obtained during a minimum of 90 percent of the time for each calendar quarter during the first full year of operation, and 95 percent thereafter.

PARAMETER:

Hydrogen Chloride

INSTALLATION:

The Continuous Hydrogen Chloride Monitor shall be installed at an accessible location where the measurements are representative of the actual concentration of hydrogen chloride in the Undiluted Gases leaving the APC Equipment associated with each Boiler, and shall meet the following installation specifications.

PARAMETERS	SPECIFICATION
1) Range (parts per million, ppm):	0 to ≥ 100 ppm
2) Calibration Gas Ports:	close to the sample point

PERFORMANCE:

The Continuous Hydrogen Chloride Monitor shall meet the following minimum performance specifications for the following parameters.

PARAMETERS	SPECIFICATION
1) Span Value (nearest ppm equivalent):	2 times the average normal concentration of the source
2) Relative Accuracy:	≤ 20 percent of the mean value of the reference method test data or ± 5 ppm whichever is greater
3) Calibration Error:	≤ 2 percent of actual concentration
4) System Bias:	≤ 4 percent of the mean value of the reference method test data
5) Procedure for Zero and Span Calibration Check:	all system components checked
6) Zero Calibration Drift (24-hour):	≤ 5 percent of span value
7) Span Calibration Drift (24-hour):	≤ 5 percent of span value
8) Response Time (90 percent response to a step change):	≤ 240 seconds
9) Operational Test Period:	≥ 168 hours without corrective maintenance

CALIBRATION:

The monitor shall be calibrated daily at the sample point, to ensure that it meets the drift limits specified above, during the periods of the operation of the . The results of all calibrations shall be recorded at the time of calibration.

DATA RECORDER:

The data recorder must be capable of registering continuously the measurement of the monitor with an accuracy of 0.5 percent of a full scale reading or better and with a time resolution of 5 minutes or better.

RELIABILITY:

The monitor shall be operated and maintained so that accurate data is obtained during a minimum of 90 percent of the time for each calendar quarter during the first full year of operation, and 95 percent thereafter.

PARAMETER:

Nitrogen Oxides

INSTALLATION:

The Continuous Nitrogen Oxide Monitor shall be installed at an accessible location where the measurements are representative of the actual concentration of nitrogen oxides in the Undiluted Gases leaving the APC Equipment associated with each Boiler, and shall meet the following installation specifications.

PARAMETERS	SPECIFICATION
1) Analyzer Operating Range (parts per million, ppm):	0 to ≥ 200 ppm
2) Calibration Gas Ports:	close to the sample point

PERFORMANCE:

The Continuous Nitrogen Oxides Monitor shall meet the following minimum performance specifications for the following parameters.

PARAMETERS	SPECIFICATION
1) Span Value (nearest ppm equivalent):	2 times the average normal concentration of the source
2) Relative Accuracy:	≤ 10 percent of the mean value of the reference method test data
3) Calibration Error:	≤ 2 percent of actual concentration
4) System Bias:	≤ 4 percent of the mean value of the reference method test data
5) Procedure for Zero and Span Calibration Check:	all system components checked
6) Zero Calibration Drift (24-hour):	≤ 2.5 percent of span value
7) Span Calibration Drift (24-hour):	≤ 2.5 percent of span value
8) Response Time (90 percent response to a step change):	≤ 240 seconds
9) Operational Test Period:	≥ 168 hours without corrective maintenance

CALIBRATION:

Daily calibration drift checks on the monitor shall be performed and recorded in accordance with the requirements of Report EPS 1/PG/7.

DATA RECORDER:

The data recorder must be capable of registering continuously the measurement of the monitor with an accuracy of 0.5 percent of a full scale reading or better and with a time resolution of 2 minutes or better.

RELIABILITY:

The monitor shall be operated and maintained so that accurate data is obtained during a minimum of 90 percent of the time for each calendar quarter during the first full year of operation, and 95 percent thereafter.

PARAMETER:

Sulphur Dioxide

INSTALLATION:

The Continuous Sulphur Dioxide Monitor shall be installed at an accessible location where the measurements are representative of the actual concentration of sulphur dioxide in the Undiluted Gases leaving the APC Equipment associated with each Boiler, and shall meet the following installation specifications.

PARAMETERS

1. Range (parts per million, ppm):
2. Calibration Gas Ports:

SPECIFICATION

0 to ≥ 100 ppm
close to the sample point

PERFORMANCE:

The Continuous Sulphur Dioxide Monitor shall meet the following minimum performance specifications for the following parameters.

PARAMETERS**SPECIFICATION**

- | | |
|--|---|
| 1. Span Value (nearest ppm equivalent): | 2 times the average normal concentration of the source |
| 2. Relative Accuracy: | ≤ 10 percent of the mean value of the reference method test data |
| 3. Calibration Error: | ≤ 2 percent of actual concentration |
| 4. System Bias: | ≤ 4 percent of the mean value of the reference method test data |
| 5. Procedure for Zero and Span Calibration Check: | all system components checked |
| 6. Zero Calibration Drift (24-hour): | ≤ 2.5 percent of span value |
| 7. Span Calibration Drift (24-hour): | ≤ 2.5 percent of span value |
| 8. Response Time (90 percent response to a step change): | ≤ 200 seconds |
| 9. Operational Test Period: | ≥ 168 hours without corrective maintenance |

CALIBRATION:

Daily calibration drift checks on the monitor shall be performed and recorded in accordance with the requirements of Report EPS 1/PG/7.

DATA RECORDER:

The data recorder must be capable of registering continuously the measurement of the monitor with an accuracy of 0.5 percent of a full scale reading or better and with a time resolution of 2 minutes or better.

RELIABILITY:

The monitor shall be operated and maintained so that accurate data is obtained during a minimum of 90 percent of the time for each calendar quarter during the first full year of operation, and 95 percent, thereafter.

PARAMETER:

Total Hydrocarbons

INSTALLATION:

The Total Hydrocarbons Monitor shall be installed at an accessible location where the measurements are representative of the concentrations of Organic Matter (as methane) in the Undiluted Gases leaving the combustion zone via the economizer outlet of each Boiler and shall meet the following installation specifications.

PARAMETERS**SPECIFICATION**

- | | | |
|----|---------------------------------|---|
| 1. | Detector Type: | Flame Ionization |
| 2. | Oven Temperature: | 160°C minimum |
| 3. | Flame Temperature: | 1800 °C minimum at the corona of the hydrogen flame |
| 4. | Range (parts per million, ppm): | 0 to ≥200 ppm |
| 5. | Calibration Gas: | propane in air or nitrogen |
| 6. | Calibration Gas Ports: | close to the sample point |

PERFORMANCE:

The Continuous Total Hydrocarbons Monitor shall meet the following minimum performance specifications for the following parameters.

PARAMETERS**SPECIFICATION**

- | | | |
|-----|---|--|
| 1. | Span Value (nearest ppm equivalent): | 2 times the average normal concentration of the source |
| 2. | Relative Accuracy: | ≤ 10 percent of the mean value of the reference method test data or ± 5 ppm whichever is greater |
| 3. | System Bias: | ≤ 4 percent of the mean value of the reference method test data |
| 4. | Noise: | ≤ 1 percent of span value on most sensitive range |
| 5. | Repeatability: | ≤ 1 percent of span value |
| 6. | Linearity (response with propane in air): | ≤ 3 percent of span value over all ranges |
| 7. | Calibration Error: | ≤ 2 percent of actual concentration |
| 8. | Procedure for Zero and Span Calibration Check: | all system components checked on all ranges |
| 9. | Zero Calibration Drift (24-hours): | ≤ 2.5 percent of span value on all ranges |
| 10. | Span Calibration Drift (24-hours): | ≤ 2.5 percent of span value |
| 11. | Response Time (90 percent response to a step change): | ≤ 60 seconds |
| 12. | Operational Test Period: | ≥ 168 hours without corrective maintenance |

CALIBRATION:

Daily calibration drift checks on the monitor shall be performed and recorded in accordance with the requirements of Report EPS 1/PG/7.

DATA RECORDER:

The data recorder must be capable of registering continuously the measurement of the monitor with an accuracy of 0.5 percent of a full scale reading or better and with a time resolution of 2 minutes or better. Measurements of concentrations of organic matter (as methane) shall be kept as 10 minute average values for record keeping and reporting purposes.

RELIABILITY:

The monitor shall be operated and maintained so that accurate data is obtained during a minimum of 90 percent of the time for each calendar quarter during the first full year of operation, and 95 percent thereafter.

PARAMETER: Opacity

INSTALLATION: The Continuous Opacity Monitor shall be installed at an accessible location where the measurements are representative of the actual opacity of the Undiluted Gases leaving the APC Equipment associated with each Boiler and shall meet the following design and installation specifications.

PARAMETERS		SPECIFICATION
1)	Wavelength at Peak Spectral Response (nanometres, nm):	500 - 600
2)	Wavelength at Mean Spectral Response (nm):	500 - 600
3)	Detector Angle of View:	≤ 5 degrees
4)	Angle of Projection:	≤ 5 degrees
5)	Range (percent of opacity):	0 -100

PERFORMANCE:

The Continuous Opacity Monitor shall meet the following minimum performance specifications for the following parameters.

PARAMETERS		SPECIFICATION
1)	Span Value (percent opacity):	2 times the average normal opacity of the source
2)	Calibration Error:	≤3 percent opacity
3)	Attenuator Calibration:	≤2 percent opacity
4)	Response Time (95 percent response to a step change):	≤ 10 seconds
5)	Schedule for Zero and Calibration Checks:	daily minimum
6)	Procedure for Zero and Calibration Checks:	all system components checked
7)	Zero Calibration Drift (24-hours):	≤ 2 percent opacity
8)	Span Calibration Drift (24-hours):	≤ 2 percent opacity
9)	Conditioning Test Period:	≥ 168 hours without corrective maintenance
10)	Operational Test Period:	≥ 168 hours without corrective maintenance

CALIBRATION:

The monitor shall be calibrated, to ensure that it meets the drift limits specified above, during the periods of the operation of the Equipment. The results of all calibrations shall be recorded at the time of calibration.

DATA RECORDER:

The data recorder must be capable of registering continuously the measurement of the monitor with an accuracy of 0.5 percent of a full scale reading or better and with a time resolution of 30 seconds or better.

RELIABILITY:

The monitor shall be operated and maintained so that accurate data is obtained during a minimum of 90 percent of the time for each calendar quarter during the first full year of operation, and 95 percent, thereafter.

PARAMETER:

Moisture, Hydrogen Fluoride and Ammonia

Selection and Installation

The Owner shall select and install a CEM System, to measure moisture content of the stack gases, the concentration of hydrogen fluoride and ammonia in the Undiluted Gases leaving the APC Equipment associated with each Boiler, as follows:

- a) Design and Performance Specifications shall be in accordance with 40 CFR 60, Appendix B, Specification 4.
- b) The Owner shall select the probe locations in compliance with 40 CFR 60, Appendix B, Specification 2.

Test Procedures

The Owner shall verify compliance with the Design and Performance Specifications in accordance with 40 CFR 60, Appendix B, Specification 4, with the reference method for the relative accuracy test being Method 4. of the Source Testing Code.

In furtherance of, but without limiting the generality of the foregoing, the mean difference between the calibration gas value and the analyzer response value at each of the four test concentrations shall be less than 5 percent of the measurement range.

SCHEDULE "G"

A stormwater management facility to service a 10.0 ha drainage area of the Durham York Energy Centre located on the west side of Osbourne Road and north of the CN Rail, Lot 27, Concession Broken Front, Part, Municipality of Clarington, Regional Municipality of Durham, designed to provide quality and quantity control of stormwater run-off by attenuating runoff from storm events up to 1:100 years return frequency to or below the pre-development levels, consisting of:

East Stormwater Management Pond (East SWM Pond)

A stormwater management facility to service a 5.7 ha drainage area comprising of the eastern part of the Durham York Energy Centre consisting of the following:

- one (1) approximately 128 m long drainage ditch collecting stormwater runoff from the north eastern part of the site, having an average horizontal slope of 1.56%, depth of 0.5 m, bottom width of 1.0 m, and side slopes of 2.5H:1V, discharging to storm sewers described below;
- one (1) approximately 199 m long drainage ditch collecting stormwater runoff from the eastern part of the site, having an average horizontal slope of 2.77%, depth of 0.5 m, bottom width of 1.0 m, and side slopes of 2.5H:1V, discharging to storm sewers described below;
- approximately fourteen (14) catch basins/maintenance holes and a total of 466.8 m long 450 mm diameter and 34.6 m of 600 mm diameter corrugated PE stormwater sewers conveying stormwater runoff collected from the north and north eastern part of the site, discharging to a forebay of a wet extended detention stormwater management pond described below;
- one (1) forebay with approximate bottom dimensions of 11.0 m wide and 34.8 m long and depth of 1.0 m, equipped with 600 mm diameter corrugated HDPE inlet pipe, a rip-rap covered inlet structure, and a forebay berm with top elevation of 95.0 m masl, discharging to a wet extended detention pond described below;
- one (1) wet extended detention stormwater management pond located at the south east part of the site, with approximate bottom dimensions of 21.0 m wide and 71.4 m long and a maximum depth of 2.7 m at 96.70 m masl elevation, having side slopes of 3H:1V and 5H:1V near the outlet structure, providing a permanent pool storage capacity of 1,008 m³ at elevation 95.0 m masl, an active storage capacity of 3,099 m³ at 96.70 m masl elevation, and total storage capacity of 4,107 m³, equipped with an outlet structure consisting of a 150 mm diameter reverse slope inlet pipe with a gate valve and a 450 mm diameter perforated pipe riser fitted with 75 mm diameter orifice plate, a 75 mm diameter maintenance discharge pipe with a gate valve, and an emergency overflow structure at elevation 97.0 m masl, discharging through a 450 mm diameter outlet pipe to existing swale along the northern side of the CN Rail line to Tooley Creek and eventually to Lake Ontario;

West Stormwater Management Pond (West SWM Pond)

A stormwater management facility to service a 4.3 ha drainage area comprising of the western part of the Durham York Energy Centre consisting of the following:

- one (1) approximately 296 m long drainage ditch collecting stormwater runoff from the north western part of the site, having an average horizontal slope of 1.0%, depth of 0.5 m, bottom width of 1.0 m, and side slopes of 2.5H:1V, discharging to storm sewers described below;
- approximately five (5) catch basins/maintenance holes and a total of 272.2 m long 450 mm diameter corrugated PE stormwater sewers conveying stormwater runoff collected from the western part of the site, discharging to a forebay of a wet extended detention stormwater management pond described below;
- one (1) forebay with approximate bottom dimensions of 13.0 m wide and 26.0 m long and depth of 1.0 m, equipped with 450 mm diameter corrugated HDPE inlet pipe, a rip-rap covered inlet structure, and a forebay berm with top elevation of 95.0 m masl, discharging to a wet extended detention pond described below;
- one (1) wet extended detention stormwater management pond located at the south western part of the site, with approximate bottom dimensions of 13.0 m wide and 58.0 m long and a maximum depth of 2.5 m at 96.5 m masl elevation, having side slopes of 3H:1V and 5H:1V near the outlet structure, providing a permanent storage capacity of 623 m³ at elevation 95.0 m masl, an active storage capacity of 2,054 m³ at 96.50 m masl elevation, and total storage capacity of 2,677 m³, equipped with an outlet structure consisting of a 150 mm diameter reverse slope inlet pipe with a gate valve and a 450 mm diameter perforated pipe riser fitted with 75 mm diameter orifice plate, a 75 mm diameter maintenance discharge pipe with a gate valve, and an emergency overflow structure at elevation 96.80 m masl, discharging through a 450 mm diameter outlet pipe to existing swale along the northern side of the CN Rail line to Tooley Creek and eventually to Lake Ontario;

including all associated controls and appurtenances.

The reasons for the imposition of these terms and conditions are as follows:

GENERAL

Conditions 1.(1), (2), (5), (6), (7), (8), (9), (10), (11), (12), (13), (17), (18) and (19) are included to clarify the legal rights and responsibilities of the Owner.

Conditions Nos.1.(3) and (4) are included to ensure that the Site is operated in accordance with the application and supporting documentation submitted by the Owner, and not in a manner which the Director has not been asked to consider.

Condition No. 1.(14) is included to ensure that the Site is operated under the corporate name which appears on the application form submitted for this approval and to ensure that the Director is informed of any changes.

Condition No.1.(15) is included to restrict potential transfer or encumbrance of the Site without the notification to the Director and to ensure that any transfer of encumbrance can be made only on the basis that it will not endanger compliance with this Certificate.

Condition No. 1.(16) is included to ensure that the appropriate Ministry staff has ready access to the operations of the Site which are approved under this Certificate. The Condition is supplementary to the powers of entry afforded a Provincial Officer pursuant to the *EPA*, the *OWRA*, the *PA*, the *NMA* and the *SDWA*.

SERVICE AREA, APPROVED WASTE TYPES, RATES and STORAGE

Condition No. 2. is included to specify the approved waste receipt rates, the approved waste types and the service area from which waste may be accepted at the Site based on the Owner's application and supporting documentation. Condition No. 2. is also included to specify the maximum amount of waste that is approved to be stored at the Site.

SIGNS and SITE SECURITY

Condition No. 3. is included to ensure that the Site's users, operators and the public are fully aware of important information and restrictions related to the operation of the Site. Condition No. 3. is also included to ensure that the Site is sufficiently secured, supervised and operated by properly trained personnel and to ensure controlled access and integrity of the Site by preventing unauthorized access when the Site is closed and no site personnel is on duty.

SITE OPERATIONS

Condition No. 4. is included to outline the operational requirements for the Facility to ensure that the said operation does not result in an adverse effect or a hazard to the natural environment or any person.

EQUIPMENT and SITE INSPECTIONS and MAINTENANCE

Condition No. 5. is included to require the Site to be maintained and inspected thoroughly on a regular basis to ensure that the operations at the Site are undertaken in a manner which does not result in an adverse effect or a hazard to the health and safety of the environment or any person.

PERFORMANCE REQUIREMENTS

Condition No. 6 is included to set out the minimum performance requirements considered necessary to prevent an adverse effect resulting from the operation of the Facility.

TESTING, MONITORING and AUDITING

Condition No. 7. is to require the Owner to gather accurate information on the operation of the Facility so that the environmental impact and subsequent compliance with the *EPA*, the *OWRA*, their Regulations and this Certificate can be verified.

NUISANCE IMPACT CONTROL and HOUSEKEEPING

Condition No. 8. is included to ensure that the Site is operated and maintained in an environmentally acceptable manner which does not result in a negative impact on the natural environment or any person. Condition No. 8 is also included to specify odour control measures to minimize a potential for odour emissions from the Site.

STAFF TRAINING

Condition No. 9. is included to ensure that staff are properly trained in the operation of the equipment and instrumentation used at the Site, in the emergency response procedures and on the requirements and restrictions related to the Site operations under this Certificate.

COMPLAINTS RECORDING PROCEDURE

Condition No.10. is included to require the Owner to respond to any environmental complaints resulting from the Facility appropriately and in a timely manner and that appropriate actions are taken to prevent any further incidents that may cause complaints in the future.

CONTINGENCY and EMERGENCY RESPONSE PLAN and EMERGENCY SITUATIONS RESPONSE AND REPORTING

Conditions Nos.11. and 12. are included to ensure that the Owner is prepared and properly equipped to take immediate action in the event of an emergency situation.

SUBMISSIONS to the REGIONAL DIRECTOR or DISTRICT MANAGER

Condition No. 13. is included to set out the requirements for the submissions to the District Manager and the Regional Director regarding the operation of the Facility and the activities required by this Certificate.

RECORDS KEEPING

Condition No.14. is included to ensure that detailed records of Site activities, inspections, monitoring and upsets are recorded and maintained for inspection and information purposes.

REPORTING

Condition No.15. is to ensure that regular review of site, operations and monitoring is carried out and findings documented by a third party for determining whether or not the Site is being operated in compliance with this Certificate of Approval, the EPA and its regulations and whether or not any changes should be considered.

PUBLIC ACCESS to DOCUMENTATION

Condition No.16. is included to ensure that the public has access to information on the operation of the Site in order to participate in the activities of the Advisory Committee in a meaningful and effective way.

ADVISORY COMMITTEE

Condition No.17. is included to require the Owner to establish a forum for the exchange of information and public dialogue on activities carried out at the Site and to ensure that the local residents are properly informed of the activities at the Site and that their concerns can be heard and acted upon , as necessary. Open communication with the public and local authorities is important in helping to maintain high standards for the operation of the Site and protection of the natural environment. Condition 16. is also included to ensure that the requirements of the EA Approval are fulfilled.

CLOSURE of the SITE

Condition No.18. is included to ensure that the final closure of the Site is completed in accordance with Ministry's standards.

In accordance with Section 139 of the Environmental Protection Act, R.S.O. 1990, Chapter E-19, as amended, and in accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, Chapter 0.40, as amended, you may by written Notice served upon me, the Environmental Review Tribunal, within 15 days after receipt of this Notice, require a hearing by the Tribunal. The Environmental Commissioner will place notice of your appeal on the Environmental Registry. Section 142 of the Environmental Protection Act and Section 101 of the

Ontario Water Resources Act, R.S.O. 1990, Chapter 0.40, provides that the Notice requiring the hearing shall state:

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the works are located;

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, 15th Floor
Toronto, Ontario
M5G 1E5

AND

The Director
Section 9 and 39, *Environmental Protection Act*
Section 53, *Ontario Water Resources Act*
Ministry of the Environment
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

*** Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 314-4600, Fax: (416) 314-4506 or www.ert.gov.on.ca**

The above noted site is approved under Section 9 and Section 27 of the Environmental Protection Act and Section 53 of the Ontario Water Resources Act.

DATED AT TORONTO this 28th day of June, 2011

Signature
Ian Parrott, P .Eng.
Director
Section 9, *EPA*
Section 39, *EPA*
Section 53, *OWRA*

MW,QN,SH/

c: District Manager, MOE York-Durham
Regional Director, MOE Central Region



Ministry of the Environment
Ministère de l'Environnement

AMENDMENT TO ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 7306-8FDKNX

Notice No. 1

Issue Date: August 12, 2014

The Regional Municipality of Durham
605 Rossland Rd E 5th Floor
Whitby, Ontario
L1N 6A3

and

The Regional Municipality of York
17250 Yonge Street
Newmarket, Ontario
L3Y 6Z1

and

Covanta Durham York Renewable Energy Limited Partnership
445 South Street
Morristown, New Jersey
United States of America
07960

Site Location: Durham York Energy Centre
72 Osbourne Rd Lot 27, Concession Broken Front, Part 1
Clarington Municipality, Regional Municipality of Durham
L1E 2R2

You are hereby notified that I have amended Approval No. 7306-8FDKNX issued on June 28, 2011 for Waste Disposal Site (Incineration), complete with an Energy from Waste Facility and associated equipment, , as follows:

1. The following definition has been added:

"Contingency and Emergency Response Plan" also means the document entitled "Spill Contingency and Emergency Response Plan";

2. The following Conditions are amended to read as follows:

2.(5)(b)(iii) The Owner may use equipment used to handle the hazardous wastes to handle other wastes provided that prior to such use the equipment has been thoroughly cleaned first.

4.(5)(e) A maximum of 630 tonnes of the Residual Waste, limited to the bottom ash shall be stored in two (2) dedicated bunkers, located within the confines of the Residue Building, described in the Supporting Documentation. The storage duration is as follows:

(i) The storage duration is limited to a maximum of seven (7) days.

(ii) Should longer storage duration be required to accommodate the duration of the required compliance testing, a minimum of forty eight (48) hours before the storage extension is commenced, the Owner shall notify the District Manager of the required extension. The notification shall include the duration of the extension and the reasons.

3. The following Conditions are added:

7.(7) (e) The Owner shall carry out the required bottom and fly ash compliance testing in accordance with the document entitled "Ash Sampling and Testing Protocol", listed in the attached Schedule.

11.8 Containment evaluations performed under the Spill Contingency and Emergency Response Plan shall be conducted by the Owner in accordance to procedures agreed by the District Manager pursuant to Conditions 8.(7)(i),(ii) and (iii).

4. The following documents have been added to Schedule "A":

4. October 31, 2013 letter from Mirka Januszkiewicz, the Regional Municipality of Durham to Ian Parrott, Ministry of the Environment and Climate Change, requesting approval of the Ash Sampling and Testing Protocol and the document entitled "Durham York Energy Centre, Ash Sampling and Testing Protocol", prepared by Golder Associates and dated June 2014.

5. Document entitled "Durham York Energy Centre, Spill Contingency & Emergency Response Plan" prepared by Covanta Durham York Renewable Energy Limited Partnership and dated January 13, 2014, excluding section entitled "Containment Evaluation".

6. Document entitled "Durham York Energy Centre, Protocol for the Measurement of Combustion Temperature and the Development of Time and Temperature Correlations", prepared by Covanta Durham York Renewable Energy Limited Partnership and dated June 2014.

7. Document entitled "Durham York Energy Centre, Noise Monitoring and Reporting Plan", prepared by Golder Associates and dated September 2011.

The reasons for this amendment to the Approval are as follows:

to approve the "Ash Sampling and Testing Protocol" as required Condition 7.(7)(a), the "Durham York Energy Centre, Spill Contingency & Emergency Response Plan", as required Condition 11.(3), "Durham York Energy Centre, Noise Monitoring and Reporting Plan" as required Condition 7.(5)(a) and "Durham York Energy Centre, Protocol for the Measurement of Combustion Temperature and the Development of Time and Temperature Correlations" as proposed by the applicant.

This Notice shall constitute part of the approval issued under Approval No. 7306-8FDKNX dated June 28, 2011, as amended.

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served

upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

1. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The environmental compliance approval number;
6. The date of the environmental compliance approval;
7. The name of the Director, and;
8. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5

AND

The Director appointed for the
purposes of Part II.1 of the
Environmental Protection Act
Ministry of the Environment
2 St. Clair Avenue West, Floor
12A
Toronto, Ontario
M4V 1L5

*** Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 314-3717 or www.ert.gov.on.ca**

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 12th day of August, 2014

Ian Parrott, P.Eng.
Director
appointed for the purposes of Part II.1 of
the *Environmental Protection Act*

MW/

c: District Manager, MOE York-Durham
n/a, The Regional Municipality of Durham



Ministry of the Environment
Ministère de l'Environnement

AMENDMENT TO ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 7306-8FDKNX

Notice No. 2

Issue Date: October 24, 2014

The Regional Municipality of Durham
605 Rossland Rd E 5th Floor
Whitby, Ontario
L1N 6A3

and
The Regional Municipality of York
17250 Yonge Street
Newmarket, Ontario
L3Y 6Z1

and

TransRiver Canada Incorporated, as general partner for and on behalf of Covanta
Durham York Renewable Energy Limited Partnership
445 South St
Morristown, New Jersey
USA 07960

Site Location: Durham York Energy Centre
1835 Energy Drive
Clarington Municipality, Regional Municipality of Durham
L1E 2R2

You are hereby notified that I have amended Approval No. 7306-8FDKNX issued on June 28, 2011 for Waste Disposal Site (Incineration), complete with an Energy from Waste Facility and associated equipment , as follows:

1. The address of the Site has been changed to read as follows:

Durham York Energy Centre
1835 Energy Drive
Clarington Municipality, Regional Municipality of Durham
L1E 2R2

2. The following definitions have been added:

" **Operator** " means any person other than the Regions' employees, authorized by the Regions as having the charge, management or control of any aspect of the Site and includes TransRiver Canada Incorporated, as general partner for and on behalf of Covanta Durham York Renewable Energy Limited Partnership, the partnership under the laws of Nova Scotia more particularly described in the October 6, 2014 letter from Joanna Rosengarten to the Ministry of Environment and Climate Change, and includes its successors and assignees, their successors and assignees;

" **Regions** " means any person that is responsible for the establishment or operation of the Site being approved by this Approval, and it includes The Regional Municipality of Durham and The Regional Municipality of York, their successors and assignees;

2. The following definition has been amended to read as follows:

" **Site** " means the property referred to as Durham York Energy Centre where the Owner has located and operates the Facility and the Works and located at 1835 Energy Drive in the Municipality of Clarington, Regional Municipality of Durham;

" **Owner** " within the context of this Approval, means the Regions and the Operator;

3. The following Conditions have been amended to read as follows:

"General: Change of Ownership" Conditions 1.(14) and 1.(15):

(14) The Regions shall notify the Director in writing, and forward a copy of the notification to the District Manager, within thirty (30) days of the occurrence of any changes:

- (a) the ownership of the Site;
- (b) the operator of the Site;
- (c) the address of the Regions;
- (d) the partners, where the Regions are or at any time become a partnership and a copy of the most recent declaration filed under the *Business Names Act* , R.S.O. 1990, c. B.17, as amended, shall be included in the notification;
- (e) the name of the corporation where the Regions are or at any time become a corporation, other than a municipal corporation, and a copy of the most current information filed under the *Corporations Information Act* , R.S.O. 1990, c. C.39, as amended, shall be included in the notification.

(15) No portion of this Site shall be transferred or encumbered prior to or after closing of the Site unless the Director is notified in advance. In the event of any change in ownership of the Site, other than change to a successor municipality, the Regions shall notify the successor of and provide the successor with a copy of this Approval, and the Regions shall provide a copy of the notification to the District Manager and the Director.

"Service Area, Approved Waste Types, Rates And Storage: Storage Restrictions" Condition 2.(5)(e):

2.(5)(e) (i) A maximum of 630 tonnes of the Residual Waste, limited to the bottom ash shall be stored in two (2) dedicated bunkers, located within the confines of the Residue Building, described in the Supporting Documentation.

(ii) The storage duration of bottom ash in the bunkers is limited to a maximum of seven (7) days.

(iii) Should additional storage location(s) and a longer storage duration be required during testing, a minimum of forty eight (48) hours before the storage parameters are changed from those approved in Condition 2.(5)(e)(i) and (ii), the Owner shall notify the District Manager, in writing, of the proposed changes and provide the reasons for the changes.

"Site Operations: Residual Waste Handling and Disposal" Condition 4.(5)(b)(iii):

4.(5)(b)(iii) The Owner may use the equipment that comes in contact with the hazardous wastes to handle other wastes provided that prior to such use, the equipment has been cleaned, as confirmed by visual inspections, to ensure the removal of any hazardous waste residues and to prevent cross contamination.

"Closure of the Site" Conditions 18.(1) and 18.(2):

(1) A minimum of nine (9) months prior to closure of the Site, the Regions shall submit, for approval by the Director, a written Closure Plan for the Site. This Plan shall include, as a minimum, a description of the work that will be done to facilitate closure of the Site and a schedule for completion of that work.

(2) Within ten (10) days after closure of the Site, the Regions shall notify the Director and the District Manager, in writing, that the Site is closed and that the approved Closure Plan has been implemented.

4. "Covanta Durham York Renewable Energy Limited Partnership" is replaced with "TransRiver Canada Incorporated, as general partner for and on behalf of Covanta Durham York Renewable Energy Limited Partnership, the partnership under the laws of Nova Scotia more particularly described in the October 6, 2014 letter from Joanna Rosengarten to the Ministry of Environment and Climate Change and includes its successors and assignees", in the Environmental Compliance Approval dated June 28, 2011 and in the Notice of Amendment dated August 12, 2014.

5. The following documents are added to Schedule "A":

8. Application for Environmental Compliance Approval Application dated May 23, 2014, signed by Matthew R. Mulcahy, Covanta Durham York Renewable Energy Limited Partnership, Application for Environmental Compliance Approval Application dated May 23, 2014, signed by Cliff Curtis, The Regional Municipality of Durham and Application for Environmental Compliance Approval Application dated May 23, 2014, signed by Laura McDowell, The Regional Municipality of York, including the following attached supporting documentation:

(a) revised Section 8.0 "Ash Handling and Associated System" and revised Section 10.0 "Potable Process and Wastewater" dated May 2014, of the document entitled "Design and Operations Report", dated March 2011, prepared by Golder Associates Ltd.

(b) Drawing No. M-2530, entitled "Piping & Instrumentation Diagram Bottom Ash Lime Slurry System"

(c) Drawing No. 70258-1-ME-GA-SK-001, entitled "Covanta Durham York Hydrated Lime System for Boiler Bottom Ash"

9. E-mail dated September 10, 2014 (2:26 p.m.) from Leon Brasowski, Covanta Durham York Renewable Energy Limited Partnership, to Margaret Wojcik, Ontario Ministry of the Environment and Climate Change, providing additional supporting documentation on the proposal, including an attachment entitled "M-1500^0360 Highlighted for MOE.pdf".

10. E-mail dated October 13, 2014 (3:23 p.m.) from Leon Brasowski, Covanta Durham York Renewable Energy Limited Partnership, to Ricki Allum, Ontario Ministry of the Environment and Climate Change, providing additional supporting documentation on the legal name of the applicant,

including an attachment entitled "Partnership Legal Clarification.pdf".

The reasons for this amendment to the Approval are as follows:

to approve the proposed Bottom Ash Lime Conditioning System, to correct the typographical errors in the Notice of Amendment dated August 12, 2014, to clarify the intent of the Residual Waste equipment cleaning condition and to allow different bottom ash storage conditions during testing.

This Notice shall constitute part of the approval issued under Approval No. 7306-8FDKNX dated June 28, 2011, as amended.

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

1. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The environmental compliance approval number;
6. The date of the environmental compliance approval;
7. The name of the Director, and;
8. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5

AND

The Director appointed for the
purposes of Part II.1 of the
Environmental Protection Act
Ministry of the Environment
2 St. Clair Avenue West, Floor
12A
Toronto, Ontario
M4V 1L5

*** Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 314-3717 or www.ert.gov.on.ca**

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 24th day of October, 2014

Tesfaye Gebrezghi, P.Eng.

Director

appointed for the purposes of Part II.1 of
the *Environmental Protection Act*

MW/

c: District Manager, MOE York-Durham

Leon Brasowski, Covanta Energy Corporation

Content Copy Of Original



Ministry of the Environment and Climate Change
Ministère de l'Environnement et de l'Action en matière de changement
climatique

AMENDMENT TO ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 7306-8FDKNX

Notice No. 3

Issue Date: December 23, 2015

The Regional Municipality of Durham
605 Rossland Road Level 5
Whitby, Ontario
L1N 6A3

Site Location: Durham York Energy Centre
1835 Energy Dr Lot 27, Concession Broken Front, Part 1
Clarington Municipality, Regional Municipality of Durham
L1E 2R2

You are hereby notified that I have amended Approval No. 7306-8FDKNX issued on June 28, 2011 for Waste Disposal Site (Incineration), complete with an Energy from Waste Facility and associated equipment, as follows:

The following Conditions are revoked:

7. TESTING, MONITORING and AUDITING

Noise Monitoring - Acoustic Audit

(5) The Owner:

(a) shall carry out Acoustic Audit measurements on the actual noise emissions due to the operation of the Facility. The Acoustic Audit measurements shall be carried out in accordance with the procedures in *Publication NPC-103* and in accordance to the Noise Monitoring and Reporting Plan prepared in accordance with the requirements set out in the EA Approval and as approved by the Director;

(b) shall submit an Acoustic Audit Report on the results of the Acoustic Audit, prepared by an Independent Acoustical Consultant, in accordance with the requirements of *Publication NPC-233* and the Noise Monitoring and Reporting Plan prepared in accordance with the requirements set out in the EA Approval and as approved by the Director, to the District Manager and the Director, not later than three (3) months after the commencement of operation of the Facility.

(6) The Director:

(a) may not accept the results of the Acoustic Audit if the requirements of *Publication NPC-233* or the approved noise Monitoring and Reporting Plan were not followed;

(b) may require the Owner to repeat the Acoustic Audit if the results of the Acoustic Audit are found unacceptable to the Director.

All other Terms and Conditions remain the same.

The reason for this amendment to the Approval is to address the information provided in the following documents:

Acoustic Audit Report prepared by Valcoustics Canada Ltd., dated May 8, 2015 and signed by Kathryn Katsiroumpas, P.Eng.; and

Acoustic Audit Report prepared by Valcoustics Canada Ltd., dated November 23, 2015 and signed by Kathryn Katsiroumpas, P.Eng.

This Notice shall constitute part of the approval issued under Approval No. 7306-8FDKNX dated June 28, 2011

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

1. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The environmental compliance approval number;
6. The date of the environmental compliance approval;
7. The name of the Director, and;
8. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario

AND

The Director appointed for the
purposes of Part II.1 of the
Environmental Protection Act
Ministry of the Environment and

M5G 1E5

Climate Change
135 St. Clair Avenue West, 1st Floor
Toronto, Ontario
M4V 1P5

*** Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 326-5370 or www.ert.gov.on.ca**

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 23rd day of December,
2015

Ian Greason, P.Eng.
Director
appointed for the purposes of Part II.1 of
the *Environmental Protection Act*

HM/
c: District Manager, MOECC York-Durham
Kathryn Katsiroumpas, Valcoustics Canada Ltd.

Content Copy Of Original



Ministry of the Environment and Climate Change
Ministère de l'Environnement et de l'Action en matière de changement
climatique

AMENDMENT TO ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 7306-8FDKNX

Notice No. 4

Issue Date: February 24, 2016

The Regional Municipality of Durham
605 Rossland Road East, Level 5
Whitby, Ontario
L1N 6A3

The Regional Municipality of York
17250 Yonge Street
Newmarket, Ontario
L3Y 6Z1

TransRiver Canada Incorporated operating as Covanta Durham York
Renewable Energy Limited Partnership
445 South Street
Morristown, New Jersey
USA 07960

Site Location: Durham York Energy Centre
1835 Energy Dr Lot 27, Concession Broken Front, Part 1
Clarington Municipality, Regional Municipality of Durham
L1E 2R2

You are hereby notified that I have amended Approval No. 7306-8FDKNX issued on June 28, 2011 for a Waste Disposal Site (Incineration), complete with an Energy from Waste Facility and associated equipment, , as follows:

The following Conditions are revoked:

7. TESTING , MONITORING and AUDITING

Noise Monitoring - Acoustic Audit

(5) The Owner:

(a) shall carry out Acoustic Audit measurements on the actual noise emissions due to the operation of the Facility. The Acoustic Audit measurements shall be carried out in accordance with the procedures in *Publication NPC-103* and in accordance to the Noise Monitoring and Reporting Plan prepared in accordance with the requirements set out in the EA Approval and as approved by the Director;

(b) shall submit an Acoustic Audit Report on the results of the Acoustic Audit, prepared by an Independent Acoustical Consultant, in accordance with the requirements of *Publication NPC-233*

and the Noise Monitoring and Reporting Plan prepared in accordance with the requirements set out in the EA Approval and as approved by the Director, to the District Manager and the Director, not later than three (3) months after the commencement of operation of the Facility.

(6) The Director:

(a) may not accept the results of the Acoustic Audit if the requirements of *Publication NPC-233* or the approved Noise Monitoring and Reporting Plan were not followed;

(b) may require the Owner to repeat the Acoustic Audit if the results of the Acoustic Audit are found unacceptable to the Director.

All other Terms and Conditions remain the same.

The reason for this amendment to the Approval is to address the information provided in the following documents:

Acoustic Audit Report prepared by Valcoustics Canada Ltd., dated May 8, 2015 and signed by Kathryn Katsiroumpas, P.Eng.; and

Acoustic Audit Report prepared by Valcoustics Canada Ltd., dated November 23, 2015 and signed by Kathryn Katsiroumpas, P.Eng.

This Notice shall constitute part of the approval issued under Approval No. 7306-8FDKNX dated June 28, 2011

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

1. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The environmental compliance approval number;
6. The date of the environmental compliance approval;
7. The name of the Director, and;
8. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5

AND

The Director appointed for the
purposes of Part II.1 of the
Environmental Protection Act
Ministry of the Environment and
Climate Change
135 St. Clair Avenue West, 1st Floor
Toronto, Ontario
M4V 1P5

*** Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 326-5370 or www.ert.gov.on.ca**

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 24th day of February,
2016

Ian Greason, P.Eng.
Director
appointed for the purposes of Part II.1 of
the *Environmental Protection Act*

HM/
c: District Manager, MOECC York-Durham
Kathryn Katsiroumpas, Valcoustics Canada Ltd.

Content Copy Of Original



Ministry of the Environment and Climate Change
Ministère de l'Environnement et de l'Action en matière de changement
climatique

AMENDMENT TO ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 7306-8FDKNX

Notice No. 5

Issue Date: March 14, 2016

The Regional Municipality of Durham
605 Rossland Rd E 5th Floor
Whitby, Ontario
L1N 6A3

and

The Regional Municipality of York
17250 Yonge Street
Newmarket, Ontario
L3Y 6Z1

and

TransRiver Canada Incorporated, as general partner for and on behalf of Covanta
Durham York Renewable Energy Limited Partnership
445 South St
Morristown, New Jersey
USA 07960

Site Location: Durham York Energy Centre
1835 Energy Dr Lot 27, Concession Broken Front, Part 1
Clarington Municipality, Regional Municipality of Durham
L1E 2R2

You are hereby notified that I have amended Approval No. 7306-8FDKNX issued on June 28, 2011 for Waste Disposal Site (Incineration), complete with an Energy from Waste Facility and associated equipment , as follows:

I. The following conditions have been amended to read as follows:

2 . SERVICE AREA, APPROVED WASTE TYPES, RATES and STORAGE

(5) Storage Restrictions:

Solids:

(c) A maximum of approximately 77 tonnes or 106 cubic metres of the Residual Waste, limited to the recovered ferrous metals, shall be stored in one (1) dedicated bunker, located within the confines of the Residue Building, described in the Supporting Documentation. (d) A maximum of approximately 120 tonnes or 100 cubic metres of the Residual Waste, limited to the recovered non-ferrous metals,

shall be stored in one (1) dedicated bunker, located within the confines of the Residue Building, described in the Supporting Documentation.

(e) A maximum of 630 tonnes of the Residual Waste, limited to bottom ash shall be stored in two (2) dedicated bunkers, located within the confines of the Residue Building, described in the Supporting Documentation.

(f) A maximum of 700 tonnes of the Residual Waste, limited to the fly ash shall be stored in seven (7) dedicated bunkers, located within the confines of the Residue Building, described in the Supporting Documentation.

(j) A maximum of 65 cubic metres of cement for fly ash conditioning shall be stored in one (1) outdoor silo, located adjacent to the Residue Building.

(k) A maximum of 105 cubic metres of pozzolan for fly ash conditioning shall be stored in one (1) outdoor silo, located adjacent to the Residue Building.

Liquids: (l) (i) A maximum of 57 cubic metres of aqueous ammonia for the SNCR System shall be stored in one (1) outdoor tank, located adjacent to the Residue Building.

(8) (a) Waste received at the Site shall be processed within six (6) days from its receipt at the Site.

(b) Emergency storage of Waste requirements:

(i) On an emergency basis only, the storage duration of Waste inside the tipping pit may be extended beyond the limit set out in Condition 2.(8)(a), above, subject to compliance with the following requirements:

(A) prior to the start of the emergency storage of Waste, the Owner shall notify, in writing, the District Manager that the incoming Waste will be stored longer than six (6) days from its receipt;

(B) any additional information that the District Manager may require shall be submitted within a time period acceptable to the District Manager;

(C) the proposed preventative measures for emergency storage of Waste as identified in the Operations and Maintenance Manual shall be implemented upon commencement of the emergency storage of Waste and shall remain in effect for the entire duration of the emergency storage, unless otherwise advised by the District Manager; and

(D) the Owner shall notify, in writing, the District Manager when emergency storage is no longer required.

5. EQUIPMENT and SITE INSPECTIONS and MAINTENANCE

(p) all measures deemed necessary to prevent an occurrence of an adverse effect from the emergency storage of Waste.

II. The following section of Schedule "F" has been amended to read as follows:

PARAMETER:

Total Hydrocarbons

INSTALLATION:

The Total Hydrocarbons Monitor shall be installed at an accessible location where the measurements are representative of the concentrations of Organic Matter (as methane) in the Undiluted Gases leaving the combustion zone via the economizer outlet of each Boiler or at any other location that has been determined in consultation with the Ministry to be suitable/equivalent for the determination of Total Hydrocarbons leaving the combustion zone of each Boiler and has been approved by the Director. The Total Hydrocarbons Monitor shall meet the following installation specifications:

PARAMETERS SPECIFICATION

1. Detector Type: Flame Ionization
2. Oven Temperature: 160 °C minimum
3. Flame Temperature: 1800 °C minimum at the corona of the hydrogen flame
4. Range (parts per million, ppm): 0 to ³ 200 ppm
5. Calibration Gas: propane in air or nitrogen
6. Calibration Gas Ports: close to the sample point

PERFORMANCE:

The Continuous Total Hydrocarbons Monitor shall meet the following minimum performance specifications for the following parameters.

PARAMETERS SPECIFICATION

1. Span Value (nearest ppm equivalent): 2 times the average normal concentration of the source
2. Relative Accuracy: ± 10 percent of the mean value of the reference method test data or ± 5 ppm whichever is greater
3. System Bias: ± 4 percent of the mean value of the reference method test data
4. Noise: ± 1 percent of span value on most sensitive range
5. Repeatability: ± 1 percent of span value
6. Linearity (response with propane in air): ± 3 percent of span value over all ranges
7. Calibration Error: ± 2 percent of actual concentration
8. Procedure for Zero and Span Calibration Check: all system components checked on all ranges
9. Zero Calibration Drift (24-hours): ± 2.5 percent of span value on all ranges
10. Span Calibration Drift (24-hours): ± 2.5 percent of span value
11. Response Time (90 percent response ± 60 seconds to a step change):
12. Operational Test Period: ³ 168 hours without corrective

maintenance

CALIBRATION:

Daily calibration drift checks on the monitor shall be performed and recorded in accordance with the requirements of Report EPS 1/PG/7.

DATA RECORDER:

The data recorder must be capable of registering continuously the measurement of the monitor with an accuracy of 0.5 percent of a full scale reading or better and with a time resolution of 2 minutes or better. Measurements of concentrations of organic matter (as methane) shall be kept as 10 minute average values for record keeping and reporting purposes.

RELIABILITY:

The monitor shall be operated and maintained so that accurate data is obtained during a minimum of 90 percent of the time for each calendar quarter during the first full year of operation, and 95 percent thereafter .

III. The following Item #4 in Schedule "A" has been amended to read as follows:

4. Letter dated October 31, 2013 from Mirka Januszkiewicz, The Regional Municipality of Durham to Ian Parrott, Ministry of the Environment and Climate Change, requesting approval of the Ash Sampling and Testing Protocol and the document entitled "Durham York Energy Centre, Ash Sampling and Testing Protocol", excluding a reference to the Loss-on-Ignition test method on page 6, prepared by Golder Associates and dated June 2014.

IV. The following document has been added to Schedule "A":

5. Letter dated February 29, 2016 from Leon Brasowski, TransRiver Canada Incorporated, to Dale Gable, Ministry of the Environment and Climate Change, requesting change to the total hydrocarbon monitor location as reviewed and accepted by the Ministry's Standards Development Branch.

The reasons for this amendment to the Approval are as follows:

1. to remove the storage duration limits on storage of recovered ferrous and non-ferrous metals since such storage does not pose an environmental risk;
2. to increase the amounts of cement, pozzolan and aqueous ammonia approved for storage at the Site since the currently approved amounts result in partial filling of the tanks, necessitating more frequent deliveries resulting in increased truck traffic and a chance of interrupting fly ash and flue gas treatment;
3. to revise the protocol for an emergency storage of the incoming Waste so that the Owner is able to deal more effectively with emergency situations occurring at the Site while providing more flexibility to the Districting Manager to oversee management of such situations;
4. to remove a reference to an incorrect bottom ash testing method erroneously included within the text of the DYEC Ash Sampling and Testing Protocol included as Item #4 in Schedule "A" in order to ensure that only the approved testing method for compliance testing is referenced in the supporting documentation.
5. to approve the revised location of the Total Hydrocarbons Monitor following the Ministry's acceptance of the results of the test program in which two (2) Total Hydrocarbons Monitor monitors were operated in the existing and the proposed locations simultaneously.

This Notice shall constitute part of the approval issued under Approval No. 7306-8FDKNX dated June 28, 2011, as amended.

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

1. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The environmental compliance approval number;
6. The date of the environmental compliance approval;
7. The name of the Director, and;
8. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5

AND

The Director appointed for the
purposes of Part II.1 of the
Environmental Protection Act
Ministry of the Environment and
Climate Change
135 St. Clair Avenue West, 1st Floor
Toronto, Ontario
M4V 1P5

*** Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 326-5370 or www.ert.gov.on.ca**

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 14th day of March, 2016

Dale Gable, P.Eng.
Director
appointed for the purposes of Part II.1 of
the *Environmental Protection Act*

MW/

c: District Manager, MOECC York-Durham

n/a, TransRiver Canada Incorporated operating as Covanta Durham York Renewable Energy Limited Partnership

AMENDMENT TO ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 7306-8FDKNX

Notice No. 1

Issue Date: April 22, 2020

The Regional Municipality of Durham
605 Rossland Rd E 5th Floor
Whitby, Ontario
L1N 6A3

and

The Regional Municipality of York
17250 Yonge Street
Newmarket, Ontario
L3Y 6Z1

and

Covanta Durham York Renewable Energy Limited Partnership
445 South Street
Morristown, New Jersey
United States of America
07960

Site Location: Durham York Energy Centre

1835 Energy Dr Lot 27, Concession Broken Front, Part 1
Clarington Municipality, Regional Municipality of Durham
L1E 2R2

You are hereby notified that I have amended Approval No. 7306-8FDKNX issued on June 28, 2011 for Waste Disposal Site (Incineration), complete with an Energy from Waste Facility and associated equipment , as follows:

Notwithstanding the existing conditions of this Environmental Compliance Approval, the following provisions of this Emergency Approval are in effect for the time durations set out as follows:

1. Until December 31, 2020, the Owner may temporarily increase the amount of Waste to be received and thermally treated at the Site up-to 160,000 tonnes per year.
2. From the date of this Approval to the date that corresponds to up-to ninety (90) days after the Ontario Government ends the current Declaration of Emergency to Protect the Public Health, unless an extension has been issued in writing by the District Manager, the following Conditions Nos. 3 through 10 are in effect.
3. The Owner shall provide a written notification to the District Manager when any of the following Conditions Nos. 4 through 9 are implemented.

4. All conditions that set out limitations on hours/days for shipping and receiving of materials including the Waste, the reagents and the Residual Waste are temporarily rescinded.

5. The Owner may temporarily increase the maximum tonnage amounts for the bottom and fly ash within the Residue Building up-to 80% of the total achievable storage capacity of the Residue Building.

6. The Owner may temporarily store the Residual Waste and the reagents in the outdoor locations at the Site and the storage shall be done as follows:

- a. the storage shall be in covered and leak-proof trailers or bins or containers;
- b. trailers or bins or containers shall be parked or located away from catchbasins, if possible; and
- c. if trailers or bins or containers must be parked or be located near catchbasins, covers or booms shall be readily available to protect catchbasins in the event of a spill or leak.

7. All conditions that set out limitations on receipt and storage of reagents are temporarily rescinded.

8. The Owner may temporarily reduce the number of loads tipped on the tipping floor for a manual visual inspection and sorting of the incoming Waste from one load per hour to two loads per shift, unless instructed otherwise by the local Medical Officer of Health to cease inspections on the tipping floor.

9. Following commencement of the outdoor storage of the Residual Waste or the reagents at the Site, the Owner shall conduct daily inspections of any outdoor storage location for evidence of spills, odour, vermin/vectors, dust, litter and other nuisance impacts, and shall maintain a written or electronic log of these inspections. The log shall be kept at the Site for the duration acceptable to the District Manager and it shall contain the following information:

- a. the date of the inspection;
- b. the location of the inspection;
- c. the name of person undertaking the inspection;
- d. any impacts identified during the inspection; and
- e. any remedial actions taken to address those impacts.

10. By the end of the ninety (90) day-period from the date when the Ontario Government ends the current Declaration of Emergency to Protect the Public Health,

the Owner shall provide to the District Manager a summary report of the expected timelines for the storage and the operational practices to return to normal operating levels/protocols as approved in this Approval.

The reasons for this amendment to the Approval are as follows:

to provide temporary additional thermal treatment capacity at the Site and the operational flexibility as requested in the letter dated March 20, 2020 signed and submitted by Gioseph Anello, M.Eng., P.Eng., PMP, Acting Director, Waste Management Services, The Regional Municipality of Durham and Laura McDowell, P.Eng., Director, Environmental Promotion and Protection, The Regional Municipality of York to respond to the current Declaration of Emergency to Protect the Public Health and to alleviate impacts and prevent any danger to the health and safety of the public and the environment.

This Notice shall constitute part of the approval issued under Approval No. 7306-8FDKNX dated June 28, 2011, as amended.

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

- a. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
- b. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

1. The name of the appellant;
2. The address of the appellant;
3. The environmental compliance approval number;
4. The date of the environmental compliance approval;
5. The name of the Director, and;
6. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5

AND

The Director appointed for the purposes of Part II.1
of the Environmental Protection Act
Ministry of the Environment, Conservation and
Parks
135 St. Clair Avenue West, 1st Floor
Toronto, Ontario
M4V 1P5

*** Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 326-5370 or www.ert.gov.on.ca**

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 22nd day of April, 2020

Mohsen Keyvani, P.Eng.
Director
appointed for the purposes of Part
II.1 of the *Environmental
Protection Act*

MW/

c: District Manager, MECP York-Durham
Giuseppe Anello, M.Eng., P.Eng., PMP, Acting Director, Waste Management Services, The
Regional Municipality of Durham
Laura McDowell, P.Eng., Director, Environmental Promotion and Protection, The Regional
Municipality of York

AMENDMENT TO ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 7306-8FDKNX

Notice No. 2

Issue Date: December 23, 2021

The Regional Municipality of Durham
605 Rossland Rd E 5th Floor
Whitby, Ontario
L1N 6A3
and
The Regional Municipality of York
17250 Yonge Street
Newmarket, Ontario
L3Y 6Z1
and
Covanta Durham York Renewable Energy Limited Partnership
445 South Street
Morristown, New Jersey
United States of America
07960

Site Location: Durham York Energy Centre
1835 Energy Dr Lot 27, Concession Broken Front, Part 1
Clarington Municipality, Regional Municipality of Durham
L1E 2R2

You are hereby notified that I have amended Approval No. 7306-8FDKNX issued on June 28, 2011 for Waste Disposal Site (Incineration), complete with an Energy from Waste Facility and associated equipment, as follows:

Notwithstanding the existing conditions of this Environmental Compliance Approval, the following provisions of this Emergency Approval are in effect for the time durations set out as follows:

1. Until December 31, 2021, the Owner may temporarily increase the amount of Waste to be received and thermally treated at the Site from 140,000 tonnes per year up-to 142,000 tonnes per year.

The reasons for this amendment to the Approval are as follows:

1. to provide temporary additional thermal treatment capacity at the Site as requested in the Environmental Compliance Approval Application dated November 23, 2021 signed and submitted by Gioseph Anello, M.Eng., P.Eng., PMP, Director Waste Management Services, the Regional Municipality of Durham (Durham Region) on behalf of York

Region, Durham Region and Covanta;

2. to effectively manage the increase in the quantities of waste being disposed of within the existing curbside programs and received at transfer stations within the approved service area due to work from home arrangements and behaviour change of residents resulting from the ongoing COVID-19 pandemic; and

3. to safely manage waste generated in the approved service area to prevent,

d. danger to the health or safety of any person;

e. impairment or immediate risk of impairment of the quality of the natural environment for any use that can be made of it; or

f. injury or damage or immediate risk of injury or damage to any property or to any plant or animal life environment and present potential hazard to the health and safety of neighbouring sites, wildlife and the public and prevent any danger to the health and safety of the public and the environment.

This Notice shall constitute part of the approval issued under Approval No. 7306-8FDKNX dated June 28, 2011, as amended.

In accordance with Section 139 of the *Environmental Protection Act*, you may by written notice served upon me and the Ontario Land Tribunal within 15 days after receipt of this notice, require a hearing by the Tribunal. Section 142 of the *Environmental Protection Act* provides that the notice requiring the hearing ("the Notice") shall state:

- a. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
- b. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

Pursuant to subsection 139(3) of the *Environmental Protection Act*, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

1. The name of the appellant;
2. The address of the appellant;
3. The environmental compliance approval number;
4. The date of the environmental compliance approval;

5. The name of the Director, and;
6. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

Registrar*
Ontario Land Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5
OLT.Registrar@ontario.ca

and

The Director appointed for the purposes of Part II.1
of the *Environmental Protection Act*
Ministry of the Environment, Conservation and
Parks
135 St. Clair Avenue West, 1st Floor
Toronto, Ontario
M4V 1P5

*** Further information on the Ontario Land Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349 or 1 (866) 448-2248, or www.oltt.gov.on.ca**

The above noted activity is approved under s.20.3 of Part II.1 of the *Environmental Protection Act*.

DATED AT TORONTO this 23rd day of
December, 2021

Mohsen Keyvani, P.Eng.
Director
appointed for the purposes of Part
II.1 of the *Environmental Protection Act*

MW/

c: District Manager, MECP York-Durham
Giuseppe Anello, M.Eng., P.Eng., PMP, Director, Waste Management Services, The Regional Municipality of Durham
Laura McDowell, P.Eng., Director, Environmental Promotion and Protection, The Regional Municipality of York
Andrew Evans, The Regional Municipality of Durham

AMENDMENT TO ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 7306-8FDKNX

Notice No. 1

Issue Date: April 22, 2020

The Regional Municipality of Durham
605 Rossland Rd E 5th Floor
Whitby, Ontario
L1N 6A3

and

The Regional Municipality of York
17250 Yonge Street
Newmarket, Ontario
L3Y 6Z1

and

Covanta Durham York Renewable Energy Limited Partnership
445 South Street
Morristown, New Jersey
United States of America
07960

Site Location: Durham York Energy Centre

1835 Energy Dr Lot 27, Concession Broken Front, Part 1
Clarington Municipality, Regional Municipality of Durham
L1E 2R2

You are hereby notified that I have amended Approval No. 7306-8FDKNX issued on June 28, 2011 for Waste Disposal Site (Incineration), complete with an Energy from Waste Facility and associated equipment , as follows:

Notwithstanding the existing conditions of this Environmental Compliance Approval, the following provisions of this Emergency Approval are in effect for the time durations set out as follows:

1. Until December 31, 2020, the Owner may temporarily increase the amount of Waste to be received and thermally treated at the Site up-to 160,000 tonnes per year.
2. From the date of this Approval to the date that corresponds to up-to ninety (90) days after the Ontario Government ends the current Declaration of Emergency to Protect the Public Health, unless an extension has been issued in writing by the District Manager, the following Conditions Nos. 3 through 10 are in effect.
3. The Owner shall provide a written notification to the District Manager when any of the following Conditions Nos. 4 through 9 are implemented.

4. All conditions that set out limitations on hours/days for shipping and receiving of materials including the Waste, the reagents and the Residual Waste are temporarily rescinded.
5. The Owner may temporarily increase the maximum tonnage amounts for the bottom and fly ash within the Residue Building up-to 80% of the total achievable storage capacity of the Residue Building.
6. The Owner may temporarily store the Residual Waste and the reagents in the outdoor locations at the Site and the storage shall be done as follows:
 - a. the storage shall be in covered and leak-proof trailers or bins or containers;
 - b. trailers or bins or containers shall be parked or located away from catchbasins, if possible; and
 - c. if trailers or bins or containers must be parked or be located near catchbasins, covers or booms shall be readily available to protect catchbasins in the event of a spill or leak.
7. All conditions that set out limitations on receipt and storage of reagents are temporarily rescinded.
8. The Owner may temporarily reduce the number of loads tipped on the tipping floor for a manual visual inspection and sorting of the incoming Waste from one load per hour to two loads per shift, unless instructed otherwise by the local Medical Officer of Health to cease inspections on the tipping floor.
9. Following commencement of the outdoor storage of the Residual Waste or the reagents at the Site, the Owner shall conduct daily inspections of any outdoor storage location for evidence of spills, odour, vermin/vectors, dust, litter and other nuisance impacts, and shall maintain a written or electronic log of these inspections. The log shall be kept at the Site for the duration acceptable to the District Manager and it shall contain the following information:
 - a. the date of the inspection;
 - b. the location of the inspection;
 - c. the name of person undertaking the inspection;
 - d. any impacts identified during the inspection; and
 - e. any remedial actions taken to address those impacts.
10. By the end of the ninety (90) day-period from the date when the Ontario Government ends the current Declaration of Emergency to Protect the Public Health,

the Owner shall provide to the District Manager a summary report of the expected timelines for the storage and the operational practices to return to normal operating levels/protocols as approved in this Approval.

The reasons for this amendment to the Approval are as follows:

to provide temporary additional thermal treatment capacity at the Site and the operational flexibility as requested in the letter dated March 20, 2020 signed and submitted by Gioseph Anello, M.Eng., P.Eng., PMP, Acting Director, Waste Management Services, The Regional Municipality of Durham and Laura McDowell, P.Eng., Director, Environmental Promotion and Protection, The Regional Municipality of York to respond to the current Declaration of Emergency to Protect the Public Health and to alleviate impacts and prevent any danger to the health and safety of the public and the environment.

This Notice shall constitute part of the approval issued under Approval No. 7306-8FDKNX dated June 28, 2011, as amended.

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

- a. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
- b. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

1. The name of the appellant;
2. The address of the appellant;
3. The environmental compliance approval number;
4. The date of the environmental compliance approval;
5. The name of the Director, and;
6. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5

AND

The Director appointed for the purposes of Part II.1
of the Environmental Protection Act
Ministry of the Environment, Conservation and
Parks
135 St. Clair Avenue West, 1st Floor
Toronto, Ontario
M4V 1P5

* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 326-5370 or www.ert.gov.on.ca

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 22nd day of April, 2020

Mohsen Keyvani, P.Eng.
Director
appointed for the purposes of Part
II.1 of the *Environmental
Protection Act*

MW/

c: District Manager, MECP York-Durham
Giuseppe Anello, M.Eng., P.Eng., PMP, Acting Director, Waste Management Services, The
Regional Municipality of Durham
Laura McDowell, P.Eng., Director, Environmental Promotion and Protection, The Regional
Municipality of York



AMENDMENT TO ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 7306-8FDKNX

Notice No. 2

Issue Date: December 23, 2021

The Regional Municipality of Durham
605 Rossland Rd E 5th Floor
Whitby, Ontario
L1N 6A3

and

The Regional Municipality of York
17250 Yonge Street
Newmarket, Ontario
L3Y 6Z1

and

Covanta Durham York Renewable Energy Limited Partnership
445 South Street
Morristown, New Jersey
United States of America
07960

Site Location: Durham York Energy Centre

1835 Energy Dr Lot 27, Concession Broken Front, Part 1
Clarington Municipality, Regional Municipality of Durham
L1E 2R2

You are hereby notified that I have amended Approval No. 7306-8FDKNX issued on June 28, 2011 for Waste Disposal Site (Incineration), complete with an Energy from Waste Facility and associated equipment , as follows:

Notwithstanding the existing conditions of this Environmental Compliance Approval, the following provisions of this Emergency Approval are in effect for the time durations set out as follows:

1. Until December 31, 2021, the Owner may temporarily increase the amount of Waste to be received and thermally treated at the Site from 140,000 tonnes per year up to 142,000 tonnes per year.

The reasons for this amendment to the Approval are as follows:

1. to provide temporary additional thermal treatment capacity at the Site as requested in the Environmental Compliance Approval Application dated November 23, 2021 signed and submitted by Gioseph Anello, M.Eng., P.Eng., PMP, Director Waste Management Services, the Regional Municipality of Durham (Durham Region) on behalf of York

Region, Durham Region and Covanta;

2. to effectively manage the increase in the quantities of waste being disposed of within the existing curbside programs and received at transfer stations within the approved service area due to work from home arrangements and behaviour change of residents resulting from the ongoing COVID-19 pandemic; and

3. to safely manage waste generated in the approved service area to prevent,

d. danger to the health or safety of any person;

e. impairment or immediate risk of impairment of the quality of the natural environment for any use that can be made of it; or

f. injury or damage or immediate risk of injury or damage to any property or to any plant or animal life environment and present potential hazard to the health and safety of neighbouring sites, wildlife and the public and prevent any danger to the health and safety of the public and the environment.

This Notice shall constitute part of the approval issued under Approval No. 7306-8FDKNX dated June 28, 2011, as amended.

In accordance with Section 139 of the *Environmental Protection Act*, you may by written notice served upon me and the Ontario Land Tribunal within 15 days after receipt of this notice, require a hearing by the Tribunal. Section 142 of the *Environmental Protection Act* provides that the notice requiring the hearing ("the Notice") shall state:

- a. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
- b. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

Pursuant to subsection 139(3) of the *Environmental Protection Act*, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

1. The name of the appellant;
2. The address of the appellant;
3. The environmental compliance approval number;
4. The date of the environmental compliance approval;

5. The name of the Director, and;
6. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

Registrar*
Ontario Land Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5
OLT.Registrar@ontario.ca

and

The Director appointed for the purposes of Part II.1
of the *Environmental Protection Act*
Ministry of the Environment, Conservation and
Parks
135 St. Clair Avenue West, 1st Floor
Toronto, Ontario
M4V 1P5

*** Further information on the Ontario Land Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349 or 1 (866) 448-2248, or www.olt.gov.on.ca**

The above noted activity is approved under s.20.3 of Part II.1 of the *Environmental Protection Act*.

DATED AT TORONTO this 23rd day of
December, 2021

Mohsen Keyvani, P.Eng.
Director
appointed for the purposes of Part
II.1 of the *Environmental Protection Act*

MW/

c: District Manager, MECP York-Durham
Giuseppe Anello, M.Eng., P.Eng., PMP, Director, Waste Management Services, The Regional Municipality of Durham
Laura McDowell, P.Eng., Director, Environmental Promotion and Protection, The Regional Municipality of York
Andrew Evans, The Regional Municipality of Durham

APPENDIX 4

Particulate and Metals Field Data Sheets (30 pages)

Alliance Technical Group

Project No.:	AST-2025-3852
Page	1 of 5
Probe No.:	M29
Meter Box No.:	M1318
Impinger Box No.:	

Plant	Reworld
Plant Location	Courtice, Ontario
Test No.:	M29
Test Date	10/27/2025
Test Location	APC Outlet No. 1
Operator	BCP

Pitot Factor	-842
DGMCF (Y)	940
Barometric Pressure	30.07 "Hg
Static Pressure	-10.85 "H2O
Nozzle Size	2496 inches
Stack Diameter	54 inches
Length	feet
Width	feet
Port length:	11 inches

Moisture Gain	
Total	517.6 g

Combustion Gas Concentration	
Oxygen	9.59 %
Carbon Dioxide	9.86 %
Carbon Monoxide	9.3 ppm

Reading Interval	2.5 min
Number of Ports	2
Number of Points/Port	12

Probe Liner Glass / Metal / Teflon / Other _____

Nozzle Glass / Metal / Other _____

Union None / Metal / Teflon / Other _____

Pitot Leak Checked? Yes No

Measuring Device	ID
Probe / Pitot	SP6
Trendicator	
Control Box	M1318
Incline Manometer	"
Comb. Gas Analyzer	CEMS
Micromanometer	
Barometer	BAR-1
Calipers	CA-2

Nozzle Measurements
1 0.2495
2 0.2500
3 0.2495
Average: 0.2496

Site Diagram

Notes:

Field Data Sheet

Date: 10/24/25	Plant: Reworld	Test No.: 1427	Page 2 of 5
Plant Location: Courtfice, Ontario	Test Location: APC Outlet No. 1		

Point	Clock Time	Dry Gas Meter ft ³	Pitot ΔP "H ₂ O	DGM Temp AVG. °F	Stack Temp °F	Meter Pressure ΔH "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Outlet °F	Impinger Temp Inlet/Trap °F
1	0	87.5	.93	61	280	2.1	5	250	253	58	
	2.5	89.44	.93	62	285	2.1	5	254	255	45	
	5	91.37	.93	62	285	2.1	5	260	257	46	
	7.5	93.31	.90	62	285	2	4	250	254	46	
	10	95.19	.90	62	281	2	4	260	250	45	
3	12.5	97.10	.90	63	284	2	4	250	250	45	
	15	99.01	.87	63	284	2	4	261	251	46	
	17.5	100.89	.91	63	283	2.05	4	254	255	46	
	20	102.81	.85	63	283	1.9	4	254	256	47	
	22.5	104.65	.82	64	283	1.85	4	256	255	47	
5	25	106.49	.83	64	282	1.9	4	251	252	47	
	27.5	108.33	.83	64	282	1.9	4	261	250	48	
	30	110.17	.69	65	282	1.55	4	250	250	48	
	32.5	111.85	.69	65	281	1.6	4	261	251	48	
	35	113.53	.71	66	281	1.6	4	248	253	48	
6	37.5	115.25	.64	66	281	1.5	4	261	254	48	
	40	116.89	.65	66	281	1.5	4	250	255	48	
	42.5	118.53	.65	67	281	1.5	4	257	253	48	
	45	120.18	.68	67	281	1.6	4	254	252	48	
	47.5	121.88	.67	67	282	1.5	4	255	252	48	
	50	123.53	.67	68	281	1.5	4	257	251	48	

Traverse: 1	Initial Leak Check: .003	cfm@ 15	"Hg
Start Time: 8:57	Final Leak Check:	cfm@	"Hg
Finish Time:		cfm@	"Hg

Project No.: AST-2025-3852
Operator: JCP

Field Data Sheet

Date: 10/27/25	Plant: Reworld	Test No.: 1429	Page 3 of 5
Plant Location: Courtice, Ontario	Test Location: APC Outlet No. 1		

Point	Clock Time	Dry Gas Meter ft ³	Pitot Δ P "H ₂ O	DGM Temp AVG. °F	Stack Temp °F	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinger Temp
8	52.5	125.17	.67	68	281	1.55	4	251	252	48
	55	126.87	.67	68	280	1.55	4	254	253	48
	57.5	128.54	.69	69	280	1.6	4	248	254	48
	60	130.25	.70	69	280	1.6	4	263	253	48
9	62.5	131.96	.70	69	280	1.6	4	250	253	48
	65	133.67	.69	70	280	1.6	4	260	252	48
	67.5	135.38	.70	70	280	1.6	4	250	252	48
	70	137.08	.70	70	280	1.6	4	261	252	47
10	72.5	138.78	.69	70	278	1.6	4	252	253	47
	75	140.50	.46	71	278	1.05	3	256	254	47
	77.5	141.89	.46	71	278	1.05	3	254	253	47
	80	143.29	.46	71	280	1.05	3	251	256	47
11	82.5	144.69	.45	71	280	1	3	260	251	47
	85	146.07	.48	72	280	1.1	3	248	252	47
	87.5	147.50	.44	72	280	1	3	262	253	47
	90	148.90	.94	72	281	2.15	5	250	254	56
12	92.5	151.13	.94	71	281	2.15	5	265	256	49
	95	153.13	.90	72	281	2.1	5	254	257	44
	97.5	155.04	.92	72	282	2.1	5	255	254	46
	100	157.01	.92	72	282	2.1	5	252	250	46
1	102.5	158.98	.90	72	282	2.1	5	255	248	46

Traverse: 1	Traverse: 2
Start Time: 10:27	Start Time: 10:40
Finish Time: 10:27	Finish Time:
Initial Leak Check: 603 cfm@ 15 "Hg	Initial Leak Check: 623 cfm@ 15 "Hg
Final Leak Check: 603 cfm@ 15 "Hg	Final Leak Check:

Project No.: AST-2025-3852
Operator: RCP

Field Data Sheet

Date: 10/27/26	Plant: Reworld	Test No.: 1129	Page 4 of 5
Plant Location: Courtice, Ontario	Test Location: APC Outlet No. 1		

Point	Clock Time	Dry Gas Meter ft ³	Pitot Δ P "H ₂ O	DGM Temp AVG. °F	Stack Temp °F	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinger Temp Inlet/Trap °F
3	105	160.93	.86	72	281	2	5	252	252	46
	107.5	162.85	.88	72	281	2	5	251	254	46
	110	164.76	.88	72	282	2	5	260	253	46
4	112.5	166.68	.80	73	282	1.85	4	250	254	46
	115	168.52	.81	73	281	1.9	4	260	251	46
	117.5	170.39	.81	73	281	1.9	4	250	249	46
5	120	172.25	.76	73	281	1.75	4	257	253	46
	122.5	174.05	.76	73	281	1.75	4	255	252	46
	125	175.86	.74	74	281	1.7	4	252	255	46
6	127.5	177.60	.69	74	280	1.6	4	257	254	46
	130	179.30	.68	74	280	1.6	4	250	253	46
	132.5	181.01	.68	74	281	1.6	4	261	251	46
7	135	182.73	.72	74	281	1.7	4	250	251	46
	137.5	184.48	.74	74	281	1.7	4	261	251	46
	140	186.24	.75	74	282	1.75	4	251	253	46
8	142.5	188.02	.75	74	282	1.75	4	257	253	46
	145	189.80	.76	75	282	1.75	4	254	253	46
	147.5	191.60	.78	75	282	1.8	4	251	253	46
9	150	193.42	.79	75	282	1.85	4	260	251	47
	152.5	195.27	.81	75	283	1.9	5	250	252	47
	155	197.15	.79	75	283	1.8	5	261	252	47

Traverse:	Start Time:	Initial Leak Check:	Final Leak Check:	cfm@	"Hg

Project No.: AST-2025-3852
Operator: RCP

Field Data Sheet

Date: 10/27/26	Plant: Reworld	Test No.: 1429	Page 5 of 5
	Plant Location: Courtice, Ontario	Test Location: APC Outlet No. _____	

[illegible]

Traverse: <u>2</u>		Traverse: <u>2</u>	
Start Time:	Initial Leak Check:	Start Time:	Initial Leak Check:
	cfm@		cfm@
Finish Time:	Final Leak Check:	Finish Time:	Final Leak Check:
	<u>12:10</u>		<u>12:10</u>
	"Hg		"Hg
	cfm@		cfm@
	<u>12</u>		<u>12</u>
	"Hg		"Hg

Project No.: AST-2025-3852
Operator: BCP

Alliance Technical Group

Project No.:	AST-2025-3852
Page	1 of 5
Probe No.:	M29
Meter Box No.:	M1318
Impinger Box No.:	

Plant	Reworld
Plant Location	Courtice, Ontario
Test No.:	2 M29
Test Date	10/27/25
Test Location	APC Outlet No. 1
Operator	BCP

Pitot Factor	842
DGMCF (V)	990
Barometric Pressure	30.07 "Hg
Static Pressure	-10.85 "H2O
Nozzle Size	2.496 inches
Stack Diameter	54 inches
Length	feet
Width	feet
Port length:	11 inches

Moisture Gain	
Total	571.0 g

Combustion Gas Concentration	
Oxygen	9.47 %
Carbon Dioxide	9.97 %
Carbon Monoxide	8.9 ppm

Measuring Device	ID
Probe / Pitot	SP6
Trendicator	
Control Box	M1318
Incline Manometer	1"
Comb. Gas Analyzer	CEMS
Micromanometer	
Barometer	BAR-1
Calipers	CHL-2

Site Diagram

Nozzle Measurements	
1	.2495
2	.2500
3	.2495
Average:	.2496

Reading Interval	2.5 min
Number of Ports	2
Number of Points/Port	12

Probe Liner Glass / Metal / Teflon / Other

Nozzle Glass / Metal / Other

Union None / Metal / Teflon / Other

Pitot Leak Checked? Yes No

Notes:

Field Data Sheet

Date: 10/27/25	Plant: Reworld	Test No.: 2429
Plant Location: Courtice, Ontario	Test Location: APC Outlet No. 1	

Point	Clock Time	Dry Gas Meter ft ³	Pitot Δ P "H ₂ O	DGM Temp AVG. °F	Stack Temp °F	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinger Temp Outlet °F	Impinger Temp Inlet/Trap °F
1	0	17.15	.92	73	281	2.2	4	255	260	60	
	2.5	19.15	.92	72	281	2.2	4	250	259	55	
	5	21.15	.96	73	281	2.3	4	265	257	53	
2	7.5	23.18	.91	73	281	2.15	4	251	256	51	
	10	25.17	.92	72	281	2.2	4	255	257	50	
	12.5	27.16	.92	72	281	2.2	4	251	250	49	
3	15	29.16	.88	72	281	2.1	4	253	252	49	
	17.5	31.10	.88	72	281	2.1	4	258	250	49	
	20	33.05	.87	72	281	2	3	250	250	49	
4	22.5	34.98	.85	72	281	2	3	259	255	49	
	25	36.87	.85	73	281	2	3	250	257	48	
	27.5	38.78	.83	73	281	2	3	260	255	48	
5	30	40.69	.80	73	281	1.9	3	250	251	48	
	32.5	42.55	.77	73	281	1.8	3	259	250	48	
	35	44.37	.77	73	280	1.8	3	252	250	48	
6	37.5	46.18	.71	73	280	1.7	3	254	255	48	
	40	47.94	.71	74	280	1.7	3	250	257	48	
	42.5	49.69	.71	74	280	1.7	3	254	253	48	
7	45	51.46	.72	74	281	1.7	3	251	250	49	
	47.5	53.24	.77	74	281	1.8	3	250	250	49	
	50	55.05	.75	74	281	1.8	3	260	250	49	

Traverse: 2	Initial Leak Check: 13.06	Initial Leak Check: 15.5	Traverse: 2	Initial Leak Check: cfm@	Traverse: 2	Initial Leak Check: cfm@
Start Time: 13.06	Final Leak Check:	Final Leak Check:	Start Time:	Final Leak Check:	Start Time:	Final Leak Check:
Finish Time:			Finish Time:		Finish Time:	

Project No.: AST-2025-3852

Operator: BCP

Field Data Sheet

Date: 10/27/25	Plant: Reworld	Test No.: 2429
Plant Location: Courtice, Ontario	Test Location: APC Outlet No. 1	

Point	Clock Time	Dry Gas Meter ft ³	Pitot Δ P "H ₂ O	DGM Temp AVG. °F	Stack Temp °F	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Outlet °F	Impinger Temp Inlet/Trap °F
8	52.5	56.65	.76	75	281	1.8	3	250	251	49	
	55	58.69	.76	75	281	1.8	3	260	253	49	
	57.5	60.53	.74	75	281	1.75	3	250	254	49	
	60	62.32	.78	75	280	1.85	3	258	259	49	
9	62.5	64.15	.78	75	280	1.85	3	250	255	49	
	65	65.99	.77	76	280	1.8	3	257	253	49	
	67.5	67.81	.74	76	280	1.75	3	252	251	49	
	70	69.61	.74	76	280	1.75	3	253	250	48	
10	72.5	71.40	.75	76	280	1.8	3	256	250	48	
	75	73.23	.75	76	280	1.8	3	270	251	47	
	77.5	75.02	.74	76	280	1.75	3	258	253	47	
	80	76.83	.74	77	279	1.75	3	250	256	47	
11	82.5	78.63	.73	77	279	1.75	3	260	256	47	
	85	80.41	.72	77	279	1.7	3	250	253	46	
	87.5	82.18	.72	77	278	1.7	3	258	251	46	
	90	83.98	.86	77	280	2.05	4	250	255	54	
12	92.5	86.38	.91	77	278	2.2	4	260	255	48	
	95	88.38	.91	77	278	2.2	4	253	256	46	
	97.5	90.39	.92	77	278	2.2	4	254	255	46	
	100	92.39	.88	78	278	2.1	4	250	251	45	
	102.5	94.28	.88	78	278	2.1	4	252	250	46	

Traverse: 2	Start Time: 14:36	Initial Leak Check: 14:43	Final Leak Check: 15:02
Finish Time: 14:36	cfm@ 15	cfm@ 15	cfm@ 15

Project No.: AST-2025-3852
Operator: BCP

Field Data Sheet

Date: 10/24/25	Plant: Reworld	Test No.: 2429
	Plant Location: Courtice, Ontario	Test Location: APC Outlet No. 31

Point	Clock Time	Dry Gas Meter ft ³	Pitot Δ P "H ₂ O	DGM Temp AVG. °F	Stack Temp °F	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinger Temp Outlet °F	Inlet/Trap °F
3	105	96.34	.92	78	278	2.2	4	255	250	46	
	107.5	98.37	.92	78	278	2.2	4	250	250	46	
	110	100.39	.91	78	278	2.2	4	260	254	46	
	112.5	102.40	.86	78	279	2.05	4	250	257	47	
4	115	104.36	.86	78	279	2.05	4	257	255	47	
	117.5	106.31	.85	79	279	2.05	4	250	252	47	
	120	108.26	.74	79	280	1.8	4	255	251	47	
	122.5	110.11	.75	79	280	1.8	4	250	250	48	
5	125	111.92	.72	79	280	1.7	4	256	250	48	
	127.5	113.72	.65	79	280	1.55	3	252	252	48	
	130	115.39	.66	79	280	1.6	3	254	254	49	
	132.5	117.14	.66	80	280	1.55	3	257	254	49	
6	135	118.85	.75	80	280	1.8	4	250	251	50	
	137.5	120.65	.74	80	280	1.8	4	259	252	49	
	140	122.48	.74	80	281	1.8	4	250	251	48	
	142.5	124.29	.78	80	281	1.9	4	259	250	48	
7	145	126.17	.78	80	281	1.9	4	251	252	48	
	147.5	128.03	.80	80	281	1.9	4	259	254	48	
	150	129.90	.79	80	281	1.9	4	250	253	47	
	152.5	131.75	.76	81	281	1.8	4	255	251	47	
8	155	133.60	.76	81	280	1.8	4	251	251	47	

Traverse: Start Time: Finish Time:	Initial Leak Check: Final Leak Check:	cfm@ cfm@	"Hg "Hg
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Field Data Sheet

Date: 10/24/23	Plant: Reworld	Test No.: 2-129	Page 5 of 5
	Plant Location: Courtice, Ontario	Test Location: APC Outlet No. _____	

[illegible]

Traverse:			"Hg
Start Time:		Initial Leak Check:	cfm@ "Hg
Finish Time:	1:13	Final Leak Check:	cfm@ "Hg

Project No.: AST-2025-3852

Operator: RP

Alliance Technical Group

Plant	Reworld
Plant Location	Courtice, Ontario
Test No.:	3
Test Date	October 28 2025
Test Location	APC Outlet No. 1
Operator	11

Project No.:	AST-2025-3852
Page	1 of 5
Probe No.:	7 series
Meter Box No.:	MB 16
Impinger Box No.:	

Pitot Factor	.841
DGMCF (Y)	.986
Barometric Pressure	28.97
Static Pressure	-9.88
Nozzle Size	2442
Stack Diameter	54
Length	
Width	
Port length:	11

Moisture Gain	
Total	531.3
	g

Combustion Gas Concentration	
Oxygen	9.45
Carbon Dioxide	9.04
Carbon Monoxide	21.2
	ppm

Measuring Device	ID
Probe / Pitot	ISE
Trendicator	BH16
Control Box	BH16
Incline Manometer	BH16
Comb. Gas Analyzer	
Micromanometer	
Barometer	BAR-1
Calipers	CH-2

Reading Interval	2.5 min
Number of Ports	2
Number of Points/Port	12

Probe Liner Glass / Metal / Teflon / Other _____

Nozzle Glass / Metal / Other _____

Union None / Metal / Teflon / Other _____

Pitot Leak Checked? Yes No

Site Diagram	

Nozzle Measurements	
1	2440
2	2440
3	2440
Average:	2442

Notes:

Field Data Sheet

Date: Oct 28 2025	Plant: Reworld	Test No.: 3
Plant Location: Courtoice, Ontario	Test Location: APC Outlet No. 1	

Point	Clock Time	Dry Gas Meter ft ³	Pitot Δ P "H ₂ O	DGM Temp AVG. °F	Stack Temp °F	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinger Temp Outlet °F	Inlet/Trap °F
1	0	48.63	.67	66	276	1.3	2	254	258	63	48
	2.5	50.28	.67	66	275	1.3	2	254	254	49	150
	5	51.87	.67	67	275	1.3	2	252	251	47	193
2	7.5	53.46	.67	67	275	1.3	2	252	250	46	199
	10	55.05	.70	67	275	1.4	2	251	251	46	202
	12.5	56.69	.68	67	275	1.5	2	254	255	45	206
3	15	58.38	.73	67	276	1.6	2	252	255	45	209
	17.5	60.00	.75	68	276	1.5	2	253	253	45	211
	20	61.77	.73	68	277	1.5	2	253	251	45	210
4	22.5	63.45	.75	68	277	1.55	2	253	252	45	210
	25	65.16	.77	69	279	1.65	2.5	253	252	45	209
	27.5	66.92	.77	69	279	1.65	2.5	251	254	45	209
5	30	68.67	.75	70	280	1.6	2.5	253	255	44	209
	32.5	70.42	.75	70	280	1.6	2.5	251	254	44	209
	35	72.14	.72	70	281	1.5	2.5	254	253	44	209
6	37.5	73.84	.72	71	281	1.5	2.5	251	252	44	209
	40	75.55	.70	71	282	1.5	2.5	254	252	44	209
	42.5	77.25	.70	72	282	1.5	2.5	250	252	44	209
7	45	78.92	.64	72	282	1.35	2.5	254	253	45	209
	47.5	80.52	.64	72	282	1.35	2.5	251	253	46	208
	50	82.17	.65	73	282	1.4	2.5	254	254	46	208

Traverse:	Initial Leak Check:	Final Leak Check:
Start Time: 14:46	Start Time:	Start Time:
Finish Time:	Finish Time:	Finish Time:

Project No.: AST 2025-3852

Operator: *[Signature]*

Field Data Sheet

Date: Oct, 28 2025	Plant: Reworld	Test No.: 3	Page 3 of 5
Plant Location: Courtyce, Ontario	Test Location: APC Outlet No. 1		

Point	Clock Time	Dry Gas Meter ft ³	Pitot Δ P "H ₂ O	DGM Temp AVG. °F	Stack Temp °F	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinger Temp Outlet °F	Inlet/Trap °F
8	52.5	83.81	.66	73	282	1.4	2.5	250	253	47	207
	55	85.45	.75	73	282	1.55	2.5	253	252	47	212
	57.5	87.17	.75	74	282	1.55	2.5	250	252	47	212
	60	88.89	.84	74	282	1.75	2.5	254	252	42	212
9	62.5	90.70	.79	74	283	1.65	2.5	251	253	42	213
	65	92.44	.77	75	283	1.65	2.5	253	254	41	225
	67.5	94.29	.77	75	282	1.65	2.5	252	254	41	229
	70	96.07	.78	75	282	1.65	2.5	252	253	41	229
10	72.5	97.85	.95	76	282	1.65	2.5	252	253	41	229
	75	99.64	.95	76	282	1.95	3	251	252	41	228
	77.5	101.55	.95	76	281	1.95	3	253	252	42	227
	80	103.48	.92	76	281	2.0	3	250	252	43	229
11	82.5	105.43	.92	77	282	2.0	3	254	253	43	230
	85	107.39	.93	77	281	2	3	251	253	43	230
	87.5	109.35	.84	77	281	1.8	2.5	254	253	44	230
	90	111.25	.90	78	275	1.95	3	252	252	48	192
12	92.5	113.65	.88	78	282	1.9	3	254	251	40	214
	95	115.55	.88	78	282	1.9	3	251	253	43	228
	97.5	117.46	.88	78	282	1.9	3	253	254	43	230
	100	119.38	.88	78	282	1.9	3	252	254	43	231
	102.5	121.28	.86	78	281	1.85	3	252	253	44	231

Traverse:	Start Time: 16:22	Initial Leak Check: .003 cfm@ 15 "Hg
Finish Time:	Final Leak Check:	cfm@ "Hg

Project No.: AST 2025-3852
Operator: *[Signature]*

Field Data Sheet

Date: Oct. 28 2025	Plant: Reworld	Test No.: 3	MP	Page 4 of 5
Plant Location: Courtice, Ontario		Test Location: APC Outlet No. 1		

Point	Clock Time	Dry Gas Meter ft ³	Pitot Δ P "H ₂ O	DGM Temp AVG. °F	Stack Temp °F	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinger Temp Outlet °F	Inlet/Trap °F
3	105	123.17	.84	78	281	1.8	3	252	251	44	230
	107.5	125.04	.86	79	280	1.85	3	252	252	44	230
	110	126.92	.83	79	280	1.8	3	253	252	44	230
4	112.5	128.78	.78	79	280	1.7	2.5	251	253	44	230
	115	130.58	.80	79	280	1.7	2.5	253	253	44	230
	117.5	132.40	.78	79	279	1.7	2.5	250	253	45	230
5	120	134.20	.81	79	279	1.75	2.5	253	253	45	230
	122.5	136.03	.81	79	280	1.75	2.5	250	252	45	230
	125	137.87	.81	80	280	1.75	2.5	254	252	45	230
6	127.5	139.70	.69	80	280	1.5	2.5	250	252	45	229
	130	141.43	.70	80	280	1.5	2.5	254	253	46	229
	132.5	143.16	.67	80	280	1.45	2.5	257	253	46	229
7	135	144.84	.71	80	280	1.5	2.5	254	254	46	228
	137.5	146.55	.72	80	279	1.5	2.5	251	254	46	228
	140	148.28	.72	80	279	1.5	2.5	253	252	46	228
8	142.5	149.99	.80	80	279	1.75	2.5	250	251	46	228
	145	151.82	.80	80	280	1.75	2.5	252	251	46	228
	147.5	153.67	.80	80	280	1.75	2.5	252	252	46	228
9	150	155.52	.78	80	280	1.7	2.5	252	253	46	229
	152.5	157.35	.78	81	280	1.7	2.5	253	254	46	229
	155	159.15	.78	81	280			251	254	46	229

Traverse:	Start Time:	Initial Leak Check:	Final Leak Check:	cfm@	cfm@	"Hg	"Hg

Project No.: AST-2025-3852
Operator: [Signature]

Field Data Sheet

Date: Oct 28 2025	Plant:	Reworld	Test No.: 3	MP	Page 5 of 5
	Plant Location:	Courtoice, Ontario	Test Location: APC Outlet No. 1		

[illegible]

Traverse: 	
Start Time:	Initial Leak Check: — cfm@ — "Hg
Finish Time: 17:00	Final Leak Check: 0.06 cfm@ 15.5 "Hg

Project No.: AS7-2025-3852

Operator:

Alliance Technical Group

Plant	Reworld
Plant Location	Courtice, Ontario
Test No.:	1 Particulate/Metals
Test Date	October 27 2025
Test Location	APC Outlet No. 2
Operator	

Project No.:	AST-2025-3852
Page	1 of 5
Probe No.:	7 Series
Meter Box No.:	MB16
Impinger Box No.:	

Pitot Factor	.841
DGMCF (Y)	.986
Barometric Pressure	30.00 "Hg
Static Pressure	-10.84 "H2O
Nozzle Size	.2542 inches
Stack Diameter	54 inches
Length	feet
Width	feet
Port length:	11 inches

Moisture Gain	
Total	524.1 g

Combustion Gas Concentration	
Oxygen	9.22 %
Carbon Dioxide	9.97 %
Carbon Monoxide	12.9 ppm

Reading Interval	2.5 min
Number of Ports	2
Number of Points/Port	12

Probe Liner Glass / Metal / Teflon / Other _____

Nozzle Glass / Metal / Other _____

Union None / Metal / Teflon / Other _____

Pitot Leak Checked? Yes No

Notes:

Measuring Device	ID
Probe / Pitot	15E
Trendicator	MB16
Control Box	MB16
Incline Manometer	MB16
Comb. Gas Analyzer	
Micromanometer	
Barometer	BAR-1
Calipers	

Site Diagram

Nozzle Measurements	
1	.2440
2	.2445
3	.2440
Average:	.2442

Field Data Sheet

Date: Oct. 27 2025	Plant: Reworld	Test No.: 1	MP
Plant Location: Courtoice, Ontario		Test Location: APC Outlet No. 2	

Point	Clock Time	Dry Gas Meter ft ³	Pitot ΔP "H ₂ O	DGM Temp AVG. °F	Stack Temp °F	Meter Pressure ΔH "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinger Temp Outlet °F	Impinger Temp Inlet/Trap °F
1	0	81.42	.83	70	280	1.8	3	253	255	65	73
	2.5	83.31	.83	70	280	1.8	3	253	256	57	191
	5	85.17	.83	70	280	1.75	3	251	252	56	211
2	7.5	87.02	.82	70	280	1.75	3	253	249	55	211
	10	88.85	.82	71	280	1.7	3	251	251	54	211
	12.5	90.66	.82	71	280	1.7	3	253	254	53	211
3	15	92.45	.85	71	280	1.8	3	252	255	53	211
	17.5	94.29	.88	71	281	1.9	3	252	254	53	211
	20	96.18	.88	71	281	1.9	3	252	252	53	211
4	22.5	98.09	.85	72	280	1.8	3	252	251	53	210
	25	99.94	.85	72	276	1.8	3	253	251	52	210
	27.5	101.78	.85	72	276	1.8	3.0	251	252	52	210
5	30	103.64	.78	73	276	1.65	3	253	254	51	211
	32.5	105.43	.78	73	276	1.6	3	251	254	51	211
	35	107.19	.77	73	276	1.65	3	253	253	51	213
6	37.5	108.97	.77	74	276	1.65	3	251	252	51	228
	40	110.76	.72	74	276	1.5	3	254	251	51	230
	42.5	112.46	.70	74	277	1.5	3	251	251	51	229
7	45	114.16	.70	74	277	1.5	3	254	252	51	229
	47.5	115.84	.68	75	277	1.45	2.5	251	254	51	230
	50	117.53	.68	75	277	1.45	2.5	253	254	51	231

Traverse:	Initial Leak Check: .008 cfm@	"Hg
Start Time: 16:01	Final Leak Check:	"Hg

Project No.: A57-2025-3852
Operator: [Signature]

Field Data Sheet

Date: Oct. 27, 2015	Plant: Reworld	Test No.: 1	h/p
Plant Location: Courtice, Ontario		Test Location: APC Outlet No. 2	

Point	Clock Time	Dry Gas Meter ft ³	Pitot Δ P "H ₂ O	DGM Temp AVG. °F	Stack Temp °F	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinger Temp Outlet °F	Inlet/Trap °F
8	52.5	119.19	.77	75	277	1.65	3	250	254	51	231
	55	120.96	.77	75	276	1.65	3	254	252	51	230
	57.5	122.75	.78	76	277	1.65	3	251	251	51	230
9	60	124.54	.87	76	277	1.9	3	254	251	51	229
	62.5	126.44	.87	76	276	1.9	3	250	252	52	230
	65	128.36	.85	76	276	1.85	3.5	254	254	52	231
10	67.5	130.25	.91	77	276	2.0	3.5	251	254	53	232
	70	132.19	.91	77	276	2.0	3.5	253	254	53	232
	72.5	134.17	.86	77	275	1.85	3.5	251	252	53	232
11	75	136.07	.90	77	275	2.0	3.5	252	251	53	231
	77.5	137.99	.91	78	274	1.95	3.5	252	251	54	230
	80	139.92	.91	78	274	1.95	3.5	252	252	54	231
12	82.5	141.85	.92	78	274	1.95	3.5	252	253	55	231
	85	143.78	.94	78	274	2.0	3.5	251	254	55	233
	87.5	145.74	.94	78	274	2.0	3.5	253	253	56	233
1	90	147.69	.87	78	275	1.9	3.5	251	251	61	158
	92.5	149.99	.91	78	274	2.0	3.5	252	253	58	21
	95	151.90	.91	78	275	2.0	3.5	253	255	54	249
2	97.5	153.92	.90	78	275	1.9	3.5	251	254	53	220
	100	155.85	.90	78	275	1.9	3.5	253	252	52	221
	102.5	157.77	.90	78	275	1.9	3.5	252	250	51	221

Traverse:		Initial Leak Check: 17.31		Initial Leak Check: .002 cfm@ 15		"Hg	
Start Time: 17:31		Finish Time:		Final Leak Check: ~ cfm@		"Hg	

Project No.: AST-2025-3852

Operator: [Signature]

Field Data Sheet

Date: Oct 27 2025	Plant: Reworld	Test No.: 1	MP	Page 4 of 5
Plant Location: Courtoice, Ontario		Test Location: APC Outlet No. 2		

Point	Clock Time	Dry Gas Meter ft ³	Pitot Δ P "H ₂ O	DGM Temp AVG. °F	Stack Temp °F	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinger Temp Outlet °F	Inlet/Trap °F
3	105	159.67	.90	78	274	1.95	3.5	253	250	51	221
	107.5	161.58	.90	78	274	1.95	3.5	251	251	50	221
	110	163.49	.88	78	274	1.9	3.5	253	253	50	221
	112.5	165.41	.89	78	274	1.85	3.5	251	255	49	221
	115	167.29	.80	78	274	1.75	3.5	253	254	49	221
4	117.5	169.14	.80	78	274	1.75	3.5	250	253	49	221
	120	170.97	.77	78	274	1.65	3	253	251	48	220
	122.5	172.77	.77	78	274	1.65	3	251	251	48	220
	125	174.55	.77	78	274	1.65	3	253	251	48	220
	127.5	176.34	.71	78	274	1.55	3	251	252	48	220
5	130	178.07	.71	78	274	1.55	3	254	255	47	220
	132.5	179.79	.71	78	274	1.55	3	250	254	47	220
	135	181.53	.72	78	274	1.55	3	254	253	47	221
	137.5	183.26	.72	78	273	1.55	3	250	252	47	222
	140	184.99	.73	78	273	1.6	3	254	251	44	222
6	142.5	186.75	.73	78	272	1.6	3	250	251	43	222
	145	188.49	.73	78	272	1.55	3	254	252	42	222
	147.5	190.22	.71	77	272	1.5	3	251	254	42	222
	150	191.92	.80	78	271	1.7	3	254	254	42	223
	152.5	193.73	.80	77	271	1.7	3	252	253	41	224
7	155	195.53	.77	77	271	1.6	3	253	252	41	224

Traverse:		Initial Leak Check:		Final Leak Check:	
Start Time:	"Hg	Start Time:	"Hg	Finish Time:	"Hg
Finish Time:	"Hg	Finish Time:	"Hg	Finish Time:	"Hg

Project No.: AST-2025-3852

Operator: *[Signature]*

Field Data Sheet

Date: Oct 27 2015	Plant: Reworld	Test No.: 1	Page 5 of 5
	Plant Location: Courtice, Ontario	Test Location: APC Outlet No. 3	

[illegible]

Traverse:		
Start Time:	Initial Leak Check:	"Hg
Finish Time:	Final Leak Check:	"Hg

Project No.: AS7-2025-3852

Operator:

Alliance Technical Group

Plant	Reworld
Plant Location	Courtice, Ontario
Test No.:	2129 Particulate/Metals
Test Date	6/28/25
Test Location	APC Outlet No. 2
Operator	BCP

Project No.:	AST-2025-3852
Page	1 of 5
Probe No.:	1129
Meter Box No.:	11318
Impinger Box No.:	

Pitot Factor	0.842
DGMCF (Y)	990
Barometric Pressure	29.97 "Hg
Static Pressure	-9.88 "H2O
Nozzle Size	2496 inches
Stack Diameter	54 inches
Length	feet
Width	feet
Port length:	11 inches

Moisture Gain	
Total	588.7 g

Combustion Gas Concentration	
Oxygen	9.75 %
Carbon Dioxide	9.59 %
Carbon Monoxide	11.0 ppm

Measuring Device	ID
Probe / Pitot	SP6
Trendicator	
Control Box	11318
Incline Manometer	11
Comb. Gas Analyzer	
Micromanometer	
Barometer	BAR-1
Calipers	CH-2

Reading Interval	2.5 min
Number of Ports	2
Number of Points/Port	12

Nozzle Measurements	
1	2495
2	2500
3	2495
Average:	2496

Site Diagram

Probe Liner	Glass / Metal / Teflon / Other
Nozzle	Glass / Metal / Other
Union	None / Metal / Teflon / Other
Pitot Leak Checked?	Yes No

Notes:

Field Data Sheet

Date: 10/28/21	Plant: Reworld	Test No.: 21129
Plant Location: Courtyce, Ontario		Test Location: APC Outlet No. 2

Point	Clock Time	Dry Gas Meter ft ³	Pitot Δ P "H ₂ O	DGM Temp AVG. °F	Stack Temp °F	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinger Temp Outlet °F	Impinger Temp Inlet/Trap °F
1	0	51.35	.96	64	272	2.2	3	258	250	51	
	2.5	53.32	.96	64	271	2.25	3	258	260	48	
	5	55.31	.94	65	271	2.2	3	256	255	47	
2	7.5	57.29	.97	65	271	2.3	3	252	254	46	
	10	59.33	.95	65	271	2.3	3	256	251	46	
	12.5	61.35	.95	65	271	2.3	3	250	252	47	
3	15	63.38	.94	66	271	2.25	3	260	254	47	
	17.5	65.39	.94	66	271	2.25	3	250	256	47	
	20	67.40	.94	66	271	2.25	3	258	253	47	
4	22.5	69.41	.89	67	271	2.1	3	250	251	48	
	25	71.37	.87	67	271	2.05	3	258	252	47	
	27.5	73.38	.87	68	271	2.05	3	255	253	48	
5	30	75.22	.78	68	271	1.85	3	253	254	48	
	32.5	77.05	.80	68	271	1.9	3	256	254	48	
	35	78.91	.82	69	272	1.9	3	260	253	48	
6	37.5	80.79	.73	69	272	1.7	2	260	252	48	
	40	82.56	.74	70	273	1.75	2	250	253	48	
	42.5	84.35	.77	70	274	1.8	3	261	253	48	
7	45	86.17	.81	70	275	1.8	3	248	247	48	
	47.5	88.02	.79	71	275	1.9	3	257	254	48	
	50	89.89	.81	71	275	1.9	3	249	254	47	

Traverse: 2 Start Time: 7:35 Finish Time:	Initial Leak Check: 0.04 cfm@ 15 "Hg Final Leak Check: cfm@ "Hg	Initial Leak Check: cfm@ "Hg Final Leak Check: cfm@ "Hg
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Project No.: AST-2025-3852

Operator: BCP

Field Data Sheet

Date: 10/28/05	Plant: Reworld	Test No.: 2	Page 3 of 5
Plant Location: Courtoice, Ontario		Test Location: APC Outlet No. 0	

Point	Clock Time	Dry Gas Meter ft ³	Pitot Δ P "H ₂ O	DGM Temp AVG. °F	Stack Temp °F	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinger Temp Outlet °F	Inlet/Trap °F
8	52.5	91.74	71.81	71	275	1.9	3	257	253	47	
	55	93.58	.80	71	275	1.9	3	253	253	47	
	57.5	95.44	.80	72	275	1.9	3	252	253	47	
9	60	97.31	.90	72	275	2.15	3	257	252	46	
	62.5	99.27	.88	72	275	2.1	3	250	254	46	
	65	101.21	.88	72	275	2.1	3	251	255	46	
10	67.5	103.18	.81	73	275	1.9	3	250	254	47	
	70	105.04	.81	73	271	1.9	3	260	252	44	
	72.5	106.94	.80	73	271	1.9	3	250	253	47	
11	75	108.80	.72	73	270	1.7	3	255	253	47	
	77.5	110.59	.68	73	270	1.6	3	250	253	47	
	80	112.30	.68	73	270	1.6	3	255	252	47	
12	82.5	114.01	.70	74	270	1.7	3	255	253	47	
	85	115.76	.72	74	270	1.7	3	250	253	47	
	87.5	117.52	.72	74	270	1.7	3	260	252	47	
1	90	118.31	1.05	74	275	2.5	3	264	252	53	
	92.5	121.95	1.05	74	274	2.5	3	250	255	47	
	95	124.09	1.05	74	247	2.5	3	260	256	46	
2	97.5	126.23	1.05	74	277	2.5	3	250	254	45	
	100	128.37	1.05	74	276	2.5	3	258	251	45	
	102.5	130.48	1.05	74	277	2.5	3	250	251	46	

Traverse: 2	Initial Leak Check: 4.04 cfm@ 15 "Hg	Final Leak Check: 4.04 cfm@ 15 "Hg
Start Time: 4:05	Initial Leak Check: 4.04 cfm@ 15 "Hg	Final Leak Check: 4.04 cfm@ 15 "Hg
Finish Time: 4:05	Initial Leak Check: 4.04 cfm@ 15 "Hg	Final Leak Check: 4.04 cfm@ 15 "Hg

Project No.: AST-2025-3852

Operator: BCP

Field Data Sheet

Date: 10/28/25	Plant: Reworld	Test No.: 21124
Plant Location: Courtice, Ontario		Test Location: APC Outlet No. 2

Point	Clock Time	Dry Gas Meter ft ³	Pitot Δ P "H ₂ O	DGM Temp AVG. °F	Stack Temp °F	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinger Temp	
										Outlet °F	Inlet/Trap °F
3	105	132.57	1.0	74	277	2.4	3	255	253	46	
	107.5	134.65	1.0	74	277	2.4	3	256	254	46	
	110	136.74	1.0	74	278	2.4	3	258	254	46	
4	112.5	138.80	1.0	75	277	2.4	3	258	255	46	
	115	140.88	1.0	75	278	2.4	3	258	251	46	
	117.5	142.99	1.0	75	278	2.4	3	261	252	46	
5	120	145.06	1.0	75	278	2.4	3	258	253	46	
	122.5	147.13	.99	75	278	2.35	3	258	253	46	
	125	149.21	.99	75	278	2.35	3	258	253	46	
6	127.5	151.27	.98	75	278	2.3	3	257	252	46	
	130	153.33	.98	76	278	2.3	3	254	253	46	
	132.5	155.38	.96	76	278	2.3	3	252	252	46	
7	135	157.42	.99	76	279	2.35	3	257	253	46	
	137.5	159.49	.97	76	279	2.3	3	258	253	46	
	140	161.54	.97	76	279	2.3	3	259	253	46	
8	142.5	163.59	1.05	76	279	2.5	4	258	253	47	
	145	165.73	1.05	76	279	2.5	4	256	253	46	
	147.5	167.88	.97	76	279	2.3	3	258	253	46	
9	150	169.93	1.05	76	278	2.5	4	258	252	46	
	152.5	172.06	1.0	77	278	2.4	4	251	253	46	
	155	174.14	1.0	77	278	2.4	4	254	253	46	

Traverse: Start Time: Finish Time:	Initial Leak Check: Final Leak Check:	Initial Leak Check: Final Leak Check:	cfm@ cfm@	"Hg "Hg
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Project No.: AST-2025-3852
Operator: BCP

Field Data Sheet

Date: 10/28/25	Plant: Reworld	Test No.: 2429	Page 5 of 5
	Plant Location: Courtoice, Ontario	Test Location: APC Outlet No. 2	

[illegible]

Traverse: 1	Initial Leak Check:	cfm@	"Hg
Start Time:			
Finish Time: 10:44	Final Leak Check: 0.2	cfm@ 13	"Hg

Project No.: AST-2025-3852
Operator: BCP

Alliance Technical Group

Plant	Reworld
Plant Location	Courtice, Ontario
Test No.:	3 M29 Particulate/Metals
Test Date	10/28/25
Test Location	APC Outlet No. 2
Operator	BCP

Project No.:	AST-2025-3852
Page	1 of 5
Probe No.:	
Meter Box No.:	MB18
Impinger Box No.:	

Pitot Factor	.842
DGMCF (Y)	.94
Barometric Pressure	29.97 "Hg
Static Pressure	-9.88 "H2O
Nozzle Size	.2496 inches
Stack Diameter	54 inches
Length	feet
Width	feet
Port length:	11 inches

Moisture Gain	
Total	578.2 g

Combustion Gas Concentration	
Oxygen	9.67 %
Carbon Dioxide	9.62 %
Carbon Monoxide	11.2 ppm

Measuring Device	ID
Probe / Pitot	SP6
Trendicator	
Control Box	MB18
Incline Manometer	✓
Comb. Gas Analyzer	CFMS
Micromanometer	
Barometer	BAR-1
Calipers	CHL-2

Reading Interval	2.5 min
Number of Ports	2
Number of Points/Port	12

Probe Liner Glass / Metal / Teflon / Other

Nozzle Glass / Metal / Other

Union None / Metal / Teflon / Other

Pitot Leak Checked? Yes No

Site Diagram

Nozzle Measurements	
1	.2495
2	.2500
3	.2495
Average:	.2496

Notes:

Field Data Sheet

Date: 10/28/25	Plant: Reworld	Test No.: 3 M29
Plant Location: Courtice, Ontario	Test Location: APC Outlet No. 2	

Point	Clock Time	Dry Gas Meter ft ³	Pitot Δ P "H ₂ O	DGM Temp AVG. °F	Stack Temp °F	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinger Temp Outlet °F	Inlet/Trap °F
1	0	94.67	1.05	73	275	2.5	4	250	254	60	
	2.5	96.83	1.05	73	277	2.5	4	260	257	52	
	5	98.95	1.05	73	277	2.5	4	250	256	49	
	7.5	101.07	1.05	73	277	2.5	4	255	252	46	
	10	103.20	1.05	73	277	2.5	4	250	250	45	
2	12.5	105.32	1.05	73	276	2.5	4	254	252	45	
	15	107.43	1.05	73	277	2.5	4	257	254	45	
	17.5	109.57	1.05	73	277	2.5	4	250	254	45	
	20	111.70	1.05	73	276	2.5	4	253	252	45	
	22.5	113.81	1.0	74	276	2.4	4	250	251	45	
3	25	115.90	1.0	74	277	2.4	4	260	250	44	
	27.5	118.98	.99	74	277	2.35	4	250	252	44	
	30	120.03	.93	74	276	2.2	4	257	253	44	
	32.5	122.03	.93	75	276	2.2	4	250	254	44	
	35	124.04	.93	75	275	2.2	4	257	253	44	
4	37.5	126.06	.85	75	275	2	4	252	253	44	
	40	128.0	.85	75	275	2	4	259	252	44	
	42.5	129.91	.85	75	275	2	4	254	251	44	
	45	131.81	.92	75	275	2.2	4	250	251	45	
	47.5	133.80	.94	76	275	2.25	4	258	252	44	
5	50	135.84	.94	76	275	2.25	4	250	253	44	

Traverse: 1	Start Time: 11:34	Initial Leak Check: .005	cfm@ 15	"Hg
Finish Time:	Final Leak Check:	cfm@	"Hg	

Traverse:	Start Time:	Initial Leak Check:	cfm@	"Hg
Finish Time:	Final Leak Check:	cfm@	"Hg	

Project No.: AST-2025-3852
Operator: BCP

Field Data Sheet

Date: 10/28/25	Plant: Reworld	Test No.: 3 H29	Page 3 of 5
Plant Location: Courtoice, Ontario		Test Location: APC Outlet No. 2	

Point	Clock Time	Dry Gas Meter ft ³	Pitot Δ P "H ₂ O	DGM Temp AVG. °F	Stack Temp °F	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinger Temp Outlet °F	Impinger Temp Inlet/Trap °F
8	52.5	137.88	.96	76	275	2.3	4	260	254	43	
	55	139.91	.94	76	275	2.25	4	250	253	43	
	57.5	141.94	.94	76	275	2.25	4	255	252	43	
9	60	143.48	.97	76	275	2.3	4	250	251	43	
	62.5	146.61	.87	77	275	2.3	4	258	250	43	
	65	148.07	.97	77	275	2.3	4	250	252	43	
10	67.5	150.14	.94	77	272	2.25	4	255	253	43	
	70	152.18	.93	77	272	2.25	4	254	254	42	
	72.5	154.22	.93	77	272	2.2	4	251	253	42	
11	75	156.23	.76	77	272	1.8	3	257	253	43	
	77.5	158.06	.76	78	272	1.8	3	250	252	43	
	80	159.89	.78	78	272	1.85	3	258	250	43	
12	82.5	161.76	.76	78	272	1.8	3	250	250	43	
	85	163.60	.76	78	272	1.8	3	261	251	43	
	87.5	165.43	.78	78	272	1.85	3	250	253	43	
1	90	167.29	1.05	78	275	2.5	5	260	251	50	
	92.5	169.86	1.05	78	275	2.5	5	254	251	44	
	95	172.01	1.05	78	273	2.5	5	253	254	43	
2	97.5	174.15	1.05	78	273	2.5	5	253	254	43	
	100	176.33	1.1	78	273	2.5	5	248	253	43	
	102.5	178.58	1.1	78	273	2.65	5	262	251	43	

Traverse: 1	Traverse: 2
Start Time: 13:04	Start Time: 13:10
Initial Leak Check: 0.005	Initial Leak Check: 0.005
Final Leak Check: 0.005	Final Leak Check: 0.005
cfm@ 15	cfm@ 15
"Hg	"Hg

Project No.: AST-2025-3852

Operator: BCP

Field Data Sheet

Date: 10/28/25	Plant: Reworld	Test No.: 3	Page 4 of 5
Plant Location: Courtoice, Ontario		Test Location: APC Outlet No. 2	

Point	Clock Time	Dry Gas Meter ft ³	Pitot Δ P "H ₂ O	DGM Temp AVG. °F	Stack Temp °F	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinger Temp Outlet °F	Inlet/Trap °F
3	105	180.72	1.1	78	273	0.65	24.5	249	251	43	
	107.5	182.98	1.1	78	273	2.65	5	259	251	44	
	110	185.18	1.1	78	273	2.65	5	248	253	44	
	112.5	187.39	.97	78	273	2.65	5	258	253	45	
4	115	189.49	.98	78	273	2.3	4	250	253	45	
	117.5	191.55	.97	79	273	2.3	4	255	252	45	
	120	193.635	.84	79	273	2.3	4	253	252	45	
	122.5	195.59	.83	79	273	2.0	4	259	251	46	
6	125	197.5	.80	79	273	2.0	4	257	252	46	
	127.5	199.39	.75	79	272	2.0	4	248	252	46	
	130	201.20	.75	79	273	1.8	4	254	252	46	
	132.5	203.02	.75	79	272	1.8	4	246	253	45	
7	135	204.84	.82	79	272	2	4	261	252	44	
	137.5	206.75	.82	79	272	2	4	250	253	45	
	140	208.67	.82	79	272	2	4	256	252	45	
	142.5	210.58	.86	79	270	2.1	4	251	251	45	
8	145	212.54	.86	79	272	2.05	4	254	252	45	
	147.5	214.49	.86	79	271	2.05	4	255	252	45	
	150	216.41	.87	79	271	2.15	4	252	253	45	
	152.5	218.43	.88	79	272	2.1	4	258	253	45	
155		220.41	.86	79	272	2.1	4	250	252	45	

Traverse: Start Time: Finish Time:		Initial Leak Check: Final Leak Check:		cfm@ cfm@		"Hg "Hg	
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Project No.: AST-2025-3852

Operator: BCP

Field Data Sheet

Date: 10/28/25	Plant: Reworld	Test No.: 3429	Page 5 of 5
	Plant Location: Courtice, Ontario	Test Location: APC Outlet No. 2	

[illegible]

Traverse: 2	Initial Leak Check:	cfm@	"Hg
Start Time:	Final Leak Check:	cfm@	"Hg
Finish Time: 14:40			

Traverse:		
Start Time:	Initial Leak Check:	"Hg cfm@
Finish Time:	Final Leak Check:	"Hg cfm@

Project No.: AST-2025-3852

Operator: BCP

APPENDIX 5

Particle Size Distribution Field Data Sheets (12 pages)

Alliance Technical Group

Plant	Reworld
Plant Location	Courtice, Ontario
Test No.:	PM10 / 2.5 - M202
Test Date	10/28/25
Test Location	APC Outlet No. 1
Operator	Dust

Pitot Factor	.54
DGMCF (Y)	1.001
Barometric Pressure	29.97
Static Pressure	-0.3
Nozzle Size	.175
Stack Diameter	54
Length	
Width	
Port length:	11

Moisture Gain	
Total	148.2

Combustion Gas Concentration	
Oxygen	9.77 %
Carbon Dioxide	9.73 %
Carbon Monoxide	13.3 ppm

Reading Interval	Dwell
Number of Ports	2
Number of Points/Port	6

Probe Liner Glass / Metal / Teflon / Other Other

Nozzle Glass / Metal / Other Metal

Union None / Metal / Teflon / Other Metal

Pitot Leak Checked? Yes No

Project No.:	AST-2025-3852
Page	1 of 2
Probe No.:	PM10/2.5
Meter Box No.:	TEAM 2
Impinger Box No.:	

Measuring Device	ID
Probe / Pitot	SEE
Trendicator	
Control Box	TEST 1
Incline Manometer	
Comb. Gas Analyzer	UA172
Micromanometer	
Barometer	BAR-1
Calipers	

Nozzle Measurements	
1	
2	
3	
Average:	

Site Diagram

Notes:

Field Data Sheet

Date: 10/28/25	Plant: Reworld	Test No.: PM10 / 2.5 - M202
Plant Location: Courice, Ontario	Test Location: APC Outlet No. 1	

Point	Clock Time	Meter ft ³	Pitot Δ P "H ₂ O	DGM Temp AVG. °F	Stack Temp °F	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinger Temp	
										Outlet °F	Aux °F
1	0	43.01	1.7379	68	283	35	3	253	262	66	66
2	10:11	46.53	1.73	70	283	36	3	254	263	62	72
3	20:22	50.06	1.71	72	283	36	3	255	254	61	73
4	30:24	53.55	1.70	73	283	36	3	255	255	60	69
5	40:23	57.00	1.64	73	283	36	3	255	255	60	70
6	49:55	60.27	1.58	74	286	36	3	255	255	59	68
1	58:59	63.35	1.80	74	285	36	3	256	255	62	68
2	109:39	66.83	1.79	74	282	36	3	255	254	58	66
3	120:14	70.41	1.74	75	281	36	3	255	255	58	65
4	120:29	73.86	1.70	75	280	36	3	255	254	58	67
5	140:27	77.25	1.65	75	280	36	3	255	255	58	68
6	150:04	80.50	1.60	76	280	36	3	256	256	58	69
159:18		83.65									

Traverse: A	Traverse: B
Start Time: 7:35	Start Time: 8:37
Finish Time: 8:34	Finish Time: 9:37
Initial Leak Check: 1002 cfm@ 12 "Hg	Initial Leak Check: 837 cfm@ 13 "Hg
Final Leak Check: 834 cfm@ 12 "Hg	Final Leak Check: 838 cfm@ 13 "Hg

Project No.: AST-2025-3852
Operator: DWT

Alliance Technical Group

Plant	Reworld
Plant Location	Courice, Ontario
Test No.:	2 PM10 / 2.5 - M202
Test Date	10/28/25
Test Location	APC Outlet No. 1
Operator	Dut

Project No.:	AST-2025-3852
Page	1 of 2
Probe No.:	APC 12.5
Meter Box No.:	72
Impinger Box No.:	

Pitot Factor	54
DGMCF (Y)	1.001
Barometric Pressure	30.00
Static Pressure	- 10.3
Nozzle Size	175
Stack Diameter	54
Length	feet
Width	feet
Port length:	11

Moisture Gain	
Total	180.1 g

Combustion Gas Concentration	
Oxygen	9.63 %
Carbon Dioxide	9.85 %
Carbon Monoxide	8.5 ppm

Measuring Device	ID
Probe / Pitot	SEE
Trendicator	TE37
Control Box	1
Incline Manometer	41172
Comb. Gas Analyzer	
Micromanometer	
Barometer	BAR-1
Calipers	

Reading Interval	Dwell
Number of Ports	2
Number of Points/Port	6

Site Diagram

Nozzle Measurements	
1	
2	
3	
Average:	

Probe Liner Glass / Metal / Teflon / Other PFA

Nozzle Glass / Metal / Other _____

Union None / Metal / Teflon / Other _____

Pitot Leak Checked? Yes No

Notes:

Page 2 of 2

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Traverse:	A	Initial Leak Check:	.002	cfm@	12	"Hg
Start Time:	1028	Final Leak Check:	1176	cfm@		"Hg
Finish Time:						

Traverse:	B	Initial Leak Check:	1129	cfm@		"Hg
Start Time:		Final Leak Check:	1230	cfm@	.007	"Hg
Finish Time:						

Project No.: AST-2025-3852

Operator:

Alliance Technical Group

Plant	Reworld
Plant Location	Courtice, Ontario
Test No.:	3 PM10 / 2.5 - M202
Test Date	10/28/25
Test Location	APC Outlet No. 1
Operator	DMT

Project No.:	AST-2025-3852
Page	1 of 2
Probe No.:	PM10 / 2.5
Meter Box No.:	72
Impinger Box No.:	

Pitot Factor	1.34
DGMCF (V)	1.001
Barometric Pressure	29.97
Static Pressure	-10.3
Nozzle Size	1.75
Stack Diameter	54
Length	
Width	
Port length:	11

Moisture Gain	
Total	135.6 g

Combustion Gas Concentration	
Oxygen	9.44 %
Carbon Dioxide	9.98 %
Carbon Monoxide	15.7 ppm

Measuring Device	ID
Probe / Pitot	956
Trendicator	
Control Box	7557
Incline Manometer	
Comb. Gas Analyzer	1
Micromanometer	44172
Barometer	BAR-1
Calipers	

Reading Interval	Dwell
Number of Ports	2
Number of Points/Port	6

Site Diagram

Nozzle Measurements	
1	
2	
3	
Average:	

Probe Liner Glass / Metal / Teflon / Other Other

Nozzle Glass / Metal / Other Metal

Union None / Metal / Teflon / Other Metal

Pitot Leak Checked? Yes Yes No

Notes:

Field Data Sheet

Date: 10/28/05	Plant: Reworld	Test No.: 3	PM10 / 2.5 - M202	Page 2 of 2
	Plant Location: Courtice, Ontario	Test Location: APC Outlet No. 1		

[illegible]

Traverse: A	Initial Leak Check: 002	cfm@ 12	"Hg
Start Time: 1319	Final Leak Check:		"Hg

Traverse: B	Initial Leak Check: 1416	cfm@	"Hg
Start Time: 1517	Final Leak Check: 002	cfm@ 16	"Hg

Project No.: AST-2025-3852

Operator: DNF

Alliance Technical Group

Plant	Reworld
Plant Location	Courtice, Ontario
Test No.:	PM10 / 2.5 - M202
Test Date	10/27/25
Test Location	APC Outlet No. 2
Operator	QAT

Pitot Factor	.84
DGMCF (V)	1.001
Barometric Pressure	30.02 "Hg
Static Pressure	-10.4 "H2O
Nozzle Size	1.775 inches
Stack Diameter	54 inches
Length	feet
Width	feet
Port length:	11 inches

Moisture Gain	
Total	145.0 g

Combustion Gas Concentration	
Oxygen	9.33 %
Carbon Dioxide	10.01 %
Carbon Monoxide	7.9 ppm

Reading Interval	Dwell
Number of Ports	2
Number of Points/Port	6

Probe Liner Glass / Metal / Teflon / Other PEA

Nozzle Glass Metal / Other _____

Union None / Metal / Teflon / Other _____

Pitot Leak Checked? Yes No

Notes:

Project No.:	AST-2025-3852
Page	1 of 2
Probe No.:	PM10/2.5
Meter Box No.:	TEAM 2
Impinger Box No.:	11

Measuring Device	ID
Probe / Pitot	PM10/2.5
Trendicator	3
Control Box	TEAM 2
Incline Manometer	
Comb. Gas Analyzer	
Micromanometer	
Barometer	BAR-1
Calipers	CAL-1

Nozzle Measurements	
1	1.770
2	1.778
3	1.775
Average:	

Site Diagram

Notes:

Date: 10/27/25	Plant: Reworld	Test No.: PM10 / 2.5 - M202	Page 2 of 2
	Plant Location: Courtyce Ontario	Test Location: APC Outlet No. 7	

[illegible]

Traverse:	2	B		
Start Time:	8:48	Initial Leak Check:	009	cfm@ 12 "Hg
Finish Time:	9:44	Final Leak Check:	—	cfm@ — "Hg

Project No.: AST-2025-3852

Operator:

Alliance Technical Group

Project No.:	AST-2025-3852
Page	1 of 2
Probe No.:	AN10/2.5
Meter Box No.:	TEAM 2
Impinger Box No.:	

Plant	Reworld
Plant Location	Courtice, Ontario
Test No.:	2 PM10 / 2.5 - M202
Test Date	10/27/25
Test Location	APC Outlet No. 7
Operator	BUT

Pitot Factor	1.84
DGMCF (Y)	1.001
Barometric Pressure	30.02 "Hg
Static Pressure	-10.4 "H2O
Nozzle Size	1.75 inches
Stack Diameter	54 inches
Length	feet
Width	feet
Port length:	11 inches

Moisture Gain	
Total	147.0 g

Combustion Gas Concentration	
Oxygen	9.29 %
Carbon Dioxide	10.80 %
Carbon Monoxide	7.6 ppm

Measuring Device	ID
Probe / Pitot	SEE
Trendicator	
Control Box	TEB-1
Incline Manometer	
Comb. Gas Analyzer	1
Micromanometer	
Barometer	BAR-1
Calipers	

Nozzle Measurements	
1	
2	
3	
Average:	

Site Diagram

Reading Interval	Dwell
Number of Ports	2
Number of Points/Port	6

Probe Liner Glass / Metal / Teflon / Other Other

Nozzle Glass / Metal / Other Metal

Union None / Metal / Teflon / Other Metal

Pitot Leak Checked? Yes No

Notes:

Page 2 of 2

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Traverse:	3	Initial Leak Check:	1002 cfm@	"Hg
Start Time:	1:43	Final Leak Check:	1002 cfm@	"Hg
Finish Time:	1:44			

Project No.: AST-2025-3852

Operator:

Alliance Technical Group

Plant	Reworld
Plant Location	Courice, Ontario
Test No.:	3 PM10 / 2.5 - M202
Test Date	10/27/25
Test Location	APC Outlet No. 2
Operator	RNT

Project No.:	AST-2025-3852
Page	1 of 2
Probe No.:	PM10/2.5
Meter Box No.:	72
Impinger Box No.:	11

Pitot Factor	284
DGMCF (V)	1.001
Barometric Pressure	29.99 "Hg
Static Pressure	-10.4 "H2O
Nozzle Size	175 inches
Stack Diameter	54 inches
Length	feet
Width	feet
Port length:	11 inches

Moisture Gain	
Total	100.0 g

Combustion Gas Concentration	
Oxygen	9.25 %
Carbon Dioxide	10.05 %
Carbon Monoxide	8.1 ppm

Measuring Device	ID
Probe / Pitot	SEE
Trendicator	
Control Box	TEST
Incline Manometer	
Comb. Gas Analyzer	1
Micromanometer	
Barometer	BAR-1
Calipers	

Reading Interval	Dwell
Number of Ports	2
Number of Points/Port	6

Site Diagram

Nozzle Measurements	
1	
2	
3	
Average:	

Probe Liner Glass / Metal / Teflon / Other PPA

Nozzle Glass / Metal / Other

Union None / Metal / Teflon / Other

Pitot Leak Checked? Yes No Yes

Notes:

Field Data Sheet

Page 2 of 2

Date: 10/27/25	Plant: Reworld	Test No.: 3	PM10 / 2.5 - M202
Plant Location: Courtoice, Ontario	Test Location: APC Outlet No. 2		

Point	Clock Time	Meter ft ³	Pitot Δ P "H ₂ O	DGM Temp AVG. °F	Stack Temp °F	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinger Temp	
										Outlet °F	Aux °F
1	0	97.59	88	77	215	36	43	257	245	68	84
2	10:38	101.28	90	77	216	36	3	256	247	52	75
3	24:24	105.02	86	78	217	36	3	257	246	50	73
4	36:55	108.62	80	78	217	36	3	257	246	50	73
5	42:03	112.17	68	80	217	36	3	257	247	51	73
6	51:24	115.42	63	81	217	36	3	257	247	51	73
1	100:24	118.53	93	81	218	36	3	258	246	54	74
2	111:20	122.33	92	81	217	36	3	258	247	51	74
3	122:13	126.13	90	81	218	36	3	257	248	52	74
4	132:58	129.85	81	82	219	36	3	257	248	52	74
5	143:11	133.38	81	82	219	36	3	257	248	52	74
6	153:23	137.01	75	82	220	36	3	258	248	54	75
203:12		140.45									

Traverse: B	Initial Leak Check: 14:28	Final Leak Check: 15:28
Start Time: 14:28	Initial Leak Check: 15:31	Final Leak Check: 16:33
Finish Time: 15:28	Initial Leak Check: 16:33	Final Leak Check: 17:13

Project No.: AST-2025-3852

Operator: DWT

APPENDIX 6

SVOC Data Sheets (24 pages)

Alliance Technical Group

Plant	Reworld
Plant Location	Courtice, Ontario
Test No.:	1 Semi-Volatile Organic Compounds
Test Date	October 29 2025
Test Location	APC Outlet No. 1
Operator	[Signature]

Pitot Factor	1.840
DGMCF (Y)	1.986
Barometric Pressure	29.80 "Hg
Static Pressure	-10.83 "H2O
Nozzle Size	1.2442 inches
Stack Diameter	54 inches
Length	feet
Width	feet
Port length:	11 inches

Moisture Gain	
Total	608.3 g

Combustion Gas Concentration	
Oxygen	9.46 %
Carbon Dioxide	9.95 %
Carbon Monoxide	9.9 ppm

Reading Interval	5 min
Number of Ports	2
Number of Points/Port	12

Probe Liner Glass / Metal / Teflon / Other _____

Nozzle Glass / Metal / Other _____

Union None / Metal / Teflon / Other _____

Pitot Leak Checked? Yes No

Notes:

Project No.:	AST-2025-3852
Page	1 of 4
Probe No.:	7 Series
Meter Box No.:	MB16
Impinger Box No.:	16

Measuring Device	ID
Probe / Pitot	SID
Trendicator	MB16
Control Box	MB16
Incline Manometer	MB16
Comb.Gas Analyzer	
Micromanometer	
Barometer	BAR-1
Calipers	CAL-2

Nozzle Measurements	
1	2440
2	2441
3	2440
Average:	2442

Site Diagram

Field Data Sheet

Date: 04.29.2025	Plant: Reworld	Test No.: 1	SUOC	Page 2 of 4
Plant Location: Courtee, Ontario		Test Location: APC Outlet No. 1		

Point	Clock Time	Meter ft ³	Pitot Δ P "H ₂ O	DGM Temp AVG. °F	Stack Temp °F	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinger Temp	
										Outlet °F	Inlet/Trap °F
1	0	77.28	.83	60	276	1.7	3.3	251	252	60	48
	5	80.86	.85	60	280	1.7	3	253	248	45	42
2	10	84.37	.85	61	280	1.7	4	253	253	43	41
	15	87.91	.83	61	281	1.65	4	253	259	42	41
3	20	91.40	.86	62	281	1.7	4	253	251	41	40
	25	94.96	.82	62	281	1.6	4	253	249	40	40
4	30	98.37	.75	63	282	1.6	4	253	258	40	41
	35	106.82	.71	63	282	1.45	3.5	253	256	40	40
5	40	105.13	.66	64	281	1.35	3.5	253	247	41	40
	45	108.32	.66	64	280	1.35	3.5	253	254	40	40
6	50	116.53	.56	65	280	1.2	3	253	260	40	40
	55	114.51	.61	65	280	1.25	3	253	251	41	40
7	60	117.57	.67	66	282	1.4	3.5	253	249	41	41
	65	120.79	.66	66	282	1.35	3.5	252	260	40	42
8	70	123.98	.69	67	283	1.45	3.5	253	256	41	43
	75	127.28	.69	67	283	1.45	3.5	253	248	41	44
9	80	130.59	.69	68	283	1.4	3.5	253	254	41	43
	85	133.85	.69	68	283	1.4	3.5	253	259	41	42
10	90	137.09	.70	68	283	1.4	3.5	253	250	42	42
	95	140.36	.71	69	280	1.4	3.5	253	250	42	42
11	100	143.02	.65	69	280	1.4	3.5	253	259	42	42

Traverse:		Initial Leak Check:		Final Leak Check:	
Start Time: 8:01	Initial Leak Check: 0.06 cfm@ 11 "Hg	Start Time:	Initial Leak Check:	cfm@	"Hg
Finish Time: —	Final Leak Check: — cfm@ — "Hg	Finish Time:	Final Leak Check:	cfm@	"Hg

Project No.: AST-2025-3852

Operator: *[Signature]*

S - 10.83

24.80 BP

Field Data Sheet

Date: Oct, 29 2025	Plant: Reworld	Test No.: 1	Page 3 of 4
	Plant Location: Courtice, Ontario	Test Location: APC Outlet No. 1	

Point	Clock Time	Meter ft ³	Pitot ΔP "H ₂ O	DGM Temp AVG. °F	Stack Temp °F	Meter Pressure ΔH "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinger Temp	
										Outlet °F	Inlet/Trap °F
	105	146.88	.69	69	280	1.4	3.5	272	274	42	40
12	110	150.10	.69	69	280	1.45	3.2	253	248	43	40
	115	153.38	.71	70	280	1.5	3.2	253	276	43	40
1	120	156.78	.82	70	280	1.75	4	253	251	51	39
	125	160.79	.85	70	287	1.75	4	253	257	43	40
2	130	164.5	.85	69	287	1.8	4	253	254	43	41
	135	168.16	.86	69	287	1.8	4	253	248	44	40
3	140	171.81	.87	70	287	1.8	4	253	254	44	41
	145	175.46	.87	70	287	1.8	4	253	279	44	41
4	150	179.14	.81	70	288	1.7	4	253	251	44	41
	155	182.72	.81	70	288	1.65	4	253	249	44	41
5	160	186.26	.75	71	289	1.55	4	253	258	44	41
	165	189.70	.76	71	288	1.5	4	253	256	44	40
6	170	193.09	.71	71	288	1.45	3.5	253	248	45	40
	175	196.42	.71	71	288	1.45	3.5	253	253	45	40
7	180	199.74	.74	72	288	1.55	3.5	253	260	45	40
	185	203.16	.74	72	289	1.5	3.5	253	251	43	40
8	190	206.55	.74	72	287	1.5	3.5	253	248	42	40
	195	209.96	.75	72	288	1.5	3.5	253	278	41	41
9	200	213.42	.74	72	288	1.5	3.5	252	257	40	40
	205	216.75	.71	73	288	1.4	3.5	253	248	40	40

Traverse:		Initial Leak Check: .006 cfm@ 1)		"HG
Start Time: 10:01	Finish Time: 10:01	Start Time: 10:14	Finish Time: 10:14	"HG

Project No.: AST-2025-3852

Operator: [Signature]

Field Data Sheet

Date: Oct. 29 2015	Plant:	Reworld	Test No.:	5000	Page 4 of 4
	Plant Location:	Courtoice, Ontario	Test Location:	APC Outlet No. 1	

[illegible]

Traverse: "Hg	
Start Time: —	Initial Leak Check: cfm@
Finish Time: 12:11	Final Leak Check: .004 cfm@

Project No.: AST-2025-3852

Operator: 

Alliance Technical Group

Plant	Reworld
Plant Location	Courtice, Ontario
Test No.:	2
Test Date	October 29 2025
Test Location	APC Outlet No. 1
Operator	

Project No.:	AST-2025-3852
Page	1 of 4
Probe No.:	7 series
Meter Box No.:	MB16
Impinger Box No.:	14

Pitot Factor	.840
DGMCF (Y)	.986
Barometric Pressure	29.8 "Hg
Static Pressure	-10.83 "H2O
Nozzle Size	.2442 inches
Stack Diameter	54 inches
Length	feet
Width	feet
Port length:	11 inches

Moisture Gain	
Total	695.3 g

Combustion Gas Concentration	
Oxygen	9.13 %
Carbon Dioxide	10.09 %
Carbon Monoxide	9.0 ppm

Measuring Device	ID
Probe / Pitot	510
Trendicator	MB16
Control Box	MB16
Incline Manometer	MB16
Comb. Gas Analyzer	
Micromanometer	
Barometer	BAR-1
Calipers	646-2

Site Diagram

Nozzle Measurements	
1	.2440
2	.2443
3	.2440
Average:	.2442

Reading Interval	5 min
Number of Ports	2
Number of Points/Port	12

Probe Liner Glass / Metal / Teflon / Other _____

Nozzle Glass / Metal / Other _____

Union None / Metal / Teflon / Other _____

Pitot Leak Checked? Yes No

Notes:

Field Data Sheet

Date: Oct. 29 2022	Plant: Reworld	Test No.: 2	SUOC
Plant Location: Courtoice, Ontario	Test Location: APC Outlet No. 1		

Point	Clock Time	Meter ft ³	Pitot Δ P "H ₂ O	DGM Temp AVG. °F	Stack Temp °F	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinger Temp Outlet °F	Inlet/Trap °F
1	0	40.21	.80	70	162.76	1.16	3	253	255	65	63
	5	43.65	.85	70	287	1.7	3	253	250	60	43
2	10	47.22	.87	70	287	1.8	4	252	257	57	43
	15	50.93	.87	70	287	1.8	4	252	253	57	44
3	20	54.64	.87	70	287	1.75	4	252	250	56	43
	25	58.30	.87	71	287	1.75	4	252	255	56	44
4	30	61.99	.90	71	287	1.75	4	252	255	55	44
	35	65.78	.90	72	283	1.95	4	252	251	55	45
5	40	69.58	.72	72	281	1.9	4	252	252	55	45
	45	72.9	.73	73	279	1.4	3	252	254	55	44
6	50	76.32	.64	73	278	1.55	4	252	252	54	45
	55	79.59	.65	74	278	1.35	3	252	255	54	44
7	60	82.87	.71	74	278	1.4	3	250	251	54	43
	65	86.2	.75	75	279	1.5	4	252	253	54	42
8	70	89.65	.79	75	280	1.6	4	252	253	54	43
	75	93.1	.77	75	279	1.65	4	252	253	55	44
9	80	96.60	.75	76	279	1.65	4	252	253	55	44
	85	100.16	.78	76	265	1.55	4	252	252	55	46
10	90	103.7	.68	76	265	1.65	4	252	253	55	47
	95	107.08	.66	76	265	1.45	3	252	253	55	46
11	100	110.4	.63	76	265	1.4	3	252	252	56	44

Traverse:	Start Time: 13:14	Initial Leak Check: 002 cfm@ 15 "Hg	Final Time:	Final Leak Check:	cfm@ "Hg
Traverse:	Start Time:	Initial Leak Check:	Finish Time:	Final Leak Check:	cfm@ "Hg

Project No.: AST 2025-3852

Operator: [Signature]

Field Data Sheet

Page 3 of 4

Date: 10/29/25	Plant: Reworld	Test No.: 2	SVOC
Plant Location: Courtoice, Ontario	Test Location: APC Outlet No. 1		

Point	Clock Time	Meter ft ³	Pitot Δ P "H ₂ O	DGM Temp AVG. °F	Stack Temp °F	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinger Temp	
										Outlet °F	Inlet/Trap °F
	105	113.61	.70.	77	265	1.35	3.	252	252	56	44
12	110	116.92	.68	77	265	1.5	4	252	253	56	45
	115	120.29	.70.	77	265	1.5	4	252	253	56	45
1	120	124.385	.88.	77	279	1.85	5.	249	250	60	45
	125	128.13	.88	77	282	1.85	5.	252	259	60	45
2	130	131.95	.85.	76.	281	1.85	5.	252	255	58	43
	135	135.66	.86.	76.	281	1.8	4.	252	248	57	43
3	140	139.35	.86.	77	281	1.8	4.	252	264	57	43
	145	143.07	.86.	77	281	1.8	4	252	256	56	44
4	150	146.79	.80.	77	281	1.8	4	252	247	57	44
	155	150.39	.81	77	281	1.65.	4	252	253	57	44
5	160	153.94	.75.	77	281	1.65.	4	252	256	57	45
	165	157.42	.73.	77	280	1.55.	4.	252	251	57	45
6	170	160.83	.67	77	280	1.5.	4.	252	251	57	45
	175	164.13	.69	78	280	1.4	4	252	255.	57	44
7	180	167.44	.69.	78.	281	1.45.	4.	252	252	57	44
	185	170.79	.66	78	281	1.45.	4	252	252	57	42
8	190	174.05	.67	78	280	1.4	4	252	254	57	42
	195	177.31	.72.	78	279	1.4	4.	252	253	57	42
9	200	180.71	.74	78	279	1.5.	4.	252	251	57	43
	205	184.17	.75.	78	279	1.55.	4	252	253	57	44

Traverse: 2	Initial Leak Check: cfm@	Final Leak Check: cfm@	"Hg	"Hg
Start Time: 15:14	Initial Leak Check: 15:28	Final Leak Check: 15:28	cfm@ 15	"Hg
Finish Time: 15:14	Initial Leak Check: 15:28	Final Leak Check: 15:28	cfm@	"Hg

Project No.: AST-2025-3852

Operator: JAC

Page 4 of 4

Imaging Term	Question	Answer
Imaging Term	Question	Answer

Traverse:	7		
Start Time:		Initial Leak Check:	"Hg cfm@
Finish Time:	17:08	Final Leak Check:	"Hg cfm@"

Project No.: AST-2025-3852

Operator: TYC.

Alliance Technical Group

Plant	Reworld
Plant Location	Courtice, Ontario
Test No.:	3 Semi-Volatile Organic Compounds
Test Date	Oct. 30, 2025
Test Location	APC Outlet No. 1
Operator	TLC

Project No.:	AST-2025-3852
Page	1 of 4
Probe No.:	7 Series
Meter Box No.:	MB16
Impinger Box No.:	

Pitot Factor	840
DGMCF (V)	980
Barometric Pressure	28.19 "Hg
Static Pressure	-11.76 "H2O
Nozzle Size	.2442 inches
Stack Diameter	54 inches
Length	feet
Width	feet
Port length:	11 inches

Moisture Gain	
Total	683.7 g

Combustion Gas Concentration	
Oxygen	9.25 %
Carbon Dioxide	9.95 %
Carbon Monoxide	16.5 ppm

Measuring Device	ID
Probe / Pitot	S10
Trendicator	MB16
Control Box	11
Incline Manometer	11
Comb. Gas Analyzer	
Micromanometer	
Barometer	BAR-1
Calipers	CH-2

Reading Interval	5 min
Number of Ports	2
Number of Points/Port	12

Site Diagram

Nozzle Measurements	
1	.2440
2	.2445
3	.2440
Average:	.2442

Probe Liner Glass / Metal / Teflon / Other _____

Nozzle Glass / Metal / Other _____

Union None / Metal / Teflon / Other _____

Pitot Leak Checked? Yes No

Notes:

Field Data Sheet

Date: 10/30/25	Plant: Reworld	Test No.: 3
Plant Location: Courtice, Ontario	Test Location: APC Outlet No. 1	

Point	Clock Time	Meter ft ³	Pitot Δ P "H ₂ O	DGM Temp AVG. °F	Stack Temp °F	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinger Temp	
										Outlet °F	Inlet/Trap °F
1	0	11.05	0.91	63	282	1.9	4	252	247	61	46
	5	9.455	0.89	63	285	1.9	4	253	254	44	40
2	10	14.43	0.92	65	285	1.9	4	253	247	43	41
	15	18.24	0.91	65	286	1.95	4	253	258	43	40
3	20	22.05	0.92	66	285	1.9	4	253	249	43	40
	25	25.85	0.92	67	286	1.9	4	253	249	43	40
4	30	29.66	0.90	67	285	1.9	4	253	258	43	40
	35	33.45	0.79	68	286	1.9	4	253	249	44	40
5	40	37.26	0.78	68	286	1.6	4	253	253	44	39
	45	40.77	0.69	69	286	1.6	4	253	256	44	39
6	50	44.26	0.62	70	286	1.4	4	252	249	44	38
	55	47.55	0.61	70	286	1.05	3	252	255	44	38
7	60	50.67	0.70	70	286	1.05	3	252	254	44	38
	65	53.79	0.75	71	286	1.4	3	252	249	44	38
8	70	57.03	0.76	71	286	1.5	4	253	256	44	38
	75	60.43	0.75	71	286	1.55	4	252	252	44	39
9	80	63.9	0.73	72	284	1.55	4	252	250	44	39
	85	67.34	0.75	72	284	1.5	4	253	257	44	40
10	90	70.73	0.74	72	279	1.55	4	252	250	44	39
	95	74.17	0.73	72	277	1.55	4	253	252	44	39
11	100	77.62	0.74	73	277	1.5	4	253	257	44	39
		81.04									

Traverse: 1	Initial Leak Check: 0.007 cfm@ 15 "Hg	Initial Leak Check: cfm@ "Hg
Start Time: 08:00	Final Leak Check: cfm@ "Hg	Final Leak Check: cfm@ "Hg
Finish Time:		

Project No.: AST-2025-3852
Operator: TYC

Field Data Sheet

Date: 10/30/25	Plant: Reworld	Test No.: 3	SVOC
Plant Location: Courtice, Ontario	Test Location: APC Outlet No. 1		

Point	Clock Time	Meter ft ³	Pitot Δ P "H ₂ O	DGM Temp AVG. °F	Stack Temp °F	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinger Temp Outlet °F	Impinger Temp Inlet/Trap °F
	105	84.49	.73	73	277	1.55	4.	253	249	44	40
12	110	87.92	.72	73	277	1.5	4.	252	254	44	40
	115	91.34	.70	73	276	1.5	4.	252	255	45	40
1	120	95.255	.83	73	279	1.5	4.	253	254	52	41
	125	98.910	.85	73	285	1.75	4.	252	247	44	38
2	130	102.57	.87	73	284	1.8	4.	253	258	42	38
	135	106.3	.88	73	285	1.8	4	252	250	41	38
3	140	110.08	.88	73	286	1.85	4.	252	251	40	38
	145	113.83	.88	73	287	1.85	4	253	257	40	39
4	150	117.55	.87	73	287	1.85	4	252	248	40	39
	155	121.21	.85	73	287	1.8	4.	252	254	39	39
5	160	124.87	.82	73	287	1.8	4.	252	255	39	39
	165	128.42	.84	73	289	1.7	4.	252	249	39	40
6	170	132.06	.85	73	289	1.75	4.	252	256	39	40
	175	135.76	.74	73	289	1.8	4.	253	253	39	110
7	180	139.19	.78	73	288	1.5	4.	252	250	40	39
	185	142.68	.77	73	289	1.6	4.	253	255	40	38
8	190	146.15	.76	73	288	1.6	4.	252	252	40	38
	195	149.57	.79	73	288	1.6	4.	252	251	40	38
9	200	153.07	.82	73	288	1.65	4.	253	255	40	39
	205	156.66	.81	73	288	1.7	4.	252	251	40	39

Traverse: 1	Traverse: 2
Start Time: 10:06	Start Time: 10:14
Initial Leak Check: 0.002 cfm@ 15 "Hg	Initial Leak Check: 0.003 cfm@ 15 "Hg
Final Leak Check: 0.002 cfm@ 15 "Hg	Final Leak Check: - cfm@ - "Hg

Project No.: AST-2025-3852

Operator: JYC

Page 4 of 4

Date: 10/30/25	Plant: Reworld	Test No.: 3	SWC
	Plant Location: Courtice, Ontario	Test Location: APC Outlet No. 1	
			*
			*

[illegible]

Traverse: ☒	Initial Leak Check: ☒	cfm@	"Hg
Start Time:	Initial Leak Check:	cfm@	"Hg
Finish Time:	Final Leak Check:	cfm@	"Hg

Project No.: AST-2025-3852

Operator: TYC

Alliance Technical Group

Plant	Reworld
Plant Location	Courtoice, Ontario
Test No.: 1	Site
Test Date	10/24/25
Test Location	APC Outlet No. 2
Operator	BCP

Project No.:	AST-2025-3852
Page	1 of 4
Probe No.:	
Meter Box No.:	MB18
Impinger Box No.:	4

Pitot Factor	844
DGMCF (V)	.990
Barometric Pressure	29.80 "Hg
Static Pressure	16.14 "H2O
Nozzle Size	2496 inches
Stack Diameter	54 inches
Length	feet
Width	feet
Port length:	11 inches

Moisture Gain	
Total	662.0 g

Combustion Gas Concentration	
Oxygen	9.08 %
Carbon Dioxide	10.07 %
Carbon Monoxide	8.4 ppm

Measuring Device	ID
Probe / Pitot	5656
Trendicator	
Control Box	MB18
Incline Manometer	11
Comb. Gas Analyzer	CEMS
Micromanometer	
Barometer	BAR-1
Calipers	CAH-2

Reading Interval	5 min
Number of Ports	2
Number of Points/Port	12

Site Diagram

Nozzle Measurements	
1	.2495
2	.2520
3	.2495
Average:	.2496

Probe Liner Glass / Metal / Teflon / Other _____

Nozzle Glass / Metal / Other _____

Union None / Metal / Teflon / Other _____

Pitot Leak Checked? Yes No

Notes:

Field Data Sheet

Date: 6/24/25	Plant: Reworld	Test No.: 1	APC	Page 2 of 4
	Plant Location: Courtice, Ontario	Test Location: APC Outlet No. 2		

Point	Clock Time	Meter ft ³	Pitot Δ P "H ₂ O	DGM Temp AVG. °F	Stack Temp °F	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinger Temp Outlet °F	Impinger Temp Inlet/Trap °F
1	0	39.37	.90	61	272	2.1	4	253	254	42	45
	5	43.25	.89	61	273	2.1	4	253	253	46	40
2	10	47.12	.89	62	273	2.1	5	253	253	45	40
	15	50.97	.86	62	273	2	4	253	253	44	41
3	20	54.76	.84	63	273	1.95	4	253	253	43	41
	25	58.51	.83	63	272	1.95	4	253	252	42	41
4	30	62.25	.78	64	272	1.8	4	253	253	41	42
	35	65.88	.76	65	272	1.8	4	253	253	41	42
5	40	69.48	.65	65	272	1.5	4	253	253	41	42
	45	72.78	.65	66	272	1.5	4	253	253	41	42
6	50	76.09	.59	67	272	1.4	4	253	253	41	43
	55	79.25	.58	67	273	1.35	3	253	253	41	44
7	60	82.38	.67	68	273	1.6	4	253	252	41	45
	65	85.78	.67	68	273	1.6	4	253	253	40	46
8	70	89.18	.69	69	273	1.65	4	253	253	40	48
	75	92.63	.71	69	273	1.7	4	253	253	41	49
9	80	96.14	.74	70	273	1.75	4	253	252	41	49
	85	99.72	.73	70	273	1.75	4	253	253	41	49
10	90	103.26	.73	70	273	1.75	4	253	252	41	48
	95	106.80	.74	71	270	1.75	4	253	253	41	46
11	100	110.39	.63	71	270	1.5	4	253	252	41	45

Traverse: 2	Initial Leak Check: .004 cfm@	"Hg
Start Time: 7:57	Final Leak Check:	"Hg
Finish Time:		

Project No.: AST-2025-3852
Operator: BCP

Field Data Sheet

Date: 10/28/25	Plant: Reworld	Test No.: 1800C
Plant Location: Courtyce, Ontario	Test Location: APC Outlet No. 2	

Point	Clock Time	Meter ft ³	Pitot ΔP "H ₂ O	DGM Temp AVG. °F	Stack Temp °F	Meter Pressure ΔH "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinging Temp	
										Outlet °F	Inlet/Trap °F
	105	113.75	.60	71	270	1.4	4	253	252	42	44
12	110	116.94	.60	71	270	1.4	4	253	253	42	40
	115	120.16	.61	72	270	1.45	4	253	252	42	40
1	120	123.40	.81	72	272	1.9	5	253	253	48	40
	125	124.57	.82	71	275	1.95	5	253	255	43	41
2	130	131.35	.85	71	275	2	5	253	253	42	43
	135	135.17	.87	72	276	2.05	5	253	253	42	42
3	140	139.03	.89	72	277	2.1	5	253	253	42	42
	145	142.98	.92	72	277	2.15	5	253	252	43	42
4	150	146.95	.87	72	277	2.05	5	253	253	43	42
	155	150.81	.89	73	277	2.05	5	253	253	43	42
5	160	154.76	.83	73	277	1.95	5	253	253	44	42
	165	158.56	.83	73	278	1.95	5	253	252	44	43
6	170	162.37	.75	74	278	1.8	5	252	253	45	43
	175	166.01	.77	74	278	1.8	5	253	252	45	42
7	180	169.65	.86	74	278	2.05	5	252	252	45	42
	185	173.56	.83	74	279	1.95	5	253	252	44	41
8	190	177.38	.88	74	279	2.1	5	252	252	43	40
	195	181.29	.85	75	278	2	5	253	252	42	41
9	200	185.14	.94	75	278	2.2	5	253	252	41	42
	205	189.18	.87	75	278	2.05	5	252	252	41	43

Traverse: 2	Traverse: 1
Start Time: 4:57	Start Time: 10:08
Initial Leak Check: 0.03 cfm@ 15 "Hg	Initial Leak Check: 0.03 cfm@ 15 "Hg
Final Leak Check: 0.03 cfm@ 15 "Hg	Final Leak Check: cfm@ "Hg

Project No.: AST-2025-3852
Operator: BCP

Field Data Sheet

Date: 6/24/25	Plant: Reworld	Test No.: SUAC	Page 4 of 4
	Plant location: Courtoise, Ontario	Test Location: APC Outlet No. 2	

[illegible][illegible]

Project No.: AST-2025-3852

Operator: BCF

Alliance Technical Group

Plant	Reworld
Plant Location	Courtice, Ontario
Test No.:	2 SWC
Test Date	6/29/25
Test Location	APC Outlet No. 2
Operator	BCP

Project No.:	AST-2025-3852
Page	1 of 4
Probe No.:	
Meter Box No.:	MB 18
Impinger Box No.:	12

Pitot Factor	0.844
DGMCF (V)	0.990
Barometric Pressure	29.80 "Hg
Static Pressure	-10.14 "H2O
Nozzle Size	0.2496 inches
Stack Diameter	54 inches
Length	feet
Width	feet
Port length:	11 inches

Moisture Gain	
Total	715.4 g

Combustion Gas Concentration	
Oxygen	8.99 %
Carbon Dioxide	10.08 %
Carbon Monoxide	8.7 ppm

Measuring Device	ID
Probe / Pitot	86
Trendicator	
Control Box	MB 18
Incline Manometer	"
Comb. Gas Analyzer	CMS
Micromanometer	
Barometer	BAR-1
Calipers	CH-2

Reading Interval	5 min
Number of Ports	2
Number of Points/Port	12

Site Diagram

Nozzle Measurements	
1	0.2495
2	0.2500
3	0.2495
Average:	0.2496

Probe Liner Glass / Metal / Teflon / Other

Nozzle Glass / Metal / Other

Union None / Metal / Teflon / Other

Pitot Leak Checked? Yes No

Notes:

Field Data Sheet

Page 2 of 4

Date: 10/29/23	Plant: Reworld	Test No.: 2 SUC
Plant Location: Courtyce, Ontario	Test Location: APC Outlet No. 2	

Point	Clock Time	Meter ft ³	Pitot Δ P "H ₂ O	DGM Temp AVG. °F	Stack Temp °F	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinger Temp Outlet °F	Impinger Temp Inlet/Trap °F
1	0	16.80	.90	72	274	2.15	4	253	250	60	43
	5	20.76	.86	72	276	2.05	4	253	261	52	43
2	10	24.59	.86	72	275	2.05	4	253	255	47	44
	15	28.46	.94	73	276	2.25	4	253	250	44	43
3	20	32.49	.96	73	277	2.3	4	253	253	41	44
	25	36.58	.94	74	277	2.25	4	253	255	40	44
4	30	40.64	.88	74	277	2.1	4	253	250	40	45
	35	44.59	.83	75	276	2	4	253	253	40	45
5	40	48.39	.70	75	276	1.7	4	253	256	39	45
	45	51.95	.70	76	275	1.7	4	253	250	40	45
6	50	55.43	.63	76	274	1.5	3	252	252	40	46
	55	58.27	.70	76	274	1.7	4	252	256	40	44
7	60	62.32	.72	77	274	1.75	4	252	250	40	43
	65	65.90	.73	77	275	1.75	4	252	251	40	44
8	70	69.51	.83	77	275	2	4	252	256	40	45
	75	73.37	.83	78	275	2	4	252	250	41	44
9	80	77.24	.84	78	276	2	4	252	251	41	45
	85	81.10	.71	78	273	1.7	4	252	255	41	46
10	90	84.67	.68	79	273	1.65	4	252	250	42	46
	95	88.15	.67	79	273	1.6	4	252	252	42	47
11	100	91.64	.60	79	270	1.45	3	252	255	43	45

Traverse: 2	Initial Leak Check: 13.09	Final Leak Check: 13	cfm@	cfm@	"Hg	"Hg
Start Time: 13.09	Finish Time:	Initial Leak Check:	Final Leak Check:	cfm@	cfm@	"Hg

Project No.: AST-2025-3852

Operator: BCP

Field Data Sheet

Date: 10/24/25	Plant: Reworld	Test No.: 2 SMC	Page 3 of 4
Plant Location: Courtice, Ontario		Test Location: APC Outlet No. 2	

Point	Clock Time	Meter ft ³	Pitot ΔP "H ₂ O	DGM Temp AVG. °F	Stack Temp °F	Meter Pressure ΔH "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinger Temp	
										Outlet °F	Inlet/Trap °F
	105	94.89	.64	79	270	1.55	3	252	244	43	43
12	110	98.28	.63	79	270	1.55	3	252	254	43	42
	115	101.66	.65	79	270	1.6	4	252	254	43	42
1	120	105.12	.88	79	273	2.15	4	253	254	44	41
	125	109.52	.87	79	274	2.1	4	253	253	43	43
2	130	113.48	.88	79	274	2.1	4	252	256	41	43
	135	117.42	.89	79	274	2.15	4	252	250	41	43
3	140	121.45	.90	79	274	2.15	4	252	254	41	43
	145	125.42	.87	79	275	2.1	4	252	255	41	43
4	150	129.35	.82	79	274	2	4	252	250	41	42
	155	133.19	.82	79	274	2	4	252	252	42	43
5	160	137.09	.75	80	274	1.8	4	252	256	42	43
	165	140.78	.75	80	273	1.8	4	252	250	42	42
6	170	144.47	.68	80	273	1.65	4	252	251	43	43
	175	147.98	.70	80	272	1.7	4	252	256	42	41
7	180	151.52	.76	80	272	1.85	4	252	249	43	42
	185	155.24	.73	80	272	1.8	4	252	252	43	41
8	190	158.87	.75	80	273	1.8	4	252	256	43	41
	195	162.52	.74	80	272	1.8	4	252	248	44	41
9	200	166.16	.81	81	272	2	5	252	252	44	42
	205	170.02	.81	81	272	2	5	252	256	44	42

Traverse: 2	Initial Leak Check: 008 cfm@	Final Leak Check: 008 cfm@	Start Time: 15:21	Finish Time: 15:09	Initial Leak Check: 008 cfm@	Final Leak Check: 008 cfm@
Start Time:						
Finish Time:						

Project No.: AST-2025-3852

Operator: BCP

Field Data Sheet

Date: 10/28/25	Plant: Reworld	Test No.: 2 SUC	Page 4 of 4
	Plant Location: Courtice, Ontario	Test Location: APC Outlet No. 2	

[illegible]

Traverse: 1 Start Time: 12:21 Finish Time: 12:21	Initial Leak Check: <i>OK</i> Final Leak Check: <i>OK</i>	cfm@ cfm@ 15	"Hg "Hg
Traverse: 2 Start Time: 12:21 Finish Time: 12:21	Initial Leak Check: <i>OK</i> Final Leak Check: <i>OK</i>	cfm@ cfm@ 15	"Hg "Hg

Project No.: AST-2025-3852

Operator: BCP

Alliance Technical Group

Plant	Reworld
Plant Location	Courtice, Ontario
Test No.:	3566
Test Date	10/30/22
Test Location	APC Outlet No. 2
Operator	

Project No.:	AST-2025-3852
Page	1 of 4
Probe No.:	
Meter Box No.:	MB18
Impinger Box No.:	15

Pitot Factor	0.544
DGMCF (V)	0.980
Barometric Pressure	24.49 "Hg
Static Pressure	-11.25 "H2O
Nozzle Size	0.2496 inches
Stack Diameter	54 inches
Length	feet
Width	feet
Port length:	11 inches

Moisture Gain	
Total	691.8 g

Combustion Gas Concentration	
Oxygen	9.02 %
Carbon Dioxide	10.00 %
Carbon Monoxide	11.8 ppm

Measuring Device	ID
Probe / Pitot	36
Trendicator	
Control Box	MB18
Incline Manometer	11
Comb. Gas Analyzer	CEMS
Micromanometer	
Barometer	BAR-1
Calipers	CH-2

Reading Interval	5 min
Number of Ports	2
Number of Points/Port	12

Probe Liner Glass / Metal / Teflon / Other

Nozzle Glass / Metal / Other

Union None / Metal / Teflon / Other

Pitot Leak Checked? Yes No

Site Diagram

Nozzle Measurements	
1	0.2495
2	0.2500
3	0.2495
Average:	0.2496

Notes:

Field Data Sheet

Date: <u>10/30/25</u>	Plant: <u>Reworld</u>	Test No.: <u>3506</u>	Page 2 of 4
Plant Location: <u>Courtice, Ontario</u>	Test Location: <u>APC Outlet No. 2</u>		

Point	Clock Time	Meter ft ³	Pitot ΔP "H ₂ O	DGM Temp AVG. °F	Stack Temp °F	Meter Pressure ΔH "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinger Temp
										Outlet °F Inlet/Trap °F
1	0	96.80	97.02	65	274	2.2	5	253	253	60 40
	5	100.99		65	274	2.3	5	253	255	50 45
2	10	105.05		65	274	2.2	6	253	253	49 44
	15	109.06		66	273	2.2	6	253	251	47 45
3	20	113.02		67	274	2.2	6	253	252	47 45
	25	117.01		67	274	2.2	6	253	254	47 45
4	30	120.98		68	274	2	5	253	254	47 45
	35	124.80		69	274	2	5	253	252	47 44
5	40	128.60		69	273	1.9	5	253	252	47 44
	45	132.29		70	273	1.8	5	253	252	47 44
6	50	135.92		71	273	1.45	4	253	252	47 44
	55	139.17		71	272	1.45	4	253	254	47 48
7	60	142.39		72	272	1.55	4	252	252	47 47
	65	145.77		72	271	1.55	4	252	253	46 45
8	70	149.15		73	271	1.7	5	252	253	46 44
	75	152.63		73	271	1.8	5	252	251	46 45
9	80	156.26		73	272	1.8	5	252	253	45 46
	85	159.89		74	273	1.8	5	252	253	46 46
10	90	163.56		74	270	1.75	5	252	257	46 45
	95	167.15		74	270	1.75	5	252	254	46 44
11	100	170.75		74	270	1.4	4	252	252	47 43

Traverse: <u>2</u>	Start Time: <u>7:49</u>	Initial Leak Check: <u>0.3</u> cfm@ <u>15</u> "Hg	Final Leak Check: <u>0.3</u> cfm@ <u>15</u> "Hg
Traverse: <u>3</u>	Start Time: <u>7:49</u>	Initial Leak Check: <u>0.3</u> cfm@ <u>15</u> "Hg	Final Leak Check: <u>0.3</u> cfm@ <u>15</u> "Hg

Project No.: AST-2025-3852
Operator: BCP

Field Data Sheet

Date: 10/30/25	Plant: Reworld	Test No.: 3 SUC
Plant Location: Courtoice, Ontario	Test Location: APC Outlet No. 2	

Point	Clock Time	Meter ft ³	Pitot ΔP "H ₂ O	DGM Temp AVG. °F	Stack Temp °F	Meter Pressure ΔH "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinger Temp	
										Outlet °F	Inlet/Tap °F
	105	173.97	.54	75	270	1.4	4	253	252	47	42
12	110	177.17	.61	75	270	1.45	4	252	252	47	43
	115	180.41	.62	75	270	1.5	4	252	252	48	44
1	120	183.79	.93	75	273	2.2	6	253	252	55	42
	125	188.24	.91	75	276	2.2	6	253	252	48	45
2	130	192.25	.94	75	276	2.25	6	252	254	45	44
	135	196.28	.89	75	276	2.1	6	253	253	44	45
3	140	200.27	.86	75	276	2.05	6	252	251	44	46
	145	204.11	.86	75	276	2.05	6	252	253	44	44
4	150	208.04	.81	75	275	1.9	5	252	252	44	43
	155	211.84	.82	75	275	1.9	5	252	253	44	44
5	160	215.57	.79	75	276	1.9	5	253	253	44	44
	165	219.28	.75	76	276	1.8	5	253	253	44	44
6	170	222.97	.68	75	275	1.6	5	253	251	45	43
	175	226.40	.70	76	275	1.65	5	252	253	45	43
7	180	229.85	.74	76	275	1.75	5	252	251	45	44
	185	233.36	.71	76	274	1.7	5	252	251	45	46
8	190	236.90	.75	76	274	1.8	5	252	251	45	45
	195	240.53	.76	76	274	1.8	5	253	257	45	44
9	200	244.16	.80	76	274	1.9	5	252	250	46	44
	205	247.90	.80	76	274	1.9	5	253	252	45	44

Traverse: 2	Traverse: 1
Start Time: 4:49	Start Time: 4:54
Finish Time: 4:49	Finish Time:
Initial Leak Check: .003 cfm@ 15 "Hg	Initial Leak Check: .003 cfm@ 15 "Hg
Final Leak Check: .003 cfm@ 15 "Hg	Final Leak Check:

Project No.: AST-2025-3852

Operator: Bep

Field Data Sheet

Date: 10/30/25	Plant: Reworld	Test No.: 3 Sur	Page 4 of 4
	Plant Location: Courice, Ontario	Test Location: APC Outlet No. 2	

[illegible]

Traverse:		
Start Time:	Initial Leak Check:	"Hg cfm@
Finish Time:	Final Leak Check:	"Hg cfm@

Project No.: AST-2025-3852

Operator: RCP

APPENDIX 7

Acid Gas Field Data Sheets (12 pages)

Alliance Technical Group

Plant	Reworld
Plant Location	Courtice, Ontario
Test No.:	1 Hydrogen Fluoride (HF) M26A
Test Date	October 27, 2025
Test Location	APC Outlet No. 1
Operator	11

Project No.:	AST-2025-3852
Page	1 of 2
Probe No.:	7 Series
Meter Box No.:	MB16
Impinger Box No.:	2

Pitot Factor	.841
DGMCF (V)	.986
Barometric Pressure	"Hg 30.08
Static Pressure	-10.85 "H2O
Nozzle Size	.2442 inches
Stack Diameter	54 inches
Length	feet
Width	feet
Port length:	11 inches

Moisture Gain	
Total	164.7 g

Combustion Gas Concentration	
Oxygen	9.71 %
Carbon Dioxide	9.75 %
Carbon Monoxide	13.6 ppm

Measuring Device	ID
Probe / Pitot	152
Trendicator	MB16
Control Box	MB16
Incline Manometer	MB16
Comb. Gas Analyzer	
Micromanometer	
Barometer	BAR-1
Calipers	CAL-2

Reading Interval	5 min
Number of Ports	1
Number of Points/Port	1

Site Diagram

Nozzle Measurements	
1	.2440
2	.2445
3	.2440
Average:	.2442

Probe Liner Glass / Metal / Teflon / Other _____

Nozzle Glass / Metal / Other _____

Union None / Metal / Teflon / Other _____

Pitot Leak Checked? Yes No

Notes:

Field Data Sheet

Date: Oct 27 2025	Plant: Reworld	Test No.: Prelim-Particulate MZ6A	Page 2 of 2
	Plant Location: Courtoice, Ontario	Test Location: APC Outlet No. 1	

[illegible]

Traverse:							
Start Time:	9:00	Initial Leak Check:	.01	cfm@	15	"Hg	
Finish Time:	10:00	Final Leak Check:	.016	cfm@	15	"Hg	

Project No.: AST-2025-3852

Alliance Technical Group

Project No.:	AST-2025-3852
Page	1 of 2
Probe No.:	7 Series
Meter Box No.:	MB16
Impinger Box No.:	2

Plant	Reworld
Plant Location	Courtice, Ontario
Test No.:	2 Hydrogen Flouride (HF) M26A
Test Date	October 27 2025
Test Location	APC Outlet No. 1
Operator	

Pitot Factor	.841
DGMCF (V)	.986
Barometric Pressure	30.02 "Hg
Static Pressure	~10.8 "H2O
Nozzle Size	.2442 inches
Stack Diameter	54 inches
Length	feet
Width	feet
Port length:	11 inches

Moisture Gain	
Total	187.7 g

Combustion Gas Concentration	
Oxygen	9.47 %
Carbon Dioxide	9.97 %
Carbon Monoxide	7.6 ppm

Measuring Device	ID
Probe / Pitot	15E
Trendicator	MB16
Control Box	MB16
Incline Manometer	MB16
Comb.Gas Analyzer	
Micromanometer	
Barometer	BAR-1
Calipers	CAL-2

Site Diagram

Nozzle Measurements
1 2440
2 2445
3 2446
Average: 2442

Reading Interval	5 min
Number of Ports	1
Number of Points/Port	1

Probe Liner Glass / Metal / Teflon / Other _____

Nozzle Glass / Metal / Other _____

Union None / Metal / Teflon / Other _____

Pitot Leak Checked? Yes No

Notes:

Field Data Sheet

Date: 04.27.2025	Plant: Covanta DYEC	Test No.: 2	M26A
Plant Location: Courtice, Ontario		Test Location:	APC Outlet No. 1

Point	Clock Time	Dry Gas Meter ft ³	Pitot Δ P "H ₂ O	DGM Temp Avg °F	Stack Temp °F	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinger Temp Outlet °F	Impinger Temp Inlet/Trap °F
1	0	97.77	.74	66	280	1.5	2	255	255	62	226
	5	106.16	.72	67	280	1.4	2	252	253	49	229
	10	104.46	.75	67	281	1.5	2	252	252	45	228
	15	107.83	.75	67	282	1.5	2	252	254	44	229
	20	111.22	.75	67	282	1.55	2	251	253	44	230
	25	114.67	.75	67	282	1.55	2	251	253	44	230
	30	118.08	.72	68	282	1.55	2	251	253	45	230
	35	121.49	.78	69	283	1.65	2.0	251	253	45	231
	40	125.02	.78	70	284	1.65	2.0	251	253	46	231
	45	128.55	.78	70	284	1.65	2.0	251	253	47	231
	50	131.06	.74	71	283	1.5	2.0	251	253	48	231
	55	135.48	.74	71	282	1.5	2.0	251	253	48	231
	60	138.90									

Traverse:	Start Time: 11:14	Initial Leak Check: 15	cfm @	"Hg
Traverse:	Finish Time: 12:14	Final Leak Check: 16	cfm @	"Hg

Project No.: AST-2025-3852

Operator: 

Alliance Technical Group

Plant	Reworld
Plant Location	Courtice, Ontario
Test No.:	3 Prelim Particulate M2617
Test Date	10-27-25
Test Location	APC Outlet No. 1
Operator	[Signature]

Pitot Factor	841
DGMCF (Y)	986
Barometric Pressure	30.02 "Hg
Static Pressure	-10.85 "H2O
Nozzle Size	1.2442 inches
Stack Diameter	54 inches
Length	feet
Width	feet
Port length:	11 inches

Moisture Gain	
Total	1400.3 g

Combustion Gas Concentration	
Oxygen	9.57 %
Carbon Dioxide	9.94 %
Carbon Monoxide	13.2 ppm

Reading Interval	5 min
Number of Ports	1
Number of Points/Port	1

Probe Liner Glass / Metal / Teflon / Other

Nozzle Glass / Metal / Other

Union None / Metal / Teflon / Other

Pitot Leak Checked? Yes No

Project No.:	AST-2025-3852
Page	1 of 2
Probe No.:	7 Series
Meter Box No.:	MB16
Impinger Box No.:	2

Measuring Device	ID
Probe / Pitot	15L
Trendicator	MB16
Control Box	MB16
Incline Manometer	MB16
Comb. Gas Analyzer	
Micromanometer	
Barometer	BAR-1
Calipers	CAL-2

Nozzle Measurements	
1	2440
2	2445
3	2440
Average:	2442

Site Diagram

Notes:

Field Data Sheet

Date: Oct 27 2022	Plant: Covanta DYEC	Test No.: 3	M26A
Plant Location: Courtice, Ontario	APC Outlet No.: 1	Test Location:	

Point	Clock Time	Dry Gas Meter ft ³	Pitot ΔP "H ₂ O	DGM Temp Avg °F	Stack Temp °F	Meter Pressure ΔH "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinger Temp Outlet °F	Impinger Temp Inlet/Trap °F
1	0	40,46	.73	70	280	1.5	2.0	252	264	60	235
	5	43,90	.73	70	280	1.5	2.5	252	255	47	274
	10	47,26	.73	69	280	1.5	2.5	253	254	46	267
	15	50,61	.73	69	280	1.5	2.5	254	250	45	259
	20	54,02	.75	70	280	1.6	3	254	252	45	262
	25	57,45	.75	70	280	1.6	3	254	254	46	265
	30	60,96	.72	70	280	1.5	3	254	272	46	261
	35	64,37	.72	71	280	1.5	3	254	252	48	261
	40	67,77	.72	72	279	1.5	3	254	253	47	263
	45	71,09	.67	72	279	1.4	2.5	253	253	47	263
	50	74,41	.67	73	278	1.35	2.5	254	252	48	261
	55	77,66	.67	73	277	1.75	2.5	254	253	48	262
	60	80,91									

Traverse:	Initial Leak Check: 0.012	cfm @ 15	"Hg
Start Time: 13:30	Final Leak Check: 0.018	cfm @	"Hg
Finish Time: 14:30			

Project No.: AST-2025-3852

Operator: [Signature]

Alliance Technical Group

Project No.:	AST-2025-3852
Page	1 of 2
Probe No.:	7 series
Meter Box No.:	MB16
Impinger Box No.:	

Plant	Reworld
Plant Location	Courtice, Ontario
Test No.:	Hydrogen Fluoride (HF) M26A
Test Date	October 28, 2023
Test Location	APC Outlet No. 2
Operator	

Measuring Device	ID
Probe / Pitot	15F
Trendicator	MB16
Control Box	MB16
Incline Manometer	MB16
Comb. Gas Analyzer	
Micromanometer	
Barometer	BAR-1
Calipers	

Moisture Gain	
Total	g

Combustion Gas Concentration	
Oxygen	9.58 %
Carbon Dioxide	9.71 %
Carbon Monoxide	10.6 ppm

Pitot Factor	.841
DGMCF (Y)	.986
Barometric Pressure	29.97 "Hg
Static Pressure	-9.88 "H2O
Nozzle Size	.2442 inches
Stack Diameter	54 inches
Length	feet
Width	feet
Port length:	11 inches

Nozzle Measurements	
1	2440
2	2445
3	2440
Average:	2442

Site Diagram

Reading Interval	5 min
Number of Ports	1
Number of Points/Port	1

Probe Liner Glass / Metal / Teflon / Other _____

Nozzle Glass / Metal / Other _____

Union None / Metal / Teflon / Other _____

Pitot Leak Checked? Yes No

Notes:

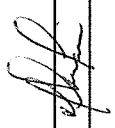
Field Data Sheet

Date: Oct 18 2021	Plant: Covanta DYEC	Test No.: 1	M26A
Plant Location: Courtice, Ontario	APC Outlet No. 2	Test Location:	

Point	Clock Time	Dry Gas Meter ft ³	Pitot Δ P "H ₂ O	DGM Temp Avg °F	Stack Temp °F	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinger Temp Outlet °F	Impinger Temp Inlet/Trap °F
1	0	14.74	.83	63	276	1.7	2.5	253	253	61	258
	5	18.30	.85	64	276	1.8	2.1	253	253	51	258
	10	21.97	.85	64	270	1.8	2.5	252	253	51	257
	15	25.65	.82	64	270	1.75	2.15	253	253	53	255
	20	29.26	.81	64	270	1.7	2.5	253	253	53	255
	25	32.91	.83	66	270	1.7	2.5	254	253	56	256
	30	36.40	.85	66	271	1.75	2.1	253	253	58	255
	35	40.03	.88	67	272	1.8	2.15	254	253	60	256
	40	43.73	.93	67	273	1.95	2.15	254	253	59	255
	45	47.55	.86	68	275	1.8	2.15	254	252	56	256
	50	51.29	.82	69	275	1.7	2.15	254	253	53	256
	55	54.87	.86	69	275	1.8	2.15	254	254	55	256
	60	58.62									

Traverse:		Traverse:	
Start Time: 7:37	Initial Leak Check: .01 cfm@ 15 "Hg	Start Time:	Initial Leak Check:
Finish Time: 8:37	Final Leak Check: .01 cfm@ 15 "Hg	Finish Time:	Final Leak Check:

Project No.: AST-2025-3852

Operator: 

Alliance Technical Group

Plant	Reworld
Plant Location	Courtice, Ontario
Test No.:	2 Hydrogen Flouride (HF) M26A
Test Date	October 28 2025
Test Location	APC Outlet No. 2
Operator	TT

Project No.:	AST-2025-3852
Page	1 of 2
Probe No.:	7 series
Meter Box No.:	MB16
Impinger Box No.:	2

Pitot Factor	.841
DGMCF (Y)	.986
Barometric Pressure	28.97 "Hg
Static Pressure	-9.88 "H2O
Nozzle Size	.2442 inches
Stack Diameter	54 inches
Length	feet
Width	feet
Port length:	11 inches

Moisture Gain	
Total	g

Combustion Gas Concentration	
Oxygen	9.80 %
Carbon Dioxide	9.51 %
Carbon Monoxide	10.7 ppm

Measuring Device	ID
Probe / Pitot	15L
Trendicator	MB16
Control Box	MB16
Incline Manometer	MB16
Comb.Gas Analyzer	
Micromanometer	
Barometer	BAR-1
Calipers	cal-2

Reading Interval	5 min
Number of Ports	1
Number of Points/Port	1

Site Diagram

Nozzle Measurements	
1	2440
2	2445
3	2440
Average:	2442

Probe Liner Glass / Metal / Teflon / Other

Nozzle Glass / Metal / Other

Union None / Metal / Teflon / Other

Pitot Leak Checked? Yes No

Notes:

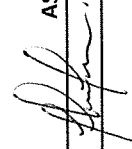
Field Data Sheet

Date: Oct 28 2023	Plant: Covanta DYEC	Test No.: 2	M26A
Plant Location: Courtice, Ontario	Test Location: APC Outlet No. 2		

Point	Clock Time	Dry Gas Meter ft ³	Pitot Δ P "H ₂ O	DGM Temp Avg °F	Stack Temp °F	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinger Temp Inlet/Trap °F
1	0	59.33	.76	69	275	1.6	2.5	273	235	61
	5	62.79	.76	68	272	1.6	2.5	251	254	50
	10	66.23	.76	68	273	1.6	2.5	254	249	48
	15	69.78	.78	68	272	1.6	2.5	252	255	48
	20	73.26	.80	68	273	1.65	3	253	254	48
	25	76.79	.80	69	274	1.65	3	252	252	48
	30	80.31	.83	69	273	1.7	3	252	253	49
	35	83.95	.83	70	274	1.7	3	252	254	50
	40	87.61	.81	70	274	1.65	3	253	252	51
	45	91.14	.81	71	274	1.65	3	252	253	52
	50	94.79	.74	71	273	1.6	3	253	254	53
	55	98.29	.76	72	273	1.6	3	253	252	55
	60	101.83								

Traverse:	Start Time: 9:23	Initial Leak Check: .008	cfm@ 15	"Hg
	Finish Time: 10:23	Final Leak Check: .014	cfm@ 15	"Hg

Project No.: AST-2025-3852

Operator: 

Alliance Technical Group

Plant	Reworld
Plant Location	Courtice, Ontario
Test No.:	3 Hydrogen Flouride (HF) M26A
Test Date	October 28 2025
Test Location	APC Outlet No. 2
Operator	TJ

Pitot Factor	.841
DGMCF (Y)	.986
Barometric Pressure	- 9.88 "Hg
Static Pressure	29.94 "H2O
Nozzle Size	.2442 inches
Stack Diameter	54 inches
Length	feet
Width	feet
Port length:	11 inches

Reading Interval	5 min
Number of Ports	1
Number of Points/Port	1

Probe Liner Glass / Metal / Teflon / Other _____

Nozzle Glass / Metal / Other _____

Union None / Metal / Teflon / Other _____

Pitot Leak Checked? Yes No

Notes:

Project No.:	AST-2025-3852
Page	1 of 2
Probe No.:	7 series
Meter Box No.:	4B16
Impinger Box No.:	2

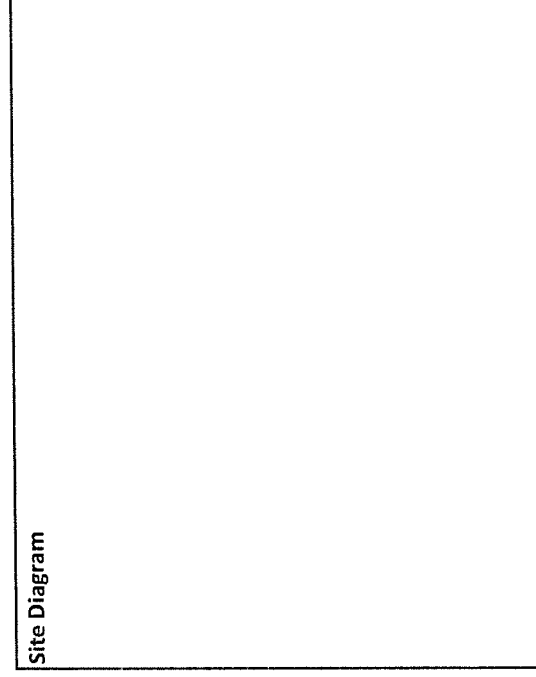
Measuring Device	ID
Probe / Pitot	152
Trendicator	4B16
Control Box	4B16
Incline Manometer	4B16
Comb.Gas Analyzer	
Micromanometer	BAR-1
Barometer	
Calipers	CHL-2

Nozzle Measurements
1 22440
2 2445
3 2440
Average: 2442

Moisture Gain	g
Total	

Combustion Gas Concentration	
Oxygen	9.78 %
Carbon Dioxide	9.80 %
Carbon Monoxide	7.80 ppm

Site Diagram



Field Data Sheet

Date: Oct 28 2015	Plant: Covanta DYEC	Test No.: 3	M26A
Plant Location: Courtice, Ontario	Test Location: APC Outlet No. 2		

Point	Clock Time	Dry Gas Meter ft ³	Pitot Δ P "H ₂ O	DGM Temp Avg °F	Stack Temp °F	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge	Probe Temp °F	Oven Temp °F	Impinger Temp Inlet/Trap °F
1	0	2.32	.95	71	275	1.95	3	254	254	63
	5	6.17	.95	71	275	1.95	3	254	254	63
	10	10.07	.90	71	276	1.85	3	250	254	49
	15	13.82	.90	70	276	1.8	3	251	254	47
	20	17.53	.90	71	276	1.8	3	251	251	45
	25	21.28	.93	71	276	1.9	3	251	253	45
	30	25.10	.93	71	277	1.9	3	251	254	44
	35	28.93	.93	72	276	1.9	3	251	252	44
	40	32.76	.96	72	276	2.05	3	251	253	44
	45	36.71	.92	72	276	1.9	3	250	253	44
	50	40.54	.92	73	276	1.9	3	250	253	45
	55	44.33	.92	73	276			250	252	45
	60	48.20								

Traverse:	Start Time: 11:08	Initial Leak Check: .012	cfm @ 15	"Hg
	Finish Time: 12:08	Final Leak Check: .008	cfm @ 15	"Hg

Project No.: AST-2025-3852

Operator: [Signature]

APPENDIX 8

VOC Field Data Sheets (2 pages)

Summa Cannister Data Sheet

Company:	Reworld
Location:	APC OUT #1
Date:	10-29-25
Canister ID:	2947
VRF ID:	G425
Test:	1

Project:	AST-2025-3852
----------	---------------

01400-0095

Time On:	08:20
Time Off:	09:16
Total Time:	56

Initial Pressure:	29	(in. Hg)
Final Pressure:	8	(in. Hg)

Operator:	CTRO
-----------	------

Company:	Reworld
Location:	APC OUT #1
Date:	10-29-25
Canister ID:	1081
VRF ID:	CT3
Test:	1

01400.0221

Time On:	10:12
Time Off:	12:12
Total Time:	120

Initial Pressure:	29	(in. Hg)
Final Pressure:	10	(in. Hg)

Operator:	CTRO
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Company:	Reworld
Location:	APC #1 OUT
Date:	10-29-25
Canister ID:	6385
VRF ID:	G262
Test:	3

01400-0413

Time On:	12:14
Time Off:	13:14
Total Time:	60

Initial Pressure:	30	(in. Hg)
Final Pressure:	9	(in. Hg)

Operator:	CTRO
-----------	------

Company:	
Location:	
Date:	
Canister ID:	
VRF ID:	
Test:	

Time On:	
Time Off:	
Total Time:	

Initial Pressure:		(in. Hg)
Final Pressure:		(in. Hg)

Operator:	
-----------	--

Summa Cannister Data Sheet

Company:	Reworld
Location:	UNIT 2
Date:	10/29/25
Canister ID:	01400-0727
VRF ID:	G441 29555
Test:	

Project:	AST-2025-3852
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Time On:	8:05
Time Off:	9:30
Total Time:	85

Initial Pressure:	30 (in. Hg)
Final Pressure:	10 (in. Hg)

Operator:	DNT
-----------	-----

Company:	Reworld
Location:	UNIT 2
Date:	10/29/25
Canister ID:	01400-0103
VRF ID:	G17
Test:	2

Initial Pressure:	30 (in. Hg)
Final Pressure:	8 (in. Hg)

Time On:	9:33
Time Off:	10:36
Total Time:	63

Operator:	DNT
-----------	-----

Company:	Reworld
Location:	UNIT 2
Date:	10/29/25
Canister ID:	01400-0269
VRF ID:	G31
Test:	3

01400-0729
G454

Initial Pressure:	30 (in. Hg)
Final Pressure:	10 (in. Hg)

Time On:	11:07
Time Off:	12:45
Total Time:	92

Operator:	DNT
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Company:	
Location:	
Date:	
Canister ID:	
VRF ID:	
Test:	

Initial Pressure:	(in. Hg)
Final Pressure:	(in. Hg)

Time On:	
Time Off:	
Total Time:	

Operator:	
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APPENDIX 9

Aldehydes Field Data Sheets (8 pages)

Alliance Technical Group
NCASI Method ISS/FP-A105.01

Vest 6

Plant:	Covanta DYEC
Plant Location:	Courtice, Ontario
Test No.:	1
Test location:	APC Outlet No. <i>71</i>
Date:	<i>10-26-25</i>
Project No.:	AST-2025-3852

Measuring Device	ID
Control Module	<i>Vest #4</i>
Barometer	BAR-1

Barometric Pressure:	<i>29.80</i> "Hg
----------------------	------------------

Clock Time	Dry Gas Meter L	Probe Temp °C	Stack Temp °C	Impinger Outlet °C	Meter Temp Average °C	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge
0	<i>25.81</i>	132	138	12	16	0.7	0.5
5	<i>35.40</i>	130	139	10	21	0.8	0.5
10	<i>24.49</i>	121	138	8	8	0.8	0.5
15	8.001	123	139	7	9	0.8	0.5
20	<i>11.058</i>	123	139	7	10	0.8	0.5
25	<i>14.166</i>	124	140	7	11	0.7	0.5
30	<i>17.266</i>	124	140	7	11	0.7	0.5
35	<i>20.375</i>	124	140	7	13	0.7	0.5
40	<i>23.280</i>	124	140	7	13	0.7	0.5
45	<i>26.620</i>	124	140	7	14	0.7	0.5
50	<i>29.70</i>	121	140	7	14	0.7	0.5
55	<i>32.770</i>	124	140	7	15	0.7	0.5
60	<i>35.879</i>	124	140	7	15	0.7	0.5

0
2.449
4.946
8.001

Start Time:	<i>0846</i>	<i>0845</i>
Finish Time:		<i>0945</i>
Initial Leak Check:	<i>4.01</i>	Lpm @ <i>20</i> "Hg <i>24</i>
Final Leak Check:	<i>4.01</i>	Lpm @ <i>20</i> "Hg

DGMCF:	<i>1.0022</i>
	<i>0.9885</i>

Comments:	
: sample @ ~0.5 lpm for 60 minutes.	Operator: <i>CRLO</i>

Alliance Technical Group
NCASI Method ISS/FP-A105.01

Plant:	Covanta DYEC
Plant Location:	Courtice, Ontario
Test No.:	2
Test location:	APC Outlet No. 1
Date:	10.29.25
Project No.:	AST-2025-3852

Measuring Device	ID
Control Module	105T 6
Barometer	BAR-1

Barometric Pressure:	29.80
	"Hg

Clock Time	Dry Gas Meter L	Probe Temp °C	Stack Temp °C	Impinger Outlet °C	Meter Temp Average °C	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge
0	0	121	142	15	16	0.7	1
5	3.221	124	142	15	17	0.7	1
10	5.972	124	142	15	17	0.7	1
15	8.325	124	142	15	17	0.7	1
20	10.401	124	142	15	18	0.7	1
25	13.472	124	142	15	18	0.7	1
30	16.081	124	142	15	18	0.7	1
35	18.637	124	142	15	18	0.7	1
40	21.234	124	143	15	19	0.7	1
45	23.775	124	143	15	19	0.7	1
50	26.337	124	143	15	19	0.7	1
55	29.010	124	143	15	19	0.7	1
60	31.486	124	143	15	19	0.7	1

DGMCF:	9885
--------	------

Start Time:	10:09
Finish Time:	11:09
Initial Leak Check:	2.01 Lpm @ 20" Hg
Final Leak Check:	2.01 Lpm @ 25" Hg

Comments:

: sample @ ~0.5 lpm for 60 minutes.

Operator: CRO

Alliance Technical Group
NCASI Method ISS/FP-A105.01

Plant:	Covanta DYEC
Plant Location:	Courtice, Ontario
Test No.:	3
Test location:	APC Outlet No. 1
Date:	10-24-30
Project No.:	AST-2025-3852

Measuring Device	ID
Control Module	VOST 6
Barometer	BAR-1

Barometric Pressure:	29.80
	"Hg

Clock Time	Dry Gas Meter L	Probe Temp °C	Stack Temp °C	Impinger Outlet °C	Meter Temp Average °C	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge
0	0	124	143	16	20	0.7	1
5	4.69	124	143	10	20	0.7	1
10	7.205	124	143	8+10	20	0.7	1
15	9.623	124	142	8	20	0.7	1
20	12.186	124	142	8	20	0.7	1
25	14.746	124	142	8	20	0.7	1
30	17.309	124	142	8	20	0.7	1
35	19.859	124	142	8	21	0.7	1
40	22.461	124	142	8	21	0.7	1
45	24.951	124	142	8	21	0.7	1
50	27.670	124	142	8	21	0.7	1
55	30.062	124	142	8	21	0.7	1
60	32.599	124	142	8	21	0.7	1

DGMCF:	0.9885
--------	--------

Start Time:	1128
Finish Time:	1228
Initial Leak Check:	6.01 Lpm @ 25" Hg
Final Leak Check:	6.01 Lpm @ 25" Hg

Comments:

: sample @ ~0.5 lpm for 60 minutes.

Operator: GPO

Alliance Technical Group
NCASI Method ISS/FP-A105.01

Plant:	Covanta DYEC
Plant Location:	Courtice, Ontario
Test No.:	1
Test location:	APC Outlet No. <u>2</u>
Date:	10/29/25
Project No.:	AST-2025-3852

Measuring Device	ID
Control Module	V05T
Barometer	BAR-1

Barometric Pressure:	29.80
	"Hg

Clock Time	Dry Gas Meter	Probe Temp °C	Stack Temp °C	Impinger Outlet °C	Meter Temp Average °C	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge
0	24.7	135	133	16	17	1.4	1
5	26.7	135	133	10	17	1.4	1
10	28.8	136	133	9	17	1.4	1
15	31.0	137	133	9	17	1.4	1
20	33.7	137	133	9	18	1.4	1
25	36.4	137	133	9	18	1.4	1
30	39.1	137	133	8	18	1.4	1
35	41.9	136	133	8	18	1.4	1
40	45.0	136	133	8	19	1.4	1
45	47.6	136	133	8	19	1.4	1
50	50.2	136	133	8	19	1.4	1
55	52.7	136	133	8	19	1.4	1
60	55.0	136	133	8	19	1.4	1

DGMCF:	1.0/0.2
--------	---------

Start Time:	9:05
Finish Time:	9:05
Initial Leak Check:	< 0.1 Lpm @ 10 "Hg
Final Leak Check:	< 0.1 Lpm @ 15 "Hg

Comments:

: sample @ ~0.5 lpm for 60 minutes.

Operator:

DM

Alliance Technical Group
NCASI Method ISS/FP-A105.01

Plant:	Covanta DYEC
Plant Location:	Courtice, Ontario
Test No.:	<u>2</u>
Test location:	APC Outlet No. <u>2</u>
Date:	<u>10/29/25</u>
Project No.:	AST-2025-3852

Measuring Device	ID
Control Module	<u>VOST</u>
Barometer	BAR-1

Barometric Pressure:	<u>29.80</u>
	"Hg

Clock Time	Dry Gas Meter L	Probe Temp °C	Stack Temp °C	Impinger Outlet °C	Meter Temp Average °C	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge
0	55.4	135	133	15	18	1.4	1
5	58.6	135	133	11	18	1.4	1
10	58.6	135	133	8	18	1.4	1
15	64.7	135	133	8	19	1.4	1
20	67.0	135	133	8	19	1.4	1
25	69.5	135	133	8	19	1.4	1
30	72.0	135	133	8	19	1.4	1
35	74.5	135	133	8	19	1.4	1
40	76.6	135	133	8	20	1.4	1
45	78.7	135	134	8	20	1.4	1
50	81.0	135	134	8	20	1.4	1
55	83.9	135	134	8	20	1.4	1
60	86.6	135	134	8	21	1.4	1

DGMCF:	<u>1.0102</u>
--------	---------------

Start Time:	<u>9:34</u>
Finish Time:	<u>10:34</u>
Initial Leak Check:	<u>2.01</u> Lpm @ <u>10</u> "Hg
Final Leak Check:	<u>2.01</u> Lpm @ <u>15</u> "Hg

Comments:	
: sample @ ~0.5 lpm for 60 minutes.	
Operator:	<u>DUT</u>

Alliance Technical Group
NCASI Method ISS/FP-A105.01

Plant:	Covanta DYEC
Plant Location:	Courtice, Ontario
Test No.:	3
Test location:	APC Outlet No. 2
Date:	10/29/25
Project No.:	AST-2025-3852

Measuring Device	ID
Control Module	V0571
Barometer	BAR-1

Barometric Pressure:	29.80	"Hg
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Clock Time	Dry Gas Meter L	Probe Temp °C	Stack Temp °C	Impinger Outlet °C	Meter Temp Average °C	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge
0	87.0	140	136	17	19	1.4	1
5	89.4	140	136	10	20	1.4	1
10	91.8	140	136	9	20	1.4	1
15	93.2	140	136	9	21	1.4	1
20	96.7	140	136	9	21	1.4	1
25	99.2	140	136	9	21	1.4	1
30	101.8	139	135	9	21	1.4	1
35	104.3	139	135	9	21	1.4	1
40	107.2	139	135	9	21	1.4	1
45	109.7	139	135	9	21	1.4	1
50	112.2	139	135	9	21	1.4	1
55	114.9	139	135	9	21	1.4	1
60	117.6	139	135	9	21	1.4	1

DGMCF:	1.0102
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Start Time:	1115
Finish Time:	1215
Initial Leak Check:	2.01 Lpm @ 10 "Hg
Final Leak Check:	2.01 Lpm @ 15 "Hg

Comments:

: sample @ ~0.5 lpm for 60 minutes.

Operator: *Duff*

Location **Reworld Durham York Renewable Energy L.P - Courtice, ON**
Source **APC Outlet No. 1**
Project No. **AST-2025-3852**
Parameter(s) **Aldehydes**
Console Type **Low Flow**

Run No.	1						2						3					
Date	10-29-25						10-29-25						10-29-25					
Status	VALID						VALID						VALID					
Start Time	8:45						10:09						11:28					
End Time	9:45						11:09						12:28					
Run Time, min	(0) 60						60						60					
Meter ID	Vost 6						Vost 6						Vost 6					
Meter Correction Factor	(Y) 0.9885						0.9885						0.9885					
Max Vacuum, in. Hg	1						1						1					
Pre Leak Check, L/min	0.010						0.010						0.010					
Post Leak Check, L/min (at max vac.)	0.010						0.010						0.010					
Meter Volume, L																		
0	0.000						0.000						0.000					
5	2.449						3.221						4.590					
10	4.945						5.927						7.205					
15	8.001						8.325						9.623					
20	11.058						10.901						12.186					
25	14.156						13.472						14.745					
30	17.266						16.081						17.300					
35	20.375						18.637						19.859					
40	23.250						21.234						22.461					
45	26.620						23.775						24.951					
50	29.700						26.337						27.570					
55	32.770						29.010						30.052					
60	35.879						31.486						32.599					
Total Meter Volume, L	(Vm) 35.879						31.486						32.599					
Temperature, °C	Probe	Stack	Imp. Exit	Meter	ΔH	Vacuum	Probe	Stack	Imp. Exit	Meter	ΔH	Vacuum	Probe	Stack	Imp. Exit	Meter	ΔH	Vacuum
0	132	138	12	16	0.7	0.5	121	142	15	16	0.7	1.0	124	143	16	20	0.7	1.0
5	130	139	10	21	0.8	0.5	124	142	14	17	0.7	1.0	124	143	10	20	0.7	1.0
10	121	138	8	8	0.8	0.5	124	142	9	17	0.7	1.0	124	143	8	20	0.7	1.0
15	123	139	7	9	0.8	0.5	124	142	8	17	0.7	1.0	124	142	8	20	0.7	1.0
20	123	139	7	10	0.8	0.5	124	142	8	18	0.7	1.0	124	142	8	20	0.7	1.0
25	124	140	7	11	0.7	0.5	124	142	8	18	0.7	1.0	124	142	8	20	0.7	1.0
30	124	140	7	11	0.7	0.5	124	142	8	18	0.7	1.0	124	142	8	20	0.7	1.0
35	124	140	7	13	0.7	0.5	124	142	8	18	0.7	1.0	124	142	8	21	0.7	1.0
40	124	140	7	13	0.7	0.5	124	143	8	19	0.7	1.0	124	142	8	21	0.7	1.0
45	124	140	7	14	0.7	0.5	124	143	8	19	0.7	1.0	124	142	8	21	0.7	1.0
50	124	140	7	14	0.7	0.5	124	143	8	19	0.7	1.0	124	142	8	21	0.7	1.0
55	124	140	7	15	0.7	0.5	124	143	8	19	0.7	1.0	124	142	8	21	0.7	1.0
60	124	140	7	15	0.7	0.5	124	143	8	19	0.7	1.0	124	142	8	21	0.7	1.0
Average Temperature, °C	(Tm) 125	139	--	13	--	--	124	142	--	18	--	--	124	142	--	20	--	--
Average Temperature, °K	(Tm) 398	413	--	286	--	--	397	416	--	291	--	--	397	415	--	294	--	--
Minimum Temperature, °C	121	138	7	--	--	--	121	142	8	--	--	--	124	142	8	--	--	--
Maximum Temperature, °C	132	140	12	--	--	--	124	143	15	--	--	--	124	143	16	--	--	--
Barometric Pressure, in. Hg	(Pb) 29.80						29.80					29.80						
Meter Orifice Pressure, in. WC	(ΔH) 0.7						0.7					0.7						
Meter Pressure, in. Hg	(Pm) 29.85						29.85					29.85						
Reference Meter Volume, L	(Vmref) 36.86						31.80					32.65						
Reference Meter Volume, Rm³	(Vmref) 0.0369						0.0318					0.0326						

Reference conditions: 25°C, 1 atm (77°F, 29.92 in. Hg)

Location **Reworld Durham York Renewable Energy L.P - Courtice, ON**
Source **APC Outlet No. 2**
Project No. **AST-2025-3852**
Parameter(s) **Aldehydes**
Console Type **Low Flow**

Run No.	1						2						3						
Date	10-29-25						10-29-25						10-29-25						
Status	VALID						VALID						VALID						
Start Time	8:05						9:34						11:15						
End Time	9:05						10:34						12:15						
Run Time, min	60						60						60						
Meter ID	Vost1						Vost1						Vost1						
Meter Correction Factor	1.0102						1.0102						1.0102						
Max Vacuum, in. Hg	1						1						1						
Pre Leak Check, L/min	0.010						0.010						0.010						
Post Leak Check, L/min (at max vac.)	15.000						15.000						15.000						
Meter Volume, L																			
0	24.70						55.40						87.00						
5	26.20						58.60						89.40						
10	28.80						61.30						91.80						
15	31.00						64.70						93.20						
20	33.70						67.00						96.70						
25	36.40						69.50						99.20						
30	39.10						72.00						101.80						
35	41.90						74.50						104.30						
40	45.00						76.00						107.20						
45	47.60						78.20						109.70						
50	50.20						81.00						112.20						
55	52.70						83.90						114.90						
60	55.00						86.60						117.60						
Total Meter Volume, L	30.30						31.20						30.60						
Temperature, °C	Probe	Stack	Imp. Exit	Meter	ΔH	Vacuum	Probe	Stack	Imp. Exit	Meter	ΔH	Vacuum	Probe	Stack	Imp. Exit	Meter	ΔH	Vacuum	
0	135	133	16	17	1.4	1	135	133	15	18	1.4	1	140	136	17	19	1.4	1	
5	135	133	10	17	1.4	1	135	133	11	18	1.4	1	140	136	10	20	1.4	1	
10	135	133	9	17	1.4	1	135	133	8	18	1.4	1	140	136	9	20	1.4	1	
15	136	133	9	17	1.4	1	135	133	8	19	1.4	1	140	136	9	21	1.4	1	
20	137	133	9	18	1.4	1	135	133	8	19	1.4	1	140	136	9	21	1.4	1	
25	137	133	9	18	1.4	1	135	133	8	19	1.4	1	140	136	9	21	1.4	1	
30	137	133	9	18	1.4	1	135	133	8	19	1.4	1	139	135	9	21	1.4	1	
35	137	133	8	18	1.4	1	135	133	8	19	1.4	1	139	135	9	21	1.4	1	
40	136	133	8	19	1.4	1	135	133	8	20	1.4	1	139	135	9	21	1.4	1	
45	136	133	8	19	1.4	1	135	134	8	20	1.4	1	139	135	9	21	1.4	1	
50	136	133	8	19	1.4	1	135	134	8	20	1.4	1	139	135	9	21	1.4	1	
55	136	133	8	19	1.4	1	135	134	8	20	1.4	1	139	135	9	21	1.4	1	
60	136	133	8	19	1.4	1	135	134	8	20	1.4	1	139	135	9	21	1.4	1	
Average Temperature, °C	(Tm)	136	133	--	18	--	--	135	133	--	19	--	--	139	135	--	21	--	--
Average Temperature, °K	(Tm)	409	406	--	291	--	--	408	406	--	292	--	--	413	409	--	294	--	--
Minimum Temperature, °C		135	133	8	--	--	--	135	133	8	--	--	--	139	135	9	--	--	--
Maximum Temperature, °C		137	133	16	--	--	--	135	134	15	--	--	--	140	136	17	--	--	--
Barometric Pressure, in. Hg	(Pb)	29.80					29.80					29.80							
Meter Orifice Pressure , in. WC	(ΔH)	1.4					1.4					1.4							
Meter Pressure, in. Hg	(Pm)	29.90					29.90					29.90							
Reference Meter Volume, L	(Vmref)	31.32					32.13					31.35							
Reference Meter Volume, Rm³	(Vmref)	0.0313					0.0321					0.0313							

Reference conditions: 25°C, 1 atm (77°F, 29.92 in. Hg)

APPENDIX 10

Sample Log/Chain of Custody Forms (9 pages)

Alliance Technical Group North, Inc. - Sample Log
 Particulate and Metals Samples
 Reworld

Client: Reworld
 Project Number: AST-2025-3852
 Received By: C Belore
 How Received: Train Recovery
 Job Assigned To: ALS
 QUOTE/PO:

Alliance Sample ID 25-3852-PM-	Sample Date	Location	Test No.	Sample Description	Sample Media	Sample Analysis
1 ✓	Oct 27/25	#1 APC Outlet	1	Probe Rinse Acetone	Acetone	Particulate & Metals
2 ✓				Probe Rinse Nitric	0.1N Nitric	Metals
3 ✓				Filter	Particulate	Particulate & Metals
4 ✓				Impinger 1-4 Solution	Nitric/Peroxide	Metals
5 ✓				Impinger 5-6 Solution	Acid. KMnO4	Mercury
6 ✓				Impinger 5-6 Rinse	8N HCl	Mercury
7 ✓	↓	#1 APC Outlet	2	Probe Rinse Acetone	Acetone	Particulate & Metals
8 ✓				Probe Rinse Nitric	0.1N Nitric	Metals
9 ✓				Filter	Particulate	Particulate & Metals
10 ✓				Impinger 1-4 Solution	Nitric/Peroxide	Metals
11 ✓				Impinger 5-6 Solution	Acid. KMnO4	Mercury
12 ✓				Impinger 5-6 Rinse	8N HCl	Mercury
13 ✓	Oct 28/25	#1 APC Outlet	3	Probe Rinse Acetone	Acetone	Particulate & Metals
14 ✓				Probe Rinse Nitric	0.1N Nitric	Metals
15 ✓				Filter	Particulate	Particulate & Metals
16 ✓				Impinger 1-4 Solution	Nitric/Peroxide	Metals
17 ✓				Impinger 5-6 Solution	Acid. KMnO4	Mercury
18 ✓				Impinger 5-6 Rinse	8N HCl	Mercury
19 ✓	↓	Blank	Blank	Probe Rinse Acetone	Acetone	Particulate & Metals
20 ✓				Probe Rinse Nitric	0.1N Nitric	Metals
21 ✓				Filter	Particulate	Particulate & Metals
22 ✓				Impinger 1-4 Solution	Nitric/Peroxide	Metals
23 ✓				Impinger 5-6 Solution	Acid. KMnO4	Mercury
24 ✓				Impinger 5-6 Rinse	8N HCl	Mercury

Alliance Technical Group North, Inc. - Sample Log
Particulate and Metals Samples
Reworld

Client: Reworld

Project Number: AST-2025-3852

Received By: C Belore

How Received: Train Recovery

Job Assigned To: ALS

QUOTE/PO:

Alliance Sample ID	Sample Date	Location	Test No.	Sample Description	Sample Media	Sample Analysis
25-3852-PM-						
25 ✓	0ct 27/25	#2 APC Outlet	1	Probe Rinse Acetone	Acetone	Particulate & Metals
26 ✓				Probe Rinse Nitric	0.1N Nitric	Metals
27 ✓				Filter	Particulate	Particulate & Metals
28 ✓				Impinger 1-4 Solution	Nitric/Peroxide	Metals
29 ✓				Impinger 5-6 Solution	Acid. KMnO4	Mercury
30 ✓				Impinger 5-6 Rinse	8N HCl	Mercury
31 ✓	0ct 28/25	#2 APC Outlet	2	Probe Rinse Acetone	Acetone	Particulate & Metals
32 ✓				Probe Rinse Nitric	0.1N Nitric	Metals
33 ✓				Filter	Particulate	Particulate & Metals
34 ✓				Impinger 1-4 Solution	Nitric/Peroxide	Metals
35 ✓				Impinger 5-6 Solution	Acid. KMnO4	Mercury
36 ✓				Impinger 5-6 Rinse	8N HCl	Mercury
37 ✓	↓	#2 APC Outlet	3	Probe Rinse Acetone	Acetone	Particulate & Metals
38 ✓				Probe Rinse Nitric	0.1N Nitric	Metals
39 ✓				Filter	Particulate	Particulate & Metals
40 ✓				Impinger 1-4 Solution	Nitric/Peroxide	Metals
41 ✓				Impinger 5-6 Solution	Acid. KMnO4	Mercury
42 ✓				Impinger 5-6 Rinse	8N HCl	Mercury

Relinquished By:

Dut

Date:

10/30/25

Relinquished To:

AARON BROWN

Date:

30-Oct-2025 13:20 7.0°C

Reworld

Client: Reworld

Job/Report Number: AST-2025-3852

Received By: C Belore

How Received: Train Recovery

Job Assigned To: ALS

Quote/ PO:

Alliance Sample ID 25-3852-M201A-	Date	Test No.	Location	Sample Description	Sample Media	Sample Analysis
1 ✓	0-128/25	1	# 1 APC Outlet	Nozzle & PM10 cyclone rinse	Acetone	Particulate
2 ✓				PM 2.5 cyclone Rinse	Acetone	Particulate
3 ✓				PM 2.5 exit & connectors	Acetone	Particulate
4 ✓				Back up filter	filter	Particulate
5 ✓				Impinger Soln & rinse	Water	Particulate
6 ✓				Secondary Filter	Filter	Particulate*
7 ✓				Impinger Rinse	Acetone & Hexane	Particulate
8 ✓		2	# 1 APC Outlet	Nozzle & PM10 cyclone rinse	Acetone	Particulate
9 ✓				PM 2.5 cyclone Rinse	Acetone	Particulate
10 ✓				PM 2.5 exit & connectors	Acetone	Particulate
11 ✓				Back up filter	filter	Particulate
12 ✓				Impinger Soln & rinse	Water	Particulate
13 ✓				Secondary Filter	Filter	Particulate*
14 ✓				Impinger Rinse	Acetone & Hexane	Particulate
15 ✓		3	# 1 APC Outlet	Nozzle & PM10 cyclone rinse	Acetone	Particulate
16 ✓				PM 2.5 cyclone Rinse	Acetone	Particulate
17 ✓				PM 2.5 exit & connectors	Acetone	Particulate
18 ✓				Back up filter	filter	Particulate
19 ✓				Impinger Soln & rinse	Water	Particulate
20 ✓				Secondary Filter	Filter	Particulate*
21 ✓				Impinger Rinse	Acetone & Hexane	Particulate
22 ✓	0-127/25	1	# 2 APC Outlet	Nozzle & PM10 cyclone rinse	Acetone	Particulate
23 ✓				PM 2.5 cyclone Rinse	Acetone	Particulate
24 ✓				PM 2.5 exit & connectors	Acetone	Particulate
25 ✓				Back up filter	filter	Particulate
26 ✓				Impinger Soln & rinse	Water	Particulate
27 ✓				Secondary Filter	Filter	Particulate*
28 ✓				Impinger Rinse	Acetone & Hexane	Particulate
29 ✓		2	# 2 APC Outlet	Nozzle & PM10 cyclone rinse	Acetone	Particulate
30 ✓				PM 2.5 cyclone Rinse	Acetone	Particulate
31 ✓				PM 2.5 exit & connectors	Acetone	Particulate
32 ✓				Back up filter	Filter	Particulate
33 ✓				Impinger Soln & rinse	Water	Particulate
34 ✓				Secondary Filter	Filter	Particulate*
35 ✓				Impinger Rinse	Acetone & Hexane	Particulate

Reworld

Client: Reworld
 Job/Report Number: AST-2025-3852
 Received By: C Belore
 How Received: Train Recovery
 Job Assigned To: ALS
 Quote/ PO:

Alliance Sample ID	Date	Test No.	Location	Sample Description	Sample Media	Sample Analysis
25-3852-M201A-						
36 ✓	Oct 27/25 ↓	3	# 2 APC Outlet	Nozzle & PM10 cyclone rinse	Acetone	Particulate
37 ✓				PM 2.5 cyclone Rinse	Acetone	Particulate
38 ✓				PM 2.5 exit & connectors	Acetone	Particulate
39 ✓				Back up filter	Filter	Particulate
40 ✓				Impinger Soln & rinse	Water	Particulate
41 ✓				Secondary Filter	Filter	Particulate*
42 ✓				Impinger Rinse	Acetone & Hexane	Particulate
43 ✓	Oct 28/25 ↓	Blank		Nozzle & PM10 cyclone rinse	Acetone	Particulate
44 ✓				PM 2.5 cyclone Rinse	Acetone	Particulate
45 ✓				PM 2.5 exit & connectors	Acetone	Particulate
46 ✓				Back up filter	filter	Particulate
47 ✓				Impinger Soln & rinse	Water	Particulate
48 ✓				Secondary Filter	Filter	Particulate*
49 ✓				Impinger Rinse	Acetone & Hexane	Particulate

Note: *To be included in condensable particulate analysis as per US EPA Method 202.

Relinquished To:

Aaron Burton

Date:

26-Oct-2025 13:27.07

Relinquished By:

Dut

Date:

10/30/25

Alliance Technical Group North, Inc. - Sample Log
Acid Gases
Reworld

Client: Reworld
Job/Report Number: AST-2025-3852
Received By: C Belore
How Received: Train Recovery
Job Assigned To: ALS

Alliance Sample ID 25-3852-M26A-	Sample Date	Location	Sample Description	Media	Initial Volume(ml)	Final Volume(ml)	Sample Analysis
1 ✓	27-Oct-25	APC Outlet # 1	Impinger Soln & rinse	0.1N H ₂ SO ₄ + DH ₂ O	200	459	HCl, HF & Ammonia
2 ✓		APC Outlet # 1	Impinger Soln & rinse	0.1N H ₂ SO ₄ + DH ₂ O	200	471	HCl, HF & Ammonia
3 ✓		APC Outlet # 1	Impinger Soln & rinse	0.1N H ₂ SO ₄ + DH ₂ O	200	466	HCl, HF & Ammonia
4 ✓	28-Oct-25	APC Outlet # 2	Impinger Soln & rinse	0.1N H ₂ SO ₄ + DH ₂ O	200	458	HCl, HF & Ammonia
5 ✓		APC Outlet # 2	Impinger Soln & rinse	0.1N H ₂ SO ₄ + DH ₂ O	200	459	HCl, HF & Ammonia
6 ✓		APC Outlet # 2	Impinger Soln & rinse	0.1N H ₂ SO ₄ + DH ₂ O	200	480	HCl, HF & Ammonia
Blank ✓		Blank	Impinger Soln & rinse	0.1N H ₂ SO ₄ + DH ₂ O	200	310	HCl, HF & Ammonia

Analyze for HCl, HF and Ammonia

Relinquished By: DUT Date: 10/30/25
Relinquished To: ARKAR BUNTON Date: 30-Oct-2025 13:20 7.02

Alliance Technical Group North, Inc. - Sample Log
Semi-Volatile Organics Samples
Reworld

Client: Reworld
Job/Report Number: AST-2025-3852
Received By: C Belore
How Received: Train Recovery
Job Assigned To: ALS
Quote / PO:

Alliance Sample ID 25-3852-SVOC-	Date	Sample Description	Location	Sample Media	Sample Analysis
1	29-Oct-25	Test 1 Probe Rinse	# 1 APC Outlet	Hexane/Acetone	SVOC
2		Test 1 Filter		Particulate	SVOC
3		Test 1 XAD-II Trap		N.A.	SVOC
4		Test 1 Impinger Solution		Ethylene Glycol	SVOC
5		Test 1 Impinger Rinse		Hexane/Acetone	SVOC
6		Test 2 Probe Rinse	# 1 APC Outlet	Hexane/Acetone	SVOC
7		Test 2 Filter		Particulate	SVOC
8		Test 2 XAD-II Trap		N.A.	SVOC
9		Test 2 Impinger Solution		Ethylene Glycol	SVOC
10		Test 2 Impinger Rinse		Hexane/Acetone	SVOC
11	30-Oct-25	Test 3 Probe Rinse	# 1 APC Outlet	Hexane/Acetone	SVOC
12		Test 3 Filter		Particulate	SVOC
13		Test 3 XAD-II Trap		N.A.	SVOC
14		Test 3 Impinger Solution		Ethylene Glycol	SVOC
15		Test 3 Impinger Rinse		Hexane/Acetone	SVOC
16		Blank Probe Rinse	Blank	Hexane/Acetone	SVOC
17		Blank Filter		Particulate	SVOC
18		Blank XAD-II Trap		N.A.	SVOC
19		Blank Impinger Solution		Ethylene Glycol	SVOC
20		Blank Impinger Rinse		Hexane/Acetone	SVOC

Environmental Division
Burlington

Work Order Reference

BU2503006



Telephone : +1 905 331 3111

Alliance Technical Group North, Inc. - Sample Log
Semi-Volatile Organics Samples
Reworld

Client: Reworld
Job/Report Number: AST-2025-3852
Received By: C Belore
How Received: Train Recovery
Job Assigned To: ALS
Quote / PO:

Alliance Sample ID 25-3852-SVOC-	Date	Sample Description	Location	Sample Media	Sample Analysis
21	29-Oct-25	Test 1	# 2 APC Outlet	Hexane/Acetone	SVOC
		Probe Rinse			
22		Test 1		Particulate	SVOC
		Filter			
23		Test 1		N.A.	SVOC
		XAD-II Trap			
24		Test 1		Ethylene Glycol	SVOC
		Impinger Solution			
25		Test 1		Hexane/Acetone	SVOC
		Impinger Rinse			
26	30-Oct-25	Test 2	# 2 APC Outlet	Hexane/Acetone	SVOC
		Probe Rinse			
27		Test 2		Particulate	SVOC
		Filter			
28		Test 2		N.A.	SVOC
		XAD-II Trap			
29		Test 2		Ethylene Glycol	SVOC
		Impinger Solution			
30		Test 2		Hexane/Acetone	SVOC
		Impinger Rinse			
31	30-Oct-25	Test 3	# 2 APC Outlet	Hexane/Acetone	SVOC
		Probe Rinse			
32		Test 3		Particulate	SVOC
		Filter			
33		Test 3		N.A.	SVOC
		XAD-II Trap			
34		Test 3		Ethylene Glycol	SVOC
	30-Oct-25	Impinger Solution	# 2 APC Outlet		
35		Test 3		Hexane/Acetone	SVOC
		Impinger Rinse			

Received by

Aaron Hunter
31 Oct 2025
9:05
8.7°C

Alliance Technical Group North, Inc. - Recovery & Sample Log NCASI Method ISS/FP-A105.01

Client: Reworld DYEC
Job/Report Number: AST-2025-3852
Received By: Chris Belore
How Received: Train Recovery
Job Assigned To: ALS
Quote / PO #:

Test Number	Test Location	Alliance Sample ID	Date Sampled	ID of BHA Sample Bottle	Empty Weight BHA Sample Bottle (g)	Initial Weight Sample Bottle + BHA (g)	Final Weight of BHA Sample Bottle (g)	Weight of Sample Bottle BHA & H2O (g)	Weight of Sample Bottle BHA & H2O & Hexane (g)
1	APC Outlet #1	ALD-1	10/25/25	ALD-1	114.1	153.2	154.9	162.7	169.5
2	APC Outlet #1	ALD-2		ALD-2	115.2	151.3	159.7	166.7	172.3
3	APC Outlet #1	ALD-3		ALD-3	115.2	155.3	162.2	170.2	178.9
Blank		Blank		ALD-4	113.5	156.2	156.2	166.0	175.7
1	APC Outlet #2	ALD-5		ALD-4	115.5	162.9	163.4	173.4	182.5
2	APC Outlet #2	ALD-6		ALD-6	113.8	166.3	165.7	174.1	186.9
3	APC Outlet #2	ALD-7		ALD-7	114.7	164.0	165.1	176.0	186.8
	Field BHA&Spike		na	na	na	na	na	na	na
	BHA Blank		na	na	na	na	na	na	na

Analyze each sample for Acetaldehyde, Formaldehyde, Acrolein.

Dut

Relinquished by:

Date:

10/30/25

Andrew Burton

Relinquished to:

Date:

30-Oct-2025 15:30 7.0°C

Alliance Technical Group North, Inc. - Sample Log

VOCs

Client: Reworld
Project Number: AST-2025-3852
Received By: C Belore
Job Assigned To: ALS
Quote / PO : ALSEQ24-278

Test Location	Test Number	Alliance Sample ID	Sample Date	Sample Description	Sample Analysis
25-3852-TO15-					
# 1 APC Outlet	1	1	October 29, 2025	Canister	VOCs
	2	2	October 29, 2025	Canister	VOCs
	3	3	October 29, 2025	Canister	VOCs
# 2 APC Outlet	1	4	October 29, 2025	Canister	VOCs
	2	5	October 29, 2025	Canister	VOCs
	3	6	October 29, 2025	Canister	VOCs
Blank	Blank	Blank	October 29, 2025	Canister	VOCs

Refer to letter dated September 29, 2025 for lists of analytes.

Custody Relinquished by: 

Date: 10/30/25

Custody Received by:

Date:

APPENDIX 11

Particulate and Metals Train Recovery Data Sheets (7 pages)

ATG North Particulate and Metals Train Recovery Data Sheet

Client: Reworld
Project No.: 25-3852
Date: 06/27/23
Test No.: 1
Test Location: 47

Nozzle, Probe Liner
Cyclone Bypass & F.H.
Filter Housing

Filter

Impingers 1, 2, 3, and 4

Impinger 5 & 6

Impinger 5 & 6

Impinger 7

CONTAINER TS3

Filter ID: 8213744
Colour: WHITE

Seal and label container TS3

CONTAINER TS4

Impinger #1 Empty
Empty Wt: 604.5
Final Wt: 745.0
Gain: 140.5
Colour:

Impinger #2 HNO₃/H₂O₂
Empty Wt: 661.5
Initial Wt: 772.7
Final Wt: 942.9
Gain: 170.2
Colour:

Impinger #3 HNO₃/H₂O₂
Empty Wt: 664.5
Initial Wt: 768.5
Final Wt: 892.5
Gain: 124.0
Colour:

Impinger #4 Empty
Empty Wt: 607.0
Final Wt: 638.0
Gain: 31.0
Colour:

CONTAINER TS4 WEIGHTS
Empty Wt: 410.5
w/ Imp. 1-4 Soln: 1082.4
After HNO₃ Rinse: 1183.0
Total TS4: 772.5

MARK FLUID LEVEL
SEAL AND LABEL TS4

CONTAINER TS5-A

Impinger #5 KMnO₄/H₂SO₄
Empty Wt: 630.8
Initial Wt: 740.2
Final Wt: 759.5
Gain: 19.3
Colour: Purple

Impinger #6 KMnO₄/H₂SO₄
Empty Wt: 663.0
Initial Wt: 779.8
Final Wt: 788.3
Gain: 8.5
Colour: Purple

CONTAINER TS5-B

Empty Wt: 282.0
With 150 mL DI H₂O: 432.0
After HCl Rinse: 474.6
After DI H₂O Rinse: 580.8
Total TS5-B: 298.8

MARK FLUID LEVEL
SEAL & LABEL TS5-A

MARK FLUID LEVEL
SEAL & LABEL TS5-B

CONTAINER TS5-A & TS5-B

CONTAINER TS5-A
Empty Wt: 407.5
With Imp. 5&6 Soln: 657.0
After KMnO₄ Rinse: 778.6
After 100g H₂O Rinse: 880.0
Total TS5-A: 472.5

MARK FLUID LEVEL
SEAL & LABEL TS5-A

CONTAINER TS5-B
Empty Wt: 282.0
With 150 mL DI H₂O: 432.0
After HCl Rinse: 474.6
After DI H₂O Rinse: 580.8
Total TS5-B: 298.8

MARK FLUID LEVEL
SEAL & LABEL TS5-B

TS1, TS2- 500 ml Glass Bottle
TS3- Petri Dish
TS4- 1000 ml Amber Glass Bottle
TS5-A - 1000 ml Amber Glass Bottle
TS5-B - 500 ml Amber Glass Bottle

CWTR = 1 to 6: 493.5

WCBA = 7: 29.1

517.6

Impinger Box ID: 9

Impinger #7 Silica Gel
Initial Wt: 908.8
Final Wt: 932.9
Gain: 24.1

Train Loaded By: 
Train Recovered By:

ATG North
Particulate and Metals Train Recovery Data Sheet

Client: Reworld
Project No.: 25-3852
Date: 06/27/23
Test No.: 2
Test Location: U1

Nozzle, Probe Liner,
Cyclone Bypass & F.H.
Filter Housing

Filter

Impingers 1, 2, 3, and 4

Impinger 5 & 6

Impinger 5 & 6

Impinger 7

CONTAINER TS3

Filter ID: 02 13745
Colour: white

Seal and label container TS3

CONTAINER TS4

Impinger #1 Empty
Empty Wt: 607.7
Final Wt: 810.0
Gain: 202.3
Colour:

Impinger #2 HNO₃/H₂O₂
Empty Wt: 642.5
Initial Wt: 747.5
Final Wt: 969.0
Gain: 221.5
Colour:

Impinger #3 HNO₃/H₂O₂
Empty Wt: 653.0
Initial Wt: 760.0
Final Wt: 844.4
Gain: 84.4
Colour:

Impinger #4 Empty
Empty Wt: 566.0
Final Wt: 578.8
Gain: 12.8
Colour:

CONTAINER TS4 WEIGHTS
Empty Wt: 408.0
w/ Imp. 1-4 Sol'n: 1136.2
After HNO₃ Rinse: 1234.0
Total TS4: 826.0

MARK FLUID LEVEL
SEAL AND LABEL TS4

CONTAINER TS5-A & TS5-B

CONTAINER TS5-A
Empty Wt: 407.0
With Imp. 5&6 Sol'n: 659.3
After KMnO₄ Rinse: 766.2
After 100g H₂O Rinse: 866.6
Total TS5-A: 459.6

MARK FLUID LEVEL
SEAL & LABEL TS5-A

CONTAINER TS5-B
Empty Wt: 283.5
With 150 mL DI H₂O: 433.5
After HCl Rinse: 473.0
After DI H₂O Rinse: 598.0
Total TS5-B: 314.5

MARK FLUID LEVEL
SEAL & LABEL TS5-B

TS1, TS2- 500 ml Glass Bottle
TS3- Petri Dish
TS4- 1000 ml Amber Glass Bottle
TS5-A - 1000 ml Amber Glass Bottle
TS5-B - 500 ml Amber Glass Bottle

CWTR = 1 to 6: 547.1

WCSDA = 7: 23.9

Impinger #7 Silica Gel
Initial Wt: 988.3
Final Wt: 1012.2
Gain: 23.9

Impinger Box ID: 8

SAMPLE IDENTIFICATION	25-3852-PM-
TS1 (Probe Rinse-Acetone)	7
TS2 (Probe Rinse-0.1N HNO ₃)	8
TS3 (Filter)	9
TS4 (Impinger 1-4 Sol'n-HNO ₃)	10
TS5-A (Impinger 5,6 Sol'n-KMnO ₄)	11
TS5-B (Impinger 5,6 Rinse-HCl)	12

Train Loaded By: [Signature]
Train Recovered By:

571.0

Alliance Technical Group Particulate and Metals Train Recovery Data Sheet

Client: Reworld

Project No.: AST-2025-3852
Date: 05/28/23
Test No.: 3
Test Location: 4

Nozzle, Probe Liner
Cyclone Bypass & F.H.
Filter Housing

Filter

Impingers 1, 2, 3, and 4

Impinger 5 & 6

Impinger 7

CONTAINER TS1

Container TS1 Weights
Empty Wt: 221.0
After Act. Rinse: 317.2
Total TS1: 46.2

MARK FLUID LEVEL
SEAL AND LABEL TS1

CONTAINER TS2

Container TS2 Weights
Empty Wt: 281.0
After 0.1N HNO₃ Rinse: 497.5
Total TS2: 216.5

MARK FLUID LEVEL
SEAL AND LABEL TS2

SAMPLE IDENTIFICATION
TS1 (Probe Rinse-Acetone) 25-3852-PM-13
TS2 (Probe Rinse-0.1N HNO₃) 14
TS3 (Filter) 15
TS4 (Impinger 1-4 Sol'n-HNO₃) 16
TS5-A (Impinger 5,6 Sol'n-KMnO₄) 17
TS5-B (Impinger 5,6 Rinse-HCl) 18

CONTAINER TS3

Filter ID: 0213753
Colour: WHITE

Seal and label container TS3

CONTAINER TS4

Impinger #1 Empty
Empty Wt: 608.5
Final Wt: 788.5
Gain: 180.0
Colour:

Impinger #2 HNO₃/H₂O₂
Empty Wt: 642.0
Initial Wt: 752.3
Final Wt: 939.7
Gain: 187.4
Colour:

Impinger #3 HNO₃/H₂O₂
Empty Wt: 653.7
Initial Wt: 758.5
Final Wt: 887.5
Gain: 129.0
Colour:

Impinger #4 Empty
Empty Wt: 566.8
Final Wt: 575.4
Gain: 8.6
Colour:

CONTAINER TS4 WEIGHTS
Empty Wt: 407.4
w/ Imp. 1-4 Sol'n: 1121.0
After HNO₃ Rinse: 1292.4
Total TS4: 885.0

MARK FLUID LEVEL
SEAL AND LABEL TS4

CONTAINER TS5-A & TS5-B

CONTAINER TS5-A
Empty Wt: 411.7
With Imp. 5&6 Sol'n: 650.0
After KMnO₄ Rinse: 768.2
After 100g H₂O Rinse: 871.8
Total TS5-A: 460.1

MARK FLUID LEVEL
SEAL & LABEL TS5-A

CONTAINER TS5-B
Empty Wt: 281.0
With 150 mL DI H₂O: 431.0
After HCl Rinse: 485.5
After DI H₂O Rinse: 639.7
Total TS5-B: 358.7

MARK FLUID LEVEL
SEAL & LABEL TS5-B

TS1, TS2- 500 ml Glass Bottle
TS3- Petri Dish
TS4- 1000 ml Amber Glass Bottle
TS5-A - 1000 ml Amber Glass Bottle
TS5-B - 500 ml Amber Glass Bottle

Total Moisture Gain
1+2+3+4+5+6+7: 531.3

Impinger #7 Silica Gel
Initial Wt: 924.5
Final Wt: 944.3
Gain: 19.8

Impinger Box ID: 8

Train Loaded By:

Train Recovered By:

Alliance Technical Group
Particulate and Metals Train Recovery Data Sheet

Client: Reworld
Project No.: AST-2025-3852
Date: 05/21/23
Test No.:
Test Location: 42

Nozzle, Probe Liner
Cyclone Bypass & F.H.
Filter Housing

Filter

Impingers 1, 2, 3, and 4

Impinger 5 & 6

Impinger 5 & 6

Impinger 7

CONTAINER TS3

Filter ID: QZ 13747
Colour: WHITE

CONTAINER TS4

Impinger #1 Empty
Empty Wt: 604.5
Final Wt: 797.7
Gain: 193.2
Colour:

CONTAINER TS5-A & TS5-B

Impinger #5 KMnO₄/H₂SO₄
Empty Wt: 630.8
Initial Wt: 740.8
Final Wt: 770.8
Gain: 21.8
Colour: Purple

CONTAINER TS5-A

Empty Wt: 407.5
With Imp. 5&6 Soln: 676.0
After KMnO₄ Rinse: 900.0
After 100g H₂O Rinse: 999.7
Total TS5-A: 592.2

Impinger #7 Silica Gel

Initial Wt: 828.0
Final Wt: 906.4
Gain: 78.4

Seal and label container TS3

Impinger #2 HNO₃/H₂O₂
Empty Wt: 661.5
Initial Wt: 766.8
Final Wt: 928.2
Gain: 161.4
Colour:

Impinger #6 KMnO₄/H₂SO₄
Empty Wt: 663.0
Initial Wt: 770.7
Final Wt: 796.0
Gain: 25.3
Colour: Purple

MARK FLUID LEVEL
SEAL AND LABEL TS1

MARK FLUID LEVEL
SEAL & LABEL TS5-A

CONTAINER TS2

Container TS2 Weights
Empty Wt: 282.0
After 0.1N HNO₃ Rinse: 386.4
Total TS2: 104.4

Impinger #3 HNO₃/H₂O₂
Empty Wt: 664.5
Initial Wt: 776.2
Final Wt: 860.7
Gain: 84.5
Colour:

CONTAINER TS5-B

Empty Wt: 282.5
With 150 mL DI H₂O: 432.5
After HCl Rinse: 478.0
After DI H₂O Rinse: 546.5
Total TS5-B: 364.0

MARK FLUID LEVEL
SEAL AND LABEL TS2

MARK FLUID LEVEL
SEAL & LABEL TS5-B

SAMPLE IDENTIFICATION
TS1 (Probe Rinse-Acetone)
TS2 (Probe Rinse-0.1N HNO₃)
TS3 (Filter)
TS4 (Impinger 1-4 Sol'n-HNO₃)
TS5-A (Impinger 5.6 Sol'n-KMnO₄)
TS5-B (Impinger 5.6 Rinse-HCl)

Impinger #4 Empty
Empty Wt: 607.0
Final Wt: 616.5
Gain: 9.5
Colour:

CONTAINER TS4 WEIGHTS
Empty Wt: 412.0
w/ Imp. 1-4 Soln: 1068.0
After HNO₃ Rinse: 1179.0
Total TS4: 767.0

MARK FLUID LEVEL
SEAL AND LABEL TS4

MARK FLUID LEVEL
SEAL & LABEL TS5-B

TS1, TS2- 500 ml Glass Bottle
TS3- Petri Dish
TS4- 1000 ml Amber Glass Bottle
TS5-A - 1000 ml Amber Glass Bottle
TS5-B - 500 ml Amber Glass Bottle

Total Moisture Gain
1+2+3+4+5+6+7: 524.1

Train Loaded By:
Train Recovered By:
9

Alliance Technical Group
 Particulate and Metals Train Recovery Data Sheet

Client: Reworld
 Project No.: AST-2025-3852
 Date: 09/28/25
 Test No.: 22
 Test Location:

Nozzle, Probe Liner
 Cyclone Bypass & F.H.
 Filter Housing

Filter

Impingers 1, 2, 3, and 4

Impinger 5 & 6

Impinger 7

CONTAINER TS3

CONTAINER TS4

CONTAINER TS5-A & TS5-B

Filter ID: 213748
 Colour: WH175

Impinger #1 Empty
 Empty Wt: 601.7
 Final Wt: 742.2
 Gain: 134.5
 Colour:

Impinger #5 KMnO₄/H₂SO₄
 Empty Wt: 663.2
 Initial Wt: 780.0
 Final Wt: 799.2
 Gain: 19.2
 Colour: Purple

Impinger #7 Silica Gel
 Initial Wt: 932.0
 Final Wt: 956.0
 Gain: 24.0

Seal and label container TS3

Impinger #2 HNO₃/H₂O₂
 Empty Wt: 642.5
 Initial Wt: 750.5
 Final Wt: 942.6
 Gain: 192.1
 Colour:

Impinger #6 KMnO₄/H₂SO₄
 Empty Wt: 662.0
 Initial Wt: 770.0
 Final Wt: 775.5
 Gain: 5.5
 Colour: Purple

MARK FLUID LEVEL
 SEAL & LABEL TS5-A

CONTAINER TS2

Impinger #3 HNO₃/H₂O₂
 Empty Wt: 653.0
 Initial Wt: 767.5
 Final Wt: 897.2
 Gain: 129.7
 Colour:

CONTAINER TS5-B
 Empty Wt: 282.5
 With 150 mL DI H₂O: 432.5
 After HCl Rinse: 467.3
 After DI H₂O Rinse: 614.7
 Total TS5-B: 332.2

MARK FLUID LEVEL
 SEAL & LABEL TS5-B

Container TS2 Weights
 Empty Wt: 282.0
 After 0.1N HNO₃ Rinse: 480.0
 Total TS2: 198.0

Impinger #4 Empty
 Empty Wt: 566.0
 Final Wt: 649.7
 Gain: 83.7
 Colour:

CONTAINER TS4 WEIGHTS
 Empty Wt: 411.5
 w/ Imp. 1-4 Sol'n: 1165.3
 After HNO₃ Rinse: 1282.8
 Total TS4: 871.3

MARK FLUID LEVEL
 SEAL AND LABEL TS4

MARK FLUID LEVEL
SEAL AND LABEL TS2

MARK FLUID LEVEL
SEAL & LABEL TS5-B

MARK FLUID LEVEL
SEAL & LABEL TS5-B

Impinger Box ID: 8

SAMPLE IDENTIFICATION	25-3852-PM-
TS1 (Probe Rinse-Acetone)	31
TS2 (Probe Rinse-0.1N HNO ₃)	32
TS3 (Filter)	33
TS4 (Impinger 1-4 Sol'n-HNO ₃)	34
TS5-A (Impinger 5,6 Sol'n-KMnO ₄)	35
TS5-B (Impinger 5,6 Rinse-HCl)	36

TS1, TS2- 500 ml Glass Bottle
 TS3- Petri Dish
 TS4- 1000 ml Amber Glass Bottle
 TS5-A - 1000 ml Amber Glass Bottle
 TS5-B - 500 ml Amber Glass Bottle

Total Moisture Gain
 1+2+3+4+5+6+7: 588.7

Train Loaded By: [Signature]
 Train Recovered By:

Alliance Technical Group
Particulate and Metals Train Recovery Data Sheet

Client: Reworld
Project No.: AST-2025-3852
Date: 05/28/25
Test No.: 3
Test Location: 42

Nozzle, Probe Liner
Cyclone Bypass & F.H.
Filter Housing

Filter

Impingers 1, 2, 3, and 4

Impinger 5 & 6

Impinger 5 & 6

Impinger 7

CONTAINER TS3

Filter ID: 02213754
Colour:

CONTAINER TS4

Impinger #1 Empty
Empty Wt: 605.0
Final Wt: 874.7
Gain: 269.7
Colour:

CONTAINER TSS-A & TSS-B

CONTAINER TSS-A
Empty Wt: 408.5
With Imp. 5&6 Soln: 633.5
After KMnO₄ Rinse: 746.3
After 100g H₂O Rinse: 845.5
Total TSS-A: 437.0

Impinger #7 Silica Gel
Initial Wt: 374.0
Final Wt: 899.3
Gain: 525.3

Seal and label container TS3

Impinger #2 HNO₃/H₂O₂
Empty Wt: 661.0
Initial Wt: 771.5
Final Wt: 930.0
Gain: 150.5
Colour:

MARK FLUID LEVEL
SEAL AND LABEL TSS-A

CONTAINER TS2

Container TS2 Weights
Empty Wt: 780.0
After 0.1N HNO₃ Rinse: 490.0
Total TS2: 210.0

CONTAINER TSS-B
Empty Wt: 281.0
With 150 mL DI H₂O: 431.0
After HCl Rinse: 476.6
After DI H₂O Rinse: 580.5
Total TSS-B: 299.5

Impinger Box ID: 9

MARK FLUID LEVEL
SEAL AND LABEL TS2

MARK FLUID LEVEL
SEAL AND LABEL TSS-B

Impinger #4 Empty
Empty Wt: 606.6
Final Wt: 621.6
Gain: 15.0
Colour:

CONTAINER TS4 WEIGHTS
Empty Wt: 410.5
w/ Imp. 1-4 Soln: 1164.0
After HNO₃ Rinse: 1318.0
Total TS4: 907.5

TS1, TS2- 500 ml Glass Bottle
TS3- Petri Dish
TS4- 1000 ml Amber Glass Bottle
TSS-A - 1000 ml Amber Glass Bottle
TSS-B - 500 ml Amber Glass Bottle

Total Moisture Gain
1+2+3+4+5+6+7: 578.2

SAMPLE IDENTIFICATION	25-3852-PM-
TS1 (Probe Rinse-Acetone)	37
TS2 (Probe Rinse-0.1N HNO ₃)	38
TS3 (Filter)	29
TS4 (Impinger 1-4 Sol'n-HNO ₃)	40
TSS-A (Impinger 5.6 Sol'n-KMnO ₄)	41
TSS-B (Impinger 5.6 Rinse-HCl)	42

Train Loaded By:
Train Recovered By:

MARK FLUID LEVEL
SEAL AND LABEL TS4

ATG North Particulate and Metals Train Recovery Data Sheet

Client: Reworld
Project No.: 25-3852
Date: 05/28/25
Test No.: BLANK
Test Location:

Nozzle, Probe Liner
Cyclone Bypass & F.H.
Filter Housing

Filter

Impingers 1, 2, 3, and 4

Impinger 5 & 6

Impinger 5 & 6

Impinger 7

CONTAINER TS1

Container TS1 Weights
Empty Wt: 282.0
After Act. Rinse: 520.0
Total TS1: 238.0

MARK FLUID LEVEL
SEAL AND LABEL TS1

CONTAINER TS2

Container TS2 Weights
Empty Wt: 280.0
After 0.1N HNO₃ Rinse: 480.0
Total TS2: 200.0

MARK FLUID LEVEL
SEAL AND LABEL TS2

CONTAINER TS4

Impinger #1 Empty
Empty Wt: 489.2
Final Wt: 489.2
Gain: 0
Colour:

Impinger #2 HNO₃/H₂O₂
Empty Wt: 622.5
Initial Wt: 725.0
Final Wt: 723.0
Gain: 0
Colour:

Impinger #3 HNO₃/H₂O₂
Empty Wt: 559.5
Initial Wt: 671.0
Final Wt: 671.0
Gain: 0
Colour:

Impinger #4 Empty
Empty Wt: 514.8
Final Wt: 514.8
Gain: 0
Colour:

CONTAINER TS4 WEIGHTS
Empty Wt: 411.0
w/ Imp. 1-4 Soln: 624.0
After HNO₃ Rinse: 730.5
Total TS4: 319.5

MARK FLUID LEVEL
SEAL AND LABEL TS4

CONTAINER TS5-A & TS5-B

CONTAINER TS5-A
Empty Wt: 407.0
With Imp. 5&6 Soln: 630.0
After KMnO₄ Rinse: 741.5
After 100g H₂O Rinse: 842.0
Total TS5-A: 435.0

MARK FLUID LEVEL
SEAL & LABEL TS5-A

CONTAINER TS5-B
Empty Wt: 282.0
With 150 mL DI H₂O: 432.0
After HCl Rinse: 484.0
After DI H₂O Rinse: 586.0
Total TS5-B: 306.0

MARK FLUID LEVEL
SEAL & LABEL TS5-B

TS1, TS2- 500 ml Glass Bottle
TS3- Petri Dish
TS4- 1000 ml Amber Glass Bottle
TS5-A - 1000 ml Amber Glass Bottle
TS5-B - 500 ml Amber Glass Bottle

CWTR = 1 to 6:

WCBD= 7:

SAMPLE IDENTIFICATION	25-3852-PMI-
TS1 (Probe Rinse-Acetone)	19
TS2 (Probe Rinse-0.1N HNO ₃)	20
TS3 (Filter)	21
TS4 (Impinger 1-4 Sol'n-HNO ₃)	22
TS5-A (Impinger 5,6 Sol'n-KMnO ₄)	23
TS5-B (Impinger 5,6 Rinse-HCl)	24

Train Loaded By:
Train Recovered By:

Impinger Box ID: 3

Impinger #7 Silica Gel
Initial Wt: 928.3
Final Wt:
Gain: 7

APPENDIX 12

Inorganics Analytical Reports (61 pages)

CERTIFICATE OF ANALYSIS

Work Order	: BU2502997-AA	
Amendment	: 1	
Client	: Alliance Technical Group North Inc.	
Contact	: Chris Belore	Laboratory
Address	: 804 Southdown Road	Account Manager
	Mississauga Ontario Canada L5J 2Y4	Address
Telephone	: 905 822 4120	E-mail
Project	: AST-2025-3852 Reworld	Telephone
PO	: ---	Date Samples Received
C-O-C number	: ---	Date Analysis Commenced
Sampler	: ---	Issue Date
Site	: ---	
Quote number	: BU2024-ORTE100-0006 - Reworld	
No. of samples received	: 7	
No. of samples analysed	: 7	

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.

Signatories	Position	Laboratory Department
Gamini Nadu	Analyst	Inorganics, Burlington, Ontario
Gamini Nadu	Analyst	Metals, Burlington, Ontario
Sabir Ahmed	Analyst	Metals, 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
g	grams
mg	milligrams
µg/L	micrograms per litre
µg/sample	micrograms per sample

<: 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

Ba recovery in the LCS is outside ALS DQOs . This is likely due to binding other elements in solution. The presence of the filter matrix has been found to mitigate this effect, so sample data is not expected to be impacted. SA 21-Nov-25.
Amendment (08/12/2025): This report has been amended as a result of a request to display select samples/analytes which have been isolated from the original submission report. All analysis results are as per the previous report.

Sample Comments

Sample	Client Id	Comment
BU2502997-001	25-3852-PM-(1 thru 6) Test 1	BU2502997_003 and 007 filters are reporting negative. No filter damage was observed. It is possible that some filter matrix was lost during the filtration. (17-Nov-2025 AR11).



Analytical Results

Sub-Matrix: Impinger
(Matrix: Air)

Client sample ID				Client sampling date / time		25-3852-PM-(1 thru 6) Test 1 #1 APC Outlet		25-3852-PM-(7 thru 12) Test 2 #1 APC Outlet		25-3852-PM-(13 thru 18) Test 3 #1 APC Outlet		25-3852-PM-(19 thru 24) Blank		25-3852-PM-(25 thru 30) Test 1 #2 APC Outlet	
Analyte	CAS Number	Method/Lab	LOR	Unit	Result	BU2502997-001	BU2502997-002	BU2502997-002	BU2502997-003	BU2502997-004	BU2502997-005	Result	Result	Result	Result
Particulates															
mass, acetone [FRONT]	----	E898A/BU	0.40	g		107	120	92.2	251	88.4					
particulate matter, acetone impinger [FRONT]	----	E897A/BU	0.4	mg		1.0	1.7	1.8	0.5	<0.4					
Particulate matter, filter	----	E890/BU	0.6	mg		<0.6	<0.6	<0.6	2.1	<0.6					
Method 29 Metals: Fraction 1A (HF)															
Antimony	7440-36-0	E457A/BU	0.20	µg/sample		0.26	<0.20	0.33	<0.20	<0.20	<0.20	<1.0	<1.0	<0.20	<1.0
Arsenic	7440-38-2	E457A/BU	1.0	µg/sample		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Barium	7440-39-3	E457A/BU	5.0	µg/sample		9.0	11.1	13.0	10.6	12.2					
Beryllium	7440-41-7	E457A/BU	0.20	µg/sample		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Cadmium	7440-43-9	E457A/BU	0.10	µg/sample		0.16	0.14	0.22	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Chromium	7440-47-3	E457A/BU	1.0	µg/sample		3.0	2.7	2.5	2.6	3.7					
Cobalt	7440-48-4	E457A/BU	0.20	µg/sample		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Copper	7440-50-8	E457A/BU	1.0	µg/sample		3.3	3.9	11.2	3.6	2.1					
Lead	7439-92-1	E457A/BU	0.50	µg/sample		1.01	0.74	0.95	<0.50	0.58					
Molybdenum	7439-98-7	E457A/BU	0.20	µg/sample		18.5	19.3	19.0	18.4	19.3					
Nickel	7440-02-0	E457A/BU	0.20	µg/sample		2.78	1.90	1.87	1.36	2.04					
Selenium	7782-49-2	E457A/BU	2.0	µg/sample		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Silver	7440-22-4	E457A/BU	0.20	µg/sample		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Thallium	7440-28-0	E457A/BU	0.20	µg/sample		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Vanadium	7440-62-2	E457A/BU	1.0	µg/sample		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0



Analytical Results

Sub-Matrix: Impinger
(Matrix: Air)

Sub-Matrix: Impinger (Matrix: Air)		Client sample ID		Client sampling date / time											
Analyte	CAS Number	Method/Lab	LOR	Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result		
Method 29 Metals: Fraction 1A (HF)															
Zinc	7440-66-6	E457A/BU	6.0	µg/sample	14.2	14.2	14.2	24.6	<6.0				11.4		
Method 29 Metals: Fraction 2A (HNO3/H2O2)															
Antimony	7440-36-0	E457B/BU	0.10	µg/sample	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10		
Arsenic	7440-38-2	E457B/BU	0.50	µg/sample	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50		
Barium	7440-39-3	E457B/BU	2.5	µg/sample	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5		
Beryllium	7440-41-7	E457B/BU	0.10	µg/sample	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10		
Cadmium	7440-43-9	E457B/BU	0.050	µg/sample	0.321	0.058	0.058	0.082	<0.050	0.082	<0.050	0.153	0.153		
Chromium	7440-47-3	E457B/BU	0.50	µg/sample	0.81	0.88	0.88	<0.50	0.57	<0.50	0.57	0.53	0.53		
Cobalt	7440-48-4	E457B/BU	0.10	µg/sample	0.26	0.13	0.13	<0.10	0.12	<0.10	0.12	<0.10	<0.10		
Copper	7440-50-8	E457B/BU	0.50	µg/sample	6.75	4.50	4.50	3.74	3.33	3.74	3.33	4.02	4.02		
Lead	7439-92-1	E457B/BU	0.25	µg/sample	1.85	4.61	4.61	2.28	0.73	2.28	0.73	1.07	1.07		
Molybdenum	7439-98-7	E457B/BU	0.10	µg/sample	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10		
Nickel	7440-02-0	E457B/BU	0.10	µg/sample	1.32	1.02	1.02	0.68	0.62	0.68	0.62	3.99	3.99		
Selenium	7782-49-2	E457B/BU	1.0	µg/sample	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		
Silver	7440-22-4	E457B/BU	0.10	µg/sample	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10		
Thallium	7440-28-0	E457B/BU	0.10	µg/sample	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10		
Vanadium	7440-62-2	E457B/BU	0.50	µg/sample	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50		
Zinc	7440-66-6	E457B/BU	3.0	µg/sample	8.8	4.9	4.9	4.7	<3.0	4.7	<3.0	3.7	3.7		



Analytical Results

Sub-Matrix: Impinger
(Matrix: Air)

Sub-Matrix: Impinger (Matrix: Air)		Client sample ID		Client sampling date / time		25-3852-PM-(1 thru 6) Test 1 #1 APC Outlet		25-3852-PM-(7 thru 12) Test 2 #1 APC Outlet		25-3852-PM-(13 thru 18) Test 3 #1 APC Outlet		25-3852-PM-(19 thru 24) Blank		25-3852-PM-(25 thru 30) Test 1 #2 APC Outlet	
Analyte	CAS Number	Method/Lab	LOR	Unit											
Method 29 Mercury: Fraction 1B (HF)															
Mercury	7439-97-6	E521A/BU	0.022	µg/sample		<0.022		<0.022		<0.022		<0.022		<0.022	
Method 29 Mercury: Fraction 2B (KMnO4/H2SO4)															
Mercury	7439-97-6	E521B/BU	0.75	µg/L		<0.75		<0.75		<0.75		<0.75		<0.75	
Mercury	7439-97-6	EC521B/BU	0.0750	µg/sample		<0.570		<0.608		<0.652		<0.225		<0.562	
Method 29 Mercury: Fraction 3B (KMnO4/H2SO4)															
Mercury	7439-97-6	E521D/BU	0.075	µg/L		<0.075		<0.075		<0.075		<0.075		<0.075	
Mercury	7439-97-6	EC521D/BU	0.0075	µg/sample		<0.0412		<0.0412		<0.0412		<0.0412		<0.0412	
Method 29 Mercury: Fraction 3C (KMnO4/H2SO4)															
Mercury	7439-97-6	E521E/BU	0.75	µg/L		<0.75		<0.75		<0.75		<0.75		<0.75	
Mercury	7439-97-6	EC521E/BU	0.075	µg/sample		<0.285		<0.285		<0.285		<0.285		<0.285	

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

Analytical Results

Sub-Matrix: Impinger
(Matrix: Air)

Sub-Matrix: Impinger (Matrix: Air)										
Analyte	CAS Number	Method/Lab	Client sampling date / time		Client sample ID		25-3852-PM-(31 thru 42) Test 3 #2 APC Outlet	25-3852-PM-(37 thru 42) Test 3 #2 APC Outlet	25-3852-PM-(19 thru 24) Blank	25-3852-PM-(25 thru 30) Test 1 #2 APC Outlet
			LOR	Unit	Result	Result				
Particulates										
mass, acetone [FRONT]		E898A/BU	0.40	g	123	93.7				
particulate matter, acetone impinger [FRONT]		E897A/BU	0.4	mg	1.1	1.1				
Particulate matter, filter		E890/BU	0.6	mg	1.0	<0.6				



Analytical Results

Sub-Matrix: Impinger
(Matrix: Air)

Sub-Matrix: Impinger (Matrix: Air)		Client sample ID		25-3852-PM-(31 thru 42) Test 3 #2 APC Outlet		25-3852-PM-(37 thru 42) Test 3 #2 APC Outlet							
Analyte		Client sampling date / time		28-Oct-2025 00:00		28-Oct-2025 00:00							
CAS Number		Method/Lab		LOR		Unit		Result		Result			
Method 29 Metals: Fraction 1A (HF)													
Antimony	7440-36-0	E457A/BU	0.20	µg/sample	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Arsenic	7440-38-2	E457A/BU	1.0	µg/sample	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Barium	7440-39-3	E457A/BU	5.0	µg/sample	11.8	11.8	14.4	14.4	14.4	14.4	14.4	14.4	14.4
Beryllium	7440-41-7	E457A/BU	0.20	µg/sample	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Cadmium	7440-43-9	E457A/BU	0.10	µg/sample	0.12	0.12	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Chromium	7440-47-3	E457A/BU	1.0	µg/sample	2.7	2.7	2.2	2.2	2.2	2.2	2.2	2.2	2.2
Cobalt	7440-48-4	E457A/BU	0.20	µg/sample	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Copper	7440-50-8	E457A/BU	1.0	µg/sample	2.8	2.8	3.4	3.4	3.4	3.4	3.4	3.4	3.4
Lead	7439-92-1	E457A/BU	0.50	µg/sample	0.70	0.70	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Molybdenum	7439-98-7	E457A/BU	0.20	µg/sample	18.7	18.7	18.4	18.4	18.4	18.4	18.4	18.4	18.4
Nickel	7440-02-0	E457A/BU	0.20	µg/sample	1.52	1.52	1.54	1.54	1.54	1.54	1.54	1.54	1.54
Selenium	7782-49-2	E457A/BU	2.0	µg/sample	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Silver	7440-22-4	E457A/BU	0.20	µg/sample	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Thallium	7440-28-0	E457A/BU	0.20	µg/sample	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Vanadium	7440-62-2	E457A/BU	1.0	µg/sample	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Zinc	7440-66-6	E457A/BU	6.0	µg/sample	18.5	18.5	18.1	18.1	18.1	18.1	18.1	18.1	18.1
Method 29 Metals: Fraction 2A (HNO3/H2O2)													
Antimony	7440-36-0	E457B/BU	0.10	µg/sample	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Arsenic	7440-38-2	E457B/BU	0.50	µg/sample	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50



Analytical Results

Sub-Matrix: Impinger
(Matrix: Air)

Sub-Matrix: Impinger (Matrix: Air)		Client sample ID		25-3852-PM-(31 thru 36) Test 2 #2 APC Outlet		25-3852-PM-(37 thru 42) Test 3 #2 APC Outlet		25-3852-PM-(37 thru 42) Test 3 #2 APC Outlet		25-3852-PM-(37 thru 42) Test 3 #2 APC Outlet		25-3852-PM-(37 thru 42) Test 3 #2 APC Outlet		25-3852-PM-(37 thru 42) Test 3 #2 APC Outlet	
Analyte		CAS Number		Method/Lab		LOR		Unit		Result		Result		Result	
Method 29 Metals: Fraction 2A (HNO3/H2O2)															
Barium		7440-39-3	E457B/BU	2.5	µg/sample	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
Beryllium		7440-41-7	E457B/BU	0.10	µg/sample	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Cadmium		7440-43-9	E457B/BU	0.050	µg/sample	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chromium		7440-47-3	E457B/BU	0.50	µg/sample	0.67	0.67	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Cobalt		7440-48-4	E457B/BU	0.10	µg/sample	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Copper		7440-50-8	E457B/BU	0.50	µg/sample	3.88	3.88	3.82	3.82	3.82	3.82	3.82	3.82	3.82	3.82
Lead		7439-92-1	E457B/BU	0.25	µg/sample	2.68	2.68	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
Molybdenum		7439-98-7	E457B/BU	0.10	µg/sample	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nickel		7440-02-0	E457B/BU	0.10	µg/sample	0.94	0.94	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Selenium		7782-49-2	E457B/BU	1.0	µg/sample	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Silver		7440-22-4	E457B/BU	0.10	µg/sample	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Thallium		7440-28-0	E457B/BU	0.10	µg/sample	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Vanadium		7440-62-2	E457B/BU	0.50	µg/sample	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Zinc		7440-66-6	E457B/BU	3.0	µg/sample	6.2	6.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
Method 29 Mercury: Fraction 1B (HF)															
Mercury		7439-97-6	E521A/BU	0.022	µg/sample	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022
Method 29 Mercury: Fraction 2B (KMnO4/H2SO4)															
Mercury		7439-97-6	E521B/BU	0.75	µg/L	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75
Mercury		7439-97-6	EC521B/BU	0.0750	µg/sample	<0.645	<0.645	<0.668	<0.668	<0.668	<0.668	<0.668	<0.668	<0.668	<0.668



Analytical Results

Sub-Matrix: Impinger
(Matrix: Air)

Sub-Matrix: Impinger (Matrix: Air)																
Analyte	CAS Number	Method/Lab	Client sample ID				Client sampling date / time	25-3852-PM-(31 thru 42) Test 3 #2 APC Outlet	25-3852-PM-(37 thru 42) Test 3 #2 APC Outlet	25-3852-PM-(31 thru 42) Test 3 #2 APC Outlet	25-3852-PM-(37 thru 42) Test 3 #2 APC Outlet	25-3852-PM-(31 thru 42) Test 3 #2 APC Outlet	25-3852-PM-(37 thru 42) Test 3 #2 APC Outlet	25-3852-PM-(31 thru 42) Test 3 #2 APC Outlet	25-3852-PM-(37 thru 42) Test 3 #2 APC Outlet	25-3852-PM-(31 thru 42) Test 3 #2 APC Outlet
			LOR	Unit	Result	Result										
Method 29 Mercury: Fraction 3B (KMnO4/H2SO4)																
Mercury	7439-97-6	E521D/BU	0.075	µg/L	<0.075	<0.075	<0.075	<0.075	<0.075	<0.075	<0.075	<0.075	<0.075	<0.075	<0.075	<0.075
Mercury	7439-97-6	EC521D/BU	0.0075	µg/sample	<0.0412	<0.0412	<0.0412	<0.0412	<0.0412	<0.0412	<0.0412	<0.0412	<0.0412	<0.0412	<0.0412	<0.0412
Method 29 Mercury: Fraction 3C (KMnO4/H2SO4)																
Mercury	7439-97-6	E521E/BU	0.75	µg/L	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75
Mercury	7439-97-6	EC521E/BU	0.075	µg/sample	<0.285	<0.285	<0.285	<0.285	<0.285	<0.285	<0.285	<0.285	<0.285	<0.285	<0.285	<0.285

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



QUALITY CONTROL REPORT

Work Order	: BU2502997-AA	Page	: 1 of 12
Amendment	: 1	Laboratory	: ALS Environmental - Burlington
Client	: Alliance Technical Group North Inc.	Account Manager	: Robert Chin
Contact	: Chris Belore	Address	: 1435 Norjohn Court, Unit 1 Burlington, Ontario Canada L7L 0E6
Address	: 804 Southdown Road Mississauga ON Canada L5J 2Y4	Telephone	: +1 905 331 3111
Telephone	: 905 822 4120	Date Samples Received	: 30-Oct-2025 13:30
Project	: AST-2025-3852 Reworld	Date Analysis Commenced	: 10-Nov-2025
PO	: ----	Issue Date	: 08-Dec-2025 09:50
C-O-C number	: ----		
Sampler	: ----		
Site	: ----		
Quote number	: BU2024-ORTE100-0006 - Reworld		
No. of samples received	: 7		
No. of samples analysed	: 7		

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
- Matrix Spike Duplicate (MSD) Report; Relative Percent Difference (RPD)
- 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
Gamini Nadu	Analyst	Burlington Metals, Burlington, Ontario
Sabir Ahmed	Analyst	Burlington Metals, 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: Air

Sub-Matrix: Air											
					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
Particulates (QC Lot: 2321927)											
BU2502997-001	25-3852-PM-(1 thru 6) Test 1 #1 APC Outlet	Particulate matter, filter	----	E890	0.6	mg	<0.6	<0.6	0	Diff <2x LOR	-----
Particulates (QC Lot: 2325192)											
BU2502997-001	25-3852-PM-(1 thru 6) Test 1 #1 APC Outlet	mass, acetone [FRONT]	----	E898A	0.40	g	107	107	0.00%	10%	-----
Particulates (QC Lot: 2325199)											
BU2502997-001	25-3852-PM-(1 thru 6) Test 1 #1 APC Outlet	particulate matter, acetone impinger [FRONT]	----	E897A	0.4	mg	1.0	1.0	0	Diff <2x LOR	-----
Metals (QC Lot: 2340949)											
BU2502996-001	Anonymous	Antimony	7440-36-0	E457B	0.10	µg/sample	<0.10	<0.10	0	Diff <2x LOR	-----
		Arsenic	7440-38-2	E457B	0.50	µg/sample	<0.50	<0.50	0	Diff <2x LOR	-----
		Barium	7440-39-3	E457B	2.5	µg/sample	2.8	2.9	0.07	Diff <2x LOR	-----
		Beryllium	7440-41-7	E457B	0.10	µg/sample	<0.10	<0.10	0	Diff <2x LOR	-----
		Cadmium	7440-43-9	E457B	0.050	µg/sample	<0.050	<0.050	0	Diff <2x LOR	-----
		Chromium	7440-47-3	E457B	0.50	µg/sample	0.71	0.66	0.06	Diff <2x LOR	-----
		Cobalt	7440-48-4	E457B	0.10	µg/sample	0.11	0.11	0.002	Diff <2x LOR	-----
		Copper	7440-50-8	E457B	0.50	µg/sample	3.27	3.27	0	Diff <2x LOR	-----
		Lead	7439-92-1	E457B	0.25	µg/sample	2.62	2.73	3.93%	20%	-----
		Nickel	7440-02-0	E457B	0.10	µg/sample	0.40	0.39	0.006	Diff <2x LOR	-----
		Selenium	7782-49-2	E457B	1.0	µg/sample	<1.0	<1.0	0	Diff <2x LOR	-----
		Silver	7440-22-4	E457B	0.10	µg/sample	<0.10	<0.10	0	Diff <2x LOR	-----
		Thallium	7440-28-0	E457B	0.10	µg/sample	0.62	0.64	0.02	Diff <2x LOR	-----
		Zinc	7440-66-6	E457B	3.0	µg/sample	244	241	1.06%	20%	-----
Method 29 Metals: Fraction 1A (HF) (QC Lot: 2342975)											
BU2502997-001	25-3852-PM-(1 thru 6) Test 1 #1 APC Outlet	Antimony	7440-36-0	E457A	0.20	µg/sample	0.26	0.23	0.03	Diff <2x LOR	-----
		Arsenic	7440-38-2	E457A	1.0	µg/sample	<1.0	<1.0	0	Diff <2x LOR	-----
		Barium	7440-39-3	E457A	5.0	µg/sample	9.0	9.2	0.1	Diff <2x LOR	-----
		Beryllium	7440-41-7	E457A	0.20	µg/sample	<0.20	<0.20	0	Diff <2x LOR	-----
		Cadmium	7440-43-9	E457A	0.10	µg/sample	0.16	0.17	0.01	Diff <2x LOR	-----
		Chromium	7440-47-3	E457A	1.0	µg/sample	3.0	3.2	0.3	Diff <2x LOR	-----
Cobalt	7440-48-4	E457A	0.20	µg/sample	<0.20	<0.20	0	Diff <2x LOR	-----		



Sub-Matrix: Air

Laboratory Duplicate (DUP) Report						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
Method 29 Metals: Fraction 1A (HF) (QC Lot: 2342975) - continued											
BU2502997-001	25-3852-PM-1 (1 thru 6) Test 1 #1 APC Outlet	Copper	7440-50-8	E457A	1.0	µg/sample	3.3	3.5	0.2	Diff <2x LOR	----
		Lead	7439-92-1	E457A	0.50	µg/sample	1.01	1.02	0.006	Diff <2x LOR	----
		Nickel	7440-02-0	E457A	0.20	µg/sample	2.78	2.86	2.87%	20%	----
		Selenium	7782-49-2	E457A	2.0	µg/sample	<2.0	<2.0	0	Diff <2x LOR	----
		Silver	7440-22-4	E457A	0.20	µg/sample	<0.20	<0.20	0	Diff <2x LOR	----
		Thallium	7440-28-0	E457A	0.20	µg/sample	<0.20	<0.20	0	Diff <2x LOR	----
		Zinc	7440-66-6	E457A	6.0	µg/sample	14.2	14.3	0.06	Diff <2x LOR	----
Method 29 Mercury: Fraction 1B (HF) (QC Lot: 2342976)											
BU2502997-001	25-3852-PM-1 (1 thru 6) Test 1 #1 APC Outlet	Mercury	7439-97-6	E521A	0.022	µg/sample	<0.022	<0.022	0	Diff <2x LOR	----
Method 29 Mercury: Fraction 2B (KMnO4/H2SO4) (QC Lot: 2329395)											
BU2502997-001	25-3852-PM-1 (1 thru 6) Test 1 #1 APC Outlet	Mercury	7439-97-6	E521B	0.75	µg/L	<0.75	<0.75	0	Diff <2x LOR	----
Method 29 Mercury: Fraction 3B (KMnO4/H2SO4) (QC Lot: 2331593)											
BU2502997-001	25-3852-PM-1 (1 thru 6) Test 1 #1 APC Outlet	Mercury	7439-97-6	E521D	0.075	µg/L	<0.075	<0.075	0	Diff <2x LOR	----
Method 29 Mercury: Fraction 3C (KMnO4/H2SO4) (QC Lot: 2331594)											
BU2502997-001	25-3852-PM-1 (1 thru 6) Test 1 #1 APC Outlet	Mercury	7439-97-6	E521E	0.75	µg/L	<0.75	<0.75	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
Particulates (QCLot: 2321927)						
Particulate matter, filter	---	E890	0.6	mg	<0.6	---
Particulates (QCLot: 2325192)						
mass, acetone [FRONT]	---	E898A	0.4	g	30.8	---
Particulates (QCLot: 2325199)						
particulate matter, acetone impinger [FRONT]	---	E897A	0.4	mg	<0.4	---
Metals (QCLot: 2340949)						
Antimony	7440-36-0	E457B	0.1	µg/sample	<0.10	---
Arsenic	7440-38-2	E457B	0.5	µg/sample	<0.50	---
Barium	7440-39-3	E457B	2.5	µg/sample	<2.5	---
Beryllium	7440-41-7	E457B	0.1	µg/sample	<0.10	---
Cadmium	7440-43-9	E457B	0.05	µg/sample	<0.050	---
Chromium	7440-47-3	E457B	0.5	µg/sample	<0.50	---
Cobalt	7440-48-4	E457B	0.1	µg/sample	<0.10	---
Copper	7440-50-8	E457B	0.5	µg/sample	<0.50	---
Lead	7439-92-1	E457B	0.25	µg/sample	<0.25	---
Nickel	7440-02-0	E457B	0.1	µg/sample	<0.10	---
Selenium	7782-49-2	E457B	1	µg/sample	<1.0	---
Silver	7440-22-4	E457B	0.1	µg/sample	<0.10	---
Thallium	7440-28-0	E457B	0.1	µg/sample	<0.10	---
Zinc	7440-66-6	E457B	3	µg/sample	<3.0	---
Method 29 Metals: Fraction 1A (HF) (QCLot: 2342975)						
Antimony	7440-36-0	E457A	0.2	µg/sample	<0.20	---
Arsenic	7440-38-2	E457A	1	µg/sample	<1.0	---
Barium	7440-39-3	E457A	5	µg/sample	<5.0	---
Beryllium	7440-41-7	E457A	0.2	µg/sample	<0.20	---
Cadmium	7440-43-9	E457A	0.1	µg/sample	# 0.85	B
Chromium	7440-47-3	E457A	1	µg/sample	# 3.0	B
Cobalt	7440-48-4	E457A	0.2	µg/sample	# 0.71	B
Copper	7440-50-8	E457A	1	µg/sample	# 4.8	B
Lead	7439-92-1	E457A	0.5	µg/sample	<0.50	---
Nickel	7440-02-0	E457A	0.2	µg/sample	# 1.36	B
Selenium	7782-49-2	E457A	2	µg/sample	<2.0	---



Sub-Matrix: Air

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Method 29 Metals: Fraction 1A (HF) (QCLot: 2342975) - continued						
Silver	7440-22-4	E457A	0.2	µg/sample	<0.20	----
Thallium	7440-28-0	E457A	0.2	µg/sample	<0.20	----
Zinc	7440-66-6	E457A	6	µg/sample	<6.0	----
Method 29 Mercury: Fraction 1B (HF) (QCLot: 2342976)						
Mercury	7439-97-6	E521A	0.022	µg/sample	<0.022	----
Method 29 Mercury: Fraction 2B (KMnO4/H2SO4) (QCLot: 2329395)						
Mercury	7439-97-6	E521B	0.75	µg/L	<0.75	----
Method 29 Mercury: Fraction 3B (KMnO4/H2SO4) (QCLot: 2331593)						
Mercury	7439-97-6	E521D	0.075	µg/L	<0.075	----
Method 29 Mercury: Fraction 3C (KMnO4/H2SO4) (QCLot: 2331594)						
Mercury	7439-97-6	E521E	0.75	µg/L	<0.75	----

Qualifiers

Qualifier

Description

B

Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.



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

Sub-Matrix: Air		Laboratory Control Sample (LCS) Report							
		Spike		Recovery (%)		Recovery Limits (%)		Qualifier	
				Target Concentration	LCS	Low	High		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Metals (QCLot: 2340949)									
Antimony	7440-36-0	E457B	0.1	µg/sample	100 µg/sample	93.7	80.0	120	-----
Arsenic	7440-38-2	E457B	0.5	µg/sample	100 µg/sample	94.5	80.0	120	-----
Barium	7440-39-3	E457B	2.5	µg/sample	25 µg/sample	91.7	80.0	120	-----
Beryllium	7440-41-7	E457B	0.1	µg/sample	10 µg/sample	94.1	80.0	120	-----
Cadmium	7440-43-9	E457B	0.05	µg/sample	10 µg/sample	96.5	80.0	120	-----
Chromium	7440-47-3	E457B	0.5	µg/sample	25 µg/sample	92.5	80.0	120	-----
Cobalt	7440-48-4	E457B	0.1	µg/sample	25 µg/sample	92.2	80.0	120	-----
Copper	7440-50-8	E457B	0.5	µg/sample	25 µg/sample	94.7	80.0	120	-----
Lead	7439-92-1	E457B	0.25	µg/sample	50 µg/sample	91.6	80.0	120	-----
Nickel	7440-02-0	E457B	0.1	µg/sample	50 µg/sample	91.2	80.0	120	-----
Selenium	7782-49-2	E457B	1	µg/sample	100 µg/sample	97.3	80.0	120	-----
Silver	7440-22-4	E457B	0.1	µg/sample	10 µg/sample	80.5	80.0	120	-----
Thallium	7440-28-0	E457B	0.1	µg/sample	100 µg/sample	96.1	80.0	120	-----
Zinc	7440-66-6	E457B	3	µg/sample	50 µg/sample	90.9	80.0	120	-----
Method 29 Metals: Fraction 1A (HF) (QCLot: 2342975)									
Antimony	7440-36-0	E457A	0.2	µg/sample	50 µg/sample	96.9	80.0	120	-----
Arsenic	7440-38-2	E457A	1	µg/sample	50 µg/sample	102	80.0	120	-----
Barium	7440-39-3	E457A	5	µg/sample	12.5 µg/sample	# 79.0	80.0	120	RRQC
Beryllium	7440-41-7	E457A	0.2	µg/sample	5 µg/sample	87.1	80.0	120	-----
Cadmium	7440-43-9	E457A	0.1	µg/sample	5 µg/sample	103	80.0	120	-----
Chromium	7440-47-3	E457A	1	µg/sample	12.5 µg/sample	91.3	80.0	120	-----
Cobalt	7440-48-4	E457A	0.2	µg/sample	12.5 µg/sample	102	80.0	120	-----
Copper	7440-50-8	E457A	1	µg/sample	12.5 µg/sample	98.5	80.0	120	-----
Lead	7439-92-1	E457A	0.5	µg/sample	25 µg/sample	95.1	80.0	120	-----
Nickel	7440-02-0	E457A	0.2	µg/sample	25 µg/sample	101	80.0	120	-----
Selenium	7782-49-2	E457A	2	µg/sample	50 µg/sample	98.5	80.0	120	-----
Silver	7440-22-4	E457A	0.2	µg/sample	5 µg/sample	87.5	80.0	120	-----
Thallium	7440-28-0	E457A	0.2	µg/sample	50 µg/sample	94.6	80.0	120	-----
Zinc	7440-66-6	E457A	6	µg/sample	25 µg/sample	97.5	80.0	120	-----
Method 29 Mercury: Fraction 1B (HF) (QCLot: 2342976)									
Mercury	7439-97-6	E521A	0.022	µg/sample	0.3 µg/sample	96.9	90.0	110	-----



Sub-Matrix: Air

Sub-Matrix: Air					Laboratory Control Sample (LCS) Report					
					Recovery (%)		Recovery Limits (%)			
					Spike	Target Concentration	LCS	Low	High	Qualifier
Analyte	CAS Number	Method	LOR	Unit						
Method 29 Mercury: Fraction 2B (KMnO4/H2SO4) (QCLot: 2329395)										
Mercury	7439-97-6	E521B	0.75	µg/L	10 µg/L	94.8	90.0	110		----
Method 29 Mercury: Fraction 3B (KMnO4/H2SO4) (QCLot: 2331593)										
Mercury	7439-97-6	E521D	0.075	µg/L	1 µg/L	92.4	90.0	110		----
Method 29 Mercury: Fraction 3C (KMnO4/H2SO4) (QCLot: 2331594)										
Mercury	7439-97-6	E521E	0.75	µg/L	10 µg/L	95.7	80.0	120		----

Qualifiers

Qualifier

Description

RRQC

Refer to report comments for information regarding this QC result.



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 the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level $\geq 1 \times$ spike level.

Sub-Matrix: Air

Sub-Matrix: Air					Matrix Spike (MS) Report					
					Spike		Recovery Limits (%)			
					Concentration	Target	MS	Low	High	Qualifier
Metals (QCLot: 2340949)										
BU2502996-001	Anonymous	Antimony	7440-36-0	E457B	93.9 µg/sample	100 µg/sample	93.9	80.0	120	----
		Arsenic	7440-38-2	E457B	102 µg/sample	100 µg/sample	102	80.0	120	----
		Barium	7440-39-3	E457B	24.9 µg/sample	25 µg/sample	99.6	80.0	120	----
		Beryllium	7440-41-7	E457B	9.40 µg/sample	10 µg/sample	94.0	80.0	120	----
		Cadmium	7440-43-9	E457B	9.93 µg/sample	10 µg/sample	99.3	80.0	120	----
		Chromium	7440-47-3	E457B	25.2 µg/sample	25 µg/sample	101	80.0	120	----
		Cobalt	7440-48-4	E457B	25.1 µg/sample	25 µg/sample	100	80.0	120	----
		Copper	7440-50-8	E457B	25.8 µg/sample	25 µg/sample	103	80.0	120	----
		Lead	7439-92-1	E457B	50.8 µg/sample	50 µg/sample	102	80.0	120	----
		Nickel	7440-02-0	E457B	49.8 µg/sample	50 µg/sample	99.5	80.0	120	----
		Selenium	7782-49-2	E457B	100.0 µg/sample	100 µg/sample	100.0	80.0	120	----
		Silver	7440-22-4	E457B	8.32 µg/sample	10 µg/sample	83.2	80.0	120	----
		Thallium	7440-28-0	E457B	104 µg/sample	100 µg/sample	104	80.0	120	----
		Zinc	7440-66-6	E457B	ND µg/sample	-----	ND	80.0	120	----
Method 29 Metals: Fraction 1A (HF) (QCLot: 2342975)										
BU2502997-001	25-3852-PM-(1 thru 6) Test 1 #1 APC Outlet	Antimony	7440-36-0	E457A	47.0 µg/sample	50 µg/sample	93.9	80.0	120	----
		Arsenic	7440-38-2	E457A	50.1 µg/sample	50 µg/sample	100	80.0	120	----
		Barium	7440-39-3	E457A	12.9 µg/sample	12.5 µg/sample	103	80.0	120	----
		Beryllium	7440-41-7	E457A	4.73 µg/sample	5 µg/sample	94.6	80.0	120	----
		Cadmium	7440-43-9	E457A	4.75 µg/sample	5 µg/sample	94.9	80.0	120	----
		Chromium	7440-47-3	E457A	12.6 µg/sample	12.5 µg/sample	101	80.0	120	----
		Cobalt	7440-48-4	E457A	12.3 µg/sample	12.5 µg/sample	98.6	80.0	120	----
		Copper	7440-50-8	E457A	12.5 µg/sample	12.5 µg/sample	99.7	80.0	120	----
		Lead	7439-92-1	E457A	23.8 µg/sample	25 µg/sample	95.3	80.0	120	----
		Nickel	7440-02-0	E457A	24.6 µg/sample	25 µg/sample	98.2	80.0	120	----
		Selenium	7782-49-2	E457A	46.4 µg/sample	50 µg/sample	92.7	80.0	120	----
		Silver	7440-22-4	E457A	4.35 µg/sample	5 µg/sample	87.0	80.0	120	----
		Thallium	7440-28-0	E457A	46.5 µg/sample	50 µg/sample	93.1	80.0	120	----
		Zinc	7440-66-6	E457A	24.1 µg/sample	25 µg/sample	96.4	80.0	120	----
Method 29 Mercury: Fraction 1B (HF) (QCLot: 2342976)										
BU2502997-001	25-3852-PM-(1 thru 6) Test 1 #1 APC Outlet	Mercury	7439-97-6	E521A	0.288 µg/sample	0.3 µg/sample	95.8	75.0	125	----
Method 29 Mercury: Fraction 2B (KMnO4/H2SO4) (QCLot: 2329395)										
BU2502997-001	25-3852-PM-(1 thru 6) Test 1 #1 APC Outlet	Mercury	7439-97-6	E521B	9.58 µg/L	10 µg/L	95.8	75.0	125	----



Sub-Matrix: Air

					Matrix Spike (MS) Report				
					Spike		Recovery (%)		Qualifier
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High
Method 29 Mercury: Fraction 3B (KMnO4/H2SO4) (QCLot: 2331593)									
BU2502997-001	25-3852-PM-(1 thru 6) Test 1 #1 APC Outlet	Mercury	7439-97-6	E521D	0.900 µg/L	1 µg/L	90.0	80.0	120
Method 29 Mercury: Fraction 3C (KMnO4/H2SO4) (QCLot: 2331594)									
BU2502997-001	25-3852-PM-(1 thru 6) Test 1 #1 APC Outlet	Mercury	7439-97-6	E521E	9.42 µg/L	10 µg/L	94.2	80.0	120



Matrix Spike Duplicate (MSD) Report

A Matrix Spike Duplicate (MSD) is a duplicate of a Matrix Spike (MS), which has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spike Duplicates provide information regarding method precision. ALS DQOs for Matrix Spike Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD).

Sub-Matrix: Air

Sub-Matrix: Air											
Matrix Spike Duplicate (MSD) Report											
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	MSD Result	RPD(%) or Difference	MSD Limits	Qualifier
Metals (QC Lot: 2340949)											
QC-234094-005	Anonymous	Antimony	7440-36-0	E457B	0.10	µg/sample	94.0	99.0	5.19%	20%	----
		Arsenic	7440-38-2	E457B	0.50	µg/sample	102	100	1.98%	20%	----
		Barium	7440-39-3	E457B	2.5	µg/sample	27.7	27.5	0.705%	20%	----
		Beryllium	7440-41-7	E457B	0.10	µg/sample	9.41	10.1	6.19%	20%	----
		Cadmium	7440-43-9	E457B	0.050	µg/sample	9.96	9.93	0.303%	20%	----
		Chromium	7440-47-3	E457B	0.50	µg/sample	25.9	25.0	3.94%	20%	----
		Cobalt	7440-48-4	E457B	0.10	µg/sample	25.2	24.9	0.904%	20%	----
		Copper	7440-50-8	E457B	0.50	µg/sample	29.1	28.4	1.96%	20%	----
		Lead	7439-92-1	E457B	0.25	µg/sample	53.5	52.5	2.28%	20%	----
		Nickel	7440-02-0	E457B	0.10	µg/sample	50.2	49.7	0.807%	20%	----
		Selenium	7782-49-2	E457B	1.0	µg/sample	101	101	0.00%	20%	----
		Silver	7440-22-4	E457B	0.10	µg/sample	8.33	8.61	3.31%	20%	----
		Thallium	7440-28-0	E457B	0.10	µg/sample	104	101	2.93%	20%	----
		Zinc	7440-66-6	E457B	3.0	µg/sample	290	287	----	Diff <2x LOR	----
Method 29 Metals: Fraction 1A (HF) (QC Lot: 2342975)											
QC-MRG2-2-005		Antimony	7440-36-0	E457A	0.20	µg/sample	47.2	49.5	4.78%	20%	----
		Arsenic	7440-38-2	E457A	1.0	µg/sample	50.2	51.9	3.92%	20%	----
		Barium	7440-39-3	E457A	5.0	µg/sample	22.0	21.7	1.96%	20%	----
		Beryllium	7440-41-7	E457A	0.20	µg/sample	4.74	4.89	3.12%	20%	----
		Cadmium	7440-43-9	E457A	0.10	µg/sample	4.91	5.27	7.21%	20%	----
		Chromium	7440-47-3	E457A	1.0	µg/sample	15.6	15.9	1.96%	20%	----
		Cobalt	7440-48-4	E457A	0.20	µg/sample	12.4	12.9	4.37%	20%	----
		Copper	7440-50-8	E457A	1.0	µg/sample	15.8	16.1	2.28%	20%	----
		Lead	7439-92-1	E457A	0.50	µg/sample	24.8	25.5	2.90%	20%	----
		Nickel	7440-02-0	E457A	0.20	µg/sample	27.3	28.0	2.81%	20%	----
		Selenium	7782-49-2	E457A	2.0	µg/sample	46.4	49.4	6.27%	20%	----
		Silver	7440-22-4	E457A	0.20	µg/sample	4.38	4.48	2.39%	20%	----
		Thallium	7440-28-0	E457A	0.20	µg/sample	46.5	48.3	3.59%	20%	----
		Zinc	7440-66-6	E457A	6.0	µg/sample	38.3	39.2	3.67%	20%	----
Method 29 Mercury: Fraction 1B (HF) (QC Lot: 2342976)											
QC-MRG2-2-005		Mercury	7439-97-6	E521A	0.022	µg/sample	0.292	0.287	1.68%	20%	----



Sub-Matrix: Air					Matrix Spike Duplicate (MSD) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	MSD Result	RPD(%) or Difference	MSD Limits	Qualifier
Method 29 Mercury: Fraction 2B (KMnO4/H2SO4) (QC Lot: 2329395)											
QC-232939-005		Mercury	7439-97-6	E521B	0.75	µg/L	9.96	9.98	0.209%	20%	***
Method 29 Mercury: Fraction 3B (KMnO4/H2SO4) (QC Lot: 2331593)											
QC-233159-005		Mercury	7439-97-6	E521D	0.075	µg/L	0.900	0.908	0.885%	20%	***
Method 29 Mercury: Fraction 3C (KMnO4/H2SO4) (QC Lot: 2331594)											
QC-233159-005		Mercury	7439-97-6	E521E	0.75	µg/L	9.96	9.84	1.28%	20%	***



CERTIFICATE OF ANALYSIS

Work Order : **BU2503001**
Client : **Alliance Technical Group North Inc.**
Contact : **Chris Belore**
Address : **804 Southdown Road**
Mississauga Ontario Canada L5J 2Y4
Telephone : **905 822 4120**
Project : **AST-2025-3852 Reworld**
PO : **---**
C-O-C number : **---**
Sampler : **---**
Site : **---**
Quote number : **BU2024-ORTE100-0006 - Reworld**
No. of samples received : **35**
No. of samples analysed : **35**

Laboratory : **ALS Environmental - Burlington**
Account Manager : **Robert Chin**
Address : **1435 Norjohn Court, Unit 1**
Burlington ON Canada L7L 0E6
E-mail : **Robert.Chin@ALSGlobal.com**
Telephone : **+1 905 331 3111**
Date Samples Received : **30-Oct-2025 13:30**
Date Analysis Commenced : **13-Nov-2025**
Issue Date : **09-Dec-2025 10:17**

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.

Signatories	Position	Laboratory Department
Gamini Nadu	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
g	grams
mg	milligrams

<: 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.



Analytical Results

Sub-Matrix: Impinger
(Matrix: Air)

Sub-Matrix: Impinger (Matrix: Air)	Client sample ID	Client sampling date / time							
		25-3852-M201A-1 Test 1 #1 APC Outlet 28-Oct-2025 00:00 BU2503001-001	25-3852-M201A-2 Test 1 #1 APC Outlet 28-Oct-2025 00:00 BU2503001-002	25-3852-M201A-3 Test 1 #1 APC Outlet 28-Oct-2025 00:00 BU2503001-003	25-3852-M201A-4 Test 1 #1 APC Outlet 28-Oct-2025 00:00 BU2503001-004	25-3852-M201A-(5-7) Test 1 #1 APC Outlet 28-Oct-2025 00:00 BU2503001-005			
Analyte	CAS Number	Method/Lab	LOR	Unit	Result	Result	Result	Result	Result
Particulates									
Condensable particulates, extractable [organic]	n/a	E902S/BU	0.4	mg					1.6
Condensable particulates, non-extractable [aqueous]	n/a	E902W/BU	0.4	mg					2.2
mass, acetone [FRONT]		E898A/BU	0.40	g	35.1	33.6	20.6		
Mass, deionized water [aqueous]	n/a	E901W/BU	0.40	g					254
Mass, solvent [organic]	n/a	E901S/BU	0.40	g					147
particulate matter, acetone impinger [FRONT]		E897A/BU	0.4	mg	<0.4	<0.4	0.4		
Particulate matter, filter		E890/BU	0.6	mg				<0.6	

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



Analytical Results

Sub-Matrix: Impinger
(Matrix: Air)

Sub-Matrix: Impinger (Matrix: Air)		Client sample ID		Client sampling date / time		25-3852-M201A-8 Test 2 #1 APC Outlet 28-Oct-2025 00:00		25-3852-M201A-9 Test 2 #1 APC Outlet 28-Oct-2025 00:00		25-3852-M201A-10 Test 2 #1 APC Outlet 28-Oct-2025 00:00		25-3852-M201A-11 Test 2 #1 APC Outlet 28-Oct-2025 00:00		25-3852-M201A-12 Test 2 #1 APC Outlet 28-Oct-2025 00:00	
Analyte	CAS Number	Method/Lab	LOR	Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Particulates															
Condensable particulates, extractable [organic]	n/a	E902S/BU	0.4	mg											1.4
Condensable particulates, non-extractable [aqueous]	n/a	E902W/BU	0.4	mg											2.4
mass, acetone [FRONT]		E898A/BU	0.40	g	34.6	25.3	27.7								
Mass, deionized water [aqueous]	n/a	E901W/BU	0.40	g											249
Mass, solvent [organic]	n/a	E901S/BU	0.40	g											149
particulate matter, acetone impinger [FRONT]		E897A/BU	0.4	mg	<0.4	<0.4	<0.4								
Particulate matter, filter		E890/BU	0.6	mg									<0.6		

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



Analytical Results

Sub-Matrix: Impinger
(Matrix: Air)

Sub-Matrix: Impinger (Matrix: Air)		Client sample ID		Client sampling date / time		25-3852-M201A-15 Test 3 #1 APC Outlet		25-3852-M201A-16 Test 3 #1 APC Outlet		25-3852-M201A-17 Test 3 #1 APC Outlet		25-3852-M201A-18 Test 3 #1 APC Outlet		25-3852-M201A-(19-21) Test 3 #1 APC Outlet	
Analyte	CAS Number	Method/Lab	LOR	Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Particulates															
Condensable particulates, extractable [organic] Condensable particulates, non-extractable [aqueous] mass, acetone [FRONT] Mass, deionized water [aqueous] Mass, solvent [organic] particulate matter, acetone impinger [FRONT] Particulate matter, filter	n/a	E902S/BU	0.4	mg											1.3
	n/a	E902W/BU	0.4	mg											2.4
		E898A/BU	0.40	g	38.2	31.8	26.3								
	n/a	E901W/BU	0.40	g											233
	n/a	E901S/BU	0.40	g											78.2
		E897A/BU	0.4	mg	<0.4	<0.4	<0.4								
		E890/BU	0.6	mg									<0.6		

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



Analytical Results

Sub-Matrix: Impinger
(Matrix: Air)

Sub-Matrix: Impinger (Matrix: Air)		Client sample ID		Client sampling date / time		Client sample ID		Client sampling date / time		Client sample ID		Client sampling date / time		Client sample ID		Client sampling date / time	
Analyte	CAS Number	Method/Lab	LOR	Unit	25-3852-M201A-22 Test 1 #2 APC Outlet	25-3852-M201A-23 Test 1 #2 APC Outlet	25-3852-M201A-24 Test 1 #2 APC Outlet	25-3852-M201A-25 Test 1 #2 APC Outlet	25-3852-M201A-26 Test 1 #2 APC Outlet	25-3852-M201A-27 Test 1 #2 APC Outlet	25-3852-M201A-28 Test 1 #2 APC Outlet	25-3852-M201A-29 Test 1 #2 APC Outlet	25-3852-M201A-30 Test 1 #2 APC Outlet	25-3852-M201A-31 Test 1 #2 APC Outlet	25-3852-M201A-32 Test 1 #2 APC Outlet	25-3852-M201A-33 Test 1 #2 APC Outlet	
Particulates																	
Condensable particulates, extractable [organic]	n/a	E902S/BU	0.4	mg													
Condensable particulates, non-extractable [aqueous]	n/a	E902W/BU	0.4	mg													
mass, acetone [FRONT]		E898A/BU	0.40	g	26.2	29.9	18.0										
Mass, deionized water [aqueous]	n/a	E901W/BU	0.40	g													
Mass, solvent [organic]	n/a	E901S/BU	0.40	g													
particulate matter, acetone impinger [FRONT]		E897A/BU	0.4	mg	<0.4	<0.4	<0.4										
Particulate matter, filter		E890/BU	0.6	mg													

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



Analytical Results

Sub-Matrix: Impinger
(Matrix: Air)

Sub-Matrix: Impinger (Matrix: Air)		Client sample ID		Client sampling date / time		Client sample ID		Client sampling date / time		Client sample ID		Client sampling date / time	
Analyte	CAS Number	Method/Lab	LOR	Unit	25-3852-M201A-29 Test 2 #2 APC Outlet	25-3852-M201A-30 Test 2 #2 APC Outlet	25-3852-M201A-31 Test 2 #2 APC Outlet	25-3852-M201A-32 Test 2 #2 APC Outlet	25-3852-M201A-33 Test 2 #2 APC Outlet	25-3852-M201A-34 Test 2 #2 APC Outlet	25-3852-M201A-35 Test 2 #2 APC Outlet	25-3852-M201A-36 Test 2 #2 APC Outlet	25-3852-M201A-37 Test 2 #2 APC Outlet
Particulates													
Condensable particulates, extractable [organic]	n/a	E902S/BU	0.4	mg	47.8	45.4	16.5	16.5	16.5	16.5	16.5	16.5	16.5
	n/a	E902W/BU	0.4	mg	47.8	45.4	16.5	16.5	16.5	16.5	16.5	16.5	16.5
Condensable particulates, non-extractable [aqueous]	---	E898A/BU	0.40	g	47.8	45.4	16.5	16.5	16.5	16.5	16.5	16.5	16.5
	n/a	E901W/BU	0.40	g	47.8	45.4	16.5	16.5	16.5	16.5	16.5	16.5	16.5
Mass, acetone [FRONT]	n/a	E901S/BU	0.40	g	47.8	45.4	16.5	16.5	16.5	16.5	16.5	16.5	16.5
	---	E897A/BU	0.4	mg	47.8	45.4	16.5	16.5	16.5	16.5	16.5	16.5	16.5
Mass, deionized water [aqueous]	n/a	E890/BU	0.6	mg	47.8	45.4	16.5	16.5	16.5	16.5	16.5	16.5	16.5
	---	E890/BU	0.6	mg	47.8	45.4	16.5	16.5	16.5	16.5	16.5	16.5	16.5
Mass, solvent [organic]	n/a	E890/BU	0.6	mg	47.8	45.4	16.5	16.5	16.5	16.5	16.5	16.5	16.5
	---	E890/BU	0.6	mg	47.8	45.4	16.5	16.5	16.5	16.5	16.5	16.5	16.5
particulate matter, acetone impinger [FRONT]	n/a	E890/BU	0.6	mg	47.8	45.4	16.5	16.5	16.5	16.5	16.5	16.5	16.5
	---	E890/BU	0.6	mg	47.8	45.4	16.5	16.5	16.5	16.5	16.5	16.5	16.5
Particulate matter, filter	n/a	E890/BU	0.6	mg	47.8	45.4	16.5	16.5	16.5	16.5	16.5	16.5	16.5
	---	E890/BU	0.6	mg	47.8	45.4	16.5	16.5	16.5	16.5	16.5	16.5	16.5

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



Analytical Results

Sub-Matrix: Impinger
(Matrix: Air)

Sub-Matrix: Impinger (Matrix: Air)		Client sample ID		Client sampling date / time		Unit		LOR		Method/Lab		CAS Number		Particulates											
		25-3852-M201A-36 Test 3 #2 APC Outlet		25-3852-M201A-37 Test 3 #2 APC Outlet		25-3852-M201A-38 Test 3 #2 APC Outlet		25-3852-M201A-39 Test 3 #2 APC Outlet		25-3852-M201A-40 -42) Test 3 #2 APC Outlet		27-Oct-2025 00:00		27-Oct-2025 00:00		27-Oct-2025 00:00		27-Oct-2025 00:00		27-Oct-2025 00:00		27-Oct-2025 00:00			
		BU2503001-026		BU2503001-027		BU2503001-028		BU2503001-029		BU2503001-030		Result		Result		Result		Result		Result		Result			
Analyte		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result			
Particulates																									
Condensable particulates, extractable [organic]	Condensable particulates, extractable [organic]	n/a	E902S/BU	0.4	mg																		1.4		
	Condensable particulates, non-extractable [aqueous]	n/a	E902W/BU	0.4	mg																		2.3		
	mass, acetone [FRONT]		E898A/BU	0.40	g	40.9	35.6	11.6																	
	Mass, deionized water [aqueous]	n/a	E901W/BU	0.40	g																		213		
	Mass, solvent [organic]	n/a	E901S/BU	0.40	g																		151		
particulate matter, acetone impinger [FRONT]	particulate matter, acetone impinger [FRONT]		E897A/BU	0.4	mg	<0.4	<0.4	<0.4																	
	Particulate matter, filter		E890/BU	0.6	mg																		<0.6		

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



Analytical Results

Sub-Matrix: Impinger
(Matrix: Air)

Sub-Matrix: Impinger (Matrix: Air)				Client sample ID		25-3852-M201A-43 Blank		25-3852-M201A-44 Blank		25-3852-M201A-45 Blank		25-3852-M201A-46 Blank		25-3852-M201A-(47-49) Blank	
Analyte	CAS Number	Method/Lab	LOR	Client sampling date / time		28-Oct-2025 00:00		28-Oct-2025 00:00		28-Oct-2025 00:00		28-Oct-2025 00:00		28-Oct-2025 00:00	
				Unit		Result		Result		Result		Result			
Particulates															
Condensable particulates, extractable [organic] Condensable particulates, non-extractable [aqueous] mass, acetone [FRONT] Mass, deionized water [aqueous] Mass, solvent [organic] particulate matter, acetone impinger [FRONT] Particulate matter, filter	n/a	E902S/BU	0.4	mg											0.9
	n/a	E902W/BU	0.4	mg											0.6
		E898A/BU	0.40	g	41.4	19.0	16.0								
	n/a	E901W/BU	0.40	g											211
	n/a	E901S/BU	0.40	g											124
		E897A/BU	0.4	mg	<0.4	<0.4	<0.4								
		E890/BU	0.6	mg									<0.6		

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

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: BU2503001	Page	: 1 of 13
Client	: Alliance Technical Group North Inc.	Laboratory	: ALS Environmental - Burlington
Contact	: Chris Belore	Account Manager	: Robert Chin
Address	: 804 Southdown Road Mississauga ON Canada L5J 2Y4	Address	: 1435 Norjohn Court, Unit 1 Burlington, Ontario Canada L7L 0E6
Telephone	: 905 822 4120	Telephone	: +1 905 331 3111
Project	: AST-2025-3852 Reworld	Date Samples Received	: 30-Oct-2025 13:30
PO	: -----	Issue Date	: 09-Dec-2025 10:17
C-O-C number	: -----		
Sampler	: -----		
Site	: -----		
Quote number	: BU2024-ORTE100-0006 - Reworld		
No. of samples received	: 35		
No. of samples analysed	: 35		

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 Service 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 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.



Page : 3 of 13
Work Order : BU2503001
Client : Alliance Technical Group North Inc.
Project : AST-2025-3852 Reworld

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		Method	Sampling Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)	Preparation Date			Holding Times Rec	Actual	Eval	Analysis Date	Holding Times Rec	Actual
Particulates : Extractable, Condensable Particulates in Stack Emission (organic part. wt.)									
M202: CPM Solvent Fraction 25-3852-M201A-(12-14) Test 2 - #1 APC Outlet		E902S	28-Oct-2025						
Particulates : Extractable, Condensable Particulates in Stack Emission (organic part. wt.)									
M202: CPM Solvent Fraction 25-3852-M201A-(19-21) Test 3 - #1 APC Outlet		E902S	28-Oct-2025						
Particulates : Extractable, Condensable Particulates in Stack Emission (organic part. wt.)									
M202: CPM Solvent Fraction 25-3852-M201A-(26-28) Test 1 - #2 APC Outlet		E902S	27-Oct-2025						
Particulates : Extractable, Condensable Particulates in Stack Emission (organic part. wt.)									
M202: CPM Solvent Fraction 25-3852-M201A-(33-35) Test 2 - #2 APC Outlet		E902S	27-Oct-2025						
Particulates : Extractable, Condensable Particulates in Stack Emission (organic part. wt.)									
M202: CPM Solvent Fraction 25-3852-M201A-(40-42) Test 3 - #2 APC Outlet		E902S	27-Oct-2025						
Particulates : Extractable, Condensable Particulates in Stack Emission (organic part. wt.)									
M202: CPM Solvent Fraction 25-3852-M201A-(47-49) Blank		E902S	28-Oct-2025						
Particulates : Extractable, Condensable Particulates in Stack Emission (organic part. wt.)									
M202: CPM Solvent Fraction 25-3852-M201A-(5-7) Test 1 - #1 APC Outlet		E902S	28-Oct-2025						



Page : 4 of 13
Work Order : BU2503001
Client : Alliance Technical Group North Inc.
Project : AST-2025-3852 Reworld

Matrix: Air												
Analyte Group : Analytical Method				Sampling Date	Method	Extraction / Preparation			Analysis			
Container / Client Sample ID(s)						Preparation Date	Holding Times		Eval	Analysis Date	Holding Times	
							Rec	Actual			Rec	Actual
Particulates : Extractable, Condensable Particulates in Stack Emission (Solvent wt.)												
M202: CPM Solvent Fraction 25-3852-M201A-(12-14) Test 2 - #1 APC Outlet				28-Oct-2025	E901S				20-Nov-2025			
Particulates : Extractable, Condensable Particulates in Stack Emission (Solvent wt.)												
M202: CPM Solvent Fraction 25-3852-M201A-(19-21) Test 3 - #1 APC Outlet				28-Oct-2025	E901S				20-Nov-2025			
Particulates : Extractable, Condensable Particulates in Stack Emission (Solvent wt.)												
M202: CPM Solvent Fraction 25-3852-M201A-(26-28) Test 1 - #2 APC Outlet				27-Oct-2025	E901S				20-Nov-2025			
Particulates : Extractable, Condensable Particulates in Stack Emission (Solvent wt.)												
M202: CPM Solvent Fraction 25-3852-M201A-(33-35) Test 2 - #2 APC Outlet				27-Oct-2025	E901S				20-Nov-2025			
Particulates : Extractable, Condensable Particulates in Stack Emission (Solvent wt.)												
M202: CPM Solvent Fraction 25-3852-M201A-(40-42) Test 3 - #2 APC Outlet				27-Oct-2025	E901S				20-Nov-2025			
Particulates : Extractable, Condensable Particulates in Stack Emission (Solvent wt.)												
M202: CPM Solvent Fraction 25-3852-M201A-(47-49) Blank				28-Oct-2025	E901S				20-Nov-2025			
Particulates : Extractable, Condensable Particulates in Stack Emission (Solvent wt.)												
M202: CPM Solvent Fraction 25-3852-M201A-(5-7) Test 1 - #1 APC Outlet				28-Oct-2025	E901S				20-Nov-2025			
Particulates : Non-Extractable, Condensable Particulates in Stack Emission (Water part. wt.)												
M202: CPM Water Fraction 25-3852-M201A-(12-14) Test 2 - #1 APC Outlet				28-Oct-2025	E902W				21-Nov-2025			
Particulates : Non-Extractable, Condensable Particulates in Stack Emission (Water part. wt.)												
M202: CPM Water Fraction 25-3852-M201A-(19-21) Test 3 - #1 APC Outlet				28-Oct-2025	E902W				21-Nov-2025			



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Work Order : BU2503001
Client : Alliance Technical Group North Inc.
Project : AST-2025-3852 Reworld

Matrix: Air

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

Analyte Group : Analytical Method		Sampling Date	Method	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)	Preparation Date			Holding Times Rec	Actual	Eval	Analysis Date	Holding Times Rec	Actual
Particulates : Non-Extractable, Condensable Particulates in Stack Emission (Water part. wt.)									
M202: CPM Water Fraction 25-3852-M201A-(26-28) Test 1 - #2 APC Outlet		27-Oct-2025	E902W					21-Nov-2025	
Particulates : Non-Extractable, Condensable Particulates in Stack Emission (Water part. wt.)									
M202: CPM Water Fraction 25-3852-M201A-(33-35) Test 2 - #2 APC Outlet		27-Oct-2025	E902W					21-Nov-2025	
Particulates : Non-Extractable, Condensable Particulates in Stack Emission (Water part. wt.)									
M202: CPM Water Fraction 25-3852-M201A-(40-42) Test 3 - #2 APC Outlet		27-Oct-2025	E902W					21-Nov-2025	
Particulates : Non-Extractable, Condensable Particulates in Stack Emission (Water part. wt.)									
M202: CPM Water Fraction 25-3852-M201A-(47-49) Blank		28-Oct-2025	E902W					21-Nov-2025	
Particulates : Non-Extractable, Condensable Particulates in Stack Emission (Water part. wt.)									
M202: CPM Water Fraction 25-3852-M201A-(5-7) Test 1 - #1 APC Outlet		28-Oct-2025	E902W					21-Nov-2025	
Particulates : Non-Extractable, Condensable Particulates in Stack Emission (Water wt.)									
M202: CPM Water Fraction 25-3852-M201A-(12-14) Test 2 - #1 APC Outlet		28-Oct-2025	E901W					20-Nov-2025	
Particulates : Non-Extractable, Condensable Particulates in Stack Emission (Water wt.)									
M202: CPM Water Fraction 25-3852-M201A-(19-21) Test 3 - #1 APC Outlet		28-Oct-2025	E901W					20-Nov-2025	
Particulates : Non-Extractable, Condensable Particulates in Stack Emission (Water wt.)									
M202: CPM Water Fraction 25-3852-M201A-(26-28) Test 1 - #2 APC Outlet		27-Oct-2025	E901W					20-Nov-2025	
Particulates : Non-Extractable, Condensable Particulates in Stack Emission (Water wt.)									
M202: CPM Water Fraction 25-3852-M201A-(33-35) Test 2 - #2 APC Outlet		27-Oct-2025	E901W					20-Nov-2025	



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Work Order : BU2503001
Client : Alliance Technical Group North Inc.
Project : AST-2025-3852 Reworld

Matrix: Air											
Analyte Group : Analytical Method		Sampling Date	Method	Extraction / Preparation			Analysis			Eval	
Container / Client Sample ID(s)				Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		
					Rec	Actual			Rec		Actual
Particulates : Non-Extractable, Condensable Particulates in Stack Emission (Water wt.)											
M202: CPM Water Fraction		27-Oct-2025	E901W				20-Nov-2025				
25-3852-M201A-(40-42) Test 3 - #2 APC Outlet											
Particulates : Non-Extractable, Condensable Particulates in Stack Emission (Water wt.)											
M202: CPM Water Fraction		28-Oct-2025	E901W				20-Nov-2025				
25-3852-M201A-(47-49) Blank											
Particulates : Non-Extractable, Condensable Particulates in Stack Emission (Water wt.)											
M202: CPM Water Fraction		28-Oct-2025	E901W				20-Nov-2025				
25-3852-M201A-(5-7) Test 1 - #1 APC Outlet											
Particulates : Particulates in Stack Emission Acetone Rinse by Gravimetry											
M5/M29 : Acetone (Probe Rinse)		28-Oct-2025	E897A				17-Nov-2025				
25-3852-M201A-1 Test 1 - #1 APC Outlet											
Particulates : Particulates in Stack Emission Acetone Rinse by Gravimetry											
M5/M29 : Acetone (Probe Rinse)		28-Oct-2025	E897A				20-Nov-2025				
25-3852-M201A-10 Test 2 - #1 APC Outlet											
Particulates : Particulates in Stack Emission Acetone Rinse by Gravimetry											
M5/M29 : Acetone (Probe Rinse)		28-Oct-2025	E897A				20-Nov-2025				
25-3852-M201A-15 Test 3 - #1 APC Outlet											
Particulates : Particulates in Stack Emission Acetone Rinse by Gravimetry											
M5/M29 : Acetone (Probe Rinse)		28-Oct-2025	E897A				20-Nov-2025				
25-3852-M201A-16 Test 3 - #1 APC Outlet											
Particulates : Particulates in Stack Emission Acetone Rinse by Gravimetry											
M5/M29 : Acetone (Probe Rinse)		28-Oct-2025	E897A				20-Nov-2025				
25-3852-M201A-17 Test 3 - #1 APC Outlet											
Particulates : Particulates in Stack Emission Acetone Rinse by Gravimetry											
M5/M29 : Acetone (Probe Rinse)		28-Oct-2025	E897A				20-Nov-2025				
25-3852-M201A-2 Test 1 - #1 APC Outlet											



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Work Order : BU2503001
Client : Alliance Technical Group North Inc.
Project : AST-2025-3852 Reworld

Matrix: Air

Evaluation: * = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method		Sampling Date	Method	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)				Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
					Rec	Actual			Rec	Actual	
Particulates : Particulates in Stack Emission Acetone Rinse by Gravimetry											
M5/M29 : Acetone (Probe Rinse) 25-3852-M201A-22 Test 1 - #2 APC Outlet		27-Oct-2025	E897A					20-Nov-2025			
Particulates : Particulates in Stack Emission Acetone Rinse by Gravimetry											
M5/M29 : Acetone (Probe Rinse) 25-3852-M201A-23 Test 1 - #2 APC Outlet		27-Oct-2025	E897A					20-Nov-2025			
Particulates : Particulates in Stack Emission Acetone Rinse by Gravimetry											
M5/M29 : Acetone (Probe Rinse) 25-3852-M201A-24 Test 1 - #2 APC Outlet		27-Oct-2025	E897A					28-Nov-2025			
Particulates : Particulates in Stack Emission Acetone Rinse by Gravimetry											
M5/M29 : Acetone (Probe Rinse) 25-3852-M201A-29 Test 2 - #2 APC Outlet		27-Oct-2025	E897A					28-Nov-2025			
Particulates : Particulates in Stack Emission Acetone Rinse by Gravimetry											
M5/M29 : Acetone (Probe Rinse) 25-3852-M201A-3 Test 1 - #1 APC Outlet		28-Oct-2025	E897A					17-Nov-2025			
Particulates : Particulates in Stack Emission Acetone Rinse by Gravimetry											
M5/M29 : Acetone (Probe Rinse) 25-3852-M201A-30 Test 2 - #2 APC Outlet		27-Oct-2025	E897A					28-Nov-2025			
Particulates : Particulates in Stack Emission Acetone Rinse by Gravimetry											
M5/M29 : Acetone (Probe Rinse) 25-3852-M201A-31 Test 2 - #2 APC Outlet		27-Oct-2025	E897A					28-Nov-2025			
Particulates : Particulates in Stack Emission Acetone Rinse by Gravimetry											
M5/M29 : Acetone (Probe Rinse) 25-3852-M201A-36 Test 3 - #2 APC Outlet		27-Oct-2025	E897A					28-Nov-2025			
Particulates : Particulates in Stack Emission Acetone Rinse by Gravimetry											
M5/M29 : Acetone (Probe Rinse) 25-3852-M201A-37 Test 3 - #2 APC Outlet		27-Oct-2025	E897A					28-Nov-2025			
Particulates : Particulates in Stack Emission Acetone Rinse by Gravimetry											
M5/M29 : Acetone (Probe Rinse) 25-3852-M201A-37 Test 3 - #2 APC Outlet		27-Oct-2025	E897A					28-Nov-2025			



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Work Order : BU2503001
Client : Alliance Technical Group North Inc.
Project : AST-2025-3852 Reworld

Matrix: Air

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

Analyte Group : Analytical Method		Sampling Date	Method	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)				Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
					Rec	Actual			Rec	Actual	
Particulates : Particulates in Stack Emission Acetone Rinse by Gravimetry											
M5/M29 : Acetone (Probe Rinse) 25-3852-M201A-38 Test 3 - #2 APC Outlet		27-Oct-2025	E897A					28-Nov-2025			
Particulates : Particulates in Stack Emission Acetone Rinse by Gravimetry											
M5/M29 : Acetone (Probe Rinse) 25-3852-M201A-43 Blank		28-Oct-2025	E897A					28-Nov-2025			
Particulates : Particulates in Stack Emission Acetone Rinse by Gravimetry											
M5/M29 : Acetone (Probe Rinse) 25-3852-M201A-44 Blank		28-Oct-2025	E897A					28-Nov-2025			
Particulates : Particulates in Stack Emission Acetone Rinse by Gravimetry											
M5/M29 : Acetone (Probe Rinse) 25-3852-M201A-45 Blank		28-Oct-2025	E897A					28-Nov-2025			
Particulates : Particulates in Stack Emission Acetone Rinse by Gravimetry											
M5/M29 : Acetone (Probe Rinse) 25-3852-M201A-8 Test 2 - #1 APC Outlet		28-Oct-2025	E897A					20-Nov-2025			
Particulates : Particulates in Stack Emission Acetone Rinse by Gravimetry											
M5/M29 : Acetone (Probe Rinse) 25-3852-M201A-9 Test 2 - #1 APC Outlet		28-Oct-2025	E897A					20-Nov-2025			
Particulates : Particulates in Stack Emission Filter by Gravimetry											
M5/M29 : Quartz Filter 25-3852-M201A-11 Test 2 - #1 APC Outlet		28-Oct-2025	E890					13-Nov-2025			
Particulates : Particulates in Stack Emission Filter by Gravimetry											
M5/M29 : Quartz Filter 25-3852-M201A-18 Test 3 - #1 APC Outlet		28-Oct-2025	E890					13-Nov-2025			
Particulates : Particulates in Stack Emission Filter by Gravimetry											
M5/M29 : Quartz Filter 25-3852-M201A-25 Test 1 - #2 APC Outlet		27-Oct-2025	E890					13-Nov-2025			



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Client : Alliance Technical Group North Inc.
Project : AST-2025-3852 Reworld

Matrix: Air

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

Analyte Group : Analytical Method		Sampling Date	Method	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)				Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
					Rec	Actual			Rec	Actual	
Particulates : Particulates in Stack Emission Filter by Gravimetry											
M5/M29 : Quartz Filter 25-3852-M201A-32 Test 2 - #2 APC Outlet		27-Oct-2025	E890					13-Nov-2025			
Particulates : Particulates in Stack Emission Filter by Gravimetry											
M5/M29 : Quartz Filter 25-3852-M201A-39 Test 3 - #2 APC Outlet		27-Oct-2025	E890					13-Nov-2025			
Particulates : Particulates in Stack Emission Filter by Gravimetry											
M5/M29 : Quartz Filter 25-3852-M201A-4 Test 1 - #1 APC Outlet		28-Oct-2025	E890					13-Nov-2025			
Particulates : Particulates in Stack Emission Filter by Gravimetry											
M5/M29 : Quartz Filter 25-3852-M201A-46 Blank		28-Oct-2025	E890					13-Nov-2025			
Particulates : Stack Emission Acetone Rinse Mass by Gravimetry											
M5/M29 : Acetone (Probe Rinse) 25-3852-M201A-1 Test 1 - #1 APC Outlet		28-Oct-2025	E898A					17-Nov-2025			
Particulates : Stack Emission Acetone Rinse Mass by Gravimetry											
M5/M29 : Acetone (Probe Rinse) 25-3852-M201A-10 Test 2 - #1 APC Outlet		28-Oct-2025	E898A					17-Nov-2025			
Particulates : Stack Emission Acetone Rinse Mass by Gravimetry											
M5/M29 : Acetone (Probe Rinse) 25-3852-M201A-15 Test 3 - #1 APC Outlet		28-Oct-2025	E898A					17-Nov-2025			
Particulates : Stack Emission Acetone Rinse Mass by Gravimetry											
M5/M29 : Acetone (Probe Rinse) 25-3852-M201A-16 Test 3 - #1 APC Outlet		28-Oct-2025	E898A					17-Nov-2025			
Particulates : Stack Emission Acetone Rinse Mass by Gravimetry											
M5/M29 : Acetone (Probe Rinse) 25-3852-M201A-17 Test 3 - #1 APC Outlet		28-Oct-2025	E898A					17-Nov-2025			



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Work Order : BU2503001
Client : Alliance Technical Group North Inc.
Project : AST-2025-3852 Reworld

Matrix: Air

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

Analyte Group : Analytical Method		Sampling Date	Method	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)				Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
					Rec	Actual			Rec	Actual	
Particulates : Stack Emission Acetone Rinse Mass by Gravimetry											
M5/M29 : Acetone (Probe Rinse)		28-Oct-2025	E898A					17-Nov-2025			
25-3852-M201A-2 Test 1 - #1 APC Outlet											
Particulates : Stack Emission Acetone Rinse Mass by Gravimetry											
M5/M29 : Acetone (Probe Rinse)		27-Oct-2025	E898A					17-Nov-2025			
25-3852-M201A-22 Test 1 - #2 APC Outlet											
Particulates : Stack Emission Acetone Rinse Mass by Gravimetry											
M5/M29 : Acetone (Probe Rinse)		27-Oct-2025	E898A					17-Nov-2025			
25-3852-M201A-23 Test 1 - #2 APC Outlet											
Particulates : Stack Emission Acetone Rinse Mass by Gravimetry											
M5/M29 : Acetone (Probe Rinse)		27-Oct-2025	E898A					26-Nov-2025			
25-3852-M201A-24 Test 1 - #2 APC Outlet											
Particulates : Stack Emission Acetone Rinse Mass by Gravimetry											
M5/M29 : Acetone (Probe Rinse)		27-Oct-2025	E898A					26-Nov-2025			
25-3852-M201A-29 Test 2 - #2 APC Outlet											
Particulates : Stack Emission Acetone Rinse Mass by Gravimetry											
M5/M29 : Acetone (Probe Rinse)		28-Oct-2025	E898A					17-Nov-2025			
25-3852-M201A-3 Test 1 - #1 APC Outlet											
Particulates : Stack Emission Acetone Rinse Mass by Gravimetry											
M5/M29 : Acetone (Probe Rinse)		27-Oct-2025	E898A					26-Nov-2025			
25-3852-M201A-30 Test 2 - #2 APC Outlet											
Particulates : Stack Emission Acetone Rinse Mass by Gravimetry											
M5/M29 : Acetone (Probe Rinse)		27-Oct-2025	E898A					26-Nov-2025			
25-3852-M201A-31 Test 2 - #2 APC Outlet											
Particulates : Stack Emission Acetone Rinse Mass by Gravimetry											
M5/M29 : Acetone (Probe Rinse)		27-Oct-2025	E898A					26-Nov-2025			
25-3852-M201A-36 Test 3 - #2 APC Outlet											



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Work Order : BU2503001
Client : Alliance Technical Group North Inc.
Project : AST-2025-3852 Reworld

Matrix: Air

Evaluation: * = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method		Sampling Date	Method	Extraction / Preparation			Analysis		
				Preparation Date	Holding Times Rec	Actual	Analysis Date	Holding Times Rec	Actual
Container / Client Sample ID(s)									
Particulates : Stack Emission Acetone Rinse Mass by Gravimetry									
M5/IM29 : Acetone (Probe Rinse)	25-3852-M201A-37 Test 3 - #2 APC Outlet	27-Oct-2025	E898A				26-Nov-2025		
Particulates : Stack Emission Acetone Rinse Mass by Gravimetry									
M5/IM29 : Acetone (Probe Rinse)	25-3852-M201A-38 Test 3 - #2 APC Outlet	27-Oct-2025	E898A				26-Nov-2025		
Particulates : Stack Emission Acetone Rinse Mass by Gravimetry									
M5/IM29 : Acetone (Probe Rinse)	25-3852-M201A-43 Blank	28-Oct-2025	E898A				26-Nov-2025		
Particulates : Stack Emission Acetone Rinse Mass by Gravimetry									
M5/IM29 : Acetone (Probe Rinse)	25-3852-M201A-44 Blank	28-Oct-2025	E898A				26-Nov-2025		
Particulates : Stack Emission Acetone Rinse Mass by Gravimetry									
M5/IM29 : Acetone (Probe Rinse)	25-3852-M201A-45 Blank	28-Oct-2025	E898A				26-Nov-2025		
Particulates : Stack Emission Acetone Rinse Mass by Gravimetry									
M5/IM29 : Acetone (Probe Rinse)	25-3852-M201A-8 Test 2 - #1 APC Outlet	28-Oct-2025	E898A				17-Nov-2025		
Particulates : Stack Emission Acetone Rinse Mass by Gravimetry									
M5/IM29 : Acetone (Probe Rinse)	25-3852-M201A-9 Test 2 - #1 APC Outlet	28-Oct-2025	E898A				17-Nov-2025		

Legend & Qualifier Definitions

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



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Work Order : BU2503001
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Project : AST-2025-3852 Reworld

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		QC Lot #	Count		Frequency (%)		
Analytical Methods	Method		QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Particulates in Stack Emission Filter by Gravimetry	E890	2321972	1	7	14.2	5.0	✓
	E897A	2342511	3	60	5.0	5.0	✓
Stack Emission Acetone Rinse Mass by Gravimetry	E898A	2342507	3	60	5.0	5.0	✓
Extractable, Condensable Particulates in Stack Emission (Solvent wt.)	E901S	2323190	1	7	14.2	5.0	✓
Non-Extractable, Condensable Particulates in Stack Emission (Water wt.)	E901W	2323195	1	7	14.2	5.0	✓
Extractable, Condensable Particulates in Stack Emission (organic part. wt.)	E902S	2323196	1	7	14.2	5.0	✓
Non-Extractable, Condensable Particulates in Stack Emission (Water part. wt.)	E902W	2323199	1	7	14.2	5.0	✓
Method Blanks (MB)							
Particulates in Stack Emission Filter by Gravimetry	E890	2321972	1	7	14.2	5.0	✓
Particulates in Stack Emission Acetone Rinse by Gravimetry	E897A	2342511	3	60	5.0	5.0	✓
Stack Emission Acetone Rinse Mass by Gravimetry	E898A	2342507	3	60	5.0	5.0	✓
Extractable, Condensable Particulates in Stack Emission (Solvent wt.)	E901S	2323190	1	7	14.2	5.0	✓
Non-Extractable, Condensable Particulates in Stack Emission (Water wt.)	E901W	2323195	1	7	14.2	5.0	✓
Extractable, Condensable Particulates in Stack Emission (organic part. wt.)	E902S	2323196	1	7	14.2	5.0	✓
Non-Extractable, Condensable Particulates in Stack Emission (Water part. wt.)	E902W	2323199	1	7	14.2	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").

Analytical Methods		Method / Lab	Matrix	Method Reference	Method Descriptions
Particulates in Stack Emission Filter by Gravimetry		E890 ALS Environmental - Burlington	Air	EPA Method 5 (mod.)	Gravimetric analysis of particulate air samples collected on filters.
		E897A ALS Environmental - Burlington		EPA Method 5 (mod.)	Gravimetric analysis of particulate air samples collected in acetone rinses.
Stack Emission Acetone Rinse Mass by Gravimetry		E898A ALS Environmental - Burlington	Air	EPA Method 5 (mod.)	Gravimetric analysis of acetone mass from rinses.
		E901S ALS Environmental - Burlington		EPA Method 202 (alt. Method EPS 1/RM/55)	Filter samples are extracted using water and hexanes (or dichloromethane, RM/55). Liquids are then separated using liquid-liquid extraction. Each fraction is evaporated to dryness and titration of the water fraction may be required to neutralize residual acids. Particulate weights are determined using gravimetry.
Non-Extractable, Condensable Particulates in Stack Emission (Water wt.)		E901W ALS Environmental - Burlington	Air	EPA Method 202 (alt. Method EPS 1/RM/55)	Filter samples are extracted using water and hexanes (or dichloromethane, RM/55). Liquids are then separated using liquid-liquid extraction. Each fraction is evaporated to dryness and titration of the water fraction may be required to neutralize residual acids. Particulate weights are determined using gravimetry.
		E902S ALS Environmental - Burlington		EPA Method 202 (alt. Method EPS 1/RM/55)	Filter samples are extracted using water and hexanes (or dichloromethane, RM/55). Liquids are then separated using liquid-liquid extraction. Each fraction is evaporated to dryness and titration of the water fraction may be required to neutralize residual acids. Particulate weights are determined using gravimetry.
Non-Extractable, Condensable Particulates in Stack Emission (Water part. wt.)		E902W ALS Environmental - Burlington	Air	EPA Method 202 (alt. Method EPS 1/RM/55)	Filter samples are extracted using water and hexanes (or dichloromethane, RM/55). Liquids are then separated using liquid-liquid extraction. Each fraction is evaporated to dryness and titration of the water fraction may be required to neutralize residual acids. Particulate weights are determined using gravimetry.



QUALITY CONTROL REPORT

Work Order	: BU2503001	Page	: 1 of 4
Client	: Alliance Technical Group North Inc.	Laboratory	: ALS Environmental - Burlington
Contact	: Chris Belore	Account Manager	: Robert Chin
Address	: 804 Southdown Road Mississauga ON Canada L5J 2Y4	Address	: 1435 Norjohn Court, Unit 1 Burlington, Ontario Canada L7L 0E6
Telephone	: 905 822 4120	Telephone	: +1 905 331 3111
Project	: AST-2025-3852 Reworld	Date Samples Received	: 30-Oct-2025 13:30
PO	: ----	Date Analysis Commenced	: 13-Nov-2025
C-O-C number	: ----	Issue Date	: 09-Dec-2025 10:17
Sampler	: ----		
Site	: ----		
Quote number	: BU2024-ORTE100-0006 - Reworld		
No. of samples received	: 35		
No. of samples analysed	: 35		

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
- Method Blank (MB) 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



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Work Order : BU2503001
Client : Alliance Technical Group North Inc.
Project : AST-2025-3852 Reworld

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: Air

Sub-Matrix: Air					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
Particulates (QC Lot: 2321972)											
BU2503001-004	25-3852-M201A-4 Test 1 #1 APC Outlet	Particulate matter, filter	----	E890	0.6	mg	<0.6	<0.6	0	Diff <2x LOR	----
Particulates (QC Lot: 2323190)											
BU2503001-005	25-3852-M201A-(5-7) Test 1 #1 APC Outlet	Mass, solvent [organic]	n/a	E901S	0.40	g	147	147	0.00%	10%	----
Particulates (QC Lot: 2323195)											
BU2503001-005	25-3852-M201A-(5-7) Test 1 #1 APC Outlet	Mass, deionized water [aqueous]	n/a	E901W	0.40	g	254	254	0.00%	10%	----
Particulates (QC Lot: 2323196)											
BU2503001-005	25-3852-M201A-(5-7) Test 1 #1 APC Outlet	Condensable particulates, extractable [organic]	n/a	E902S	0.4	mg	1.6	1.6	0	Diff <2x LOR	----
Particulates (QC Lot: 2323199)											
BU2503001-005	25-3852-M201A-(5-7) Test 1 #1 APC Outlet	Condensable particulates, non-extractable [aqueous]	n/a	E902W	0.4	mg	2.2	2.2	0	Diff <2x LOR	----
Particulates (QC Lot: 2325192)											
BU2502997-001	Anonymous	mass, acetone [FRONT]	----	E898A	0.40	g	107	107	0.00%	10%	----
Particulates (QC Lot: 2325199)											
BU2502997-001	Anonymous	particulate matter, acetone impinger [FRONT]	----	E897A	0.4	mg	1.0	1.0	0	Diff <2x LOR	----
Particulates (QC Lot: 2334294)											
BU2502957-001	Anonymous	mass, acetone [FRONT]	----	E898A	0.40	g	56.4	56.4	0.00%	10%	----
Particulates (QC Lot: 2334300)											
BU2502957-001	Anonymous	particulate matter, acetone impinger [FRONT]	----	E897A	0.4	mg	221	221	0.00%	10%	----
Particulates (QC Lot: 2342507)											
BU2503001-018	25-3852-M201A-24 Test 1 #2 APC Outlet	mass, acetone [FRONT]	----	E898A	0.40	g	18.0	18.0	0.00%	10%	----
Particulates (QC Lot: 2342511)											
BU2503001-018	25-3852-M201A-24 Test 1 #2 APC Outlet	particulate matter, acetone impinger [FRONT]	----	E897A	0.4	mg	<0.4	<0.4	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
Particulates (QCLot: 2321972)	---	E890	0.6	mg	<0.6	---
Particulates (QCLot: 2323190)	n/a	E901S	0.4	g	108	---
Particulates (QCLot: 2323195)	n/a	E901W	0.4	g	104	---
Particulates (QCLot: 2323196)	n/a	E902S	0.4	mg	<0.4	---
Particulates (QCLot: 2323199)	n/a	E902W	0.4	mg	<0.4	---
Particulates (QCLot: 2325192)	---	E898A	0.4	g	30.8	---
Particulates (QCLot: 2325199)	---	E897A	0.4	mg	<0.4	---
Particulates (QCLot: 2334294)	---	E898A	0.4	g	31.2	---
Particulates (QCLot: 2334300)	---	E897A	0.4	mg	<0.4	---
Particulates (QCLot: 2342507)	---	E898A	0.4	g	33.2	---
Particulates (QCLot: 2342511)	---	E897A	0.4	mg	<0.4	---



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
mg/L	milligrams per litre
mg/sample	milligrams per sample

<: 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.



Analytical Results

Sub-Matrix: Impinger
(Matrix: Air)

Sub-Matrix: Impinger (Matrix: Air)									
Analyte	CAS Number	Method/Lab	Client sampling date / time		Client sample ID				
			LOR	Unit	25-3852-M26A-1 #1 APC Outlet	25-3852-M26A-2 #1 APC Outlet	25-3852-M26A-3 #1 APC Outlet	25-3852-M26A-4 #2 APC Outlet	25-3852-M26A-5 #2 APC Outlet
Physical Tests									
Volume, impinger	n/a	EF003.I/BU	0.0010	L	0.475	0.485	0.480	0.475	0.475
Inorganics									
Ammonia (as NH3)	8013-59-0	E253/BU	0.470	mg/L	2.02	1.87	1.41	1.97	2.07
Ammonia, total (as NH3)	7664-41-7	EC253/BU	0.020	mg/sample	0.960	0.907	0.677	0.936	0.983
Chloride, average	16887-00-6	E252/BU	0.47	mg/L	13.4	12.0	10.5	6.30	6.82
Chloride, replicate 1	16887-00-6	E252/BU	0.47	mg/L	13.4	12.0	10.5	6.30	6.81
Chloride, replicate 2	16887-00-6	E252/BU	0.47	mg/L	13.3	12.0	10.5	6.30	6.84
Fluoride, average	----	E252/BU	0.31	mg/L	<0.31	<0.31	<0.31	<0.31	<0.31
Fluoride, replicate 1	----	E252/BU	0.31	mg/L	<0.31	<0.31	<0.31	<0.31	<0.31
Fluoride, replicate 2	----	E252/BU	0.31	mg/L	<0.31	<0.31	<0.31	<0.31	<0.31
Hydrogen chloride, average	7647-01-0	EC252/BU	0.015	mg/sample	6.54	5.97	5.18	3.08	3.33
Hydrogen chloride, replicate 1	7647-01-0	EC252/BU	0.015	mg/sample	6.56	5.97	5.18	3.08	3.32
Hydrogen chloride, replicate 2	7647-01-0	EC252/BU	0.015	mg/sample	6.51	5.97	5.18	3.08	3.34
Hydrogen fluoride, average	7664-39-3	EC252/BU	0.0098	mg/sample	<0.157	<0.160	<0.158	<0.157	<0.157
Hydrogen fluoride, replicate 1	7664-39-3	EC252/BU	0.0098	mg/sample	<0.157	<0.160	<0.158	<0.157	<0.157
Hydrogen fluoride, replicate 2	7664-39-3	EC252/BU	0.0098	mg/sample	<0.157	<0.160	<0.158	<0.157	<0.157

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



Analytical Results

Sub-Matrix: Impinger
(Matrix: Air)

Sub-Matrix: Impinger (Matrix: Air)																
Analyte	CAS Number	Method/Lab	Client sample ID				25-3852-M26A-6 #2 APC Outlet	25-3852-M26A-Blank	28-Oct-2025 00:00	28-Oct-2025 00:00	28-Oct-2025 00:00	28-Oct-2025 00:00	28-Oct-2025 00:00	28-Oct-2025 00:00	28-Oct-2025 00:00	28-Oct-2025 00:00
			LOR	Unit	Result	Result										
Physical Tests																
Volume, impinger		n/a	EF003.I/BU	0.0010	L	0.495	0.325									
Inorganics																
Ammonia (as NH3)	8013-59-0	E253/BU	0.470	mg/L	2.01	<0.472										
Ammonia, total (as NH3)	7664-41-7	EC253/BU	0.020	mg/sample	0.995	<0.020										
Chloride, average	16887-00-6	E252/BU	0.47	mg/L	6.60	<0.47										
Chloride, replicate 1	16887-00-6	E252/BU	0.47	mg/L	6.60	<0.47										
Chloride, replicate 2	16887-00-6	E252/BU	0.47	mg/L	6.61	<0.47										
Fluoride, average	-----	E252/BU	0.31	mg/L	<0.31	<0.31										
Fluoride, replicate 1	-----	E252/BU	0.31	mg/L	<0.31	<0.31										
Fluoride, replicate 2	-----	E252/BU	0.31	mg/L	<0.31	<0.31										
Hydrogen chloride, average	7647-01-0	EC252/BU	0.015	mg/sample	3.36	<0.156										
Hydrogen chloride, replicate 1	7647-01-0	EC252/BU	0.015	mg/sample	3.36	<0.156										
Hydrogen chloride, replicate 2	7647-01-0	EC252/BU	0.015	mg/sample	3.37	<0.156										
Hydrogen fluoride, average	7664-39-3	EC252/BU	0.0098	mg/sample	<0.163	<0.107										
Hydrogen fluoride, replicate 1	7664-39-3	EC252/BU	0.0098	mg/sample	<0.163	<0.107										
Hydrogen fluoride, replicate 2	7664-39-3	EC252/BU	0.0098	mg/sample	<0.163	<0.107										

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

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: BU2502998	Page	: 1 of 7
Client	: Alliance Technical Group North Inc.	Laboratory	: ALS Environmental - Burlington
Contact	: Chris Belore	Account Manager	: Robert Chin
Address	: 804 Southdown Road Mississauga ON Canada L5J 2Y4	Address	: 1435 Norjohn Court, Unit 1 Burlington, Ontario Canada L7L 0E6
Telephone	: 905 822 4120	Telephone	: +1 905 331 3111
Project	: AST-2025-3852 Reworld	Date Samples Received	: 30-Oct-2025 13:30
PO	: -----	Issue Date	: 10-Nov-2025 17:20
C-O-C number	: -----		
Sampler	: -----		
Site	: -----		
Quote number	: BU2024-ORTE100-0006 - Reworld		
No. of samples received	: 7		
No. of samples analysed	: 7		

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 Service 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 Matrix Spike 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.



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Work Order : BU2502998
Client : Alliance Technical Group North Inc.
Project : AST-2025-3852 Reworld

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		Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)				Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		
					Rec	Actual			Rec	Actual	Eval
Inorganics : Ammonia by IC (CTM-027)											
M26/A: Amber Glass (0.1N H2SO4) 25-3852-M26A-1 - #1 APC Outlet		E253	27-Oct-2025	05-Nov-2025	14 days	10 days	✓	05-Nov-2025	14 days	10 days	✓
Inorganics : Ammonia by IC (CTM-027)											
M26/A: Amber Glass (0.1N H2SO4) 25-3852-M26A-2 - #1 APC Outlet		E253	27-Oct-2025	05-Nov-2025	14 days	10 days	✓	05-Nov-2025	14 days	10 days	✓
Inorganics : Ammonia by IC (CTM-027)											
M26/A: Amber Glass (0.1N H2SO4) 25-3852-M26A-3 - #1 APC Outlet		E253	27-Oct-2025	05-Nov-2025	14 days	10 days	✓	05-Nov-2025	14 days	10 days	✓
Inorganics : Ammonia by IC (CTM-027)											
M26/A: Amber Glass (0.1N H2SO4) 25-3852-M26A-4 - #2 APC Outlet		E253	28-Oct-2025	05-Nov-2025	14 days	9 days	✓	05-Nov-2025	14 days	9 days	✓
Inorganics : Ammonia by IC (CTM-027)											
M26/A: Amber Glass (0.1N H2SO4) 25-3852-M26A-5 - #2 APC Outlet		E253	28-Oct-2025	05-Nov-2025	14 days	9 days	✓	05-Nov-2025	14 days	9 days	✓
Inorganics : Ammonia by IC (CTM-027)											
M26/A: Amber Glass (0.1N H2SO4) 25-3852-M26A-6 - #2 APC Outlet		E253	28-Oct-2025	05-Nov-2025	14 days	9 days	✓	05-Nov-2025	14 days	9 days	✓
Inorganics : Ammonia by IC (CTM-027)											
M26/A: Amber Glass (0.1N H2SO4) 25-3852-M26A-Blank		E253	28-Oct-2025	05-Nov-2025	14 days	9 days	✓	05-Nov-2025	14 days	9 days	✓



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Work Order : BU2502998
Client : Alliance Technical Group North Inc.
Project : AST-2025-3852 Reworld

Matrix: Air

Evaluation: * = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method		Method	Sampling Date	Extraction / Preparation				Analysis		
Container / Client Sample ID(s)	Preparation Date			Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Inorganics : Ion Chromatography Analysis (M26/26A Anions)										
M26/A: Amber Glass (0.1N H2SO4) 25-3852-M26A-4 - #2 APC Outlet	E252	28-Oct-2025	06-Nov-2025	28 days	10 days	✓	06-Nov-2025	28 days	10 days	✓
Inorganics : Ion Chromatography Analysis (M26/26A Anions)										
M26/A: Amber Glass (0.1N H2SO4) 25-3852-M26A-5 - #2 APC Outlet	E252	28-Oct-2025	06-Nov-2025	28 days	10 days	✓	06-Nov-2025	28 days	10 days	✓
Inorganics : Ion Chromatography Analysis (M26/26A Anions)										
M26/A: Amber Glass (0.1N H2SO4) 25-3852-M26A-6 - #2 APC Outlet	E252	28-Oct-2025	06-Nov-2025	28 days	10 days	✓	06-Nov-2025	28 days	10 days	✓
Inorganics : Ion Chromatography Analysis (M26/26A Anions)										
M26/A: Amber Glass (0.1N H2SO4) 25-3852-M26A-Blank	E252	28-Oct-2025	06-Nov-2025	28 days	10 days	✓	06-Nov-2025	28 days	10 days	✓
Inorganics : Ion Chromatography Analysis (M26/26A Anions)										
M26/A: Amber Glass (0.1N H2SO4) 25-3852-M26A-1 - #1 APC Outlet	E252	27-Oct-2025	06-Nov-2025	28 days	11 days	✓	06-Nov-2025	28 days	11 days	✓
Inorganics : Ion Chromatography Analysis (M26/26A Anions)										
M26/A: Amber Glass (0.1N H2SO4) 25-3852-M26A-2 - #1 APC Outlet	E252	27-Oct-2025	06-Nov-2025	28 days	11 days	✓	06-Nov-2025	28 days	11 days	✓
Inorganics : Ion Chromatography Analysis (M26/26A Anions)										
M26/A: Amber Glass (0.1N H2SO4) 25-3852-M26A-3 - #1 APC Outlet	E252	27-Oct-2025	06-Nov-2025	28 days	11 days	✓	06-Nov-2025	28 days	11 days	✓
Physical Tests : Stack Emission Impinger volume (L)										
M26/A: Amber Glass (0.1N H2SO4) 25-3852-M26A-1 - #1 APC Outlet	EF003.I	27-Oct-2025					06-Nov-2025			
Physical Tests : Stack Emission Impinger volume (L)										
M26/A: Amber Glass (0.1N H2SO4) 25-3852-M26A-2 - #1 APC Outlet	EF003.I	27-Oct-2025					06-Nov-2025			



Page : 5 of 7
Work Order : BU2502998
Client : Alliance Technical Group North Inc.
Project : AST-2025-3852 Reworld

Matrix: Air

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

Analyte Group : Analytical Method			Sampling Date	Extraction / Preparation				Analysis		
Container / Client Sample ID(s)	Method	Preparation Date		Holding Times		Analysis Date	Holding Times		Eval	
				Rec	Actual		Rec	Actual		
Physical Tests : Stack Emission Impinger volume (L)										
M26/A: Amber Glass (0.1N H2SO4) 25-3852-M26A-3 - #1 APC Outlet	EF003.I	27-Oct-2025				06-Nov-2025				
Physical Tests : Stack Emission Impinger volume (L)										
M26/A: Amber Glass (0.1N H2SO4) 25-3852-M26A-4 - #2 APC Outlet	EF003.I	28-Oct-2025				06-Nov-2025				
Physical Tests : Stack Emission Impinger volume (L)										
M26/A: Amber Glass (0.1N H2SO4) 25-3852-M26A-5 - #2 APC Outlet	EF003.I	28-Oct-2025				06-Nov-2025				
Physical Tests : Stack Emission Impinger volume (L)										
M26/A: Amber Glass (0.1N H2SO4) 25-3852-M26A-6 - #2 APC Outlet	EF003.I	28-Oct-2025				06-Nov-2025				
Physical Tests : Stack Emission Impinger volume (L)										
M26/A: Amber Glass (0.1N H2SO4) 25-3852-M26A-Blank	EF003.I	28-Oct-2025				06-Nov-2025				

Legend & Qualifier Definitions

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		Method	QC Lot #	Count		Frequency (%)		
Analytical Methods				QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)								
Ion Chromatography Analysis (M26/26A Anions)		E252	2322110	1	7	14.2	5.0	✓
Ammonia by IC (CTM-027)		E253	2319361	1	7	14.2	5.0	✓
Laboratory Control Samples (LCS)								
Ion Chromatography Analysis (M26/26A Anions)		E252	2322110	1	7	14.2	5.0	✓
Ammonia by IC (CTM-027)		E253	2319361	1	7	14.2	5.0	✓
Method Blanks (MB)								
Ion Chromatography Analysis (M26/26A Anions)		E252	2322110	1	7	14.2	5.0	✓
Ammonia by IC (CTM-027)		E253	2319361	1	7	14.2	5.0	✓
Matrix Spikes (MS)								
Ion Chromatography Analysis (M26/26A Anions)		E252	2322110	1	7	14.2	5.0	✓
Ammonia by IC (CTM-027)		E253	2319361	1	7	14.2	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").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Ion Chromatography Analysis (M26/26A Anions)	E252 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. Results are reported as hydrogen halides (acidic media) or halogens (basic media).
Ammonia by IC (CTM-027)	E253 ALS Environmental - Burlington	Air	EPA Method CTM-027 (mod)	Client-supplied acidic samples are sub-sampled for analysis, after a total volume is determined. Analytical results are reported as Total Ammonia, from the quantified Ammonium (NH ₄ ⁺) ion.
Ion Chromatography Analysis (M26/26A Anions)	EC252 ALS Environmental - Burlington	Air	unit conversion	Convert mg/L to mg/sample
Ammonia by IC (Method CTM-027)	EC253 ALS Environmental - Burlington	Air	unit conversion	Conversion from 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.



QUALITY CONTROL REPORT

Work Order	: BU2502998	Page	: 1 of 4
Client	: Alliance Technical Group North Inc.	Laboratory	: ALS Environmental - Burlington
Contact	: Chris Belore	Account Manager	: Robert Chin
Address	: 804 Southdown Road Mississauga ON Canada L5J 2Y4	Address	: 1435 Norjohn Court, Unit 1 Burlington, Ontario Canada L7L 0E6
Telephone	: 905 822 4120	Telephone	: +1 905 331 3111
Project	: AST-2025-3852 Reworld	Date Samples Received	: 30-Oct-2025 13:30
PO	: ----	Date Analysis Commenced	: 05-Nov-2025
C-O-C number	: ----	Issue Date	: 10-Nov-2025 17:25
Sampler	: ----		
Site	: ----		
Quote number	: BU2024-ORTE100-0006 - Reworld		
No. of samples received	: 7		
No. of samples analysed	: 7		

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



Page : 2 of 4
Work Order : BU2502998
Client : Alliance Technical Group North Inc.
Project : AST-2025-3852 Reworld

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: Air

Sub-Matrix: Air											
Laboratory sample ID				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: 2319361)											
BU2502998-001	25-3852-M26A-1 #1 APC Outlet	Ammonia (as NH3)	8013-59-0	E253	0.472	mg/L	2.02	2.00	0.016	Diff <2x LOR	----
Inorganics (QC Lot: 2322110)											
BU2502998-001	25-3852-M26A-1 #1 APC Outlet	Chloride, average	16887-00-6	E252	0.47	mg/L	13.4	12.9	3.43%	20%	----
		Chloride, replicate 1	16887-00-6	E252	0.47	mg/L	13.4	12.9	3.75%	20%	----
		Chloride, replicate 2	16887-00-6	E252	0.47	mg/L	13.3	12.9	3.28%	20%	----
		Fluoride, average	----	E252	0.31	mg/L	<0.31	<0.31	0	Diff <2x LOR	----
		Fluoride, replicate 1	----	E252	0.31	mg/L	<0.31	<0.31	0	Diff <2x LOR	----
		Fluoride, replicate 2	----	E252	0.31	mg/L	<0.31	<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 (QCLot: 2319361)						
Ammonia (as NH3)	8013-59-0	E253	0.47	mg/L	<0.472	----
Inorganics (QCLot: 2322110)						
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

Sub-Matrix: Air									
Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Target Concentration	LCS	Low	High	Qualifier					
Inorganics (QCLot: 2319361)									
Ammonia (as NH3)	8013-59-0	E253	0.47	mg/L	9.44 mg/L	101	90.0	110	-----
Inorganics (QCLot: 2322110)									
Chloride, average	16887-00-6	E252	0.47	mg/L	15 mg/L	108	90.0	110	-----
Chloride, replicate 1	16887-00-6	E252	0.47	mg/L	15 mg/L	108	90.0	110	-----
Chloride, replicate 2	16887-00-6	E252	0.47	mg/L	15 mg/L	108	90.0	110	-----
Fluoride, average	-----	E252	0.31	mg/L	10 mg/L	109	90.0	110	-----
Fluoride, replicate 1	-----	E252	0.31	mg/L	10 mg/L	109	90.0	110	-----
Fluoride, replicate 2	-----	E252	0.31	mg/L	10 mg/L	109	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 the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level $\geq 1 \times$ spike level.

Sub-Matrix: Air

Sub-Matrix: Air					Matrix Spike (MS) Report						
					Spike		Recovery (%)		Recovery Limits (%)		Qualifier
					Concentration	Target	MS	Low	High		
Inorganics (QCLot: 2319361)											
BU2502998-001	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier	
	25-3852-M26A-1 #1 APC Outlet	Ammonia (as NH3)	8013-59-0	E253	9.45 mg/L	9.44 mg/L	100	85.0	115	MS-000	
Inorganics (QCLot: 2322110)											
BU2502998-001	25-3852-M26A-1 #1 APC Outlet	Chloride, average	16887-00-6	E252	15.4 mg/L	15 mg/L	103	90.0	110	MS-000	
		Chloride, replicate 1	16887-00-6	E252	15.4 mg/L	15 mg/L	103	90.0	110	MS-000	
		Chloride, replicate 2	16887-00-6	E252	15.5 mg/L	15 mg/L	103	90.0	110	MS-000	
		Fluoride, average	MS-000	E252	10.1 mg/L	10 mg/L	101	90.0	110	MS-000	
		Fluoride, replicate 1	MS-000	E252	10.1 mg/L	10 mg/L	101	90.0	110	MS-000	
		Fluoride, replicate 2	MS-000	E252	10.1 mg/L	10 mg/L	101	90.0	110	MS-000	

APPENDIX 13

Particle Size Distribution Train Recovery Data Sheets (7 pages)

Alliance Technical Group

PM₁₀, PM_{2.5} & Condensate Recovery Data Sheet

Client: Reworld

Project No.: AST-2025-3852

Date: OCT 28/25

Test No.: 1

Test Location: CA 1

Nozzle, PM 10 Cyclone walls, collection cup, outside of exit stem	PM 10 Turnaround cup, exit stem, connecting tubing from, PM 10 head to PM 2.5 cyclone. PM 2.5 Cyclone walls, collection cup, and outside of exit stem	Exit Stem, and Connecting Tubing to Filter, and Filter Top	Back-Up Filter	Impingers 1, 2, 3, 4 Impinger #1 Knock Out Empty Wt: 355.9 Final Wt: 494.1 Gain: 138.2 Colour:	CONTAINER TS5 & TS6 Perform nitrogen purge of imp 1 transferred to Impaction stem impinger (14 lpm for 1 hr) * if there is no gain purge is not required.	CONTAINER TS7 Rinse all glassware from filter to front half 2nd filter with Acetone & Hexane into TS7
CONTAINER TS1 Mark Fluid Level and Seal and label container TS1	CONTAINER TS2 Mark Fluid Level and Seal and label container TS2	CONTAINER TS3 Mark Fluid Level and Seal and label container TS3	CONTAINER TS4 Filter ID: 2213756 Colour: WHT Seal and label container TS4	Impinger #2 Empty Empty Wt: 627.0 Final Wt: 627.0 Gain: 0 Colour:	Purge On: 09:55 Purge Off: 10:55 Rinse all glassware from filter to front half 2nd filter with di H2O into TS5	Acetone/Hexane Rinse Mark Fluid Level and Seal and Label Container
TS1 (Part. > 10) TS2 (Part. > 2.5) TS3 (Part. < 2.5) TS4 (Back Up Filter, <2.5) TS5 (Imp 2 H ₂ O and rinse) TS6 (Secondary Filter) TS7 (Acetone / Hexane rinse)	25 - 3852 -M201A- 1 2 3 4 5 6 7	Secondary Filter Impinger #3 H ₂ O Empty Wt: 640.9 Initial Wt: 736.9 Final Wt: 734.7 Gain: -2.2 Colour:	CONTAINER TS5 Mark Fluid Level and Seal and Label Container	CONTAINER TS6 Secondary Filter	Total Moisture Gain 1+2+3+4: 148.2	
Train Loaded By: DU Train Recovered By: DY/DY	Impinger #4 Silica Gel Initial Wt: 949.5 Final Wt: 961.7 Gain: 12.2 % Spent:	Seal and label container TS6	CONTAINER TS6 Secondary Filter	Seal and label container TS6	7	

Alliance Technical Group

PM₁₀, PM_{2.5} & Condensate Recovery Data Sheet

Client: Reworld

Project No.: AST-2025-3852

Date: 05/28/25

Test No.: 241

Test Location:

PM 10 Turnaround cup, exit stem, connecting tubing from, PM 10 head to PM 2.5 cyclone. PM 2.5 Cyclone walls, collection cup, and outside of exit stem

Nozzle, PM 10 Cyclone walls, collection cup, outside of exit stem

Back-Up Filter

Exit Stem, and Connecting Tubing to Filter, and Filter Top

Impingers 1, 2, 3, 4

Impinger #1 Knock Out

Empty Wt: 244.3

Final Wt: 526.5

Gain: 172.0

Colour:

CONTAINER TS4

Filter ID: QZ13755

Colour: WHITE

Seal and label container TS4

CONTAINER TS3

Mark Fluid Level and Seal and label container TS3

CONTAINER TS2

Mark Fluid Level and Seal and label container TS2

CONTAINER TS1

Mark Fluid Level and Seal and label container TS1

CONTAINER TS5 & TS6

Perform nitrogen purge of imp 1 transferred to Impaction stem impinger (14 lpm for 1 hr)
* if there is no gain purge is not required.

Purge On: 12:50

Purge Off: 13:50

Rinse all glassware from filter to front half 2nd filter with di H2O into TS5

CONTAINER TS5

Mark Fluid Level and Seal and Label Container

CONTAINER TS6

Secondary Filter

Seal and label container TS6

Impinger #3 H₂O

Empty Wt: 665.3

Initial Wt: 756.3

Final Wt: 754.8

Gain: -1.5

Colour:

Impinger #4 Silica Gel

Initial Wt: 1011.4

Final Wt: 1021.0

Gain: 9.6

% Spent:

SAMPLE IDENTIFICATION	25 - 3852 -M201A-
TS1 (Part. > 10)	8
TS2 (Part. > 2.5)	9
TS3 (Part. < 2.5)	10
TS4 (Back Up Filter, <2.5)	11
TS5 (Imp 2 H ₂ O and rinse)	12
TS6 (Secondary Filter)	13
TS7 (Acetone / Hexane rinse)	14

Train Loaded By: DU

Train Recovered By: DU/AT

Total Moisture Gain

1+2+3+4: 180.1

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Alliance Technical Group
PM₁₀, PM_{2.5} & Condensate Recovery Data Sheet

Client: Reworld

Project No.: AST-2025-3852

Date: 08/28/25

Test No.: 3

Test Location: 41

PM 10 Turnaround cup, exit stem, connecting tubing from, PM 10 head to PM 2.5 cyclone. PM 2.5 Cyclone walls, collection cup, and outside of exit stem.

Nozzle, PM 10 Cyclone walls, collection cup, outside of exit stem

Exit Stem, and Connecting Tubing to Filter, and Filter Top

Back-Up Filter

Impingers 1, 2, 3, 4

CONTAINER TS5 & TS6

CONTAINER TS7

CONTAINER TS1

CONTAINER TS2

CONTAINER TS3

CONTAINER TS4

Impinger #1 Knock Out
Empty Wt: 396.0
Final Wt: 523.0
Gain: 127.0
Colour:

Perform nitrogen purge of imp 1 transferred to Impaction stem impinger (14 lpm for 1 hr)
* if there is no gain purge is not required.

Rinse all glassware from filter to front half 2nd filter with Acetone & Hexane into TS7

Mark Fluid Level and Seal and label container TS1

Mark Fluid Level and Seal and label container TS2

Mark Fluid Level and Seal and label container TS3

Filter ID: 82-13763
Colour: WHITE
Seal and label container TS4

Impinger #2 Empty
Empty Wt: 627.0
Final Wt: 627.0
Gain: 0
Colour:

Purge On: 16:00
Purge Off: 17:00

Acetone/Hexane Rinse

Secondary Filter

Rinse all glassware from filter to front half 2nd filter with di H2O into TS5

Mark Fluid Level and Seal and Label Container

SAMPLE IDENTIFICATION	25 - 3852 -M201A-
TS1 (Part. > 10)	15
TS2 (Part. > 2.5)	16
TS3 (Part. < 2.5)	17
TS4 (Back Up Filter, <2.5)	18
TS5 (Imp 2 H ₂ O and rinse)	19
TS6 (Secondary Filter)	20
TS7 (Acetone / Hexane rinse)	21

Impinger #3 H₂O
Empty Wt: 640.9
Initial Wt: 734.7
Final Wt: 732.7
Gain: -2.0
Colour:

CONTAINER TS5
Mark Fluid Level and Seal and Label Container

CONTAINER TS6
Secondary Filter

Impinger #4 Silica Gel
Initial Wt: 961.7
Final Wt: 972.3
Gain: 10.6
% Spent:

Seal and label container TS6

Total Moisture Gain
1+2+3+4: 135.6

Train Loaded By: DU

Train Recovered By: 54/57

Alliance Technical Group
PM₁₀, PM_{2.5} & Condensate Recovery Data Sheet

Client: Reworld

Project No.: AST-2025-3852

Date: 05/27/25

Test No.: /

Test Location: 42

PM 10 Turnaround cup, exit stem, connecting tubing from, PM 10 head to PM 2.5 cyclone. PM 2.5 Cyclone walls, collection cup, and outside of exit stem									
CONTAINER TS1	CONTAINER TS2	CONTAINER TS3	Back-Up Filter	Impingers 1, 2, 3, 4	CONTAINER TS5 & TS6	CONTAINER TS7			
Nozzle, PM 10 Cyclone walls, collection cup, outside of exit stem				Impinger #1 Knock Out Empty Wt: 355.4 Final Wt: 495.0 Gain: 139.6 Colour:	Perform nitrogen purge of imp 1 transferred to Impaction stem impinger (1.4 lpm for 1 hr) * if there is no gain purge is not required.	Rinse all glassware from filter to front half 2nd filter with Acetone & Hexane into TS7			
Mark Fluid Level and Seal and label container TS1	Mark Fluid Level and Seal and label container TS2	Mark Fluid Level and Seal and label container TS3	Filter ID: 0213759 Colour: WHITE	Impinger #2 Empty Empty Wt: 615.6 Final Wt: 645.6 Gain: 30 Colour:	Purge On: 11:30 Purge Off: 12:30	Acetone/Hexane Rinse	Mark Fluid Level and Seal and Label Container		
				Secondary Filter	Rinse all glassware from filter to front half 2nd filter with di H2O into TS5				
				Impinger #3 H₂O Empty Wt: 665.3 Initial Wt: 762.4 Final Wt: 759.0 Gain: -3.4 Colour:	CONTAINER TS5 Mark Fluid Level and Seal and Label Container				
				Impinger #4 Silica Gel Initial Wt: 990.9 Final Wt: 999.7 Gain: 8.8 % Spent:	CONTAINER TS6 Secondary Filter				
					Seal and label container TS6	Total Moisture Gain 1+2+3+4: 145.0			

SAMPLE IDENTIFICATION	25 - 3852 -M201A-
TS1 (Part. > 10)	22
TS2 (Part. > 2.5)	23
TS3 (Part. < 2.5)	24
TS4 (Back Up Filter, <2.5)	25
TS5 (Imp 2 H ₂ O and rinse)	26
TS6 (Secondary Filter)	27
TS7 (Acetone / Hexane rinse)	28

Train Loaded By: 54
Train Recovered By: 54/DT

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Alliance Technical Group PM₁₀, PM_{2.5} & Condensate Recovery Data Sheet

Client: Reworld

Project No.: AST-2025-3852

Date: 06/27/25

Test No.: 2

Test Location: 42

PM 10 Turnaround cup, exit stem, connecting tubing from, PM 10 head to PM 2.5 cyclone. PM 2.5 Cyclone walls, collection cup, and outside of exit stem

Nozzle, PM 10 Cyclone walls, collection cup, outside of exit stem

Back-Up Filter

Exit Stem, and Connecting Tubing to Filter, and Filter Top

Impingers 1, 2, 3, 4

Impinger #1 Knock Out

Empty Wt: 355.9

Final Wt: 494.4

Gain: 138.5

Colour:

CONTAINER TS4

CONTAINER TS3

CONTAINER TS2

CONTAINER TS1

Filter ID:

Colour:

Mark Fluid Level and Seal and label container TS4

Mark Fluid Level and Seal and label container TS2

Mark Fluid Level and Seal and label container TS1

Impinger #2 Empty

Empty Wt: 626.9

Final Wt: 826.9

Gain: 0

Colour:

Secondary Filter

Mark Fluid Level and Seal and label container TS3

Mark Fluid Level and Seal and label container TS2

Mark Fluid Level and Seal and label container TS1

Purge On: 14:15

Purge Off: 15:15

Rinse all glassware from filter to front half 2nd filter with di H2O into TSS

CONTAINER TS5 & TS6

Perform nitrogen purge of imp 1 transferred to Impaction stem impinger (14 lpm for 1 hr) * if there is no gain purge is not required.

CONTAINER TS7

Rinse all glassware from filter to front half 2nd filter with Acetone & Hexane into TS7

Acetone/Hexane Rinse

Mark Fluid Level and Seal and Label Container

SAMPLE IDENTIFICATION	25 - 3852 -M201A-
TS1 (Part. > 10)	29
TS2 (Part. > 2.5)	30
TS3 (Part. < 2.5)	31
TS4 (Back Up Filter, <2.5)	32
TS5 (Imp 2 H ₂ O and rinse)	33
TS6 (Secondary Filter)	34
TS7 (Acetone / Hexane rinse)	35

Train Loaded By: DA

Train Recovered By: 04

Impinger #3 H₂O

Empty Wt: 640.9

Initial Wt: 730.3

Final Wt: 736.9

Gain: -2.4

Colour:

CONTAINER TS6

Secondary Filter

CONTAINER TS5

Mark Fluid Level and Seal and Label Container

CONTAINER TS6

Secondary Filter

Seal and label container TS6

Impinger #4 Silica Gel

Initial Wt: 938.6

Final Wt: 949.5

Gain: 10.9

% Spent:

Seal and label container TS6

Total Moisture Gain

1+2+3+4: 147.0

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Alliance Technical Group
 PM₁₀, PM_{2.5} & Condensate Recovery Data Sheet

Client: Reworld

Project No.: ASJ-2025-3852

Date: 06/07/23

Test No.: 42

Test Location: 13

Nozzle, PM 10 Cyclone walls, collection cup, outside of exit stem	PM 10 Turnaround cup, exit stem, connecting tubing from, PM 10 head to PM 2.5 cyclone. PM 2.5 Cyclone walls, collection cup, and outside of exit stem	Exit Stem, and Connecting Tubing to Filter, and Filter Top	Back-Up Filter	Impingers 1, 2, 3, 4	CONTAINER TS5 & TS6	CONTAINER TS7
CONTAINER TS1	CONTAINER TS2	CONTAINER TS3	CONTAINER TS4	Impinger #1 Knock Out Empty Wt: 354.5 Final Wt: 503.5 Gain: 151.0 Colour:	Perform nitrogen purge of imp 1 transferred to Impaction stem impinger (14 lpm for 1 hr) * if there is no gain purge is not required.	Rinse all glassware from filter to front half 2nd filter with Acetone & Hexane into TS7
Mark Fluid Level and Seal and label container TS1	Mark Fluid Level and Seal and label container TS2	Mark Fluid Level and Seal and label container TS3	Filter ID: 02213757 Colour: WHITE Seal and label container TS4	Impinger #2 Empty Empty Wt: 645.5 Final Wt: 645.5 Gain: 0 Colour:	Purge On: 17:40 Purge Off: 18:40	Acetone/Hexane Rinse
				Secondary Filter	Rinse all glassware from filter to front half 2nd filter with di H2O into TS5	Mark Fluid Level and Seal and Label Container
SAMPLE IDENTIFICATION TS1 (Part. > 10) TS2 (Part. > 2.5) TS3 (Part. < 2.5) TS4 (Back Up Filter, <2.5) TS5 (Imp 2 H ₂ O and rinse) TS6 (Secondary Filter) TS7 (Acetone / Hexane rinse)	25 - 3852 -M201A- 36 37 38 39 40 41 42			Impinger #3 H ₂ O Empty Wt: 665.3 Initial Wt: 759.0 Final Wt: 756.3 Gain: -2.7 Colour:	CONTAINER TS5	
				Impinger #4 Silica Gel Initial Wt: 999.7 Final Wt: 1011.4 Gain: 11.7 % Spent:	CONTAINER TS6 Secondary Filter	
Train Loaded By: DUA Train Recovered By: DUA	Total Moisture Gain 1+2+3+4: 160.0					

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Alliance Technical Group

PM₁₀, PM_{2.5} & Condensate Recovery Data Sheet

Client: Reworld

Project No.: AST-2025-3852

Date: 06/28/25

Test No.: BLANK

Test Location:

PM 10 Turnaround cup, exit stem, connecting tubing from, PM 10 head to PM 2.5 cyclone. PM 2.5 Cyclone walls, collection cup, and outside of exit stem

Nozzle, PM 10 Cyclone walls, collection cup, outside of exit stem

Exit Stem, and Connecting Tubing to Filter, and Filter Top

Back-Up Filter

Impingers 1, 2, 3, 4

CONTAINER TS5 & TS6

CONTAINER TS7

CONTAINER TS1

Mark Fluid Level and Seal and label container TS1

Mark Fluid Level and Seal and label container TS2

Mark Fluid Level and Seal and label container TS3

Seal and label container TS4

Filter ID: 8213764
Colour: WHITE

CONTAINER TS4

CONTAINER TS3

CONTAINER TS2

Impinger #1 Knock Out
Empty Wt:
Final Wt:
Gain:
Colour:

Perform nitrogen purge of imp 1 transferred to Impaction stem impinger (14 lpm for 1 hr)
* if there is no gain purge is not required.

Rinse all glassware from filter to front half 2nd filter with Acetone & Hexane into TS7

Impinger #2 Empty
Empty Wt:
Final Wt:
Gain:
Colour:

Purge On:
Purge Off:
Rinse all glassware from filter to front half 2nd filter with di H2O into TS5

Acetone/Hexane Rinse
Mark Fluid Level and Seal and Label Container

Secondary Filter

SAMPLE IDENTIFICATION	25 - 3852 -M201A-
TS1 (Part. > 10)	43
TS2 (Part. > 2.5)	44
TS3 (Part. < 2.5)	45
TS4 (Back Up Filter, <2.5)	46
TS5 (Imp 2 H ₂ O and rinse)	47
TS6 (Secondary Filter)	48
TS7 (Acetone / Hexane rinse)	49

Impinger #3 H₂O
Empty Wt:
Initial Wt:
Final Wt:
Gain:
Colour:

CONTAINER TS5
Mark Fluid Level and Seal and Label Container

CONTAINER TS6
Secondary Filter

Impinger #4 Silica Gel
Initial Wt:
Final Wt:
Gain:
% Spent:

Seal and label container TS6

Total Moisture Gain
1+2+3+4:

Train Loaded By:

Train Recovered By:

APPENDIX 14

SVOC Train Recovery Data Sheets (7 pages)

Alliance Technical Group Semi-Volatile Organics Train Recovery Data Sheet

Client : Covanta DYEC
Project No.: AST - 2025 - 3852
Sample Batch No.: 25 - 3852 - SVOC-

Test No.: 1
Test Date: OCT 29 / 25
Test Location: 41

Sample ID	1
Nozzle, Probe Liner, Cyclone Bypass, F.H. & B.H. Filter Housing, Frit & Connecting Glassware to Top of Condenser	

Sample ID	2
Filter	

CONTAINER TS1	
---------------	--

Empty Wt:	281.5
After Acetone/	487.3
Hexane Rinse:	185.8
Total TS1:	

MARK FLUID LEVEL	
SEAL AND LABEL CONTAINER TS1	

Sample ID	3
XAD-II Trap	

Trap ID:	45
----------	----

CONTAINER TS3	
---------------	--

Initial Wt:	330.3
Final Wt:	333.3
Gain:	2.5
Colour:	W/17C

SEAL TRAP	
-----------	--

WRAP IN FOIL	
--------------	--

LABEL AS CONTAINER TS3	
------------------------	--

Sample ID	4
-----------	---

Impingers 1, 2 & 3	
--------------------	--

CONTAINER TS4	
---------------	--

Impinger #1 Empty	
Empty Wt:	602.0
Final Wt:	1145.0
Gain:	543
Colour:	

Impinger #2 Ethylene Glycol	
-----------------------------	--

Empty Wt:	667.4
Initial Wt:	778.5
Final Wt:	848.5
Gain:	70.0
Colour:	

Impinger #3 Empty	
-------------------	--

Empty Wt:	656.5
Final Wt:	656.5
Gain:	
Colour:	

Container TS4 Weights	
Empty Wt:	410.0
With Imp Soln:	1124.0
After ~100g H ₂ O Rinse:	1256.0
Total TS4:	846.0

Sample ID	5
-----------	---

Back-Half Rinses Trap Bottom U-Tube, Imp. Inlet Stem, U-Tubes and Impingers	
---	--

CONTAINER TS5	
---------------	--

Empty Wt:	282.0
After Acetone/	528.3
Hexane Rinse:	246.3
Total TS5:	

SEAL AND LABEL CONTAINER TS2	
------------------------------	--

MARK FLUID LEVEL	
SEAL AND LABEL CONTAINER TS1	

Impinger Box ID:	16
------------------	----

Total Moisture Gain:	
1 + 2 + 3 + 4 + 5:	628.3

TS1, TS4, TS5 - 1L Amber Glass Bottle
TS2 - Glass Petri Dish
TS3 - Glass Trap

Train Loaded By: D.J. BPP/KC
Train Recovered By:

Alliance Technical Group
Semi-Volatile Organics Train Recovery Data Sheet

Client : Covanta DYEC
Project No.: AST - 2025 - 3852
Sample Batch No.: 25 - 3852 - SVOC-

Test No.: 2
Test Date: 06/29/25
Test Location: 41

Sample ID	6	Sample ID	7
Nozzle, Probe Liner, Cyclone Bypass, F.H. & B.H. Filter Housing, Frit & Connecting Glassware to Top of Condenser		Filter	
CONTAINER TS1		CONTAINER TS2	
Empty Wt: 281.0		Colour: WHITE	
After Acetone/ Hexane Rinse: 450.0		FOLD IN FOIL	
Total TS1: 169.0		SEAL AND LABEL CONTAINER TS2	

Sample ID	8	CONTAINER TS3
XAD-II Trap		
Trap ID: 43		
Initial Wt: 391.0		
Final Wt: 394.6		
Gain: 3.6		
Colour: WHITE		
SEAL TRAP		
WRAP IN FOIL		
LABEL AS CONTAINER TS3		

Sample ID	9	CONTAINER TS4
Impingers 1, 2 & 3		
Impinger #1 Empty		
Empty Wt: 600.0		
Final Wt: 1132.2		
Gain: 532.2		
Colour:		
Impinger #2 Ethylene Glycol		
Empty Wt: 653.3		
Initial Wt: 755.0		
Final Wt: 896.8		
Gain: 141.8		
Colour:		

Sample ID	10	CONTAINER TS5
Back-Half Rinses Trap Bottom U-Tube, Imp. Inlet Stem, U-Tubes and Impingers		
Empty Wt: 281.5		
After Acetone/ Hexane Rinse: 511.5		
Total TS5: 230.0		

CONTAINER TS6 (Impinger)
Initial Wt: 960.0
Final Wt: 977.2
Gain: 17.2
% Spent:

MARK FLUID LEVEL
SEAL AND LABEL CONTAINER TS1

Impinger Box ID: 14

Impinger #3 Empty	
Empty Wt: 534.5	
Final Wt: 535.0	
Gain: 0.5	
Colour:	

Total Moisture Gain: 695.3
1 + 2 + 3 + 4 + 5: 698.7

Container TS4 Weights	
Empty Wt: 408.0	
With Imp Soln: 1173.5	
After ~100g H ₂ O Rinse: 1311.5	
Total TS4: 903.5	

TS1, TS4, TS5 - 1L Amber Glass Bottle
TS2 - Glass Petri Dish
TS3 - Glass Trap

Train Loaded By: BP/TC
Train Recovered By: TS1

Alliance Technical Group
Semi-Volatile Organics Train Recovery Data Sheet

Client : Covanta DYEC
 Project No.: AST - 2025 - 3852
 Sample Batch No.: 25 - 3852 - SVOC-

Test No.: 3
 Test Date: 06/30/25
 Test Location: 121

Sample ID	11	Sample ID	13	Sample ID	14	Sample ID	5
Nozzle, Probe Liner, Cyclone Bypass, F.H. & B.H. Filter Housing, Frit & Connecting Glassware to Top of Condenser		XAD-II Trap		Impingers 1, 2 & 3		Back-Half Rinses Trap Bottom U-Tube, Imp. Inlet Stem, U-Tubes and Impingers	
CONTAINER TS1		CONTAINER TS3		CONTAINER TS4		CONTAINER TS5	CONTAINER TS6 (Impinger)
Empty Wt: 281.0 After Acetone/ Hexane Rinse: 533.2 Total TS1: 252.2	Initial Wt: 374.3 Final Wt: 378.1 Gain: 3.8 Colour: WHITE	Impinger #1 Empty Empty Wt: 566.8 Final Wt: 1135.0 Gain: 568.2 Colour:	Impinger #2 Ethylene Glycol Empty Wt: 651.8 Initial Wt: 752.2 Final Wt: 852.2 Gain: 100.0 Colour:	Impinger #3 Empty Empty Wt: 558.0 Final Wt: 558.0 Gain: Colour:	Impinger #4 Initial Wt: 948.0 Final Wt: 955.7 Gain: 11.7 % Spent: 5		
MARK FLUID LEVEL SEAL AND LABEL CONTAINER TS1	SEAL TRAP	WRAP IN FOIL	LABEL AS CONTAINER TS3	Impinger Box ID: 13			
				Total Moisture Gain: 1 + 2 + 3 + 4 + 5: 683.7			
				TS1, TS4, TS5 - 1L Amber Glass Bottle TS2 - Glass Petri Dish TS3 - Glass Trap			

Train Loaded By: *BP/KC*
 Train Recovered By: *BP/KC*

Alliance Technical Group
Semi-Volatile Organics Train Recovery Data Sheet

Client : Covanta DYEC
 Project No.: AST - 2025 - 3852
 Sample Batch No.: 25 - 3852 - SVOC-

Test No.: 1
 Test Date: 06/29/23
 Test Location: 42

Sample ID 21

Nozzle, Probe Liner, Cyclone Bypass, F.H. & B.H. Filter Housing, Frit & Connecting Glassware to Top of Condenser

CONTAINER TS1

Empty Wt: 282.0
 After Acetone/ 475.0
 Hexane Rinse: 193.0
 Total TS1:

MARK FLUID LEVEL
 SEAL AND LABEL CONTAINER TS1

Sample ID 22

Filter

CONTAINER TS2

Colour: WHITE
 FOLD IN FOIL
 SEAL AND LABEL CONTAINER TS2

Sample ID 23

XAD-II Trap

Trap ID: 38

CONTAINER TS3

Initial Wt: 394.7
 Final Wt: 399.2
 Gain: 4.5
 Colour: white

SEAL TRAP

WRAP IN FOIL

LABEL AS CONTAINER TS3

Sample ID 24

Impingers 1, 2 & 3

CONTAINER TS4

Impinger #1 Empty
 Empty Wt: 560.3
 Final Wt: 1132.3
 Gain: 572.0
 Colour:

Impinger #2 Ethylene Glycol
 Empty Wt: 526.7
 Initial Wt: 627.0
 Final Wt: 702.5
 Gain: 75.5
 Colour:

Impinger #3 Empty
 Empty Wt: 679.0
 Final Wt: 679.0
 Gain:
 Colour:

Container TS4 Weights
 Empty Wt: 407.5
 With Imp Soln: 1144.0
 After ~100g H₂O Rinse: 1233.0
 Total TS4: 844.5

Sample ID 25

Back-Half Rinses
 Trap Bottom U-Tube,
 Imp. Inlet Stem, U-Tubes
 and Impingers

CONTAINER TS5

Empty Wt: 280.0
 After Acetone/ 487.5
 Hexane Rinse: 207.5
 Total TS5:

Impinger Box ID: 4

Total Moisture Gain:
 1 + 2 + 3 + 4 + 5: 667.0

Impinger 4
 Silica Gel

CONTAINER TS6 (Impinger)

Initial Wt: 958.0
 Final Wt: 972.0
 Gain: 15.0
 % Spent:

TS1, TS4, TS5 - 1L Amber Glass Bottle
 TS2 - Glass Petri Dish
 TS3 - Glass Trap

Train Loaded By: DT HC/BD
 Train Recovered By:

Alliance Technical Group
Semi-Volatile Organics Train Recovery Data Sheet

Client : Covanta DYEC
Project No.: AST - 2025 - 3852
Sample Batch No.: 25 - 3852 - SVOC-

Test No.: 2
Test Date: 08/29/25
Test Location: 42

Sample ID: 26

Nozzle, Probe Liner, Cyclone Bypass, F.H. & B.H. Filter Housing, Frit & Connecting Glassware to Top of Condenser

Sample ID: 27

Filter

Sample ID: 28

XAD-II Trap

Sample ID: 29

Impingers 1, 2 & 3

Sample ID: 30

Back-Half Rinses
Trap Bottom U-Tube,
Imp. Inlet Stem, U-Tubes
and Impingers

Impinger 4
Silica Gel

CONTAINER
TS1

CONTAINER
TS2

CONTAINER
TS3

CONTAINER
TS4

CONTAINER
TS5

CONTAINER
TS6 (Impinger)

Empty Wt: 280.0
After Acetone/
Hexane Rinse: 524.5
Total TS1: 244.5

Colour: WHITE
FOLD IN FOIL

Initial Wt: 365.2
Final Wt: 362.3
Gain: 2.1
Colour: WHITE

Impinger #1 Empty
Empty Wt: 621.0
Final Wt: 1145.5
Gain: 524.5
Colour:

Empty Wt: 280.5
After Acetone/
Hexane Rinse: 466.0
Total TS5: 185.5

Initial Wt: 963.0
Final Wt: 978.3
Gain: 15.3
% Spent: 5

MARK FLUID LEVEL
SEAL AND LABEL CONTAINER TS1

SEAL AND LABEL
CONTAINER TS2

SEAL TRAP

WRAP IN FOIL

LABEL AS
CONTAINER TS3

Impinger #2 Ethylene Glycol
Empty Wt: 609.2
Initial Wt: 718.5
Final Wt: 892.0
Gain: 173.5
Colour:

Impinger Box ID: 12

Impinger #3 Empty
Empty Wt: 626.0
Final Wt: 626.0
Gain: 0
Colour:

Total Moisture Gain:
1 + 2 + 3 + 4 + 5: 715.4

Container TS4 Weights
Empty Wt: 412.0
With Imp Soln: 1210.5
After ~100g H₂O Rinse: 1319.0
Total TS4: 907.0

Train Loaded By: BP/TC/DT
Train Recovered By: DT

TS1, TS4, TS5 - 1L Amber Glass Bottle
TS2 - Glass Petri Dish
TS3 - Glass Trap

Alliance Technical Group
Semi-Volatile Organics Train Recovery Data Sheet

Client : Covanta DYEC
Project No.: AST - 2025 - 3852
Sample Batch No.: 25 - 3852 - SVOC-

Test No.: 3
Test Date: 02/20/25
Test Location: 112

Sample ID	31	Sample ID	32
Nozzle, Probe Liner, Cyclone Bypass, F.H. & B.H. Filter Housing, Frit & Connecting Glassware to Top of Condenser	Filter	XAD-II Trap	
CONTAINER TS1	CONTAINER TS2	CONTAINER TS3	
Empty Wt: 282.0	Colour: WH176	Initial Wt: 355.8	
After Acetone/Hexane Rinse: 532.8	FOLD IN FOIL	Final Wt: 359.6	
Total TS1: 255.9	SEAL AND LABEL CONTAINER TS2	Gain: 3.8	
		Colour: WH176	

Sample ID	33	Sample ID	34
Back-Half Rinses Trap Bottom U-Tube, Imp. Inlet Stem, U-Tubes and Impingers	Impingers 1, 2 & 3	Impinger #1 Empty	
CONTAINER TS5	CONTAINER TS4	Empty Wt: 503.7	
Empty Wt: 280.0	Initial Wt: 1078.8	Final Wt: 575.1	
After Acetone/Hexane Rinse: 541.4	Gain: 575.1	Colour:	
Total TS5: 261.4			

MARK FLUID LEVEL
SEAL AND LABEL CONTAINER TS1

Impinger #2 Ethylene Glycol
Empty Wt: 653.0
Initial Wt: 766.0
Final Wt: 864.3
Gain: 98.3
Colour:

Impinger #3 Empty
Empty Wt: 621.0
Final Wt: 621.2
Gain: 0.2
Colour:

SEAL TRAP
WRAP IN FOIL
LABEL AS CONTAINER TS3

Impinger Box ID: 15
Total Moisture Gain: 1 + 2 + 3 + 4 + 5: 671.8

Container TS4 Weights
Empty Wt: 420.0
With Imp Soln: 1182.5
After ~100g H ₂ O Rinse: 1302.2
Total TS4: 880.2

Initial Wt: 968.5
Final Wt: 982.9
Gain: 14.4
% Spent: 5

TS1, TS4, TS5 - 1L Amber Glass Bottle
TS2 - Glass Petri Dish
TS3 - Glass Trap

Train Loaded By: BP/112
Train Recovered By: B-112

Alliance Technical Group
Semi-Volatile Organics Train Recovery Data Sheet

Client : Covanta DYEC
 Project No.: AST - 2025 - 3852
 Sample Batch No.: 25 - 3852 - SVOC-

Test No.:
 Test Date: **OCT 30/25**
 Test Location:

BLANK

Sample ID	16	Sample ID	17
Nozzle, Probe Liner, Cyclone Bypass, F.H. & B.H. Filter Housing, Frit & Connecting Glassware to Top of Condenser		XAD-II Trap	
CONTAINER TS1		CONTAINER TS3	
Empty Wt: 281.0		Initial Wt: 389.6	
After Acetone/Hexane Rinse: 415.8		Final Wt: 389.6	
Total TS1:		Gain: 0.0	
		Colour: white	
		SEAL TRAP	
		WRAP IN FOIL	
		LABEL AS CONTAINER TS3	
		CONTAINER TS2	
		Colour: white	
		FOLD IN FOIL	
		SEAL AND LABEL CONTAINER TS2	

Sample ID	19
Impingers 1, 2 & 3	
CONTAINER TS4	
Impinger #1 Empty	
Empty Wt: 611.0	
Final Wt: 611.0	
Gain: 0.0	
Colour:	

Impinger #2 Ethylene Glycol	
Empty Wt: 661.2	
Initial Wt: 765.0	
Final Wt: 765.0	
Gain:	
Colour:	

Impinger #3 Empty	
Empty Wt: 624.0	
Final Wt: 624.0	
Gain:	
Colour:	

Container TS4 Weights	
Empty Wt: 411.5	
With Imp Soln: 515.0	
After ~100g H ₂ O Rinse: 627.5	
Total TS4:	

Sample ID	20
Back-Half Rinses Trap Bottom U-Tube, Imp. Inlet Stem, U-Tubes and Impingers	
CONTAINER TS5	
Empty Wt: 280.5	
After Acetone/Hexane Rinse: 437.0	
Total TS5:	
CONTAINER TS6 (Impinger)	
Initial Wt:	
Final Wt:	
Gain:	
% Spent:	

Impinger Box ID:

Total Moisture Gain:	
1 + 2 + 3 + 4 + 5:	

TS1, TS4, TS5 - 1L Amber Glass Bottle
 TS2 - Glass Petri Dish
 TS3 - Glass Trap

Train Loaded By: **DT**
 Train Recovered By:

APPENDIX 15

SVOC Analytical Report (57 pages)

CERTIFICATE OF ANALYSIS

Work Order : BU2503006
Amendment : 1
Client : Alliance Technical Group North Inc.
Contact : Chris Belore
Address : 804 Southdown Road
Mississauga Ontario Canada L5J 2Y4
Telephone : 905 822 4120
Project : AST-2025-3852 Reworld
PO : ---
C-O-C number : ---
Sampler : ---
Site : ---
Quote number : BU2024-ORTE100-0006 - Reworld
No. of samples received : 7
No. of samples analysed : 7

Laboratory : ALS Environmental - Burlington
Account Manager : Robert Chin
Address : 1435 Norjohn Court, Unit 1
Burlington ON Canada L7L 0E6
E-mail : Robert.Chin@ALSGlobal.com
Telephone : +1 905 331 3111
Date Samples Received : 31-Oct-2025 09:05
Date Analysis Commenced : 03-Nov-2025
Issue Date : 16-Dec-2025 10:55

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
- Surrogate Control Limits

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.

Signatories	Position	Laboratory Department
Andrew Reid	Analyst	Organics, Burlington, Ontario
Sabrina Jin	Analyst	Organics, 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
ng/sample	nanograms per sample
<: 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

For CB analysis: The recoveries of some of the labelled standards were below the method criteria. However, the target analyte recoveries are within control for the laboratory control sample. No bias to sample data is expected.

For chlorophenol analysis: The recoveries of some of 13C6-dichlorophenol and 13C6-chlorophenol standards were below the method criteria. However, the target analyte recoveries are within control for the laboratory control sample. No bias to sample data is expected.

For PAH Analysis: The recovery of dibenzo(a,h)anthracene-d14 is below the method control limit in sample BU2503006-003, however the result for dibenzo(a,h)anthracene in this sample is inherently corrected using isotope dilution and the result is unlikely to be biased. The detected background is particularly elevated for naphthalene, biphenyl and tetralin. Results for naphthalene, biphenyl and tetralin are likely to be biased in a similar manner to the method blank, a qualifier has been added to affected results.

Amendment (16/12/2025): This report has been amended and re-released to allow the reporting of additional analytical data (Triphenylene + Benzo(b)anthracene)

Qualifiers

Qualifier	Description
[B]	The analyte was detected in the Method Blank at >10% of the sample concentration.
SDI	Surrogate recovery was outside Data Quality Objective. Test could not be repeated due to insufficient sample.



Analytical Results

Sub-Matrix: Impinger
(Matrix: Air)

Sub-Matrix: Impinger (Matrix: Air)		Client sample ID		Client sampling date / time		25-3852-SVOC-(1 thru 5) Test 1 #1 APC Outlet					25-3852-SVOC-(6 thru 10) Test 2 #1 APC Outlet		25-3852-SVOC-(11 thru 15) Test 3 #1 APC Outlet		25-3852-SVOC-(16 thru 20) Blank		25-3852-SVOC-(21 thru 25) Test 1 #2 APC Outlet							
Analyte	CAS Number	Method/Lab	LOR	Unit	Result					Result					Result									
					BU25030006-001					BU25030006-002					BU25030006-003					BU25030006-004				
Polycyclic Aromatic Hydrocarbons																								
Benz(b)anthracene + Triphenylene	n/a	E649/BU	2.0	ng/sample	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12						
Acenaphthene	83-32-9	E649/BU	2.0	ng/sample	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12						
Acenaphthylene	208-96-8	E649/BU	2.0	ng/sample	14.2	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	39.1						
Anthracene	120-12-7	E649/BU	2.0	ng/sample	22.7	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12						
Benz(a)anthracene	56-55-3	E649/BU	2.0	ng/sample	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12						
Benzo(a)fluorene	238-84-6	E649/BU	2.0	ng/sample	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12						
Benzo(a)pyrene	50-32-8	E649/BU	2.0	ng/sample	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12						
Benzo(b)fluoranthene	205-99-2	E649/BU	2.0	ng/sample	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	48.6						
Benzo(b)fluorene	243-17-4	E649/BU	2.0	ng/sample	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12						
Benzo(e)pyrene	192-97-2	E649/BU	2.0	ng/sample	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	22.7						
Benzo(g,h,i)perylene	191-24-2	E649/BU	2.0	ng/sample	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	37.2						
Benzo(j)fluoranthene	205-82-3	E649/BU	2.0	ng/sample	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	14.3						
Benzo(k)fluoranthene	207-08-9	E649/BU	2.0	ng/sample	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	23.1						
Biphenyl	92-52-4	E649/BU	2.0	ng/sample	188 [B]	66.6 [B]	<12	<12	<12	<12	<12	<12	<12	<12	<12	65.5 [B]	<12	119 [B]						
Chloronaphthalene, 2-	91-58-7	E649/BU	2.0	ng/sample	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12						
Chrysene	218-01-9	E649/BU	2.0	ng/sample	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	32.2						
Coronene	191-07-1	E649/BU	2.0	ng/sample	22.0 [B]	41.4 [B]	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12 [B]	<12	57.0 [B]						
Dibenz(a,h)anthracene	53-70-3	E649/BU	2.0	ng/sample	12.8	14.6	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	26.4						

**Sub-Matrix: Impinger
(Matrix: Air)**

Page: 4 of 13



Analytical Results

Sub-Matrix: Impinger
(Matrix: Air)

Sub-Matrix: Impinger (Matrix: Air)		Client sample ID		Client sampling date / time		25-3852-SVOC-(1 thru 5) Test 1 #1 APC Outlet		25-3852-SVOC-(6 thru 10) Test 2 #1 APC Outlet		25-3852-SVOC-(11 thru 15) Test 3 #1 APC Outlet		25-3852-SVOC-(16 thru 20) Blank		25-3852-SVOC-(21 thru 25) Test 1 #2 APC Outlet	
		Client sampling date / time													
Analyte	CAS Number	Method/Lab	LOR	Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Polycyclic Aromatic Hydrocarbons															
Terphenyl, p-	92-94-4	E649/BU	2.0	ng/sample	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12
Tetralin	119-64-2	E649/BU	2.0	ng/sample	533 [B]	797 [B]	531 [B]	517 [B]	725 [B]						
Polycyclic Aromatic Hydrocarbons Surrogates															
Acenaphthylene-d8	93951-97-4	E649/BU	2.0	%	73.3	69.5	44.5	79.8	73.8						
Anthracene-d10	1719-06-8	E649/BU	2.0	%	78.3	70.0	48.7	98.2	71.8						
Benz(a)anthracene-d12	1718-53-2	E649/BU	2.0	%	82.7	78.1	50.1	65.4	130						
Benzo(a)pyrene-d12	63486-71-7	E649/BU	2.0	%	60.2	45.0	38.5	53.6	65.9						
Benzo(b)fluoranthene-d12	93951-98-5	E649/BU	2.0	%	73.1	65.0	40.3	61.8	79.9						
Benzo(g,h,i)perylene-d12	93951-66-7	E649/BU	2.0	%	67.4	47.5	40.2	76.9	62.7						
Benzo(k)fluoranthene-d12	93952-01-3	E649/BU	2.0	%	75.9	63.5	45.8	68.9	88.8						
Chrysene-d12	1719-03-5	E649/BU	2.0	%	84.3	79.5	52.9	70.6	132						
Dibenz(a,h)anthracene-d14	13250-98-1	E649/BU	2.0	%	43.1	22.9 SDI	31.0	55.2	68.5						
Fluoranthene-d10	93951-69-0	E649/BU	2.0	%	81.2	78.2	52.0	80.0	82.8						
Indeno(1,2,3-cd)pyrene-d12	203578-33-0	E649/BU	2.0	%	56.3	34.7	36.2	66.0	70.3						
Methylnaphthalene-d10, 2-	7297-45-2	E649/BU	2.0	%	75.9	77.6	53.4	95.3	77.9						
Naphthalene-d8	1146-65-2	E649/BU	2.0	%	76.5	78.9	55.9	100	78.5						
Perylene-d12	1520-96-3	E649/BU	2.0	%	66.7	50.9	37.8	61.0	62.4						
Phenanthrene-d10	1517-22-2	E649/BU	2.0	%	83.9	76.7	52.5	105	76.9						
Chlorinated Benzenes															
Chlorobenzene	108-90-7	E650/BU	2.0	ng/sample	1800	1450	2320	<12.0	1510						



Analytical Results

Sub-Matrix: Impinger
(Matrix: Air)

Sub-Matrix: Impinger (Matrix: Air)		Client sample ID		Client sampling date / time										25-3852-SVOC-(1 thru 5) Test 1 #1 APC Outlet		25-3852-SVOC-(6 thru 10) Test 2 #1 APC Outlet		25-3852-SVOC-(11 thru 15) Test 3 #1 APC Outlet		25-3852-SVOC-(16 thru 20) Blank		25-3852-SVOC-(21 thru 25) Test 1 #2 APC Outlet	
Analyte		CAS Number	Method/Lab	LOR	Unit											Result	Result	Result	Result	Result	Result		
Chlorinated Benzenes																							
Dichlorobenzene, 1,2-		95-50-1	E650/BU	2.0	ng/sample							167	150	229	<12.0		112						
Dichlorobenzene, 1,3-		541-73-1	E650/BU	2.0	ng/sample							239	219	328	<12.0		155						
Dichlorobenzene, 1,4-		106-46-7	E650/BU	2.0	ng/sample							128	104	163	<12.0		92.4						
Hexachlorobenzene		118-74-1	E650/BU	2.0	ng/sample							<12.0	<12.0	<12.0	<12.0		<12.0						
Pentachlorobenzene		608-93-5	E650/BU	2.0	ng/sample							<12.0	<12.0	<12.0	<12.0		<12.0						
Tetrachlorobenzene, 1,2,3,4-		634-66-2	E650/BU	2.0	ng/sample							<12.0	<12.0	<12.0	<12.0		<12.0						
Tetrachlorobenzene, 1,2,3,5- + 1,2,4,5-		----	E650/BU	2.0	ng/sample							<12.0	<12.0	<12.0	<12.0		<12.0						
Trichlorobenzene, 1,2,3-		87-61-6	E650/BU	2.0	ng/sample							14.8	13.7	21.8	<12.0		<12.0						
Trichlorobenzene, 1,2,4-		120-82-1	E650/BU	2.0	ng/sample							37.2	34.1	56.2	<12.0		25.4						
Trichlorobenzene, 1,3,5-		108-70-3	E650/BU	2.0	ng/sample							17.5	16.3	26.6	<12.0		<12.0						
Chlorinated Benzenes Surrogates																							
Chlorobenzene-13C6		287389-52-0	E650/BU	2.0	%							34.6	24.0	15.6	22.8		14.7						
Dichlorobenzene-13C6, 1,4-		----	E650/BU	2.0	%							39.8	43.1	28.1 SDI	43.3		39.8						
Hexachlorobenzene-13C6		----	E650/BU	2.0	%							51.2	51.5	33.0 SDI	50.6		47.4 SDI						
Pentachlorobenzene-13C6		----	E650/BU	2.0	%							49.2 SDI	50.8	31.4 SDI	50.2		46.7 SDI						
Tetrachlorobenzene-13C6, 1,2,3,4-		----	E650/BU	2.0	%							43.2 SDI	44.4 SDI	28.1 SDI	43.9 SDI		41.8 SDI						
Trichlorobenzene-13C6, 1,2,3-		----	E650/BU	2.0	%							42.8 SDI	45.0 SDI	28.4 SDI	44.0 SDI		41.8 SDI						
Chlorinated Phenolics																							
Chlorophenol, 2-		95-57-8	E651L/BU	10	ng/sample							<60	<60	<60	<60		<60						



Analytical Results

Sub-Matrix: Impinger
(Matrix: Air)

Sub-Matrix: Impinger (Matrix: Air)		Client sample ID				Client sampling date / time				25-3852-SVOC-(1 thru 5) Test 1 #1 APC Outlet				25-3852-SVOC-(6 thru 10) Test 2 #1 APC Outlet				25-3852-SVOC-(11 thru 15) Test 3 #1 APC Outlet				25-3852-SVOC-(16 thru 20) Blank ----				25-3852-SVOC-(21 thru 25) Test 1 #2 APC Outlet			
Analyte		CAS Number		Method/Lab		LOR		Unit		Result		Result		Result		Result		Result		Result		Result		Result		Result			
Chlorinated Phenolics																													
Chlorophenol, 3+4-		n/a	E651L/BU	10	ng/sample	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	
Dichlorophenol, 2,3-		576-24-9	E651L/BU	10	ng/sample	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	
Dichlorophenol, 2,4- + 2,5-		----	E651L/BU	10	ng/sample	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	
Dichlorophenol, 2,6-		87-65-0	E651L/BU	10	ng/sample	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	
Dichlorophenol, 3,4-		95-77-2	E651L/BU	10	ng/sample	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	
Dichlorophenol, 3,5-		591-35-5	E651L/BU	10	ng/sample	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	
Hexachlorophene		70-30-4	E651L/BU	10	ng/sample	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	
Pentachlorophenol		87-86-5	E651L/BU	10	ng/sample	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	
Tetrachlorophenol, 2,3,4,5- + 2,3,4,6-		n/a	E651L/BU	10	ng/sample	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	
Tetrachlorophenol, 2,3,5,6-		935-95-5	E651L/BU	10	ng/sample	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	
Trichlorophenol, 2,3,4-		15950-66-0	E651L/BU	10	ng/sample	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	
Trichlorophenol, 2,3,5-		933-78-8	E651L/BU	10	ng/sample	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	
Trichlorophenol, 2,3,6-		933-75-5	E651L/BU	10	ng/sample	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	
Trichlorophenol, 2,4,5-		95-95-4	E651L/BU	10	ng/sample	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	
Trichlorophenol, 2,4,6-		88-06-2	E651L/BU	10	ng/sample	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	
Trichlorophenol, 3,4,5-		609-19-8	E651L/BU	10	ng/sample	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	<60	
Chlorinated Phenolics Surrogates																													
Chlorophenol-13C6, 4-		n/a	E651L/BU	10	%	11.6 ^{SDI}	53.6	8.0 ^{SDI}	63.8	38.3 ^{SDI}																			
Dichlorophenol-13C6, 2,4-		n/a	E651L/BU	10	%	44.4 ^{SDI}	42.6 ^{SDI}	56.3	44.0 ^{SDI}	53.6																			



Analytical Results

Sub-Matrix: Impinger
(Matrix: Air)

Sub-Matrix: Impinger (Matrix: Air)		Client sample ID		25-3852-SVOC-(1 thru 5) Test 1 #1 APC Outlet										25-3852-SVOC-(6 thru 10) Test 2 #1 APC Outlet										25-3852-SVOC-(11 thru 15) Test 3 #1 APC Outlet										25-3852-SVOC-(16 thru 20) Blank										25-3852-SVOC-(21 thru 25) Test 1 #2 APC Outlet																				
				Client sampling date / time																																																												
Analyte	CAS Number	Method/Lab	LOR	Unit											Result										Result										Result										Result																			
Chlorinated Phenolics Surrogates																																																																
Pentachlorophenol-13C6	85380-74-1	E651L/BU	10	%											56.9										77.7										53.8										51.7										71.1									
Tetrachlorophenol-13C6, 2,3,4,5-	n/a	E651L/BU	10	%											72.6										81.8										62.4										65.0										72.4									
Trichlorophenol-13C6, 2,4,5-	n/a	E651L/BU	10	%											59.4										50.4										54.7										83.8										91.7									
Field Spike Standards																																																																
Fluorene-d10	81103-79-9	E649/BU	2.0	%											104										106										100										151										87.6									
Methylnaphthalene-d10, 1-	38072-94-5	E649/BU	2.0	%											101										104										99.1										102										100									
Terphenyl-d14, p-	1718-51-0	E649/BU	2.0	%											93.0										91.1										82.8										90.4										88.0									

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

Analytical Results

Sub-Matrix: Impinger
(Matrix: Air)

Sub-Matrix: Impinger (Matrix: Air)									
Client sample ID					25-3852-SVOC-(31 thru 35) Test 3 #2 APC Outlet				
Client sampling date / time					25-3852-SVOC-(26 thru 30) Test 2 #2 APC Outlet				
CAS Number					BU2503006-007				
Method/Lab					BU2503006-006				
LOR					Result				
Unit					Result				
Polycyclic Aromatic Hydrocarbons									
Benz(b)anthracene + Triphenylene	n/a	E649/BU	2.0	ng/sample	19.8	19.7			
Acenaphthene	83-32-9	E649/BU	2.0	ng/sample	<12	<12			
Acenaphthylene	208-96-8	E649/BU	2.0	ng/sample	14.0	<12			
Anthracene	120-12-7	E649/BU	2.0	ng/sample	16.6	<12			
Benz(a)anthracene	56-55-3	E649/BU	2.0	ng/sample	<12	<12			
Benzo(a)fluorene	238-84-6	E649/BU	2.0	ng/sample	<12	<12			



Analytical Results

Sub-Matrix: Impinger
(Matrix: Air)

Analyte		Client sample ID			Client sampling date / time		25-3852-SVOC-(26 thru 30) Test 2 #2 APC Outlet		25-3852-SVOC-(31 thru 35) Test 3 #2 APC Outlet		25-3852-SVOC-(36 thru 39) Test 4 #2 APC Outlet	
		CAS Number	Method/Lab	LOR	Unit	Result	BU2503006-006	Result	BU2503006-007	Result	BU2503006-008	Result
Polycyclic Aromatic Hydrocarbons												
Benzo(a)pyrene	50-32-8	E649/BU	2.0	ng/sample	<12							
Benzo(b)fluoranthene	205-99-2	E649/BU	2.0	ng/sample	83.3							
Benzo(b)fluorene	243-17-4	E649/BU	2.0	ng/sample	<12							
Benzo(e)pyrene	192-97-2	E649/BU	2.0	ng/sample	36.5							
Benzo(g,h,i)perylene	191-24-2	E649/BU	2.0	ng/sample	81.5							
Benzo(j)fluoranthene	205-82-3	E649/BU	2.0	ng/sample	28.2							
Benzo(k)fluoranthene	207-08-9	E649/BU	2.0	ng/sample	42.5							
Biphenyl	92-52-4	E649/BU	2.0	ng/sample	110 ^(B)							
Chloronaphthalene, 2-	91-58-7	E649/BU	2.0	ng/sample	<12							
Chrysene	218-01-9	E649/BU	2.0	ng/sample	61.4							
Coronene	191-07-1	E649/BU	2.0	ng/sample	95.2 ^(B)							
Dibenz(a,h)anthracene	53-70-3	E649/BU	2.0	ng/sample	22.8							
Dibenzo(a,e)pyrene	192-65-4	E649/BU	2.0	ng/sample	<12							
Dimethylanthracene, 9,10-	781-43-1	E649/BU	2.0	ng/sample	<12							
Dimethylbenz(a)anthracene, 7,12-	57-97-6	E649/BU	2.0	ng/sample	<12							
Fluoranthene	206-44-0	E649/BU	2.0	ng/sample	150							
Fluorene	86-73-7	E649/BU	2.0	ng/sample	28.4							
Indeno(1,2,3-c,d)pyrene	193-39-5	E649/BU	2.0	ng/sample	43.3							
Methylanthracene, 2-	613-12-7	E649/BU	2.0	ng/sample	32.0							



Analytical Results

Sub-Matrix: Impinger
(Matrix: Air)

Sub-Matrix: Impinger (Matrix: Air)		Client sample ID		25-3852-SVOC-(31 thru 35) Test 3 #2 APC Outlet		25-3852-SVOC-(26 thru 30) Test 2 #2 APC Outlet		25-3852-SVOC-(31 thru 35) Test 3 #2 APC Outlet		25-3852-SVOC-(26 thru 30) Test 2 #2 APC Outlet		25-3852-SVOC-(31 thru 35) Test 3 #2 APC Outlet		25-3852-SVOC-(26 thru 30) Test 2 #2 APC Outlet	
Analyte		CAS Number		Method/Lab		LOR		Unit		Result		Result		Result	
Polycyclic Aromatic Hydrocarbons															
Methylcholanthrene, 3-	56-49-5	E649/BU	2.0	ng/sample	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12
Methylnaphthalene, 1-	90-12-0	E649/BU	2.0	ng/sample	28.3	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2
Methylnaphthalene, 2-	91-57-6	E649/BU	2.0	ng/sample	44.7	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3
Methylphenanthrene, 1-	832-69-9	E649/BU	2.0	ng/sample	30.9	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8
Methylphenanthrene, 9-	883-20-5	E649/BU	2.0	ng/sample	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12
Naphthalene	91-20-3	E649/BU	2.0	ng/sample	540 [B]	393 [B]	393 [B]	393 [B]	393 [B]	393 [B]	393 [B]	393 [B]	393 [B]	393 [B]	393 [B]
Perylene	198-55-0	E649/BU	2.0	ng/sample	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12
Phenanthrene	85-01-8	E649/BU	2.0	ng/sample	419	153	153	153	153	153	153	153	153	153	153
Picene	213-46-7	E649/BU	2.0	ng/sample	14.9	19.7	19.7	19.7	19.7	19.7	19.7	19.7	19.7	19.7	19.7
Pyrene	129-00-0	E649/BU	2.0	ng/sample	95.2	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3
Terphenyl, m-	92-06-8	E649/BU	2.0	ng/sample	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12
Terphenyl, o-	84-15-1	E649/BU	2.0	ng/sample	15.2	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12
Terphenyl, p-	92-94-4	E649/BU	2.0	ng/sample	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12
Tetralin	119-64-2	E649/BU	2.0	ng/sample	696 [B]	487 [B]	487 [B]	487 [B]	487 [B]	487 [B]	487 [B]	487 [B]	487 [B]	487 [B]	487 [B]
Polycyclic Aromatic Hydrocarbons Surrogates															
Acenaphthylene-d8	93951-97-4	E649/BU	2.0	%	82.4	74.2	74.2	74.2	74.2	74.2	74.2	74.2	74.2	74.2	74.2
Anthracene-d10	1719-06-8	E649/BU	2.0	%	78.5	71.9	71.9	71.9	71.9	71.9	71.9	71.9	71.9	71.9	71.9
Benz(a)anthracene-d12	1718-53-2	E649/BU	2.0	%	124	77.8	77.8	77.8	77.8	77.8	77.8	77.8	77.8	77.8	77.8
Benzo(a)pyrene-d12	63466-71-7	E649/BU	2.0	%	68.3	62.4	62.4	62.4	62.4	62.4	62.4	62.4	62.4	62.4	62.4



Analytical Results

Sub-Matrix: Impinger
(Matrix: Air)

Sub-Matrix: Impinger (Matrix: Air)		Client sample ID		25-3852-SVOC-(26 thru 30) Test 2 #2 APC Outlet		25-3852-SVOC-(31 thru 35) Test 3 #2 APC Outlet							
		Client sampling date / time		29-Oct-2025 00:00		30-Oct-2025 00:00							
		Method/Lab		LOR		Unit		Result		Result			
Analyte		CAS Number						Result		Result			
Polycyclic Aromatic Hydrocarbons Surrogates													
Benzo(b)fluoranthene-d12	93951-98-5	E649/BU	2.0	%	84.0	77.1							
Benzo(g,h,i)perylene-d12	93951-66-7	E649/BU	2.0	%	70.5	88.1							
Benzo(k)fluoranthene-d12	93952-01-3	E649/BU	2.0	%	88.0	75.6							
Chrysene-d12	1719-03-5	E649/BU	2.0	%	140	88.4							
Dibenz(a,h)anthracene-d14	13250-98-1	E649/BU	2.0	%	70.5	79.5							
Fluoranthene-d10	93951-69-0	E649/BU	2.0	%	93.8	84.8							
Indeno(1,2,3-cd)pyrene-d12	203578-33-0	E649/BU	2.0	%	79.8	83.7							
Methylnaphthalene-d10, 2-	7297-45-2	E649/BU	2.0	%	92.5	81.3							
Naphthalene-d8	1146-65-2	E649/BU	2.0	%	97.4	83.6							
Perylene-d12	1520-96-3	E649/BU	2.0	%	59.5	63.7							
Phenanthrene-d10	1517-22-2	E649/BU	2.0	%	83.9	78.1							
Chlorinated Benzenes													
Chlorobenzene	108-90-7	E650/BU	2.0	ng/sample	1280	1450							
Dichlorobenzene, 1,2-	95-50-1	E650/BU	2.0	ng/sample	111	115							
Dichlorobenzene, 1,3-	541-73-1	E650/BU	2.0	ng/sample	163	166							
Dichlorobenzene, 1,4-	106-46-7	E650/BU	2.0	ng/sample	88.8	83.6							
Hexachlorobenzene	118-74-1	E650/BU	2.0	ng/sample	<12.0	<12.0							
Pentachlorobenzene	608-93-5	E650/BU	2.0	ng/sample	<12.0	<12.0							
Tetrachlorobenzene, 1,2,3,4-	634-66-2	E650/BU	2.0	ng/sample	<12.0	<12.0							
Tetrachlorobenzene, 1,2,3,5- + 1,2,4,5-	----	E650/BU	2.0	ng/sample	<12.0	<12.0							



Analytical Results

Sub-Matrix: Impinger
(Matrix: Air)

Sub-Matrix: Impinger (Matrix: Air)		Client sample ID		25-3852-SVOC-(26 thru 35) Test 3 #2 APC Outlet		25-3852-SVOC-(31 thru 35) Test 3 #2 APC Outlet							
		Client sampling date / time		29-Oct-2025 00:00		30-Oct-2025 00:00							
Analyte		CAS Number	Method/Lab	LOR	Unit	Result		Result					
Chlorinated Benzenes													
Trichlorobenzene, 1,2,3-	87-61-6	E650/BU	2.0	ng/sample	13.4	12.3							
Trichlorobenzene, 1,2,4-	120-82-1	E650/BU	2.0	ng/sample	28.1	25.8							
Trichlorobenzene, 1,3,5-	108-70-3	E650/BU	2.0	ng/sample	14.1	<12.0							
Chlorinated Benzenes Surrogates													
Chlorobenzene-13C6	287389-52-0	E650/BU	2.0	%	24.1	18.5							
Dichlorobenzene-13C6, 1,4-	----	E650/BU	2.0	%	40.6	41.5							
Hexachlorobenzene-13C6	----	E650/BU	2.0	%	49.0 SDI	50.3							
Pentachlorobenzene-13C6	----	E650/BU	2.0	%	49.6 SDI	50.0							
Tetrachlorobenzene-13C6, 1,2,3,4-	----	E650/BU	2.0	%	43.1 SDI	43.6 SDI							
Trichlorobenzene-13C6, 1,2,3-	----	E650/BU	2.0	%	42.0 SDI	43.6 SDI							
Chlorinated Phenolics													
Chlorophenol, 2-	95-57-8	E651L/BU	10	ng/sample	<60	<60							
Chlorophenol, 3+4-	n/a	E651L/BU	10	ng/sample	<60	<60							
Dichlorophenol, 2,3-	576-24-9	E651L/BU	10	ng/sample	<60	<60							
Dichlorophenol, 2,4- + 2,5-	----	E651L/BU	10	ng/sample	<60	<60							
Dichlorophenol, 2,6-	87-65-0	E651L/BU	10	ng/sample	<60	<60							
Dichlorophenol, 3,4-	95-77-2	E651L/BU	10	ng/sample	<60	<60							
Dichlorophenol, 3,5-	591-35-5	E651L/BU	10	ng/sample	<60	<60							
Hexachlorophene	70-30-4	E651L/BU	10	ng/sample	<60	<60							



Analytical Results

Sub-Matrix: Impinger
(Matrix: Air)

Analyte		Client sample ID			Client sampling date / time		25-3852-SVOC-(26 thru 30) Test 2 #2 APC Outlet		25-3852-SVOC-(31 thru 35) Test 3 #2 APC Outlet		25-3852-SVOC-(36 thru 39) Test 4 #2 APC Outlet	
		CAS Number	Method/Lab	LOR	Unit	Result	Result	Result	Result	Result	Result	Result
Chlorinated Phenolics												
Pentachlorophenol		87-86-5	E651L/BU	10	ng/sample	<60	<60	<60	<60	<60	<60	<60
Tetrachlorophenol, 2,3,4,5- + 2,3,4,6-		n/a	E651L/BU	10	ng/sample	<60	<60	<60	<60	<60	<60	<60
Tetrachlorophenol, 2,3,5,6-		935-95-5	E651L/BU	10	ng/sample	<60	<60	<60	<60	<60	<60	<60
Trichlorophenol, 2,3,4-		15950-66-0	E651L/BU	10	ng/sample	<60	<60	<60	<60	<60	<60	<60
Trichlorophenol, 2,3,5-		933-78-8	E651L/BU	10	ng/sample	<60	<60	<60	<60	<60	<60	<60
Trichlorophenol, 2,3,6-		933-75-5	E651L/BU	10	ng/sample	<60	<60	<60	<60	<60	<60	<60
Trichlorophenol, 2,4,5-		95-95-4	E651L/BU	10	ng/sample	<60	<60	<60	<60	<60	<60	<60
Trichlorophenol, 2,4,6-		88-06-2	E651L/BU	10	ng/sample	<60	<60	<60	<60	<60	<60	<60
Trichlorophenol, 3,4,5-		609-19-8	E651L/BU	10	ng/sample	<60	<60	<60	<60	<60	<60	<60
Chlorinated Phenolics Surrogates												
Chlorophenol-13C6, 4-		n/a	E651L/BU	10	%	13.9 SDI	44.8 SDI					
Dichlorophenol-13C6, 2,4-		n/a	E651L/BU	10	%	53.7	53.6					
Pentachlorophenol-13C6		85380-74-1	E651L/BU	10	%	53.7	85.9					
Tetrachlorophenol-13C6, 2,3,4,5-		n/a	E651L/BU	10	%	51.8	82.4					
Trichlorophenol-13C6, 2,4,5-		n/a	E651L/BU	10	%	62.4	53.4					
Field Spike Standards												
Fluorene-d10		81103-79-9	E649/BU	2.0	%	80.8	93.1					
Methylnaphthalene-d10, 1-		38072-94-5	E649/BU	2.0	%	97.5	102					
Terphenyl-d14, p-		1718-51-0	E649/BU	2.0	%	79.6	82.7					

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



Quality Control Interpretive Report

Work Order : BU2503006
Amendment : 1
Client : Alliance Technical Group North Inc.
Contact : Chris Belore
Address : 804 Southdown Road
Mississauga ON Canada L5J 2Y4
Telephone : 905 822 4120
Project : AST-2025-3852 Reworld
PO : ----
C-O-C number : ----
Sampler : ----
Site : ----
Quote number : BU2024-ORTE100-0006 - Reworld
No. of samples received : 7
No. of samples analysed : 7

Laboratory : ALS Environmental - Burlington
Account Manager : Robert Chin
Address : 1435 Norjohn Court, Unit 1
Burlington ON Canada L7L 0E6
Telephone : +1 905 331 3111
Date Samples Received : 31-Oct-2025 09:05
Issue Date : 16-Dec-2025 10:55

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

- Method Blank value outliers occur - please see following pages for full details.
- No Duplicate outliers occur.
- Laboratory Control Sample (LCS) outliers occur - please see following pages for full details.
- No Laboratory Control Sample Duplicate (LCSD) outliers occur
- No Matrix Spike outliers occur.
- No Matrix Spike Duplicate (MSD) outliers occur.
- Test sample Surrogate recovery outliers exist for all regular sample matrices - please see following pages for full details.

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

- Quality Control Sample Frequency Outliers occur - please see following pages for full details.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix :Air

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Method Blank (MB) Values								
Polycyclic Aromatic Hydrocarbons	QC-MRG5-2311825-001	----	Acenaphthene	83-32-9	E649	<12 ng/sample	2 ng/sample	Blank result exceeds permitted value
Polycyclic Aromatic Hydrocarbons	QC-MRG5-2311825-001	----	Acenaphthylene	208-96-8	E649	<12 ng/sample	2 ng/sample	Blank result exceeds permitted value
Polycyclic Aromatic Hydrocarbons	QC-MRG5-2311825-001	----	Anthracene	120-12-7	E649	<12 ng/sample	2 ng/sample	Blank result exceeds permitted value
Polycyclic Aromatic Hydrocarbons	QC-MRG5-2311825-001	----	Benzo(a)pyrene	50-32-8	E649	<12 ng/sample	2 ng/sample	Blank result exceeds permitted value
Polycyclic Aromatic Hydrocarbons	QC-MRG5-2311825-001	----	Benzo(b)fluoranthene	205-99-2	E649	<12 ng/sample	2 ng/sample	Blank result exceeds permitted value
Polycyclic Aromatic Hydrocarbons	QC-MRG5-2311825-001	----	Benzo(g,h,i)perylene	191-24-2	E649	<12 ng/sample	2 ng/sample	Blank result exceeds permitted value
Polycyclic Aromatic Hydrocarbons	QC-MRG5-2311825-001	----	Biphenyl	92-52-4	E649	24.4 ng/sample	2 ng/sample	Blank result exceeds permitted value
Polycyclic Aromatic Hydrocarbons	QC-MRG5-2311825-001	----	Dibenz(a,h)anthracene	53-70-3	E649	<12 ng/sample	10 ng/sample	Blank result exceeds permitted value
Polycyclic Aromatic Hydrocarbons	QC-MRG5-2311825-001	----	Dibenzo(a,e)pyrene	192-65-4	E649	16.9 ng/sample	10 ng/sample	Blank result exceeds permitted value
Polycyclic Aromatic Hydrocarbons	QC-MRG5-2311825-001	----	Fluorene	86-73-7	E649	<12 ng/sample	2 ng/sample	Blank result exceeds permitted value
Polycyclic Aromatic Hydrocarbons	QC-MRG5-2311825-001	----	Indeno(1,2,3-c,d)pyrene	193-39-5	E649	<12 ng/sample	2 ng/sample	Blank result exceeds permitted value
Polycyclic Aromatic Hydrocarbons	QC-MRG5-2311825-001	----	Methylnaphthalene, 1- e, 2-	90-12-0	E649	<12 ng/sample	2 ng/sample	Blank result exceeds permitted value
Polycyclic Aromatic Hydrocarbons	QC-MRG5-2311825-001	----	Methylnaphthalene, 1- e, 2-	91-57-6	E649	<12 ng/sample	2 ng/sample	Blank result exceeds permitted value
Polycyclic Aromatic Hydrocarbons	QC-MRG5-2311825-001	----	Naphthalene	91-20-3	E649	290 ng/sample	2 ng/sample	Blank result exceeds permitted value
Polycyclic Aromatic Hydrocarbons	QC-MRG5-2311825-001	----	Phenanthrene	85-01-8	E649	<12 ng/sample	2 ng/sample	Blank result exceeds permitted value
Polycyclic Aromatic Hydrocarbons	QC-MRG5-2311825-001	----	Tetralin	119-64-2	E649	486 ng/sample	2 ng/sample	Blank result exceeds permitted value
Laboratory Control Sample (LCS) Recoveries								
Polycyclic Aromatic Hydrocarbons	QC-MRG3-2311827-002	----	Naphthalene	91-20-3	E649	163 %	LCS-H	Recovery greater than upper control limit

Result Qualifiers

Qualifier
LCS-H

Description
Lab Control Sample recovery was above ALS DQO. Non-detected sample results are considered reliable. Other results, if reported, have been qualified.

Regular Sample Surrogates



Matrix: Air

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Samples Submitted								
Field Spike Standards	BU2503006--004	25-3852-SVOC-(16 thru 20) Blank	Fluorene-d10	81103-79-9	E649	151 %	30.0-150%	Recovery greater than upper data quality objective
Chlorinated Phenolics Surrogates	BU2503006--001	25-3852-SVOC-(1 thru 5) Test 1 #1 APC Outlet	Chlorophenol-13C6, 4-	n/a	E651L	11.6 %	SDI	Recovery less than lower data quality objective
Chlorinated Phenolics Surrogates	BU2503006--003	25-3852-SVOC-(11 thru 15) Test 3 #1 APC Outlet	Chlorophenol-13C6, 4-	n/a	E651L	8.0 %	SDI	Recovery less than lower data quality objective
Chlorinated Phenolics Surrogates	BU2503006--005	25-3852-SVOC-(21 thru 25) Test 1 #2 APC Outlet	Chlorophenol-13C6, 4-	n/a	E651L	38.3 %	SDI	Recovery less than lower data quality objective
Chlorinated Phenolics Surrogates	BU2503006--006	25-3852-SVOC-(26 thru 30) Test 2 #2 APC Outlet	Chlorophenol-13C6, 4-	n/a	E651L	13.9 %	SDI	Recovery less than lower data quality objective
Chlorinated Phenolics Surrogates	BU2503006--007	25-3852-SVOC-(31 thru 35) Test 3 #2 APC Outlet	Chlorophenol-13C6, 4-	n/a	E651L	44.8 %	SDI	Recovery less than lower data quality objective
Polycyclic Aromatic Hydrocarbons Surrogates	BU2503006--002	25-3852-SVOC-(6 thru 10) Test 2 #1 APC Outlet	Dibenz(a,h)anthracene-d14	13250-98-1	E649	22.9 %	SDI	Recovery less than lower data quality objective
Chlorinated Benzenes Surrogates	BU2503006--003	25-3852-SVOC-(11 thru 15) Test 3 #1 APC Outlet	Dichlorobenzene-13C6, 1,4-	----	E650	28.1 %	SDI	Recovery less than lower data quality objective
Chlorinated Phenolics Surrogates	BU2503006--001	25-3852-SVOC-(1 thru 5) Test 1 #1 APC Outlet	Dichlorophenol-13C6, 2,4-	n/a	E651L	44.4 %	SDI	Recovery less than lower data quality objective
Chlorinated Phenolics Surrogates	BU2503006--002	25-3852-SVOC-(6 thru 10) Test 2 #1 APC Outlet	Dichlorophenol-13C6, 2,4-	n/a	E651L	42.6 %	SDI	Recovery less than lower data quality objective
Chlorinated Phenolics Surrogates	BU2503006--004	25-3852-SVOC-(16 thru 20) Blank	Dichlorophenol-13C6, 2,4-	n/a	E651L	44.0 %	SDI	Recovery less than lower data quality objective
Chlorinated Benzenes Surrogates	BU2503006--003	25-3852-SVOC-(11 thru 15) Test 3 #1 APC Outlet	Hexachlorobenzene e-13C6	----	E650	33.0 %	SDI	Recovery less than lower data quality objective
Chlorinated Benzenes Surrogates	BU2503006--005	25-3852-SVOC-(21 thru 25) Test 1 #2 APC Outlet	Hexachlorobenzene e-13C6	----	E650	47.4 %	SDI	Recovery less than lower data quality objective
Chlorinated Benzenes Surrogates	BU2503006--006	25-3852-SVOC-(26 thru 30) Test 2 #2 APC Outlet	Hexachlorobenzene e-13C6	----	E650	49.0 %	SDI	Recovery less than lower data quality objective
Chlorinated Benzenes Surrogates	BU2503006--001	25-3852-SVOC-(1 thru 5) Test 1 #1 APC Outlet	Pentachlorobenzene ne-13C6	----	E650	49.2 %	SDI	Recovery less than lower data quality objective
Chlorinated Benzenes Surrogates	BU2503006--003	25-3852-SVOC-(11 thru 15) Test 3 #1 APC Outlet	Pentachlorobenzene ne-13C6	----	E650	31.4 %	SDI	Recovery less than lower data quality objective
Chlorinated Benzenes Surrogates	BU2503006--005	25-3852-SVOC-(21 thru 25) Test 1 #2 APC Outlet	Pentachlorobenzene ne-13C6	----	E650	46.7 %	SDI	Recovery less than lower data quality objective
Chlorinated Benzenes Surrogates	BU2503006--006	25-3852-SVOC-(26 thru 30) Test 2 #2 APC Outlet	Pentachlorobenzene ne-13C6	----	E650	49.6 %	SDI	Recovery less than lower data quality objective
Chlorinated Benzenes Surrogates	BU2503006--001	25-3852-SVOC-(1 thru 5) Test 1 #1 APC Outlet	Tetrachlorobenzene e-13C6, 1,2,3,4-	----	E650	43.2 %	SDI	Recovery less than lower data quality objective
Chlorinated Benzenes Surrogates	BU2503006--002	25-3852-SVOC-(6 thru 10) Test 2 #1 APC Outlet	Tetrachlorobenzene e-13C6, 1,2,3,4-	----	E650	44.4 %	SDI	Recovery less than lower data quality objective
Chlorinated Benzenes Surrogates	BU2503006--003	25-3852-SVOC-(11 thru 15) Test 3 #1 APC Outlet	Tetrachlorobenzene e-13C6, 1,2,3,4-	----	E650	28.1 %	SDI	Recovery less than lower data quality objective
Chlorinated Benzenes Surrogates	BU2503006--004	25-3852-SVOC-(16 thru 20) Blank	Tetrachlorobenzene e-13C6, 1,2,3,4-	----	E650	43.9 %	SDI	Recovery less than lower data quality objective
Chlorinated Benzenes Surrogates	BU2503006--005	25-3852-SVOC-(21 thru 25) Test 1 #2 APC Outlet	Tetrachlorobenzene e-13C6, 1,2,3,4-	----	E650	41.8 %	SDI	Recovery less than lower data quality objective
Chlorinated Benzenes Surrogates	BU2503006--006	25-3852-SVOC-(26 thru 30) Test 2 #2 APC Outlet	Tetrachlorobenzene e-13C6, 1,2,3,4-	----	E650	43.1 %	SDI	Recovery less than lower data quality objective



Matrix: Air

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Samples Submitted								
Chlorinated Benzenes Surrogates	BU2503006--007	25-3852-SVOC-(31 thru 35) Test 3 #2 APC Outlet	Tetrachlorobenzene-1,2,3,4-	----	E650	43.6 %	SDI	Recovery less than lower data quality objective
Chlorinated Benzenes Surrogates	BU2503006--001	25-3852-SVOC-(1 thru 5) Test 1 #1 APC Outlet	Trichlorobenzene-13C6, 1,2,3-	----	E650	42.8 %	SDI	Recovery less than lower data quality objective
Chlorinated Benzenes Surrogates	BU2503006--002	25-3852-SVOC-(6 thru 10) Test 2 #1 APC Outlet	Trichlorobenzene-13C6, 1,2,3-	----	E650	45.0 %	SDI	Recovery less than lower data quality objective
Chlorinated Benzenes Surrogates	BU2503006--003	25-3852-SVOC-(11 thru 15) Test 3 #1 APC Outlet	Trichlorobenzene-13C6, 1,2,3-	----	E650	28.4 %	SDI	Recovery less than lower data quality objective
Chlorinated Benzenes Surrogates	BU2503006--004	25-3852-SVOC-(16 thru 20) Blank	Trichlorobenzene-13C6, 1,2,3-	----	E650	44.0 %	SDI	Recovery less than lower data quality objective
Chlorinated Benzenes Surrogates	BU2503006--005	25-3852-SVOC-(21 thru 25) Test 1 #2 APC Outlet	Trichlorobenzene-13C6, 1,2,3-	----	E650	41.8 %	SDI	Recovery less than lower data quality objective
Chlorinated Benzenes Surrogates	BU2503006--006	25-3852-SVOC-(26 thru 30) Test 2 #2 APC Outlet	Trichlorobenzene-13C6, 1,2,3-	----	E650	42.0 %	SDI	Recovery less than lower data quality objective
Chlorinated Benzenes Surrogates	BU2503006--007	25-3852-SVOC-(31 thru 35) Test 3 #2 APC Outlet	Trichlorobenzene-13C6, 1,2,3-	----	E650	43.6 %	SDI	Recovery less than lower data quality objective



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		Analysis Date	Holding Times	
Client sample ID							Rec	Actual		Rec	Actual
Chlorinated Benzenes : Chlorobenzenes in Stack by GC-MS											
XAD Sorbent Trap											
25-3852-SVOC-(1 thru 5) Test 1 - #1 APC Outlet		001	2311829	E650	29-Oct-2025	03-Nov-2025	14 days	6 days	✔	14-Nov-2025	40 days
									✔	11 days	✔
25-3852-SVOC-(6 thru 10) Test 2 - #1 APC Outlet		002	2311829	E650	29-Oct-2025	03-Nov-2025	14 days	6 days	✔	14-Nov-2025	40 days
									✔	11 days	✔
25-3852-SVOC-(11 thru 15) Test 3 - #1 APC Outlet		003	2311829	E650	30-Oct-2025	03-Nov-2025	14 days	5 days	✔	14-Nov-2025	40 days
									✔	11 days	✔
25-3852-SVOC-(16 thru 20) Blank		004	2311829	E650	30-Oct-2025	03-Nov-2025	14 days	5 days	✔	14-Nov-2025	40 days
									✔	11 days	✔
25-3852-SVOC-(21 thru 25) Test 1 - #2 APC Outlet		005	2311829	E650	29-Oct-2025	03-Nov-2025	14 days	6 days	✔	14-Nov-2025	40 days
									✔	11 days	✔
25-3852-SVOC-(26 thru 30) Test 2 - #2 APC Outlet		006	2311829	E650	29-Oct-2025	03-Nov-2025	14 days	6 days	✔	14-Nov-2025	40 days
									✔	11 days	✔
25-3852-SVOC-(31 thru 35) Test 3 - #2 APC Outlet		007	2311829	E650	30-Oct-2025	03-Nov-2025	14 days	5 days	✔	14-Nov-2025	40 days
									✔	11 days	✔
Chlorinated Phenolics : Chlorophenols in Stack by GC-MS											
XAD Sorbent Trap											
25-3852-SVOC-(1 thru 5) Test 1 - #1 APC Outlet		001	2311827	E651L	29-Oct-2025	03-Nov-2025	14 days	6 days	✔	14-Nov-2025	14 days
									✔	17 days	✔
25-3852-SVOC-(6 thru 10) Test 2 - #1 APC Outlet		002	2311827	E651L	29-Oct-2025	03-Nov-2025	14 days	6 days	✔	14-Nov-2025	14 days
									✔	17 days	✔
25-3852-SVOC-(11 thru 15) Test 3 - #1 APC Outlet		003	2311827	E651L	30-Oct-2025	03-Nov-2025	14 days	5 days	✔	14-Nov-2025	14 days
									✔	16 days	✔
25-3852-SVOC-(16 thru 20) Blank		004	2311827	E651L	30-Oct-2025	03-Nov-2025	14 days	5 days	✔	14-Nov-2025	14 days
									✔	16 days	✔



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		Analysis Date	Holding Times	
Client sample ID							Rec	Actual		Rec	Actual
Chlorinated Phenolics : Chlorophenols in Stack by GC-MS											
XAD Sorbent Trap											
25-3852-SVOC-(21 thru 25) Test 1 - #2 APC Outlet		005	2311827	E651L	29-Oct-2025	03-Nov-2025	14 days	6 days	✔	14 days	17 days
25-3852-SVOC-(26 thru 30) Test 2 - #2 APC Outlet		006	2311827	E651L	29-Oct-2025	03-Nov-2025	14 days	6 days	✔	14 days	17 days
25-3852-SVOC-(31 thru 35) Test 3 - #2 APC Outlet		007	2311827	E651L	30-Oct-2025	03-Nov-2025	14 days	5 days	✔	14 days	16 days
Field Spike Standards : PAHs - Extended List in Stack by GC-MS											
XAD Sorbent Trap											
25-3852-SVOC-(1 thru 5) Test 1 - #1 APC Outlet		001	2311828	E649	29-Oct-2025	03-Nov-2025	21 days	6 days	✔	28-Nov-2025	25 days
25-3852-SVOC-(6 thru 10) Test 2 - #1 APC Outlet		002	2311828	E649	29-Oct-2025	03-Nov-2025	21 days	6 days	✔	28-Nov-2025	25 days
25-3852-SVOC-(11 thru 15) Test 3 - #1 APC Outlet		003	2311828	E649	30-Oct-2025	03-Nov-2025	21 days	5 days	✔	28-Nov-2025	25 days
25-3852-SVOC-(16 thru 20) Blank		004	2311828	E649	30-Oct-2025	03-Nov-2025	21 days	5 days	✔	28-Nov-2025	25 days
25-3852-SVOC-(21 thru 25) Test 1 - #2 APC Outlet		005	2311828	E649	29-Oct-2025	03-Nov-2025	21 days	6 days	✔	28-Nov-2025	25 days
25-3852-SVOC-(26 thru 30) Test 2 - #2 APC Outlet		006	2311828	E649	29-Oct-2025	03-Nov-2025	21 days	6 days	✔	28-Nov-2025	25 days
25-3852-SVOC-(31 thru 35) Test 3 - #2 APC Outlet		007	2311828	E649	30-Oct-2025	03-Nov-2025	21 days	5 days	✔	28-Nov-2025	25 days
Polycyclic Aromatic Hydrocarbons : PAHs - Extended List in Stack by GC-MS											
XAD Sorbent Trap											
25-3852-SVOC-(1 thru 5) Test 1 - #1 APC Outlet		001	2311828	E649	29-Oct-2025	03-Nov-2025	21 days	6 days	✔	28-Nov-2025	25 days
25-3852-SVOC-(6 thru 10) Test 2 - #1 APC Outlet		002	2311828	E649	29-Oct-2025	03-Nov-2025	21 days	6 days	✔	28-Nov-2025	25 days
25-3852-SVOC-(11 thru 15) Test 3 - #1 APC Outlet		003	2311828	E649	30-Oct-2025	03-Nov-2025	21 days	5 days	✔	28-Nov-2025	25 days
25-3852-SVOC-(16 thru 20) Blank		004	2311828	E649	30-Oct-2025	03-Nov-2025	21 days	5 days	✔	28-Nov-2025	25 days
25-3852-SVOC-(21 thru 25) Test 1 - #2 APC Outlet		005	2311828	E649	29-Oct-2025	03-Nov-2025	21 days	6 days	✔	28-Nov-2025	25 days



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	Client sample ID					Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval				
							Rec	Actual			Rec	Actual					
Polycyclic Aromatic Hydrocarbons : PAHs - Extended List in Stack by GC-MS																	
XAD Sorbent Trap																	
25-3852-SVOC-(26 thru 30) Test 2 - #2 APC Outlet		006	2311828	E649	29-Oct-2025	03-Nov-2025	21 days	6 days	✓	28-Nov-2025	40 days	25 days	✓				
25-3852-SVOC-(31 thru 35) Test 3 - #2 APC Outlet		007	2311828	E649	30-Oct-2025	03-Nov-2025	21 days	5 days	✓	28-Nov-2025	40 days	25 days	✓				

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			QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)								
Chlorophenols in Stack by GC-MS		E651L	2311827	0	7	0.0	5.0	✖
Laboratory Control Samples (LCS)								
PAHs - Extended List in Stack by GC-MS		E649	2311828	1	7	14.3	5.0	✓
Chlorobenzenes in Stack by GC-MS		E650	2311829	1	7	14.3	5.0	✓
Chlorophenols in Stack by GC-MS		E651L	2311827	1	7	14.3	5.0	✓
Method Blanks (MB)								
PAHs - Extended List in Stack by GC-MS		E649	2311828	1	7	14.3	5.0	✓
Chlorobenzenes in Stack by GC-MS		E650	2311829	1	7	14.3	5.0	✓
Chlorophenols in Stack by GC-MS		E651L	2311827	1	7	14.3	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").

Analytical Methods		Method / Lab	Matrix	Method Reference	Method Descriptions
Chlorobenzenes in Stack by GC-MS	ALS Environmental - Burlington	E650	Air	EPA Method 8270E	Sample extracts are analyzed for chlorobenzene analytes using selected ion monitoring (SIM) by GC-MS, using isotope dilution.
	ALS Environmental - Burlington	E651L		EPA Method 8270E	
Chlorophenols in Stack by GC-MS	ALS Environmental - Burlington	E649	Air	CARB 429, mod. EPA TO -13A	The sample is extracted by liquid/liquid extraction using dichloromethane. The extract is then derivatized, the acetate derivatives are prepared using column chromatography, reduced in volume and analyzed using selected ion monitoring (SIM) by GC-MS, using isotope dilution. Polycyclic Aromatic Hydrocarbons (PAHs) are analyzed by GC-MS.
PAHs - Extended List in Stack by GC-MS					This method reports to the instrument detection limit, which is not the default ALS Canada reporting policy. The laboratory method blank data should be reviewed and considered alongside sample data.

QUALITY CONTROL REPORT

Work Order	: BU2503006	Page	: 1 of 8
Amendment	: 1		
Client	: Alliance Technical Group North Inc.	Laboratory	: ALS Environmental - Burlington
Contact	: Chris Before	Account Manager	: Robert Chin
Address	: 804 Southdown Road Mississauga ON Canada L5J 2Y4	Address	: 1435 Norjohn Court, Unit 1 Burlington, Ontario Canada L7L 0E6
Telephone	: 905 822 4120	Telephone	: +1 905 331 3111
Project	: AST-2025-3852 Reworld	Date Samples Received	: 31-Oct-2025 09:05
PO	: ----	Date Analysis Commenced	: 03-Nov-2025
C-O-C number	: ----	Issue Date	: 16-Dec-2025 10:54
Sampler	: ----		
Site	: ----		
Quote number	: BU2024-ORTE100-0006 - Reworld		
No. of samples received	: 7		
No. of samples analysed	: 7		

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:

- 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
Andrew Reid	Analyst	Burlington Organics, Burlington, Ontario
Sabrina Jin	Analyst	Burlington Organics, Burlington, Ontario



Page : 2 of 8
Work Order : BU2503006 Amendment 1
Client : Alliance Technical Group North Inc.
Project : AST-2025-3852 Reworld

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.



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
Polycyclic Aromatic Hydrocarbons (QCLot: 2311828)						
Acenaphthene	83-32-9	E649	2	ng/sample	# <12	---
Acenaphthylene	208-96-8	E649	2	ng/sample	# <12	---
Anthracene	120-12-7	E649	2	ng/sample	# <12	---
Benz(a)anthracene	56-55-3	E649	2	ng/sample	<12	---
Benz(b)anthracene + Triphenylene	n/a	E649	2	ng/sample	<12	---
Benzo(a)fluorene	238-84-6	E649	2	ng/sample	<12	---
Benzo(a)pyrene	50-32-8	E649	2	ng/sample	# <12	---
Benzo(b)fluoranthene	205-99-2	E649	2	ng/sample	# <12	---
Benzo(b)fluorene	243-17-4	E649	2	ng/sample	<12	---
Benzo(e)pyrene	192-97-2	E649	2	ng/sample	<12	---
Benzo(g,h,i)perylene	191-24-2	E649	2	ng/sample	# <12	---
Benzo(j)fluoranthene	205-82-3	E649	2	ng/sample	<12	---
Benzo(k)fluoranthene	207-08-9	E649	2	ng/sample	<12	---
Biphenyl	92-52-4	E649	2	ng/sample	# 24.4	B
Chloronaphthalene, 2-	91-58-7	E649	2	ng/sample	<12	---
Chrysene	218-01-9	E649	2	ng/sample	<12	---
Coronene	191-07-1	E649	2	ng/sample	<12	B
Dibenz(a,h)anthracene	53-70-3	E649	2	ng/sample	# <12	---
Dibenzo(a,e)pyrene	192-85-4	E649	2	ng/sample	# 16.9	B
Dimethylantracene, 9,10-	781-43-1	E649	2	ng/sample	<12	---
Dimethylbenz(a)anthracene, 7,12-	57-97-6	E649	2	ng/sample	<12	---
Fluoranthene	206-44-0	E649	2	ng/sample	<12	---
Fluorene	86-73-7	E649	2	ng/sample	# <12	---
Indeno(1,2,3-c,d)pyrene	193-39-5	E649	2	ng/sample	# <12	---
Methylantracene, 2-	613-12-7	E649	2	ng/sample	<12	---
Methylcholanthrene, 3-	56-49-5	E649	2	ng/sample	<12	---
Methylnaphthalene, 1-	90-12-0	E649	2	ng/sample	# <12	---
Methylnaphthalene, 2-	91-57-6	E649	2	ng/sample	# <12	---
Methylphenanthrene, 1-	832-69-9	E649	2	ng/sample	<12	---
Methylphenanthrene, 9-	883-20-5	E649	2	ng/sample	<12	---
Naphthalene	91-20-3	E649	2	ng/sample	# 290	B
Perylene	198-55-0	E649	2	ng/sample	<12	---



Sub-Matrix: Air

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Polycyclic Aromatic Hydrocarbons (QCLot: 2311828) - continued						
Phenanthrene	85-011-8	E649	2	ng/sample	# <12	---
Picene	213-46-7	E649	2	ng/sample	<12	---
Pyrene	129-00-0	E649	2	ng/sample	<12	---
Terphenyl, m-	92-06-8	E649	2	ng/sample	<12	---
Terphenyl, o-	84-15-1	E649	2	ng/sample	<12	---
Terphenyl, p-	92-94-4	E649	2	ng/sample	<12	---
Tetralin	119-64-2	E649	2	ng/sample	# 466	B
Chlorinated Benzenes (QCLot: 2311829)						
Chlorobenzene	108-90-7	E650	2	ng/sample	<12.0	---
Dichlorobenzene, 1,2-	95-50-1	E650	2	ng/sample	<12.0	---
Dichlorobenzene, 1,3-	541-73-1	E650	2	ng/sample	<12.0	---
Dichlorobenzene, 1,4-	106-46-7	E650	2	ng/sample	<12.0	---
Hexachlorobenzene	118-74-1	E650	2	ng/sample	<12.0	---
Pentachlorobenzene	608-93-5	E650	2	ng/sample	<12.0	---
Tetrachlorobenzene, 1,2,3,4-	634-56-2	E650	2	ng/sample	<12.0	---
Tetrachlorobenzene, 1,2,3,5- + 1,2,4,5-	---	E650	2	ng/sample	<12.0	---
Trichlorobenzene, 1,2,3-	87-61-6	E650	2	ng/sample	<12.0	---
Trichlorobenzene, 1,2,4-	120-82-1	E650	2	ng/sample	<12.0	---
Trichlorobenzene, 1,3,5-	108-70-3	E650	2	ng/sample	<12.0	---
Chlorinated Phenolics (QCLot: 2311827)						
Chlorophenol, 2-	95-57-8	E651L	10	ng/sample	<60	---
Chlorophenol, 3+4-	n/a	E651L	10	ng/sample	<60	---
Dichlorophenol, 2,3-	576-24-9	E651L	10	ng/sample	<60	---
Dichlorophenol, 2,4- + 2,5-	---	E651L	10	ng/sample	<60	---
Dichlorophenol, 2,6-	87-65-0	E651L	10	ng/sample	<60	---
Dichlorophenol, 3,4-	95-77-2	E651L	10	ng/sample	<60	---
Dichlorophenol, 3,5-	591-35-5	E651L	10	ng/sample	<60	---
Hexachlorophene	70-30-4	E651L	10	ng/sample	<60	---
Pentachlorophenol	87-86-5	E651L	10	ng/sample	<60	---
Tetrachlorophenol, 2,3,4,5- + 2,3,4,6-	n/a	E651L	10	ng/sample	<60	---
Tetrachlorophenol, 2,3,5,6-	935-95-5	E651L	10	ng/sample	<60	---
Trichlorophenol, 2,3,4-	15950-66-0	E651L	10	ng/sample	<60	---
Trichlorophenol, 2,3,5-	933-78-8	E651L	10	ng/sample	<60	---
Trichlorophenol, 2,3,6-	933-75-5	E651L	10	ng/sample	<60	---
Trichlorophenol, 2,4,5-	95-95-4	E651L	10	ng/sample	<60	---



Sub-Matrix: Air

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Chlorinated Phenolics (QCLot: 2311827) - continued						
Trichlorophenol, 2,4,6-	88-06-2	E651L	10	ng/sample	<60	
Trichlorophenol, 3,4,5-	609-19-8	E651L	10	ng/sample	<60	

Qualifiers

Qualifier

Description

B

Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.



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

Sub-Matrix: Air		Laboratory Control Sample (LCS) Report						
Analyte	CAS Number	Method	LOR	Unit	Spike	Recovery Limits (%)		Qualifier
					Target Concentration	LCS	Low	
Polycyclic Aromatic Hydrocarbons (QCLot: 2311828)								
Acenaphthene	83-32-9	E649	2	ng/sample	600 ng/sample	109	50.0	150
Acenaphthylene	208-96-8	E649	2	ng/sample	600 ng/sample	110	50.0	150
Anthracene	120-12-7	E649	2	ng/sample	600 ng/sample	101	50.0	150
Benz(a)anthracene	56-55-3	E649	2	ng/sample	600 ng/sample	102	50.0	150
Benz(b)anthracene + Triphenylene	n/a	E649	2	ng/sample	-----		50.0	150
Benzo(a)fluorene	238-84-6	E649	2	ng/sample	-----		50.0	150
Benzo(a)pyrene	50-32-8	E649	2	ng/sample	600 ng/sample	116	50.0	150
Benzo(b)fluoranthene	205-99-2	E649	2	ng/sample	600 ng/sample	98.1	50.0	150
Benzo(b)fluorene	243-17-4	E649	2	ng/sample	-----		50.0	150
Benzo(e)pyrene	192-97-2	E649	2	ng/sample	600 ng/sample	108	50.0	150
Benzo(g,h,i)perylene	191-24-2	E649	2	ng/sample	600 ng/sample	90.1	50.0	150
Benzo(j)fluoranthene	205-82-3	E649	2	ng/sample	-----		50.0	150
Benzo(k)fluoranthene	207-08-9	E649	2	ng/sample	600 ng/sample	111	50.0	150
Biphenyl	92-52-4	E649	2	ng/sample	600 ng/sample	108	50.0	150
Chloronaphthalene, 2-	91-58-7	E649	2	ng/sample	-----		50.0	150
Chrysene	218-01-9	E649	2	ng/sample	600 ng/sample	113	50.0	150
Coronene	191-07-1	E649	2	ng/sample	600 ng/sample	111	50.0	150
Dibenz(a,h)anthracene	53-70-3	E649	2	ng/sample	600 ng/sample	95.4	50.0	150
Dibenzo(a,e)pyrene	192-65-4	E649	2	ng/sample	-----		50.0	150
Dimethylanthracene, 9,10-	781-43-1	E649	2	ng/sample	-----		50.0	150
Dimethylbenz(a)anthracene, 7,12-	57-97-6	E649	2	ng/sample	600 ng/sample	101	50.0	150
Fluoranthene	206-44-0	E649	2	ng/sample	600 ng/sample	106	50.0	150
Fluorene	86-73-7	E649	2	ng/sample	600 ng/sample	106	50.0	150
Indeno(1,2,3-c,d)pyrene	193-39-5	E649	2	ng/sample	600 ng/sample	106	50.0	150
Methylanthracene, 2-	613-12-7	E649	2	ng/sample	-----		50.0	150
Methylcholanthrene, 3-	56-49-5	E649	2	ng/sample	-----		50.0	150
Methylnaphthalene, 1-	90-12-0	E649	2	ng/sample	600 ng/sample	97.9	50.0	150
Methylnaphthalene, 2-	91-57-6	E649	2	ng/sample	600 ng/sample	91.7	50.0	150
Methylphenanthrene, 1-	832-69-9	E649	2	ng/sample	600 ng/sample	91.0	50.0	150
Methylphenanthrene, 9-	883-20-5	E649	2	ng/sample	-----		50.0	150
Naphthalene	91-20-3	E649	2	ng/sample	600 ng/sample	# 163	50.0	150
Perylene	198-55-0	E649	2	ng/sample	600 ng/sample	112	50.0	150
Phenanthrene	85-01-8	E649	2	ng/sample	600 ng/sample	99.0	50.0	150
LCS-H								



Sub-Matrix: Air

Sub-Matrix: Air										
Laboratory Control Sample (LCS) Report										
					Spike	Recovery (%)	Recovery Limits (%)			
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier	
Polycyclic Aromatic Hydrocarbons (QCLot: 2311828) - continued										
Picene	213-46-7	E649	2	ng/sample	600 ng/sample	94.2	50.0	150	100-150-20	
Pyrene	129-00-0	E649	2	ng/sample	600 ng/sample	94.2	50.0	150	100-150-20	
Terphenyl, m-	92-06-8	E649	2	ng/sample	600 ng/sample	94.2	50.0	150	100-150-20	
Terphenyl, o-	84-15-1	E649	2	ng/sample	600 ng/sample	94.2	50.0	150	100-150-20	
Terphenyl, p-	92-94-4	E649	2	ng/sample	600 ng/sample	94.2	50.0	150	100-150-20	
Tetralin	119-64-2	E649	2	ng/sample	600 ng/sample	96.9	50.0	150	100-150-20	
Chlorinated Benzenes (QCLot: 2311829)										
Chlorobenzene	108-90-7	E650	2	ng/sample	300 ng/sample	103	50.0	150	100-150-20	
Dichlorobenzene, 1,2-	95-50-1	E650	2	ng/sample	300 ng/sample	103	50.0	150	100-150-20	
Dichlorobenzene, 1,3-	541-73-1	E650	2	ng/sample	300 ng/sample	112	50.0	150	100-150-20	
Dichlorobenzene, 1,4-	106-46-7	E650	2	ng/sample	300 ng/sample	103	50.0	150	100-150-20	
Hexachlorobenzene	118-74-1	E650	2	ng/sample	300 ng/sample	118	50.0	150	100-150-20	
Pentachlorobenzene	608-93-5	E650	2	ng/sample	300 ng/sample	114	50.0	150	100-150-20	
Tetrachlorobenzene, 1,2,3,4-	634-66-2	E650	2	ng/sample	300 ng/sample	124	50.0	150	100-150-20	
Tetrachlorobenzene, 1,2,3,5- + 1,2,4,5-	----	E650	2	ng/sample	600 ng/sample	122	50.0	150	100-150-20	
Trichlorobenzene, 1,2,3-	87-61-6	E650	2	ng/sample	300 ng/sample	93.3	50.0	150	100-150-20	
Trichlorobenzene, 1,2,4-	120-82-1	E650	2	ng/sample	300 ng/sample	75.8	50.0	150	100-150-20	
Trichlorobenzene, 1,3,5-	108-70-3	E650	2	ng/sample	300 ng/sample	91.2	50.0	150	100-150-20	
Chlorinated Phenolics (QCLot: 2311827)										
Chlorophenol, 2-	95-57-8	E651L	10	ng/sample	120 ng/sample	118	50.0	150	100-150-20	
Dichlorophenol, 2,4- + 2,5-	----	E651L	10	ng/sample	120 ng/sample	92.5	50.0	150	100-150-20	
Dichlorophenol, 2,6-	87-65-0	E651L	10	ng/sample	120 ng/sample	116	50.0	150	100-150-20	
Pentachlorophenol	87-86-5	E651L	10	ng/sample	120 ng/sample	116	50.0	150	100-150-20	
Tetrachlorophenol, 2,3,4,5- + 2,3,4,6-	n/a	E651L	10	ng/sample	240 ng/sample	114	50.0	150	100-150-20	
Tetrachlorophenol, 2,3,5,6-	935-95-5	E651L	10	ng/sample	120 ng/sample	111	50.0	150	100-150-20	
Trichlorophenol, 2,4,5-	95-95-4	E651L	10	ng/sample	120 ng/sample	102	50.0	150	100-150-20	
Trichlorophenol, 2,4,6-	88-06-2	E651L	10	ng/sample	120 ng/sample	83.0	50.0	150	100-150-20	

Qualifiers

Qualifier

Description

LCS-H

Lab Control Sample recovery was above ALS DQO. Non-detected sample results are considered reliable. Other results, if reported, have been qualified.



1435 Norjohn Court, Unit 1, Burlington, ON, Canada L7L 0E6
Phone: 905-331-3111, FAX: 905-331-4567

Certificate of Analysis

ALS Project Contact: Robert Chin
ALS Project ID: ORTE100
ALS WO#: BU2503006
Date of Report: 13-Nov-25
Date of Sample Receipt: 31-Oct-25

Client Name: Alliance Technical Group North Inc.
Client Address: 804 Southdown Road
Mississauga, ON
L5J 2Y4
Client Contact: Chris Belore
Client Project ID: AST-2025-3852 Reworld

COMMENTS: PCDD/F by EPA M23

For the sample 25-3852-SVOC-(11 thru 15) Test 3, the recovery of 13C12-2,3,7,8-TCDF standard was marginally below the method control limit. As a result, the detection limit and the resultant upper bound TEQ value may be elevated.

Certified by:

A handwritten signature in black ink, appearing to read "S. Jin", is positioned above a horizontal line.

Sabrina Jin
Technical Specialist

Results in this certificate relate only to the samples as submitted to the laboratory.

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ALS Life Sciences

Sample Analysis summary Report

Sample Name	25-3852-SVOC-(1 thru 5) Test 1	25-3852-SVOC-(6 thru 10) Test 2	25-3852-SVOC-(11 thru 15) Test 3	25-3852-SVOC-(16 thru 20) Blank	25-3852-SVOC-(21 thru 25) Test 1	25-3852-SVOC-(26 thru 30) Test 2
ALS Sample ID	BU2503006-001	BU2503006-002	BU2503006-003	BU2503006-004	BU2503006-005	BU2503006-006
Sample Size	1	1	1	1	1	1
Sample size units	Sample	Sample	Sample	Sample	Sample	Sample
Percent Moisture	n/a	n/a	n/a	n/a	n/a	n/a
Sample Matrix	Impinger	Impinger	Impinger	Impinger	Impinger	Impinger
Sampling Date	29-Oct-25	29-Oct-25	30-Oct-25	30-Oct-25	29-Oct-25	29-Oct-25
Extraction Date	3-Nov-25	3-Nov-25	3-Nov-25	3-Nov-25	3-Nov-25	3-Nov-25
Target Analytes	pg	pg	pg	pg	pg	pg
2,3,7,8-TCDD	<2.2	<2.1	<2.6	<1.8	<3.4	<2.1
1,2,3,7,8-PeCDD	<2.1	<2.6	<2.1	<2.0	<3.5	<2.9
1,2,3,4,7,8-HxCDD	<2.4	<2.4	<4.5	<1.7	<2.4	<3.1
1,2,3,6,7,8-HxCDD	<2.8	<2.3	<4.3	<1.7	<4.4	<5.0
1,2,3,7,8,9-HxCDD	<2.2	<2.2	<4.2	<1.6	2.61	<3.3
1,2,3,4,6,7,8-HpCDD	20.1	25.6	29.7	3.30	<26	22.6
OCDD	39.7	<47	66.2	15.6	<46	42.4
2,3,7,8-TCDF	<2.9	<2.7	<4.1	<2.0	<3.3	<3.1
1,2,3,7,8-PeCDF	5.05	<2.6	<3.2	<1.3	<4.4	<3.1
2,3,4,7,8-PeCDF	<2.2	3.55	5.49	<1.2	<3.8	<3.3
1,2,3,4,7,8-HxCDF	<2.4	3.07	<3.3	<0.96	2.64	2.94
1,2,3,6,7,8-HxCDF	<2.2	3.57	4.61	<0.92	<2.5	<3.1
2,3,4,6,7,8-HxCDF	<3.7	4.21	<3.1	<0.95	3.64	5.81
1,2,3,7,8,9-HxCDF	<2.8	<1.8	<2.1	<1.2	<1.3	1.86
1,2,3,4,6,7,8-HpCDF	<12	<12	<14	<3.3	<11	<13
1,2,3,4,7,8,9-HpCDF	<3.6	<1.7	<3.9	<4.0	<1.3	<2.0
OCDF	<12	12.7	<16	<6.5	<12	15.1
Field Spike Standards	% Rec	% Rec	% Rec	% Rec	% Rec	% Rec
37Cl4-2,3,7,8-TCDD	104	101	100	100	100	98
13C12-1,2,3,4,7,8-HxCDD	109	106	106	110	104	92
13C12-2,3,4,7,8-PeCDF	103	103	104	104	104	101
13C12-1,2,3,4,7,8-HxCDF	103	99	100	95	96	88
13C12-1,2,3,4,7,8,9-HpCDF	105	106	102	112	102	92
Extraction Standards						
13C12-2,3,7,8-TCDD	54	64	42	58	49	52
13C12-1,2,3,7,8-PeCDD	61	73	47	67	54	59
13C12-1,2,3,6,7,8-HxCDD	63	74	49	69	59	64
13C12-1,2,3,4,6,7,8-HpCDD	62	74	47	72	58	60
13C12-OCDD	50	60	38	64	45	50
13C12-2,3,7,8-TCDF	47	58	37	51	44	48
13C12-1,2,3,7,8-PeCDF	57	68	45	64	52	54
13C12-1,2,3,6,7,8-HxCDF	65	78	52	75	63	66
13C12-1,2,3,4,6,7,8-HpCDF	59	72	47	69	55	58
Cleanup Standard						
13C12-1,2,3,7,8,9-HxCDF	69	79	89	75	63	64
Homologue Group Totals	pg	pg	pg	pg	pg	pg
Total-TCDD	11.2	19.2	4.61	<1.8	<3.4	22.3
Total-PeCDD	18.9	30.4	23.5	<2.0	30.7	32.4
Total-HxCDD	74.2	99.2	135	<1.7	72.4	85.7
Total-HpCDD	20.1	25.6	61.6	3.30	<1.7	52.1
Total-TCDF	3.24	<2.7	7.73	<2.0	7.43	10.6
Total-PeCDF	13.8	13.6	20.9	<1.3	5.58	12.1
Total-HxCDF	<2.8	14.3	4.61	<1.2	11.7	10.6
Total-HpCDF	<2.2	3.44	<2.2	<4.0	<1.3	6.59
Toxic Equivalency - (WHO 2005)						
Lower Bound PCDD/F TEQ (WHO 2005)	0.364	2.41	2.42	0.0377	0.889	1.30
Mid Point PCDD/F TEQ (WHO 2005)	4.52	5.65	6.61	2.74	7.11	6.48
Upper Bound PCDD/F TEQ (WHO 2005)	7.62	8.48	9.96	5.41	10.9	9.30

ALS Life Sciences

Sample Analysis summary Report

Sample Name 25-3852-SVOC-(31
thru 35) Test 3

ALS Sample ID BU2503006-007

Sample Size 1
Sample size units Sample
Percent Moisture n/a
Sample Matrix Impinger
Sampling Date 30-Oct-25
Extraction Date 3-Nov-25

Target Analytes **pg**

2,3,7,8-TCDD	<3.0
1,2,3,7,8-PeCDD	<2.5
1,2,3,4,7,8-HxCDD	<2.6
1,2,3,6,7,8-HxCDD	3.83
1,2,3,7,8,9-HxCDD	<3.5
1,2,3,4,6,7,8-HpCDD	<22
OCDD	45.2
2,3,7,8-TCDF	<3.3
1,2,3,7,8-PeCDF	<2.9
2,3,4,7,8-PeCDF	3.45
1,2,3,4,7,8-HxCDF	<3.0
1,2,3,6,7,8-HxCDF	<1.7
2,3,4,6,7,8-HxCDF	<5.1
1,2,3,7,8,9-HxCDF	<2.2
1,2,3,4,6,7,8-HpCDF	<17
1,2,3,4,7,8,9-HpCDF	<2.0
OCDF	<9.9

Field Spike Standards **% Rec**

37Cl4-2,3,7,8-TCDD	95
13C12-1,2,3,4,7,8-HxCDD	108
13C12-2,3,4,7,8-PeCDF	107
13C12-1,2,3,4,7,8-HxCDF	97
13C12-1,2,3,4,7,8,9-HpCDF	107

Extraction Standards

13C12-2,3,7,8-TCDD	55
13C12-1,2,3,7,8-PeCDD	61
13C12-1,2,3,6,7,8-HxCDD	61
13C12-1,2,3,4,6,7,8-HpCDD	60
13C12-OCDD	50
13C12-2,3,7,8-TCDF	50
13C12-1,2,3,7,8-PeCDF	57
13C12-1,2,3,6,7,8-HxCDF	67
13C12-1,2,3,4,6,7,8-HpCDF	59

Cleanup Standard

13C12-1,2,3,7,8,9-HxCDF	74
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Homologue Group Totals **pg**

Total-TCDD	21.8
Total-PeCDD	25.5
Total-HxCDD	3.83
Total-HpCDD	29.1
Total-TCDF	11.6
Total-PeCDF	6.86
Total-HxCDF	12.9
Total-HpCDF	<2.0

Toxic Equivalency - (WHO 2005)

Lower Bound PCDD/F TEQ (WHO 2005)	1.43
Mid Point PCDD/F TEQ (WHO 2005)	6.45
Upper Bound PCDD/F TEQ (WHO 2005)	9.57

ALS Life Sciences		
Quality Control Summary Report		
Sample Name	Method Blank	Laboratory Control Sample
ALS Sample ID	QC-MRG5-2311825001	QC-MRG3-2311827002
Sample Size	1	1
Sample size units	Sample	n/a
Percent Moisture	n/a	n/a
Sample Matrix	QC	QC
Sampling Date	n/a	n/a
Extraction Date	3-Nov-25	3-Nov-25
Target Analytes	pg	% Rec
2,3,7,8-TCDD	<4.0	98
1,2,3,7,8-PeCDD	<1.3	109
1,2,3,4,7,8-HxCDD	<2.9	106
1,2,3,6,7,8-HxCDD	<2.7	101
1,2,3,7,8,9-HxCDD	<2.7	106
1,2,3,4,6,7,8-HpCDD	<4.6	102
OCDD	<14	100
2,3,7,8-TCDF	<1.5	99
1,2,3,7,8-PeCDF	<1.7	105
2,3,4,7,8-PeCDF	<1.5	100
1,2,3,4,7,8-HxCDF	<1.9	99
1,2,3,6,7,8-HxCDF	<1.8	104
2,3,4,6,7,8-HxCDF	<1.9	94
1,2,3,7,8,9-HxCDF	<2.3	108
1,2,3,4,6,7,8-HpCDF	<4.8	108
1,2,3,4,7,8,9-HpCDF	<5.9	108
OCDF	6.88	109
Field Spike Standards	% Rec	% Rec
37Cl4-2,3,7,8-TCDD	NS	NS
13C12-1,2,3,4,7,8-HxCDD	NS	NS
13C12-2,3,4,7,8-PeCDF	NS	NS
13C12-1,2,3,4,7,8-HxCDF	NS	NS
13C12-1,2,3,4,7,8,9-HpCDF	NS	NS
Extraction Standards		
13C12-2,3,7,8-TCDD	55	56
13C12-1,2,3,7,8-PeCDD	62	65
13C12-1,2,3,6,7,8-HxCDD	67	68
13C12-1,2,3,4,6,7,8-HpCDD	65	65
13C12-OCDD	54	53
13C12-2,3,7,8-TCDF	48	51
13C12-1,2,3,7,8-PeCDF	57	61
13C12-1,2,3,6,7,8-HxCDF	69	70
13C12-1,2,3,4,6,7,8-HpCDF	62	63
Cleanup Standard		
13C12-1,2,3,7,8,9-HxCDF	75	73
Homologue Group Totals	pg	
Total-TCDD	<4.0	
Total-PeCDD	<1.3	
Total-HxCDD	<2.9	
Total-HpCDD	<1.4	
Total-TCDF	<1.5	
Total-PeCDF	<1.6	
Total-HxCDF	<2.3	
Total-HpCDF	<5.9	
Toxic Equivalency - (WHO 2005)		
Lower Bound PCDD/F TEQ (WHO 2005)	0.00206	
Mid Point PCDD/F TEQ (WHO 2005)	3.92	
Upper Bound PCDD/F TEQ (WHO 2005)	7.73	

ALS Life Sciences

Sample Analysis Report

Sample Name 25-3852-SVOC-(1 thru 5) Test 1
ALS Sample ID BU2503006-001
Analysis Method EPA M23
Analysis Type Sample
Sample Matrix Impinger

Sampling Date 29-Oct-25
Extraction Date 3-Nov-25
Sample Size 1 Sample
Percent Moisture n/a
Split Ratio 6

Approved:
M.Elchawiche
 --e-signature--
 12-Nov-2025

Run Information **Run 1**
Filename 12-251111A08
Run Date 11-Nov-25 11:59
Final Volume 20 uL
Dilution Factor 1
Analysis Units pg
Instrument - Column HRMS-12 ZB-DX1202940

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg	EDL pg	Flags	EMPC pg	LQL
2,3,7,8-TCDD	1	NotFnd	<2.2	2.2	U		60
1,2,3,7,8-PeCDD	1	NotFnd	<2.1	2.1	U		60
1,2,3,4,7,8-HxCDD	0.1	33.75	<2.4	2.4	U	1.7	60
1,2,3,6,7,8-HxCDD	0.1	33.81	<2.8	2.3	J,R	2.8	60
1,2,3,7,8,9-HxCDD	0.1	34.02	<2.2	2.2	U	2.1	60
1,2,3,4,6,7,8-HpCDD	0.01	36.33	20.1	2.4	J		60
OCDD	0.0003	39.27	39.7	2.9	J		120
2,3,7,8-TCDF	0.1	27.91	<2.9	2.9	U	1.4	60
1,2,3,7,8-PeCDF	0.03	30.83	5.05	2.4	M,J		60
2,3,4,7,8-PeCDF	0.3	31.39	<2.2	2.2	M,U	1.6	60
1,2,3,4,7,8-HxCDF	0.1	33.17	<2.4	2.3	J,R	2.4	60
1,2,3,6,7,8-HxCDF	0.1	33.27	<2.2	2.2	U	1.7	60
2,3,4,6,7,8-HxCDF	0.1	33.69	<3.7	2.3	J,R	3.7	60
1,2,3,7,8,9-HxCDF	0.1	34.40	<2.8	2.8	U	2.5	60
1,2,3,4,6,7,8-HpCDF	0.01	35.37	<12	1.8	J,R	12	60
1,2,3,4,7,8,9-HpCDF	0.01	36.98	<3.6	2.2	M,J,R	3.6	60
OCDF	0.0003	39.63	<12	2.9	M,J,R	12	120
Field Spike Standards	pg		% Rec	Limits			
37Cl4-2,3,7,8-TCDD	1200	28.48	104	70-130			
13C12-1,2,3,4,7,8-HxCDD	12000	33.74	109	70-130			
13C12-2,3,4,7,8-PeCDF	12000	31.42	103	70-130			
13C12-1,2,3,4,7,8-HxCDF	12000	33.16	103	70-130			
13C12-1,2,3,4,7,8,9-HpCDF	12000	36.97	105	70-130			
Extraction Standards							
13C12-2,3,7,8-TCDD	12000	28.47	54	40-130			
13C12-1,2,3,7,8-PeCDD	12000	31.53	61	40-130			
13C12-1,2,3,6,7,8-HxCDD	12000	33.81	63	40-130			
13C12-1,2,3,4,6,7,8-HpCDD	12000	36.31	62	25-130			
13C12-OCDD	24000	39.24	50	25-130			
13C12-2,3,7,8-TCDF	12000	27.91	47	40-130			
13C12-1,2,3,7,8-PeCDF	12000	30.80	57	40-130			
13C12-1,2,3,6,7,8-HxCDF	12000	33.25	65	40-130			
13C12-1,2,3,4,6,7,8-HpCDF	12000	35.35	59	25-130			
Cleanup Standard	pg						
13C12-1,2,3,7,8,9-HxCDF	12000	34.38	69	40-130			
Homologue Group Totals	# peaks		Conc. pg	EDL pg			
Total-TCDD	1	11.2	2.2			60	
Total-PeCDD	1	18.9	2.1			60	
Total-HxCDD	1	74.2	2.4			60	
Total-HpCDD	1	20.1	2.4			60	
Total-TCDF	1	3.24	2.9			60	
Total-PeCDF	3	13.8	2.4			60	
Total-HxCDF	0	<2.8	2.8		U	60	
Total-HpCDF	0	<2.2	2.2		U	60	

Toxic Equivalency - (WHO 2005) **pg**
Lower Bound PCDD/F TEQ (WHO 2005) 0.364
Mid Point PCDD/F TEQ (WHO 2005) 4.52
Upper Bound PCDD/F TEQ (WHO 2005) 7.62

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
 TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
 M Indicates that a peak has been manually integrated.
 U Indicates that this compound was not detected above the EDL.
 J indicates that a target analyte was detected below the calibrated range.
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Sample Analysis Report

Sample Name 25-3852-SVOC-(6 thru 10) Test 2
ALS Sample ID BU2503006-002
Analysis Method EPA M23
Analysis Type Sample
Sample Matrix Impinger

Sampling Date 29-Oct-25
Extraction Date 3-Nov-25
Sample Size 1 Sample
Percent Moisture n/a
Split Ratio 6

Approved:
M.Elchawiche
 --e-signature--
 12-Nov-2025

Run Information

Run 1

Filename 12-251111A09
Run Date 11-Nov-25 12:44
Final Volume 20 uL
Dilution Factor 1
Analysis Units pg
Instrument - Column HRMS-12 ZB-DX1202940

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg	EDL pg	Flags	EMPC pg	LQL
2,3,7,8-TCDD	1	NotFnd	<2.1	2.1	U		60
1,2,3,7,8-PeCDD	1	NotFnd	<2.6	2.6	U		60
1,2,3,4,7,8-HxCDD	0.1	33.74	<2.4	2.4	M,U	1.1	60
1,2,3,6,7,8-HxCDD	0.1	33.82	<2.3	2.3	M,U	2.0	60
1,2,3,7,8,9-HxCDD	0.1	34.01	<2.2	2.2	M,U	1.7	60
1,2,3,4,6,7,8-HpCDD	0.01	36.34	25.6	1.4	J		60
OCDD	0.0003	39.24	<47	5.0	J,R	47	120
2,3,7,8-TCDF	0.1	NotFnd	<2.7	2.7	U		60
1,2,3,7,8-PeCDF	0.03	30.83	<2.6	0.95	J,R	2.6	60
2,3,4,7,8-PeCDF	0.3	31.44	3.55	0.88	M,J		60
1,2,3,4,7,8-HxCDF	0.1	33.18	3.07	1.2	J		60
1,2,3,6,7,8-HxCDF	0.1	33.27	3.57	1.2	J		60
2,3,4,6,7,8-HxCDF	0.1	33.70	4.21	1.2	J		60
1,2,3,7,8,9-HxCDF	0.1	34.39	<1.8	1.5	J,R	1.8	60
1,2,3,4,6,7,8-HpCDF	0.01	35.38	<12	1.2	J,R	12	60
1,2,3,4,7,8,9-HpCDF	0.01	36.98	<1.7	1.5	M,J,R	1.7	60
OCDF	0.0003	39.64	12.7	4.5	M,J,B		120
Field Spike Standards	pg		% Rec	Limits			
37Cl4-2,3,7,8-TCDD	1200	28.50	101	70-130			
13C12-1,2,3,4,7,8-HxCDD	12000	33.74	106	70-130			
13C12-2,3,4,7,8-PeCDF	12000	31.43	103	70-130			
13C12-1,2,3,4,7,8-HxCDF	12000	33.17	99	70-130			
13C12-1,2,3,4,7,8,9-HpCDF	12000	36.97	106	70-130			
Extraction Standards							
13C12-2,3,7,8-TCDD	12000	28.48	64	40-130			
13C12-1,2,3,7,8-PeCDD	12000	31.54	73	40-130			
13C12-1,2,3,6,7,8-HxCDD	12000	33.82	74	40-130			
13C12-1,2,3,4,6,7,8-HpCDD	12000	36.33	74	25-130			
13C12-OCDD	24000	39.26	60	25-130			
13C12-2,3,7,8-TCDF	12000	27.93	58	40-130			
13C12-1,2,3,7,8-PeCDF	12000	30.81	68	40-130			
13C12-1,2,3,6,7,8-HxCDF	12000	33.26	78	40-130			
13C12-1,2,3,4,6,7,8-HpCDF	12000	35.37	72	25-130			
Cleanup Standard	pg						
13C12-1,2,3,7,8,9-HxCDF	12000	34.39	79	40-130			
Homologue Group Totals	# peaks		Conc. pg	EDL pg			
Total-TCDD	2	19.2	2.1			60	
Total-PeCDD	3	30.4	2.6			60	
Total-HxCDD	2	99.2	2.4			60	
Total-HpCDD	1	25.6	1.4			60	
Total-TCDF	0	<2.7	2.7		U	60	
Total-PeCDF	4	13.6	0.95			60	
Total-HxCDF	4	14.3	1.5			60	
Total-HpCDF	1	3.44	1.5			60	

Toxic Equivalency - (WHO 2005)

pg

Lower Bound PCDD/F TEQ (WHO 2005)

2.41

Mid Point PCDD/F TEQ (WHO 2005)

5.65

Upper Bound PCDD/F TEQ (WHO 2005)

8.48

EDL	Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
TEF	Indicates the Toxic Equivalency Factor
TEQ	Indicates the Toxic Equivalency
M	Indicates that a peak has been manually integrated.
U	Indicates that this compound was not detected above the EDL.
J	Indicates that a target analyte was detected below the calibrated range.
R	Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.
B	Indicates that this target was detected in the blank at greater than 10% of the sample concentration.
LQL	Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
EMPC	Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Sample Analysis Report

Sample Name 25-3852-SVOC-(11 thru 15) Test 3
ALS Sample ID BU2503006-003
Analysis Method EPA M23
Analysis Type Sample
Sample Matrix Impinger

Sampling Date 30-Oct-25
Extraction Date 3-Nov-25
Sample Size 1 Sample
Percent Moisture n/a
Split Ratio 6

Approved:
M.Elchawiche
 --e-signature--
 12-Nov-2025

Run Information

Run 1

Filename 12-251111A10
Run Date 11-Nov-25 13:29
Final Volume 20 uL
Dilution Factor 1
Analysis Units pg
Instrument - Column HRMS-12 ZB-DX1202940

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg	EDL pg	Flags	EMPC pg	LQL
2,3,7,8-TCDD	1	NotFnd	<2.6	2.6	U		60
1,2,3,7,8-PeCDD	1	NotFnd	<2.1	2.1	U		60
1,2,3,4,7,8-HxCDD	0.1	33.74	<4.5	4.5	M,U	1.3	60
1,2,3,6,7,8-HxCDD	0.1	33.81	<4.3	4.3	M,U	2.4	60
1,2,3,7,8,9-HxCDD	0.1	34.02	<4.2	4.2	M,U	3.6	60
1,2,3,4,6,7,8-HpCDD	0.01	36.33	29.7	1.2	J		60
OCDD	0.0003	39.27	66.2	11	M,J		120
2,3,7,8-TCDF	0.1	27.93	<4.1	4.1	M,U	1.4	60
1,2,3,7,8-PeCDF	0.03	30.81	<3.2	3.2	U		60
2,3,4,7,8-PeCDF	0.3	31.44	5.49	3.0	J		60
1,2,3,4,7,8-HxCDF	0.1	33.18	<3.3	1.7	J,R	3.3	60
1,2,3,6,7,8-HxCDF	0.1	33.26	4.61	1.6	M,J		60
2,3,4,6,7,8-HxCDF	0.1	33.70	<3.1	1.7	J,R	3.1	60
1,2,3,7,8,9-HxCDF	0.1	34.42	<2.1	2.1	M,U	1.5	60
1,2,3,4,6,7,8-HpCDF	0.01	35.38	<14	1.8	J,R	14	60
1,2,3,4,7,8,9-HpCDF	0.01	36.99	<3.9	2.2	M,J,R	3.9	60
OCDF	0.0003	39.60	<16	4.2	M,J,R	16	120
Field Spike Standards	pg		% Rec	Limits			
37Cl4-2,3,7,8-TCDD	1200	28.50	100	70-130			
13C12-1,2,3,4,7,8-HxCDD	12000	33.74	106	70-130			
13C12-2,3,4,7,8-PeCDF	12000	31.43	104	70-130			
13C12-1,2,3,4,7,8-HxCDF	12000	33.16	100	70-130			
13C12-1,2,3,4,7,8,9-HpCDF	12000	36.97	102	70-130			
Extraction Standards							
13C12-2,3,7,8-TCDD	12000	28.47	42	40-130			
13C12-1,2,3,7,8-PeCDD	12000	31.53	47	40-130			
13C12-1,2,3,6,7,8-HxCDD	12000	33.81	49	40-130			
13C12-1,2,3,4,6,7,8-HpCDD	12000	36.31	47	25-130			
13C12-OCDD	24000	39.24	38	25-130			
13C12-2,3,7,8-TCDF	12000	27.91	37	40-130			
13C12-1,2,3,7,8-PeCDF	12000	30.80	45	40-130			
13C12-1,2,3,6,7,8-HxCDF	12000	33.26	52	40-130			
13C12-1,2,3,4,6,7,8-HpCDF	12000	35.37	47	25-130			
Cleanup Standard	pg						
13C12-1,2,3,7,8,9-HxCDF	12000	34.39	89	40-130			
Homologue Group Totals	# peaks		Conc. pg	EDL pg			
Total-TCDD	1	4.61	2.6			60	
Total-PeCDD	2	23.5	2.1			60	
Total-HxCDD	2	135	4.5			60	
Total-HpCDD	2	61.6	1.2			60	
Total-TCDF	1	7.73	4.1			60	
Total-PeCDF	4	20.9	3.2			60	
Total-HxCDF	1	4.61	2.1			60	
Total-HpCDF	0	<2.2	2.2	U		60	

Toxic Equivalency - (WHO 2005)

pg

Lower Bound PCDD/F TEQ (WHO 2005)

2.42

Mid Point PCDD/F TEQ (WHO 2005)

6.61

Upper Bound PCDD/F TEQ (WHO 2005)

9.96

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
 TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency

M Indicates that a peak has been manually integrated.
 U Indicates that this compound was not detected above the EDL.
 J indicates that a target analyte was detected below the calibrated range.
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Sample Analysis Report

Sample Name 25-3852-SVOC-(16 thru 20) Blank
ALS Sample ID BU2503006-004
Analysis Method EPA M23
Analysis Type Sample
Sample Matrix Impinger

Sampling Date 30-Oct-25
Extraction Date 3-Nov-25
Sample Size 1 Sample
Percent Moisture n/a
Split Ratio 6

Approved:
M.Elchawiche
 --e-signature--
 12-Nov-2025

Run Information

Run 1

Filename 12-251111A11
Run Date 11-Nov-25 14:14
Final Volume 20 uL
Dilution Factor 1
Analysis Units pg
Instrument - Column HRMS-12 ZB-DX1202940

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg	EDL pg	Flags	EMPC pg	LQL
2,3,7,8-TCDD	1	NotFnd	<1.8	1.8	U		60
1,2,3,7,8-PeCDD	1	31.54	<2.0	2.0	M,U	0.59	60
1,2,3,4,7,8-HxCDD	0.1	NotFnd	<1.7	1.7	U		60
1,2,3,6,7,8-HxCDD	0.1	NotFnd	<1.7	1.7	U		60
1,2,3,7,8,9-HxCDD	0.1	NotFnd	<1.6	1.6	U		60
1,2,3,4,6,7,8-HpCDD	0.01	36.35	3.30	2.3	M,J		60
OCDD	0.0003	39.23	15.6	7.4	M,J		120
2,3,7,8-TCDF	0.1	NotFnd	<2.0	2.0	U		60
1,2,3,7,8-PeCDF	0.03	NotFnd	<1.3	1.3	U		60
2,3,4,7,8-HxCDF	0.3	NotFnd	<1.2	1.2	U		60
1,2,3,4,7,8-HxCDF	0.1	NotFnd	<0.96	0.96	U		60
1,2,3,6,7,8-HxCDF	0.1	NotFnd	<0.92	0.92	U		60
2,3,4,6,7,8-HxCDF	0.1	33.71	<0.95	0.95	M,U	0.77	60
1,2,3,7,8,9-HxCDF	0.1	34.39	<1.2	1.2	M,U	0.86	60
1,2,3,4,6,7,8-HpCDF	0.01	35.37	<3.3	3.2	J,R	3.3	60
1,2,3,4,7,8,9-HpCDF	0.01	36.99	<4.0	4.0	M,U	1.1	60
OCDF	0.0003	39.62	<6.5	2.7	M,J,R	6.5	120
Field Spike Standards	pg		% Rec	Limits			
37Cl4-2,3,7,8-TCDD	1200	28.50	100	70-130			
13C12-1,2,3,4,7,8-HxCDD	12000	33.74	110	70-130			
13C12-2,3,4,7,8-PeCDF	12000	31.43	104	70-130			
13C12-1,2,3,4,7,8-HxCDF	12000	33.17	95	70-130			
13C12-1,2,3,4,7,8,9-HpCDF	12000	36.97	112	70-130			
Extraction Standards							
13C12-2,3,7,8-TCDD	12000	28.48	58	40-130			
13C12-1,2,3,7,8-PeCDD	12000	31.54	67	40-130			
13C12-1,2,3,6,7,8-HxCDD	12000	33.82	69	40-130			
13C12-1,2,3,4,6,7,8-HpCDD	12000	36.31	72	25-130			
13C12-OCDD	24000	39.24	64	25-130			
13C12-2,3,7,8-TCDF	12000	27.93	51	40-130			
13C12-1,2,3,7,8-PeCDF	12000	30.81	64	40-130			
13C12-1,2,3,6,7,8-HxCDF	12000	33.26	75	40-130			
13C12-1,2,3,4,6,7,8-HpCDF	12000	35.37	69	25-130			
Cleanup Standard	pg						
13C12-1,2,3,7,8,9-HxCDF	12000	34.39	75	40-130			
Homologue Group Totals	# peaks		Conc. pg	EDL pg			
Total-TCDD	0	<1.8	1.8	U		60	
Total-PeCDD	0	<2.0	2.0	U		60	
Total-HxCDD	0	<1.7	1.7	U		60	
Total-HpCDD	1	3.30	2.3			60	
Total-TCDF	0	<2.0	2.0	U		60	
Total-PeCDF	0	<1.3	1.3	U		60	
Total-HxCDF	0	<1.2	1.2	U		60	
Total-HpCDF	0	<4.0	4.0	U		60	

Toxic Equivalency - (WHO 2005)

pg

Lower Bound PCDD/F TEQ (WHO 2005) 0.0377

Mid Point PCDD/F TEQ (WHO 2005) 2.74

Upper Bound PCDD/F TEQ (WHO 2005) 5.41

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
 TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency

M Indicates that a peak has been manually integrated.
 U Indicates that this compound was not detected above the EDL.
 J indicates that a target analyte was detected below the calibrated range.
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Sample Analysis Report

Sample Name 25-3852-SVOC-(21 thru 25) Test 1
ALS Sample ID BU2503006-005
Analysis Method EPA M23
Analysis Type Sample
Sample Matrix Impinger

Sampling Date 29-Oct-25
Extraction Date 3-Nov-25
Sample Size 1
Percent Moisture n/a
Split Ratio 6

Approved:
M.Elchawiche
 --e-signature--
 12-Nov-2025

Run Information

Run 1

Filename 12-251111A12
Run Date 11-Nov-25 14:58
Final Volume 20 uL
Dilution Factor 1
Analysis Units pg
Instrument - Column HRMS-12 ZB-DX1202940

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg	EDL pg	Flags	EMPC pg	LQL
2,3,7,8-TCDD	1	NotFnd	<3.4	3.4	U		60
1,2,3,7,8-PeCDD	1	31.53	<3.5	3.5	M,U	1.7	60
1,2,3,4,7,8-HxCDD	0.1	33.73	<2.4	2.4	M,U	1.4	60
1,2,3,6,7,8-HxCDD	0.1	33.82	<4.4	2.3	M,J,R	4.4	60
1,2,3,7,8,9-HxCDD	0.1	34.02	2.61	2.3	M,J		60
1,2,3,4,6,7,8-HpCDD	0.01	36.30	<26	1.7	J,R	26	60
OCDD	0.0003	39.23	<46	6.0	J,R	46	120
2,3,7,8-TCDF	0.1	NotFnd	<3.3	3.3	U		60
1,2,3,7,8-PeCDF	0.03	30.81	<4.4	3.3	J,R	4.4	60
2,3,4,7,8-PeCDF	0.3	31.41	<3.8	3.1	J,R	3.8	60
1,2,3,4,7,8-HxCDF	0.1	33.16	2.64	1.0	J		60
1,2,3,6,7,8-HxCDF	0.1	33.25	<2.5	1.0	J,R	2.5	60
2,3,4,6,7,8-HxCDF	0.1	33.68	3.64	1.0	J		60
1,2,3,7,8,9-HxCDF	0.1	34.40	<1.3	1.3	M,J,R	1.3	60
1,2,3,4,6,7,8-HpCDF	0.01	35.35	<11	1.0	J,R	11	60
1,2,3,4,7,8,9-HpCDF	0.01	36.97	<1.3	1.3	M,U	1.1	60
OCDF	0.0003	39.60	<12	4.2	M,J,R	12	120
Field Spike Standards	pg		% Rec	Limits			
37Cl4-2,3,7,8-TCDD	1200	28.48	100	70-130			
13C12-1,2,3,4,7,8-HxCDD	12000	33.73	104	70-130			
13C12-2,3,4,7,8-PeCDF	12000	31.41	104	70-130			
13C12-1,2,3,4,7,8-HxCDF	12000	33.15	96	70-130			
13C12-1,2,3,4,7,8,9-HpCDF	12000	36.94	102	70-130			
Extraction Standards							
13C12-2,3,7,8-TCDD	12000	28.47	49	40-130			
13C12-1,2,3,7,8-PeCDD	12000	31.53	54	40-130			
13C12-1,2,3,6,7,8-HxCDD	12000	33.80	59	40-130			
13C12-1,2,3,4,6,7,8-HpCDD	12000	36.30	58	25-130			
13C12-OCDD	24000	39.22	45	25-130			
13C12-2,3,7,8-TCDF	12000	27.91	44	40-130			
13C12-1,2,3,7,8-PeCDF	12000	30.80	52	40-130			
13C12-1,2,3,6,7,8-HxCDF	12000	33.25	63	40-130			
13C12-1,2,3,4,6,7,8-HpCDF	12000	35.34	55	25-130			
Cleanup Standard	pg						
13C12-1,2,3,7,8,9-HxCDF	12000	34.37	63	40-130			
Homologue Group Totals	# peaks		Conc. pg	EDL pg			
Total-TCDD	0	<3.4	3.4	U		60	
Total-PeCDD	3	30.7	3.5			60	
Total-HxCDD	3	72.4	2.4			60	
Total-HpCDD	0	<1.7	1.7	U		60	
Total-TCDF	2	7.43	3.3			60	
Total-PeCDF	1	5.58	3.3			60	
Total-HxCDF	4	11.7	1.3			60	
Total-HpCDF	0	<1.3	1.3	U		60	

Toxic Equivalency - (WHO 2005)

pg

Lower Bound PCDD/F TEQ (WHO 2005) 0.889

Mid Point PCDD/F TEQ (WHO 2005) 7.11

Upper Bound PCDD/F TEQ (WHO 2005) 10.9

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
 TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency

M Indicates that a peak has been manually integrated.
 U Indicates that this compound was not detected above the EDL.
 J indicates that a target analyte was detected below the calibrated range.
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Sample Analysis Report

Sample Name 25-3852-SVOC-(26 thru 30) Test 2
ALS Sample ID BU2503006-006
Analysis Method EPA M23
Analysis Type Sample
Sample Matrix Impinger

Sampling Date 29-Oct-25
Extraction Date 3-Nov-25
Sample Size 1 Sample
Percent Moisture n/a
Split Ratio 6

Approved:
M.Elchawiche
 --e-signature--
 12-Nov-2025

Run Information **Run 1**
Filename 12-251111A13
Run Date 11-Nov-25 15:43
Final Volume 20 uL
Dilution Factor 1
Analysis Units pg
Instrument - Column HRMS-12 ZB-DX1202940

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg	EDL pg	Flags	EMPC pg	LQL
2,3,7,8-TCDD	1	NotFnd	<2.1	2.1	U		60
1,2,3,7,8-PeCDD	1	NotFnd	<2.9	2.9	U		60
1,2,3,4,7,8-HxCDD	0.1	33.75	<3.1	3.1	M,U	1.0	60
1,2,3,6,7,8-HxCDD	0.1	33.82	<5.0	3.0	M,J,R	5.0	60
1,2,3,7,8,9-HxCDD	0.1	34.01	<3.3	2.9	M,J,R	3.3	60
1,2,3,4,6,7,8-HpCDD	0.01	36.31	22.6	4.4	J		60
OCDD	0.0003	39.26	42.4	3.1	M,J		120
2,3,7,8-TCDF	0.1	27.94	<3.1	3.1	M,U	3.1	60
1,2,3,7,8-PeCDF	0.03	30.81	<3.1	1.5	J,R	3.1	60
2,3,4,7,8-PeCDF	0.3	31.44	<3.3	1.4	M,J,R	3.3	60
1,2,3,4,7,8-HxCDF	0.1	33.17	2.94	0.96	J		60
1,2,3,6,7,8-HxCDF	0.1	33.26	<3.1	0.93	J,R	3.1	60
2,3,4,6,7,8-HxCDF	0.1	33.69	5.81	0.96	J		60
1,2,3,7,8,9-HxCDF	0.1	34.38	1.86	1.2	M,J		60
1,2,3,4,6,7,8-HpCDF	0.01	35.37	<13	1.6	J,R	13	60
1,2,3,4,7,8,9-HpCDF	0.01	36.97	<2.0	2.0	M,U	1.0	60
OCDF	0.0003	39.60	15.1	3.6	M,J,B		120
Field Spike Standards	pg		% Rec	Limits			
37Cl4-2,3,7,8-TCDD	1200	28.48	98	70-130			
13C12-1,2,3,4,7,8-HxCDD	12000	33.74	92	70-130			
13C12-2,3,4,7,8-PeCDF	12000	31.42	101	70-130			
13C12-1,2,3,4,7,8-HxCDF	12000	33.16	88	70-130			
13C12-1,2,3,4,7,8,9-HpCDF	12000	36.97	92	70-130			
Extraction Standards							
13C12-2,3,7,8-TCDD	12000	28.47	52	40-130			
13C12-1,2,3,7,8-PeCDD	12000	31.53	59	40-130			
13C12-1,2,3,6,7,8-HxCDD	12000	33.81	64	40-130			
13C12-1,2,3,4,6,7,8-HpCDD	12000	36.31	60	25-130			
13C12-OCDD	24000	39.24	50	25-130			
13C12-2,3,7,8-TCDF	12000	27.91	48	40-130			
13C12-1,2,3,7,8-PeCDF	12000	30.80	54	40-130			
13C12-1,2,3,6,7,8-HxCDF	12000	33.26	66	40-130			
13C12-1,2,3,4,6,7,8-HpCDF	12000	35.35	58	25-130			
Cleanup Standard	pg						
13C12-1,2,3,7,8,9-HxCDF	12000	34.38	64	40-130			
Homologue Group Totals	# peaks		Conc. pg	EDL pg			
Total-TCDD	1	22.3	2.1			60	
Total-PeCDD	2	32.4	2.9			60	
Total-HxCDD	2	85.7	3.1			60	
Total-HpCDD	2	52.1	4.4			60	
Total-TCDF	3	10.6	3.1			60	
Total-PeCDF	2	12.1	1.5			60	
Total-HxCDF	3	10.6	1.2			60	
Total-HpCDF	2	6.59	2.0			60	

Toxic Equivalency - (WHO 2005) **pg**
Lower Bound PCDD/F TEQ (WHO 2005) 1.30
Mid Point PCDD/F TEQ (WHO 2005) 6.48
Upper Bound PCDD/F TEQ (WHO 2005) 9.30

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
 TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
 M Indicates that a peak has been manually integrated.
 U Indicates that this compound was not detected above the EDL.
 J indicates that a target analyte was detected below the calibrated range.
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Sample Analysis Report

Sample Name 25-3852-SVOC-(31 thru 35) Test 3
ALS Sample ID BU2503006-007
Analysis Method EPA M23
Analysis Type Sample
Sample Matrix Impinger

Sampling Date 30-Oct-25
Extraction Date 3-Nov-25
Sample Size 1 Sample
Percent Moisture n/a
Split Ratio 6

Approved:
M.Elchawiche
 --e-signature--
 12-Nov-2025

Run Information

Run 1

Filename 12-251111A14
Run Date 11-Nov-25 16:28
Final Volume 20 uL
Dilution Factor 1
Analysis Units pg
Instrument - Column HRMS-12 ZB-DX1202940

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg	EDL pg	Flags	EMPC pg	LQL
2,3,7,8-TCDD	1	28.51	<3.0	3.0	U	2.2	60
1,2,3,7,8-PeCDD	1	NotFnd	<2.5	2.5	U		60
1,2,3,4,7,8-HxCDD	0.1	33.74	<2.6	2.5	M,J,R	2.6	60
1,2,3,6,7,8-HxCDD	0.1	33.82	3.83	2.4	M,J		60
1,2,3,7,8,9-HxCDD	0.1	34.01	<3.5	2.3	M,J,R	3.5	60
1,2,3,4,6,7,8-HpCDD	0.01	36.31	<22	1.6	J,R	22	60
OCDD	0.0003	39.24	45.2	3.1	J		120
2,3,7,8-TCDF	0.1	27.91	<3.3	3.3	U	2.1	60
1,2,3,7,8-PeCDF	0.03	30.81	<2.9	1.8	M,J,R	2.9	60
2,3,4,7,8-PeCDF	0.3	31.44	3.45	1.7	M,J		60
1,2,3,4,7,8-HxCDF	0.1	33.17	<3.0	1.8	J,R	3.0	60
1,2,3,6,7,8-HxCDF	0.1	33.26	<1.7	1.7	U	1.4	60
2,3,4,6,7,8-HxCDF	0.1	33.69	<5.1	1.8	J,R	5.1	60
1,2,3,7,8,9-HxCDF	0.1	34.39	<2.2	2.2	M,U	1.8	60
1,2,3,4,6,7,8-HpCDF	0.01	35.37	<17	1.6	J,R	17	60
1,2,3,4,7,8,9-HpCDF	0.01	NotFnd	<2.0	2.0	U		60
OCDF	0.0003	39.61	<9.9	7.3	M,J,R	9.9	120
Field Spike Standards	pg		% Rec	Limits			
37Cl4-2,3,7,8-TCDD	1200	28.48	95	70-130			
13C12-1,2,3,4,7,8-HxCDD	12000	33.74	108	70-130			
13C12-2,3,4,7,8-PeCDF	12000	31.43	107	70-130			
13C12-1,2,3,4,7,8-HxCDF	12000	33.16	97	70-130			
13C12-1,2,3,4,7,8,9-HpCDF	12000	36.95	107	70-130			
Extraction Standards							
13C12-2,3,7,8-TCDD	12000	28.47	55	40-130			
13C12-1,2,3,7,8-PeCDD	12000	31.53	61	40-130			
13C12-1,2,3,6,7,8-HxCDD	12000	33.81	61	40-130			
13C12-1,2,3,4,6,7,8-HpCDD	12000	36.31	60	25-130			
13C12-OCDD	24000	39.24	50	25-130			
13C12-2,3,7,8-TCDF	12000	27.91	50	40-130			
13C12-1,2,3,7,8-PeCDF	12000	30.80	57	40-130			
13C12-1,2,3,6,7,8-HxCDF	12000	33.26	67	40-130			
13C12-1,2,3,4,6,7,8-HpCDF	12000	35.35	59	25-130			
Cleanup Standard	pg						
13C12-1,2,3,7,8,9-HxCDF	12000	34.38	74	40-130			
Homologue Group Totals	# peaks		Conc. pg	EDL pg			
Total-TCDD	2	21.8	3.0			60	
Total-PeCDD	1	25.5	2.5			60	
Total-HxCDD	1	3.83	2.5			60	
Total-HpCDD	1	29.1	1.6			60	
Total-TCDF	2	11.6	3.3			60	
Total-PeCDF	2	6.86	1.8			60	
Total-HxCDF	2	12.9	2.2			60	
Total-HpCDF	0	<2.0	2.0	U		60	

Toxic Equivalency - (WHO 2005)

pg

Lower Bound PCDD/F TEQ (WHO 2005) 1.43
Mid Point PCDD/F TEQ (WHO 2005) 6.45
Upper Bound PCDD/F TEQ (WHO 2005) 9.57

EDL	Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
TEF	Indicates the Toxic Equivalency Factor
TEQ	Indicates the Toxic Equivalency
M	Indicates that a peak has been manually integrated.
U	Indicates that this compound was not detected above the EDL.
J	Indicates that a target analyte was detected below the calibrated range.
R	Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.
LQL	Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
EMPC	Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Laboratory Method Blank Analysis Report

Sample Name	Method Blank	Sampling Date	n/a	sample	Approved: <i>M. Elchawiche</i> --e-signature-- 12-Nov-2025
ALS Sample ID	QC-MRG5-2311825001	Extraction Date	3-Nov-25		
Analysis Method	EPA M23	Sample Size	1		
Analysis Type	Blank	Percent Moisture	n/a		
Sample Matrix	QC	Split Ratio	6		

Run Information	Run 1
Filename	12-251111A07
Run Date	11-Nov-25 11:14
Final Volume	20 uL
Dilution Factor	1
Analysis Units	pg
Instrument - Column	HRMS-12 ZB-DX1202940

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg	EDL pg	Flags	EMPC pg	LQL
2,3,7,8-TCDD	1	NotFnd	<4.0	4.0	U		60
1,2,3,7,8-PeCDD	1	NotFnd	<1.3	1.3	U		60
1,2,3,4,7,8-HxCDD	0.1	NotFnd	<2.9	2.9	U		60
1,2,3,6,7,8-HxCDD	0.1	NotFnd	<2.7	2.7	U		60
1,2,3,7,8,9-HxCDD	0.1	34.07	<2.7	2.7	M,U	1.8	60
1,2,3,4,6,7,8-HpCDD	0.01	36.35	<4.6	1.4	J,R	4.6	60
OCDD	0.0003	39.28	<14	4.3	M,J,R	14	120
2,3,7,8-TCDF	0.1	NotFnd	<1.5	1.5	U		60
1,2,3,7,8-PeCDF	0.03	30.81	<1.7	1.6	J,R	1.7	60
2,3,4,7,8-PeCDF	0.3	NotFnd	<1.5	1.5	U		60
1,2,3,4,7,8-HxCDF	0.1	NotFnd	<1.9	1.9	U		60
1,2,3,6,7,8-HxCDF	0.1	NotFnd	<1.8	1.8	U		60
2,3,4,6,7,8-HxCDF	0.1	NotFnd	<1.9	1.9	U		60
1,2,3,7,8,9-HxCDF	0.1	NotFnd	<2.3	2.3	U		60
1,2,3,4,6,7,8-HpCDF	0.01	35.37	<4.8	4.8	M,U		60
1,2,3,4,7,8,9-HpCDF	0.01	36.98	<5.9	5.9	M,U	1.9	60
OCDF	0.0003	39.63	6.88	5.8	M,J		120
Field Spike Standards	pg		% Rec	Limits			
37Cl4-2,3,7,8-TCDD	0		NS				
13C12-1,2,3,4,7,8-HxCDD	0		NS				
13C12-2,3,4,7,8-PeCDF	0		NS				
13C12-1,2,3,4,7,8-HxCDF	0		NS				
13C12-1,2,3,4,7,8,9-HpCDF	0		NS				
Extraction Standards							
13C12-2,3,7,8-TCDD	12000	28.48	55	40-130			
13C12-1,2,3,7,8-PeCDD	12000	31.54	62	40-130			
13C12-1,2,3,6,7,8-HxCDD	12000	33.82	67	40-130			
13C12-1,2,3,4,6,7,8-HpCDD	12000	36.33	65	25-130			
13C12-OCDD	24000	39.26	54	25-130			
13C12-2,3,7,8-TCDF	12000	27.93	48	40-130			
13C12-1,2,3,7,8-PeCDF	12000	30.81	57	40-130			
13C12-1,2,3,6,7,8-HxCDF	12000	33.26	69	40-130			
13C12-1,2,3,4,6,7,8-HpCDF	12000	35.37	62	25-130			
Cleanup Standard	pg						
13C12-1,2,3,7,8,9-HxCDF	12000	34.39	75	40-130			
Homologue Group Totals	# peaks		Conc. pg	EDL pg			
Total-TCDD	0		<4.0	4.0	U		60
Total-PeCDD	0		<1.3	1.3	U		60
Total-HxCDD	0		<2.9	2.9	U		60
Total-HpCDD	0		<1.4	1.4	U		60
Total-TCDF	0		<1.5	1.5	U		60
Total-PeCDF	0		<1.6	1.6	U		60
Total-HxCDF	0		<2.3	2.3	U		60
Total-HpCDF	0		<5.9	5.9	U		60

Toxic Equivalency - (WHO 2005)	pg
Lower Bound PCDD/F TEQ (WHO 2005)	0.00206
Mid Point PCDD/F TEQ (WHO 2005)	3.92
Upper Bound PCDD/F TEQ (WHO 2005)	7.73

EDL	Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
TEF	Indicates the Toxic Equivalency Factor
	TEQ Indicates the Toxic Equivalency
M	Indicates that a peak has been manually integrated.
U	Indicates that this compound was not detected above the EDL.
J	Indicates that a target analyte was detected below the calibrated range.
R	Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.
LQL	Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
EMPC	Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure
NS	Indicates that this compound was not spiked

ALS Life Sciences

Laboratory Control Sample Analysis Report

Sample Name	Laboratory Control Sample	Sampling Date	n/a	Approved: M.Elchawiche --e-signature-- 12-Nov-2025
ALS Sample ID	QC-MRG3-2311827002	Extraction Date	3-Nov-25	
Analysis Method	EPA M23	Sample Size	1 n/a	
Analysis Type	LCS	Percent Moisture	n/a	
Sample Matrix	QC	Split Ratio	6	

Run Information	Run 1
Filename	12-251111A02
Run Date	11-Nov-25 08:56
Final Volume	20 uL
Dilution Factor	1
Analysis Units	%
Instrument - Column	HRMS-12 ZB-DX1202940

Target Analytes	pg	Ret. Time	% Rec	Limits	Flags
2,3,7,8-TCDD	1200	28.50	98	70-130	
1,2,3,7,8-PeCDD	6000	31.54	109	70-130	
1,2,3,4,7,8-HxCDD	6000	33.75	106	70-130	
1,2,3,6,7,8-HxCDD	6000	33.82	101	70-130	
1,2,3,7,8,9-HxCDD	6000	34.02	106	70-130	
1,2,3,4,6,7,8-HpCDD	6000	36.33	102	70-130	
OCDD	12000	39.26	100	70-130	
2,3,7,8-TCDF	1200	27.94	99	70-130	
1,2,3,7,8-PeCDF	6000	30.81	105	70-130	
2,3,4,7,8-PeCDF	6000	31.43	100	70-130	
1,2,3,4,7,8-HxCDF	6000	33.17	99	70-130	
1,2,3,6,7,8-HxCDF	6000	33.27	104	70-130	
2,3,4,6,7,8-HxCDF	6000	33.69	94	70-130	
1,2,3,7,8,9-HxCDF	6000	34.39	108	70-130	
1,2,3,4,6,7,8-HpCDF	6000	35.37	108	70-130	
1,2,3,4,7,8,9-HpCDF	6000	36.97	108	70-130	
OCDF	12000	39.61	109	70-130	
Field Spike Standards	pg		% Rec	Limits	
37Cl4-2,3,7,8-TCDD	0		NS		
13C12-1,2,3,4,7,8-HxCDD	0		NS		
13C12-2,3,4,7,8-PeCDF	0		NS		
13C12-1,2,3,4,7,8-HxCDF	0		NS		
13C12-1,2,3,4,7,8,9-HpCDF	0		NS		
Extraction Standards					
13C12-2,3,7,8-TCDD	12000	28.48	56	40-130	
13C12-1,2,3,7,8-PeCDD	12000	31.53	65	40-130	
13C12-1,2,3,6,7,8-HxCDD	12000	33.81	68	40-130	
13C12-1,2,3,4,6,7,8-HpCDD	12000	36.31	65	25-130	
13C12-OCDD	24000	39.23	53	25-130	
13C12-2,3,7,8-TCDF	12000	27.93	51	40-130	
13C12-1,2,3,7,8-PeCDF	12000	30.80	61	40-130	
13C12-1,2,3,6,7,8-HxCDF	12000	33.26	70	40-130	
13C12-1,2,3,4,6,7,8-HpCDF	12000	35.37	63	25-130	
Cleanup Standard	pg				
13C12-1,2,3,7,8,9-HxCDF	12000	34.38	73	40-130	

NS Indicates that this compound was not spiked



1435 Norjohn Court, Unit 1, Burlington, ON, Canada L7L 0E6
Phone: 905-331-3111, FAX: 905-331-4567

Certificate of Analysis

ALS Project Contact: Robert Chin
ALS Project ID: ORTE100
ALS WO#: BU2503006
Date of Report: 18-Nov-25
Date of Sample Receipt: 31-Oct-25

Client Name: Alliance Technical Group North Inc.
Client Address: 804 Southdown Road
Mississauga ON
L5J 2Y4
Client Contact: Chris Belore
Client Project ID:

COMMENTS: PCB Congeners by EPA 1668C

PCB Congener Group Totals and Total PCB are a sum of detected values, including EMPC values, consistent with USEPA CLP SOW CBC1.2

Certified by:

A handwritten signature in black ink, appearing to read "S Jin".

Sabrina Jin
Technical Specialist

Results in this certificate relate only to the samples as submitted to the laboratory.
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ALS Life Sciences						
Sample Analysis Summary Report						
Sample Name	25-3852-SVOC-(1 thru 5) Test 1	25-3852-SVOC-(6 thru 10) Test 2	25-3852-SVOC-(11 thru 15) Test 3	25-3852-SVOC-(16 thru 20) Blank	25-3852-SVOC-(21 thru 25) Test 1	25-3852-SVOC-(26 thru 30) Test 2
ALS Sample ID	BU2503006-001	BU2503006-002	BU2503006-003	BU2503006-004	BU2503006-005	BU2503006-006
Sample Size	1	1	1	1	1	1
Sample size units	Sample	Sample	Sample	Sample	Sample	Sample
Percent Moisture	n/a	n/a	n/a	n/a	n/a	n/a
Sample Matrix	Impinger	Impinger	Impinger	Impinger	Impinger	Impinger
Sampling Date	29-Oct-25	29-Oct-25	30-Oct-25	30-Oct-25	29-Oct-25	29-Oct-25
Extraction Date	3-Nov-25	3-Nov-25	3-Nov-25	3-Nov-25	3-Nov-25	3-Nov-25
Target Analytes	pg	pg	pg	pg	pg	pg
PCB-081	<8.6	10.1	<23	<4.5	9.99	13.5
PCB-077	142	138	410	<4.3	157	212
PCB-123	43.7	<33	<120	<2.8	63.2	91.7
PCB-118	2810	2490	7710	<56	3830	6020
PCB-114	63.3	66.9	190	<2.7	88.7	158
PCB-105	899	989	2470	20.5	1270	2280
PCB-126	<6.7	<8.0	<11	<2.7	<8.4	8.62
PCB-167	19.0	31.0	59.5	<1.5	33.6	55.6
PCB-156/157	44.8	99.1	165	2.59	<89	<110
PCB-169	<3.6	<5.5	<11	<1.9	<4.2	<5.4
PCB-189	<4.6	<7.6	<7.8	<2.0	<4.4	<5.0
Extraction Standards	% Rec	% Rec	% Rec	% Rec	% Rec	% Rec
13C12-PCB-081	62	64	34	56	66	66
13C12-PCB-077	62	64	34	60	66	66
13C12-PCB-123	56	58	32	56	60	60
13C12-PCB-118	62	64	36	62	66	66
13C12-PCB-114	54	56	32	58	60	58
13C12-PCB-105	56	56	32	58	58	56
13C12-PCB-126	48	50	30	58	50	50
13C12-PCB-167	64	62	36	66	66	66
13C12-PCB-156/157	54	52	32	62	58	58
13C12-PCB-169	50	46	28	64	50	50
13C12-PCB-189	36	34	22	54	34	34
Field Spike Standards						
13C12-PCB-031	99	100	96	97	101	101
13C12-PCB-095	97	97	100	88	103	101
13C12-PCB-153	110	110	109	102	112	110
Cleanup Standards						
13C12-PCB-028	67	65	54	56	73	69
13C12-PCB-111	70	69	60	66	75	70
13C12-PCB-178	82	77	66	75	86	80
Homologue Group Totals						
Total MonoCB	867	271	1210	14.7	664	667
Total DiCB	6400	2330	11000	143	2770	6890
Total TriCB	10200	4170	38100	91.1	3760	10200
Total TetraCB	48400	29900	179000	717	28300	79700
Total PentaCB	49000	23500	138000	992	34300	93400
Total HexaCB	8940	8200	25800	172	8920	24100
Total HeptaCB	665	1320	2380	4.37	904	2180
Total OctaCB	70.5	433	560	7.14	178	256
Total NonaCB	<12	16.9	<18	<5.8	<10	<12
DecaCB	14.0	<6.9	<9.0	<2.8	<6.3	8.70
Total PCB	125000	70100	397000	2140	79900	217000
Toxic Equivalency - (WHO 2005)						
Lower Bound PCB TEQ	0.131	0.127	0.359	0.000693	0.177	1.15
Mid Point PCB TEQ	0.522	0.611	1.08	0.167	1.08	1.23
Upper Bound PCB TEQ	0.911	1.09	1.80	0.331	1.15	1.31

ALS Life Sciences

Sample Analysis Summary Report

Sample Name 25-3852-SVOC-(31
thru 35) Test 3

ALS Sample ID BU2503006-007

Sample Size 1
Sample size units Sample
Percent Moisture n/a
Sample Matrix Impinger
Sampling Date 30-Oct-25
Extraction Date 3-Nov-25

Target Analytes	pg
PCB-081	<6.6
PCB-077	100
PCB-123	20.4
PCB-118	1390
PCB-114	30.7
PCB-105	473
PCB-126	<4.8
PCB-167	15.8
PCB-156/157	<32
PCB-169	<3.9
PCB-189	<7.4
Extraction Standards	% Rec
13C12-PCB-081	60
13C12-PCB-077	62
13C12-PCB-123	58
13C12-PCB-118	62
13C12-PCB-114	58
13C12-PCB-105	54
13C12-PCB-126	50
13C12-PCB-167	60
13C12-PCB-156/157	54
13C12-PCB-169	48
13C12-PCB-189	36
Field Spike Standards	
13C12-PCB-031	97
13C12-PCB-095	97
13C12-PCB-153	110
Cleanup Standards	
13C12-PCB-028	74
13C12-PCB-111	76
13C12-PCB-178	84

Homologue Group Totals

Total MonoCB	390
Total DiCB	1380
Total TriCB	3970
Total TetraCB	14000
Total PentaCB	16100
Total HexaCB	4330
Total HeptaCB	449
Total OctaCB	80.0
Total NonaCB	<9.4
DecaCB	6.00
Total PCB	40700

Toxic Equivalency - (WHO 2005)

Lower Bound PCB TEQ	0.0679
Mid Point PCB TEQ	0.369
Upper Bound PCB TEQ	0.668

ALS Life Sciences

Quality Control Summary Report

Sample Name

Method Blank

ALS Sample ID

QC-MRG5-2311825-001

Sample Size	1
Sample size units	Sample
Percent Moisture	n/a
Sample Matrix	QC
Sampling Date	n/a
Extraction Date	3-Nov-25

Target Analytes

pg

PCB-081	<6.1
PCB-077	<6.0
PCB-123	<3.3
PCB-118	<2.8
PCB-114	<3.0
PCB-105	<3.1
PCB-126	<3.3
PCB-167	<2.5
PCB-156/157	<4.1
PCB-169	<3.0
PCB-189	7.21

Extraction Standards

% Rec

13C12-PCB-081	50
13C12-PCB-077	52
13C12-PCB-123	48
13C12-PCB-118	52
13C12-PCB-114	48
13C12-PCB-105	50
13C12-PCB-126	48
13C12-PCB-167	56
13C12-PCB-156/157	54
13C12-PCB-169	52
13C12-PCB-189	46

Field Spike Standards

13C12-PCB-031	NS
13C12-PCB-095	NS
13C12-PCB-153	NS

Cleanup Standards

13C12-PCB-028	56
13C12-PCB-111	60
13C12-PCB-178	67

Homologue Group Totals

Total MonoCB	<4.3
Total DiCB	19.0
Total TriCB	5.37
Total TetraCB	<5.1
Total PentaCB	5.10
Total HexaCB	8.90
Total HeptaCB	7.21
Total OctaCB	15.6
Total NonaCB	<11
DecaCB	<4.5
Total PCB	61.2

Toxic Equivalency - (WHO 2005)

Lower Bound PCB TEQ	0.000216
Mid Point PCB TEQ	0.212
Upper Bound PCB TEQ	0.423

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Sample Analysis Summary Report

Sample Name

**Laboratory Control
Sample**

ALS Sample ID

QC-MRG2-2311825-
002

Sample Size

1

Sample size units

n/a

Percent Moisture

n/a

Sample Matrix

QC

Sampling Date

n/a

Extraction Date

3-Nov-25

Target Analytes

% Rec

PCB-081	96
PCB-077	95
PCB-123	101
PCB-118	92
PCB-114	99
PCB-105	96
PCB-126	100
PCB-167	95
PCB-156/157	91
PCB-169	93
PCB-189	102

Extraction Standards

% Rec

13C12-PCB-081	52
13C12-PCB-077	54
13C12-PCB-123	50
13C12-PCB-118	54
13C12-PCB-114	50
13C12-PCB-105	52
13C12-PCB-126	50
13C12-PCB-167	58
13C12-PCB-156/157	54
13C12-PCB-169	54
13C12-PCB-189	44

Field Spike Standards

13C12-PCB-031	NS
13C12-PCB-095	NS
13C12-PCB-153	NS

Cleanup Standards

13C12-PCB-028	59
13C12-PCB-111	60
13C12-PCB-178	67

ALS Life Sciences

Sample Analysis Report

Sample Name 25-3852-SVOC-(1 thru 5) Test 1
ALS Sample ID BU2503006-001
Analysis Method EPA 1668C
Analysis Type Sample
Sample Matrix Impinger

Sampling Date 29-Oct-25
Extraction Date 3-Nov-25
Sample Size 1 Sample
Percent Moisture n/a
Split Ratio 6

Approved:
Henna Saeed
 --e-signature--
 17-Nov-2025

Run Information

Run 1

Filename 5-251108A20
Run Date 09-Nov-25 01:44
Final Volume 25 ul
Dilution Factor 1
Analysis Units pg
Instrument - Column HRMS-5 SPBOCTYL293713-07

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg	EDL pg	Flags	EMPC pg	LQL
PCB-081	0.0003	21.71	<8.6	5.1	M,J,R	8.6	30
PCB-077	0.0001	22.02	142	5.2			30
PCB-123	0.00003	23.03	43.7	5.8	M		30
PCB-118	0.00003	23.20	2810	4.9	M		30
PCB-114	0.00003	23.50	63.3	5.6			30
PCB-105	0.00003	23.84	899	5.5			30
PCB-126	0.1	NotFnd	<6.7	6.7	U		30
PCB-167	0.00003	26.34	19.0	2.4			30
PCB-156/157	0.00003	26.96	44.8	3.6			30
PCB-169	0.03	NotFnd	<3.6	3.6	U		30
PCB-189	0.00003	NotFnd	<4.6	4.6	U		30
Extraction Standards	pg	Time	% Rec	Limits			
13C12-PCB-081	12000	21.71	62	10-145			
13C12-PCB-077	12000	22.01	62	10-145			
13C12-PCB-123	12000	23.02	56	10-145			
13C12-PCB-118	12000	23.20	62	10-145			
13C12-PCB-114	12000	23.49	54	10-145			
13C12-PCB-105	12000	23.83	56	10-145			
13C12-PCB-126	12000	25.41	48	10-145			
13C12-PCB-167	12000	26.34	64	10-145			
13C12-PCB-156/157	24000	26.96	54	10-145			
13C12-PCB-169	12000	28.62	50	10-145			
13C12-PCB-189	12000	29.91	36	10-145			
Field Spike Standards							
13C12-PCB-031	12000	15.74	99	70-130			
13C12-PCB-095	12000	19.05	97	70-130			
13C12-PCB-153	12000	24.15	110	70-130			
Cleanup Standards							
13C12-PCB-028	6000	15.91	67	5-145			
13C12-PCB-111	6000	21.97	70	10-145			
13C12-PCB-178	6000	25.03	82	10-145			

Homologue Group Totals

Total MonoCB		867	3.1	J	300
Total DiCB		6400	6.2	J	600
Total TriCB		10200	3.4	J	600
Total TetraCB		48400	2.7	J	1200
Total PentaCB		49000	1.8	J	1200
Total HexaCB		8940	1.4	J	1200
Total HeptaCB		665	1.6	J	600
Total OctaCB		70.5	2.0	J	600
Total NonaCB		<12	12	U	300
DecaCB		14.0	6.3	J	300
Total PCB		125000		J	2400

Toxic Equivalency - (WHO 2005)

Lower Bound PCB TEQ	0.131
Mid Point PCB TEQ	0.522
Upper Bound PCB TEQ	0.911

EDL	Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
TEF	Indicates the Toxic Equivalency Factor
LQL	Indicates the Toxic Equivalency Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
M	Indicates that a peak has been manually integrated.
U	Indicates that this compound was not detected above the EDL.
J	Indicates that the analyte was positively identified. The associated numerical result is an estimate.
R	Indicates that the ion abundance ratio for this analyte did not meet the control limit. The reported value represents an estimated concentration.
EMPC	Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Sample Analysis Report

Sample Name 25-3852-SVOC-(6 thru 10) Test 2
ALS Sample ID BU2503006-002
Analysis Method EPA 1668C
Analysis Type Sample
Sample Matrix Impinger

Sampling Date 29-Oct-25
Extraction Date 3-Nov-25
Sample Size 1 Sample
Percent Moisture n/a
Split Ratio 6

Approved:
Henna Saeed
 --e-signature--
 17-Nov-2025

Run Information **Run 1**
Filename 5-251108A21
Run Date 09-Nov-25 02:27
Final Volume 25 ul
Dilution Factor 1
Analysis Units pg
Instrument - Column HRMS-5 SPBOCTYL293713-07

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg	EDL pg	Flags	EMPC pg	LQL
PCB-081	0.0003	21.69	10.1	7.0	M,J		30
PCB-077	0.0001	22.01	138	7.0			30
PCB-123	0.00003	23.02	<33	6.9	M,R	33	30
PCB-118	0.00003	23.19	2490	5.9	M		30
PCB-114	0.00003	23.49	66.9	6.7			30
PCB-105	0.00003	23.83	989	6.9			30
PCB-126	0.1	NotFnd	<8.0	8.0	U		30
PCB-167	0.00003	26.34	31.0	3.5			30
PCB-156/157	0.00003	26.96	99.1	5.2			30
PCB-169	0.03	NotFnd	<5.5	5.5	U		30
PCB-189	0.00003	NotFnd	<7.6	7.6	U		30

Extraction Standards	pg	Time	% Rec	Limits
13C12-PCB-081	12000	21.70	64	10-145
13C12-PCB-077	12000	22.00	64	10-145
13C12-PCB-123	12000	23.01	58	10-145
13C12-PCB-118	12000	23.18	64	10-145
13C12-PCB-114	12000	23.48	56	10-145
13C12-PCB-105	12000	23.82	56	10-145
13C12-PCB-126	12000	25.40	50	10-145
13C12-PCB-167	12000	26.33	62	10-145
13C12-PCB-156/157	24000	26.95	52	10-145
13C12-PCB-169	12000	28.60	46	10-145
13C12-PCB-189	12000	29.90	34	10-145

Field Spike Standards	pg	Time	% Rec	Limits
13C12-PCB-031	12000	15.72	100	70-130
13C12-PCB-095	12000	19.04	97	70-130
13C12-PCB-153	12000	24.13	110	70-130

Cleanup Standards	pg	Time	% Rec	Limits
13C12-PCB-028	6000	15.90	65	5-145
13C12-PCB-111	6000	21.96	69	10-145
13C12-PCB-178	6000	25.02	77	10-145

Homologue Group Totals

Total MonoCB	271	3.2	J	300
Total DiCB	2330	5.8	J	600
Total TriCB	4170	3.3	J	600
Total TetraCB	29900	3.3	J	1200
Total PentaCB	23500	2.3	J	1200
Total HexaCB	8200	0.95	J	1200
Total HeptaCB	1320	2.6	J	600
Total OctaCB	433	4.1	J	600
Total NonaCB	16.9	15	J	300
DecaCB	<6.9	6.9	U	300
Total PCB	70100		J	2400

Toxic Equivalency - (WHO 2005)

Lower Bound PCB TEQ	0.127
Mid Point PCB TEQ	0.611
Upper Bound PCB TEQ	1.09

EDL	Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
TEF	Indicates the Toxic Equivalency Factor
LQL	Indicates the Toxic Equivalency Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
M	Indicates that a peak has been manually integrated.
U	Indicates that this compound was not detected above the EDL.
J	Indicates that the analyte was positively identified. The associated numerical result is an estimate.
R	Indicates that the ion abundance ratio for this analyte did not meet the control limit. The reported value represents an estimated concentration.
EMPC	Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Sample Analysis Report

Sample Name 25-3852-SVOC-(11 thru 15) Test 3
ALS Sample ID BU2503006-003
Analysis Method EPA 1668C
Analysis Type Sample
Sample Matrix Impinger

Sampling Date 30-Oct-25
Extraction Date 3-Nov-25
Sample Size 1 Sample
Percent Moisture n/a
Split Ratio 6

Approved:
Henna Saeed
 --e-signature--
 17-Nov-2025

Run Information **Run 1**
Filename 5-251108A22
Run Date 09-Nov-25 03:10
Final Volume 25 ul
Dilution Factor 1
Analysis Units pg
Instrument - Column HRMS-5 SPBIOCTYL293713-07

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg	EDL pg	Flags	EMPC pg	LQL
PCB-081	0.0003	21.70	<23	8.9	M,R	23	30
PCB-077	0.0001	22.02	410	9.0			30
PCB-123	0.00003	23.03	<120	10	M,R	120	30
PCB-118	0.00003	23.20	7710	8.4	M		30
PCB-114	0.00003	23.49	190	9.7			30
PCB-105	0.00003	23.84	2470	9.9			30
PCB-126	0.1	25.41	<11	11	M,U	8.6	30
PCB-167	0.00003	26.36	59.5	7.2			30
PCB-156/157	0.00003	26.95	165	10			30
PCB-169	0.03	NotFnd	<11	11	U		30
PCB-189	0.00003	NotFnd	<7.8	7.8	U		30

Extraction Standards	pg	Time	% Rec	Limits
13C12-PCB-081	12000	21.70	34	10-145
13C12-PCB-077	12000	22.00	34	10-145
13C12-PCB-123	12000	23.02	32	10-145
13C12-PCB-118	12000	23.19	36	10-145
13C12-PCB-114	12000	23.48	32	10-145
13C12-PCB-105	12000	23.82	32	10-145
13C12-PCB-126	12000	25.41	30	10-145
13C12-PCB-167	12000	26.33	36	10-145
13C12-PCB-156/157	24000	26.96	32	10-145
13C12-PCB-169	12000	28.60	28	10-145
13C12-PCB-189	12000	29.90	22	10-145

Field Spike Standards	pg	Time	% Rec	Limits
13C12-PCB-031	12000	15.73	96	70-130
13C12-PCB-095	12000	19.04	100	70-130
13C12-PCB-153	12000	24.13	109	70-130

Cleanup Standards	pg	Time	% Rec	Limits
13C12-PCB-028	6000	15.90	54	5-145
13C12-PCB-111	6000	21.97	60	10-145
13C12-PCB-178	6000	25.02	66	10-145

Homologue Group Totals

Total MonoCB	1210	4.5	J	300
Total DiCB	11000	11	J	600
Total TriCB	38100	5.2	J	600
Total TetraCB	179000	4.2	J	1200
Total PentaCB	138000	3.3	J	1200
Total HexaCB	25800	2.4	J	1200
Total HeptaCB	2380	3.6	J	600
Total OctaCB	560	2.3	J	600
Total NonaCB	<18	18	U	300
DecaCB	<9.0	9.0	U	300
Total PCB	397000		J	2400

Toxic Equivalency - (WHO 2005)

Lower Bound PCB TEQ	0.359
Mid Point PCB TEQ	1.08
Upper Bound PCB TEQ	1.80

EDL	Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
TEF	Indicates the Toxic Equivalency Factor
LQL	Indicates the Toxic Equivalency Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
M	Indicates that a peak has been manually integrated.
U	Indicates that this compound was not detected above the EDL.
J	Indicates that the analyte was positively identified. The associated numerical result is an estimate.
R	Indicates that the ion abundance ratio for this analyte did not meet the control limit. The reported value represents an estimated concentration.
EMPC	Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Sample Analysis Report

Sample Name 25-3852-SVOC-(16 thru 20) Blank
ALS Sample ID BU2503006-004
Analysis Method EPA 1668C
Analysis Type Sample
Sample Matrix Impinger

Sampling Date 30-Oct-25
Extraction Date 3-Nov-25
Sample Size 1 Sample
Percent Moisture n/a
Split Ratio 6

Approved:
Henna Saeed
 --e-signature--
 17-Nov-2025

Run Information

Run 1

Filename 5-251108A23
Run Date 09-Nov-25 03:53
Final Volume 25 ul
Dilution Factor 1
Analysis Units pg
Instrument - Column HRMS-5 SPBIOCTYL293713-07

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg	EDL pg	Flags	EMPC pg	LQL
PCB-081	0.0003	NotFnd	<4.5	4.5	U		30
PCB-077	0.0001	22.02	<4.3	4.3	U	3.6	30
PCB-123	0.00003	NotFnd	<2.8	2.8	U		30
PCB-118	0.00003	23.20	<56	2.3	R	56	30
PCB-114	0.00003	NotFnd	<2.7	2.7	U		30
PCB-105	0.00003	23.83	20.5	2.7			30
PCB-126	0.1	NotFnd	<2.7	2.7	U		30
PCB-167	0.00003	NotFnd	<1.5	1.5	U		30
PCB-156/157	0.00003	26.96	2.59	2.1	J		30
PCB-169	0.03	NotFnd	<1.9	1.9	U		30
PCB-189	0.00003	NotFnd	<2.0	2.0	U		30
Extraction Standards	pg	Time	% Rec	Limits			
13C12-PCB-081	12000	21.70	56	10-145			
13C12-PCB-077	12000	22.00	60	10-145			
13C12-PCB-123	12000	23.02	56	10-145			
13C12-PCB-118	12000	23.19	62	10-145			
13C12-PCB-114	12000	23.48	58	10-145			
13C12-PCB-105	12000	23.82	58	10-145			
13C12-PCB-126	12000	25.41	58	10-145			
13C12-PCB-167	12000	26.33	66	10-145			
13C12-PCB-156/157	24000	26.95	62	10-145			
13C12-PCB-169	12000	28.60	64	10-145			
13C12-PCB-189	12000	29.90	54	10-145			
Field Spike Standards							
13C12-PCB-031	12000	15.73	97	70-130			
13C12-PCB-095	12000	19.04	88	70-130			
13C12-PCB-153	12000	24.13	102	70-130			
Cleanup Standards							
13C12-PCB-028	6000	15.90	56	5-145			
13C12-PCB-111	6000	21.97	66	10-145			
13C12-PCB-178	6000	25.02	75	10-145			

Homologue Group Totals

Total MonoCB	14.7	3.1	J	300
Total DiCB	143	7.0	J	600
Total TriCB	91.1	3.2	J	600
Total TetraCB	717	3.6	J	1200
Total PentaCB	992	2.2	J	1200
Total HexaCB	172	0.95	J	1200
Total HeptaCB	4.37	1.4	J	600
Total OctaCB	7.14	1.2	J	600
Total NonaCB	<5.8	5.8	U	300
DecaCB	<2.8	2.8	U	300
Total PCB	2140		J	2400

Toxic Equivalency - (WHO 2005)

Lower Bound PCB TEQ	0.000693
Mid Point PCB TEQ	0.167
Upper Bound PCB TEQ	0.331

EDL	Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
TEF	Indicates the Toxic Equivalency Factor
LQL	Indicates the Toxic Equivalency Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
M	Indicates that a peak has been manually integrated.
U	Indicates that this compound was not detected above the EDL.
J	Indicates that the analyte was positively identified. The associated numerical result is an estimate.
R	Indicates that the ion abundance ratio for this analyte did not meet the control limit. The reported value represents an estimated concentration.
EMPC	Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Sample Analysis Report

Sample Name 25-3852-SVOC-(21 thru 25) Test 1
ALS Sample ID BU2503006-005
Analysis Method EPA 1668C
Analysis Type Sample
Sample Matrix Impinger

Sampling Date 29-Oct-25
Extraction Date 3-Nov-25
Sample Size 1 Sample
Percent Moisture n/a
Split Ratio 6

Approved:
Henna Saeed
 --e-signature--
 17-Nov-2025

Run Information **Run 1**
Filename 5-251108A24
Run Date 09-Nov-25 04:36
Final Volume 25 ul
Dilution Factor 1
Analysis Units pg
Instrument - Column HRMS-5 SPBIOCTYL293713-07

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg	EDL pg	Flags	EMPC pg	LQL
PCB-081	0.0003	21.70	9.99	4.9	M,J		30
PCB-077	0.0001	22.02	157	5.1			30
PCB-123	0.00003	23.01	63.2	6.0	M		30
PCB-118	0.00003	23.20	3830	5.1			30
PCB-114	0.00003	23.49	88.7	6.1			30
PCB-105	0.00003	23.84	1270	6.2			30
PCB-126	0.1	25.43	<8.4	7.3	J,R	8.4	30
PCB-167	0.00003	26.34	33.6	2.7			30
PCB-156/157	0.00003	26.95	<89	4.0	R	89	30
PCB-169	0.03	NotFnd	<4.2	4.2	U		30
PCB-189	0.00003	NotFnd	<4.4	4.4	U		30

Extraction Standards	pg	Time	% Rec	Limits
13C12-PCB-081	12000	21.71	66	10-145
13C12-PCB-077	12000	22.00	66	10-145
13C12-PCB-123	12000	23.02	60	10-145
13C12-PCB-118	12000	23.19	66	10-145
13C12-PCB-114	12000	23.48	60	10-145
13C12-PCB-105	12000	23.83	58	10-145
13C12-PCB-126	12000	25.41	50	10-145
13C12-PCB-167	12000	26.33	66	10-145
13C12-PCB-156/157	24000	26.96	58	10-145
13C12-PCB-169	12000	28.60	50	10-145
13C12-PCB-189	12000	29.90	34	10-145

Field Spike Standards	pg	Time	% Rec	Limits
13C12-PCB-031	12000	15.73	101	70-130
13C12-PCB-095	12000	19.04	103	70-130
13C12-PCB-153	12000	24.13	112	70-130

Cleanup Standards	pg	Time	% Rec	Limits
13C12-PCB-028	6000	15.91	73	5-145
13C12-PCB-111	6000	21.97	75	10-145
13C12-PCB-178	6000	25.02	86	10-145

Homologue Group Totals

Total MonoCB	664	2.5	J	300
Total DiCB	2770	5.1	J	600
Total TriCB	3760	2.3	J	600
Total TetraCB	28300	3.2	J	1200
Total PentaCB	34300	1.7	J	1200
Total HexaCB	8920	0.99	J	1200
Total HeptaCB	904	1.3	J	600
Total OctaCB	178	1.4	J	600
Total NonaCB	<10	10	U	300
DecaCB	<6.3	6.3	U	300
Total PCB	79900		J	2400

Toxic Equivalency - (WHO 2005)

Lower Bound PCB TEQ	0.177
Mid Point PCB TEQ	1.08
Upper Bound PCB TEQ	1.15

EDL	Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
TEF	Indicates the Toxic Equivalency Factor
LQL	Indicates the Toxic Equivalency Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
M	Indicates that a peak has been manually integrated.
U	Indicates that this compound was not detected above the EDL.
J	Indicates that the analyte was positively identified. The associated numerical result is an estimate.
R	Indicates that the ion abundance ratio for this analyte did not meet the control limit. The reported value represents an estimated concentration.
EMPC	Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Sample Analysis Report

Sample Name 25-3852-SVOC-(26 thru 30) Test 2
ALS Sample ID BU2503006-006
Analysis Method EPA 1668C
Analysis Type Sample
Sample Matrix Impinger

Sampling Date 29-Oct-25
Extraction Date 3-Nov-25
Sample Size 1 Sample
Percent Moisture n/a
Split Ratio 6

Approved:
Henna Saeed
 --e-signature--
 17-Nov-2025

Run Information

Run 1

Filename 5-251108A25
Run Date 09-Nov-25 05:19
Final Volume 25 ul
Dilution Factor 1
Analysis Units pg
Instrument - Column HRMS-5 SPBOCTYL293713-07

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg	EDL pg	Flags	EMPC pg	LQL
PCB-081	0.0003	21.69	13.5	6.2	M,J		30
PCB-077	0.0001	22.00	212	6.3			30
PCB-123	0.00003	23.01	91.7	7.0	M		30
PCB-118	0.00003	23.18	6020	6.1	M		30
PCB-114	0.00003	23.48	158	7.3			30
PCB-105	0.00003	23.82	2280	7.2			30
PCB-126	0.1	25.39	8.62	8.4	M,J		30
PCB-167	0.00003	26.33	55.6	3.6			30
PCB-156/157	0.00003	26.94	<110	5.1	R	110	30
PCB-169	0.03	NotFnd	<5.4	5.4	U		30
PCB-189	0.00003	NotFnd	<5.0	5.0	U		30

Extraction Standards

	pg	Time	% Rec	Limits
13C12-PCB-081	12000	21.69	66	10-145
13C12-PCB-077	12000	21.99	66	10-145
13C12-PCB-123	12000	23.00	60	10-145
13C12-PCB-118	12000	23.17	66	10-145
13C12-PCB-114	12000	23.47	58	10-145
13C12-PCB-105	12000	23.81	56	10-145
13C12-PCB-126	12000	25.39	50	10-145
13C12-PCB-167	12000	26.32	66	10-145
13C12-PCB-156/157	24000	26.94	58	10-145
13C12-PCB-169	12000	28.59	50	10-145
13C12-PCB-189	12000	29.88	34	10-145

Field Spike Standards

13C12-PCB-031	12000	15.71	101	70-130
13C12-PCB-095	12000	19.02	101	70-130
13C12-PCB-153	12000	24.12	110	70-130

Cleanup Standards

13C12-PCB-028	6000	15.89	69	5-145
13C12-PCB-111	6000	21.95	70	10-145
13C12-PCB-178	6000	25.00	80	10-145

Homologue Group Totals

Total MonoCB		667	2.6	J	300
Total DiCB		6890	4.6	J	600
Total TriCB		10200	2.7	J	600
Total TetraCB		79700	3.6	J	1200
Total PentaCB		93400	1.9	J	1200
Total HexaCB		24100	0.76	J	1200
Total HeptaCB		2180	2.1	J	600
Total OctaCB		256	1.4	J	600
Total NonaCB		<12	12	U	300
DecaCB		8.70	5.3	J	300
Total PCB		217000		J	2400

Toxic Equivalency - (WHO 2005)

Lower Bound PCB TEQ	1.15
Mid Point PCB TEQ	1.23
Upper Bound PCB TEQ	1.31

EDL	Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
TEF	Indicates the Toxic Equivalency Factor
LQL	Indicates the Toxic Equivalency Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
M	Indicates that a peak has been manually integrated.
U	Indicates that this compound was not detected above the EDL.
J	Indicates that the analyte was positively identified. The associated numerical result is an estimate.
R	Indicates that the ion abundance ratio for this analyte did not meet the control limit. The reported value represents an estimated concentration.
EMPC	Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Sample Analysis Report

Sample Name 25-3852-SVOC-(31 thru 35) Test 3
ALS Sample ID BU2503006-007
Analysis Method EPA 1668C
Analysis Type Sample
Sample Matrix Impinger

Sampling Date 30-Oct-25
Extraction Date 3-Nov-25
Sample Size 1 Sample
Percent Moisture n/a
Split Ratio 6

Approved:
Henna Saeed
 --e-signature--
 17-Nov-2025

Run Information

Run 1

Filename 5-251108A26
Run Date 09-Nov-25 06:02
Final Volume 25 ul
Dilution Factor 1
Analysis Units pg
Instrument - Column HRMS-5 SPBOCTYL293713-07

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg	EDL pg	Flags	EMPC pg	LQL
PCB-081	0.0003	21.69	<6.6	5.0	M,J,R	6.6	30
PCB-077	0.0001	22.00	100	5.1			30
PCB-123	0.00003	23.00	20.4	4.1	M		30
PCB-118	0.00003	23.19	1390	3.5			30
PCB-114	0.00003	23.48	30.7	3.9	M		30
PCB-105	0.00003	23.82	473	4.0			30
PCB-126	0.1	NotFnd	<4.8	4.8	U		30
PCB-167	0.00003	26.33	15.8	2.6			30
PCB-156/157	0.00003	26.94	<32	3.8	M,R	32	30
PCB-169	0.03	NotFnd	<3.9	3.9	U		30
PCB-189	0.00003	NotFnd	<7.4	7.4	U		30

Extraction Standards

	pg	Time	% Rec	Limits
13C12-PCB-081	12000	21.69	60	10-145
13C12-PCB-077	12000	21.99	62	10-145
13C12-PCB-123	12000	23.00	58	10-145
13C12-PCB-118	12000	23.18	62	10-145
13C12-PCB-114	12000	23.47	58	10-145
13C12-PCB-105	12000	23.81	54	10-145
13C12-PCB-126	12000	25.39	50	10-145
13C12-PCB-167	12000	26.32	60	10-145
13C12-PCB-156/157	24000	26.94	54	10-145
13C12-PCB-169	12000	28.59	48	10-145
13C12-PCB-189	12000	29.88	36	10-145

Field Spike Standards

13C12-PCB-031	12000	15.72	97	70-130
13C12-PCB-095	12000	19.03	97	70-130
13C12-PCB-153	12000	24.12	110	70-130

Cleanup Standards

13C12-PCB-028	6000	15.89	74	5-145
13C12-PCB-111	6000	21.95	76	10-145
13C12-PCB-178	6000	25.00	84	10-145

Homologue Group Totals

Total MonoCB	390	2.7	J	300
Total DiCB	1380	6.1	J	600
Total TriCB	3970	2.8	J	600
Total TetraCB	14000	3.2	J	1200
Total PentaCB	16100	1.8	J	1200
Total HexaCB	4330	1.3	J	1200
Total HeptaCB	449	2.7	J	600
Total OctaCB	80.0	1.9	J	600
Total NonaCB	<9.4	9.4	U	300
DecaCB	6.00	4.9	J	300
Total PCB	40700		J	2400

Toxic Equivalency - (WHO 2005)

Lower Bound PCB TEQ	0.0679
Mid Point PCB TEQ	0.369
Upper Bound PCB TEQ	0.668

EDL	Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
TEF	Indicates the Toxic Equivalency Factor
LQL	Indicates the Toxic Equivalency Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
M	Indicates that a peak has been manually integrated.
U	Indicates that this compound was not detected above the EDL.
J	Indicates that the analyte was positively identified. The associated numerical result is an estimate.
R	Indicates that the ion abundance ratio for this analyte did not meet the control limit. The reported value represents an estimated concentration.
EMPC	Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Laboratory Method Blank Analysis Report

Sample Name	Method Blank	Sampling Date	n/a	
ALS Sample ID	QC-MRG5-2311825-001	Extraction Date	3-Nov-25	
Analysis Method	EPA 1668C	Sample Size	1	Sample
Analysis Type	Blank	Percent Moisture	n/a	
Sample Matrix	QC	Split Ratio	6	
				Approved: Henna Saeed --e-signature-- 17-Nov-2025

Run Information	Run 1
Filename	5-251108A19
Run Date	09-Nov-25 01:00
Final Volume	25 ul
Dilution Factor	1
Analysis Units	pg
Instrument - Column	HRMS-5 SPBOCTYL293713-07

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg	EDL pg	Flags	EMPC pg	LQL
PCB-081	0.0003	NotFnd	<6.1	6.1	U		30
PCB-077	0.0001	NotFnd	<6.0	6.0	U		30
PCB-123	0.00003	NotFnd	<3.3	3.3	U		30
PCB-118	0.00003	NotFnd	<2.8	2.8	U		30
PCB-114	0.00003	NotFnd	<3.0	3.0	U		30
PCB-105	0.00003	NotFnd	<3.1	3.1	U		30
PCB-126	0.1	NotFnd	<3.3	3.3	U		30
PCB-167	0.00003	NotFnd	<2.5	2.5	U		30
PCB-156/157	0.00003	26.97	<4.1	3.2	M,J,R	4.1	30
PCB-169	0.03	NotFnd	<3.0	3.0	U		30
PCB-189	0.00003	29.92	7.21	3.3	J		30
Extraction Standards	pg	Time	% Rec	Limits			
13C12-PCB-081	12000	21.71	50	10-145			
13C12-PCB-077	12000	22.01	52	10-145			
13C12-PCB-123	12000	23.02	48	10-145			
13C12-PCB-118	12000	23.19	52	10-145			
13C12-PCB-114	12000	23.49	48	10-145			
13C12-PCB-105	12000	23.83	50	10-145			
13C12-PCB-126	12000	25.41	48	10-145			
13C12-PCB-167	12000	26.34	56	10-145			
13C12-PCB-156/157	24000	26.96	54	10-145			
13C12-PCB-169	12000	28.62	52	10-145			
13C12-PCB-189	12000	29.91	46	10-145			
Field Spike Standards							
13C12-PCB-031	0		NS				
13C12-PCB-095	0		NS				
13C12-PCB-153	0		NS				
Cleanup Standards							
13C12-PCB-028	6000	15.91	56	5-145			
13C12-PCB-111	6000	21.97	60	10-145			
13C12-PCB-178	6000	25.03	67	10-145			

Homologue Group Totals							
Total MonoCB			<4.3	4.3	U		300
Total DiCB			19.0	6.7	J		600
Total TriCB			5.37	4.3	J		600
Total TetraCB			<5.1	5.1	U		1200
Total PentaCB			5.10	2.1	J		1200
Total HexaCB			8.90	1.6	J		1200
Total HeptaCB			7.21	2.6	J		600
Total OctaCB			15.6	2.1	J		600
Total NonaCB			<11	11	U		300
DecaCB			<4.5	4.5	U		300
Total PCB			61.2		J		2400

Toxic Equivalency - (WHO 2005)							
Lower Bound PCB TEQ			0.000216				
Mid Point PCB TEQ			0.212				
Upper Bound PCB TEQ			0.423				

EDL	Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
TEF	Indicates the Toxic Equivalency Factor
LQL	Indicates the Toxic Equivalency Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
M	Indicates that a peak has been manually integrated.
U	Indicates that this compound was not detected above the EDL.
J	Indicates that the analyte was positively identified. The associated numerical result is an estimate.
R	Indicates that the ion abundance ratio for this analyte did not meet the control limit. The reported value represents an estimated concentration.
NS	Indicates that this compound was not added.
EMPC	Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Laboratory Control Sample Analysis Report

Sample Name	Laboratory Control Sample	Sampling Date	n/a	Approved: Henna Saeed --e-signature-- 17-Nov-2025
ALS Sample ID	QC-MRG2-2311825-002	Extraction Date	3-Nov-25	
Analysis Method	EPA 1668C	Sample Size	1 n/a	
Analysis Type	LCS	Percent Moisture	n/a	
Sample Matrix	QC	Split Ratio	6	

Run Information	Run 1
Filename	5-251108A16
Run Date	08-Nov-25 22:51
Final Volume	25 ul
Dilution Factor	1
Analysis Units	% Rec
Instrument - Column	HRMS-5 SPBOCTYL293713-07

			Ret.	Limits	
Target Analytes	pg		Time	% Rec	Flags
	PCB-081	6000	21.74	96	60-135
	PCB-077	6000	22.03	95	60-135
	PCB-123	6000	23.05	101	60-135
	PCB-118	6000	23.23	92	60-135
	PCB-114	6000	23.52	99	60-135
	PCB-105	6000	23.86	96	60-135
	PCB-126	6000	25.44	100	60-135
	PCB-167	6000	26.37	95	60-135
	PCB-156/157	12000	26.99	91	60-135
	PCB-169	6000	28.64	93	60-135
	PCB-189	6000	29.94	102	60-135
Extraction Standards			Time	% Rec	Limits
	13C12-PCB-081	12000	21.72	52	40-145
	13C12-PCB-077	12000	22.02	54	40-145
	13C12-PCB-123	12000	23.03	50	40-145
	13C12-PCB-118	12000	23.20	54	40-145
	13C12-PCB-114	12000	23.50	50	40-145
	13C12-PCB-105	12000	23.84	52	40-145
	13C12-PCB-126	12000	25.43	50	40-145
	13C12-PCB-167	12000	26.36	58	40-145
	13C12-PCB-156/157	24000	26.97	54	40-145
	13C12-PCB-169	12000	28.63	54	40-145
	13C12-PCB-189	12000	29.92	44	40-145
Field Spike Standards					
	13C12-PCB-031	0		NS	
	13C12-PCB-095	0		NS	
	13C12-PCB-153	0		NS	
Cleanup Standards					
	13C12-PCB-028	6000	15.92	59	15-145
	13C12-PCB-111	6000	21.99	60	40-145
	13C12-PCB-178	6000	25.04	67	40-145

NS Indicates that this compound was not added.

APPENDIX 16

Acid Gas Recovery Data Sheets (7 pages)

Alliance Technical Group
Method 26A Recovery Sheet

Client : Reworld

Project No.: AST-2025-3852

Date: 02/27/25

Test No.: 1

Test Location: UNIT 1

Filter is used but not
recovered as sample

Impingers 1, 2, 3

Impinger #1 0.1 N H₂SO₄

Empty Wt: 649.5

Initial Wt: 750.0

Final Wt: 827.4

1 Gain: 77.4

Colour: clean

Impinger #2 0.1 N H₂SO₄

Empty Wt: 676.0

Initial Wt: 791.5

Final Wt: 847.2

2 Gain: 55.7

Colour: clean

Impinger #3 EMPTY

Empty Wt: 594.7

Final Wt: 607.8

3 Gain: 13.1

Colour: clean

CONTAINER TS3 WEIGHTS

Empty Wt: 282.0

With Imp. 1,2,3 Soln: 640.0

After H₂O Rinse: 741.0

Total TS3: 459.0

Impinger 4

Impinger #4 Silica Gel

Initial Wt: 978.5

Final Wt: 997.0

4 Gain: ~~19.0~~ 18.5

Box ID:

Total Moisture Gain

1+2+3+4: 164.7

SAMPLE ID: 25-3852-M26A- /

Train Loaded By:

Train Recovered By: ST

Alliance Technical Group
Method 26A Recovery Sheet

Client : Reworld

Project No.: AST-2025-3852

Date: 06/27/25

Test No.: 2

Test Location: 41

Filter is used but not
recovered as sample

Impingers 1, 2, 3

Impinger #1 0.1 N H₂SO₄

Empty Wt: 656.7

Initial Wt: 759.8

Final Wt: 902.2

1 Gain: 142.4

Colour: -

Impinger #2 0.1 N H₂SO₄

Empty Wt: 658.7 657.5

Initial Wt: 759.0

Final Wt: 789.0

2 Gain: 30.0

Colour: -

Impinger #3 EMPTY

Empty Wt: 636.3

Final Wt: 640.0

3 Gain: 3.7

Colour:

CONTAINER TS3 WEIGHTS

Empty Wt: 283.0

With Imp. 1,2,3 Soln: 656.6

After H₂O Rinse: 753.5

Total TS3: 470.5

Impinger 4

Impinger #4 Silica Gel

Initial Wt: 923.5 950.4

Final Wt: 962.0

4 Gain: 11.6

Box ID:

Total Moisture Gain

1+2+3+4: 187.7

SAMPLE ID: 25-3852-M26A- 2

Train Loaded By:

Train Recovered By:

Alliance Technical Group
Method 26A Recovery Sheet

Client : Reworld

Project No.: AST-2025-3852

Date: OCT 27/25

Test No.: 3

Test Location: 41

Filter is used but not
recovered as sample

Impingers 1, 2, 3

Impinger #1 0.1 N H ₂ SO ₄	
Empty Wt:	648.5
Initial Wt:	760.5
Final Wt:	890.0
1 Gain:	129.5
Colour:	—

Impinger #2 0.1 N H ₂ SO ₄	
Empty Wt:	675.0
Initial Wt:	725.5
Final Wt:	798.5
2 Gain:	23.0
Colour:	—

Impinger #3 EMPTY	
Empty Wt:	585.3
Final Wt:	598.3
3 Gain:	3.0
Colour:	✓

CONTAINER TS3 WEIGHTS	
Empty Wt:	283.5
With Imp. 1,2,3 Soln:	647.7
After H ₂ O Rinse:	749.2
Total TS3:	465.7

Train Loaded By:

Train Recovered By:

Impinger 4

Impinger #4 Silica Gel	
Initial Wt:	924.0
Final Wt:	934.8
4 Gain:	10.8

Box ID:

Total Moisture Gain

1+2+3+4: 166.3

SAMPLE ID: 25-3852-M26A- 3

Alliance Technical Group
Method 26A Recovery Sheet

Client : Reworld

Project No.: AST-2025-3852

Date: OCT 28/25

Test No.: 1

Test Location: UNIT 2

Filter is used but not
recovered as sample

Impingers 1, 2, 3

Impinger #1 0.1 N H ₂ SO ₄	
Empty Wt:	656.7
Initial Wt:	757.0
Final Wt:	895.0
Gain:	138
Colour:	

1

Impinger #2 0.1 N H ₂ SO ₄	
Empty Wt:	658.0
Initial Wt:	759.5
Final Wt:	787.3
Gain:	27.8
Colour:	

2

Impinger #3 EMPTY	
Empty Wt:	636.0
Final Wt:	639.2
Gain:	3.2
Colour:	

3

CONTAINER TS3 WEIGHTS	
Empty Wt:	283.0
With Imp. 1,2,3 Soln:	647.7
After H ₂ O Rinse:	740.5
Total TS3:	459.5

Impinger 4

Impinger #4 Silica Gel	
Initial Wt:	962.0
Final Wt:	975.6
Gain:	13.6

4

Box ID:

Total Moisture Gain

1+2+3+4: 182.6

SAMPLE ID: 25-3852-M26A- 34

Train Loaded By:

Train Recovered By:

Alliance Technical Group
Method 26A Recovery Sheet

Client : Reworld

Project No.: AST-2025-3852

Date: OCT 28/25

Test No.: 2

Test Location: U2

Filter is used but not
recovered as sample

Impingers 1, 2, 3

Impinger #1 0.1 N H₂SO₄

Empty Wt: 648.5

Initial Wt: 750.3

Final Wt: 832.0

1 Gain: 151.7

Colour:

Impinger #2 0.1 N H₂SO₄

Empty Wt: 673.5

Initial Wt: 773.5

Final Wt: 793.5

2 Gain: 20.0

Colour:

Impinger #3 EMPTY

Empty Wt: 594.5

Final Wt: 597.5

3 Gain: 3.0

Colour:

CONTAINER TS3 WEIGHTS

Empty Wt: 281.5

With Imp. 1,2,3 Soln: 629.2

After H₂O Rinse: 740.0

Total TS3: 458.5

Impinger 4

Impinger #4 Silica Gel

Initial Wt: 934.8

Final Wt: 945.5

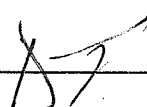
4 Gain: 10.7

Box ID: C

Total Moisture Gain

1+2+3+4: 169.4

SAMPLE ID: 25-3852-M26A- 5

Train Loaded By: 

Train Recovered By:

Alliance Technical Group
Method 26A Recovery Sheet

Client : Reworld

Project No.: AST-2025-3852

Date: OCT 28 / 25

Test No.: 3

Test Location: U2

Filter is used but not
recovered as sample

Impingers 1, 2, 3

Impinger #1 0.1 N H₂SO₄

Empty Wt: 657.4

Initial Wt: 758.0

Final Wt: 897.3

1 Gain: 139.3

Colour:

Impinger #2 0.1 N H₂SO₄

Empty Wt: 658.8

Initial Wt: 759.3

Final Wt: 787.5

2 Gain: 28.2

Colour:

Impinger #3 EMPTY

Empty Wt: 636.6

Final Wt: 641.0

3 Gain: 4.4

Colour:

CONTAINER TS3 WEIGHTS

Empty Wt: 282.0

With Imp. 1,2,3 Soln: 651.5

After H₂O Rinse: 761.5

Total TS3: 479.5

Impinger 4

Impinger #4 Silica Gel

Initial Wt: 962.0

Final Wt: 973.3

4 Gain: 11.3

Box ID:

Total Moisture Gain

1+2+3+4: 187.2

SAMPLE ID: 25-3852-M26A- 6

Train Loaded By:

Train Recovered By:

Alliance Technical Group
Method 26A Recovery Sheet

Client : Reworld

Project No.: AST-2025-3852

Date: OCT 28/25

Test No.:

Test Location: BLANK

Filter is used but not
recovered as sample

Impingers 1, 2, 3

Impinger #1 0.1 N H₂SO₄

Empty Wt:

Initial Wt:

Final Wt:

1 Gain:

Colour:

Impinger #2 0.1 N H₂SO₄

Empty Wt:

Initial Wt:

Final Wt:

2 Gain:

Colour:

Impinger #3 EMPTY

Empty Wt:

Final Wt:

3 Gain:

Colour:

CONTAINER TS3 WEIGHTS

Empty Wt: 282.0

With Imp. 1,2,3 Soln: 489.5

After H₂O Rinse: 592.0

Total TS3: 310.0

Impinger 4

Impinger #4 Silica Gel

Initial Wt:

Final Wt:

4 Gain:

Box ID:

Total Moisture Gain

1+2+3+4:

SAMPLE ID: 25-3852-M26A-BLANK

Train Loaded By:

Train Recovered By: DT

APPENDIX 17

VOC Analytical Report (23 pages)

CERTIFICATE OF ANALYSIS

Work Order	: BU2502999	
Amendment	: 1	
Client	: Alliance Technical Group North Inc.	
Contact	: Chris Belore	Laboratory
Address	: 804 Southdown Road	Account Manager
	Mississauga Ontario Canada L5J 2Y4	Address
Telephone	: 905 822 4120	E-mail
Project	: AST-2025-3852 Reworld	Telephone
PO	: ---	Date Samples Received
C-O-C number	: ---	Date Analysis Commenced
Sampler	: ---	Issue Date
Site	: ---	
Quote number	: BU2024-ORTE100-0006 - Reworld	
No. of samples received	: 7	
No. of samples analysed	: 7	

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
- Surrogate Control Limits

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.

Signatories	Position	Laboratory Department
Andrea Armstrong	Department Manager - Air Quality and Volatiles	Air Quality, Waterloo, 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
-	no units
inches Hg	inches of mercury
ppbv	parts per billion (volume/volume)
µg/m³	micrograms per cubic metre

<: 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 (09/12/2025): This report has been amended and re-released to allow the reporting of acetone results on a ppb basis.

Qualifiers

Qualifier	Description
AI	Analytical interferences may be present. Result may be biased high.



Analytical Results

Sub-Matrix: Canister
(Matrix: Air)

Sub-Matrix: Canister (Matrix: Air)		Client sample ID							
Analyte	CAS Number	Method/Lab	Client sampling date / time						
			LOR	Unit					
					Result	Result	Result	Result	Result
Field Tests									
ID, batch proof	----	EF001/WT	-	-	251001.208	251001.213	251001.202	251001.211	251001.206
ID, canister	----	EF001/WT	-	-	01400-0095	01400-0221	01400-0413	01400-0727	01400-0103
ID, regulator	----	EF001/WT	-	-	G425	G3	G262	G441	G17
Pressure on receipt	----	EF001/WT	0.10	inches Hg	-5.72	-10.2	-9.60	-11.0	-8.17
Volatile Organic Compounds									
Acetone	67-64-1	E621B/WT	1.0	ppbv	<1.0	<1.0	32.1	<1.1	<1.0
Acetone	67-64-1	EC621B/WT	2.4	µg/m³	<2.4	<2.4	76.2	<2.6	<2.4
Benzene	71-43-2	E621B/WT	0.10	ppbv	0.41	0.34	0.36	0.47	0.34
Benzene	71-43-2	EC621B/WT	0.32	µg/m³	1.31	1.09	1.15	1.50	1.09
Bromodichloromethane	75-27-4	E621B/WT	0.20	ppbv	<0.20	<0.21	<0.20	<0.22	<0.20
Bromodichloromethane	75-27-4	EC621B/WT	1.3	µg/m³	<1.3	<1.4	<1.3	<1.5	<1.3
Bromoform	75-25-2	E621B/WT	0.20	ppbv	<0.20	<0.21	<0.20	<0.22	<0.20
Bromoform	75-25-2	EC621B/WT	2.1	µg/m³	<2.1	<2.2	<2.1	<2.3	<2.1
Bromomethane	74-83-9	E621B/WT	0.20	ppbv	<1.00	<1.00	<1.00	<1.00	<1.00
Bromomethane	74-83-9	EC621B/WT	0.78	µg/m³	<3.88	<3.88	<3.88	<3.88	<3.88
Butadiene, 1,3-	106-99-0	E621B/WT	0.20	ppbv	<0.20	<0.21	<0.20	<0.22	<0.20
Butadiene, 1,3-	106-99-0	EC621B/WT	0.44	µg/m³	<0.44	<0.46	<0.44	<0.49	<0.44
Carbon tetrachloride	56-23-5	E621B/WT	0.20	ppbv	<0.20	<0.21	<0.20	<0.22	<0.20
Carbon tetrachloride	56-23-5	EC621B/WT	1.30	µg/m³	<1.26	<1.32	<1.26	<1.38	<1.26
Chloroform	67-66-3	E621B/WT	0.20	ppbv	0.32	0.34	0.37	0.44	0.45
Chloroform	67-66-3	EC621B/WT	0.98	µg/m³	1.56	1.66	1.81	2.15	2.20



Analytical Results

Sub-Matrix: Canister
(Matrix: Air)

Sub-Matrix: Canister (Matrix: Air)	Analyte	CAS Number	Method/Lab	Client sampling date / time		Client sample ID							
				LOR	Unit	25-3852-TO15-1 Test #1 #1 APC Outlet	25-3852-TO15-2 Test #2 #1 APC Outlet	25-3852-TO15-3 Test #3 #1 APC Outlet	25-3852-TO15-4 Test #1 #2 APC Outlet	25-3852-TO15-5 Test #2 #2 APC Outlet			
Volatile Organic Compounds													
Dibromochloromethane	124-48-1	E621B/WT	0.20	ppbv	<0.20	<0.21	<0.20	<0.22	<0.20	<0.20	<0.20	<0.22	<0.20
	124-48-1	EC621B/WT	1.7	µg/m³	<1.7	<1.8	<1.7	<1.9	<1.7	<1.7	<1.7	<1.9	<1.7
	106-93-4	E621B/WT	0.20	ppbv	<0.20	<0.21	<0.20	<0.22	<0.20	<0.20	<0.22	<0.20	<0.20
	106-93-4	EC621B/WT	1.5	µg/m³	<1.5	<1.6	<1.5	<1.7	<1.5	<1.5	<1.7	<1.5	<1.5
	75-71-8	E621B/WT	0.20	ppbv	<0.20	<0.21	<0.20	<0.22	<0.20	<0.20	<0.22	<0.20	<0.20
	75-71-8	EC621B/WT	1.0	µg/m³	<1.0	<1.0	<1.0	<1.1	<1.0	<1.0	<1.1	<1.0	<1.0
	107-06-2	E621B/WT	0.20	ppbv	<0.20	<0.21	<0.20	<0.22	<0.20	<0.20	<0.22	<0.20	<0.20
	107-06-2	EC621B/WT	0.81	µg/m³	<0.81	<0.85	<0.81	<0.89	<0.81	<0.81	<0.89	<0.81	<0.81
	75-35-4	E621B/WT	0.20	ppbv	<0.20	<0.21	<0.20	<0.22	<0.20	<0.20	<0.22	<0.20	<0.20
	75-35-4	EC621B/WT	0.79	µg/m³	<0.79	<0.83	<0.79	<0.87	<0.79	<0.79	<0.87	<0.79	<0.79
Dichloroethylene, 1,1-	156-60-5	E621B/WT	0.20	ppbv	<0.20	<0.21	<0.20	<0.22	<0.20	<0.20	<0.22	<0.20	<0.20
	156-60-5	EC621B/WT	0.79	µg/m³	<0.79	<0.83	<0.79	<0.87	<0.79	<0.79	<0.87	<0.79	<0.79
	75-09-2	E621B/WT	0.20	ppbv	0.93	0.61	0.61	2.22	0.61	0.61	2.22	0.82	0.82
	75-09-2	EC621B/WT	0.69	µg/m³	3.23	2.12	2.12	7.71	2.12	2.12	7.71	2.85	2.85
	78-87-5	E621B/WT	0.20	ppbv	<0.20	<0.21	<0.20	<0.22	<0.20	<0.20	<0.22	<0.20	<0.20
	78-87-5	EC621B/WT	0.9	µg/m³	<0.9	<1.0	<0.9	<1.0	<0.9	<0.9	<1.0	<0.9	<0.9
	100-41-4	E621B/WT	0.10	ppbv	0.41	0.19	0.19	0.48	<0.10	<0.10	0.48	0.16	0.16
	100-41-4	EC621B/WT	0.43	µg/m³	1.78	0.82	<0.43	2.08	<0.43	<0.43	2.08	0.69	0.69
	98-82-8	E621B/WT	0.20	ppbv	<0.20	<0.21	<0.20	<0.22	<0.20	<0.20	<0.22	<0.20	<0.20
	98-82-8	EC621B/WT	1.0	µg/m³	<1.0	<1.0	<1.0	<1.1	<1.0	<1.0	<1.1	<1.0	<1.0
Methyl ethyl ketone [MEK]	78-93-3	E621B/WT	0.20	ppbv	1.73 ^{AI}	2.21 ^{AI}	1.54 ^{AI}	2.35 ^{AI}	1.54 ^{AI}	1.54 ^{AI}	2.35 ^{AI}	2.18 ^{AI}	2.18 ^{AI}



Analytical Results

Sub-Matrix: Canister
(Matrix: Air)

Sub-Matrix: Canister (Matrix: Air)		Client sample ID		Client sampling date / time		25-3852-TO15-1 Test #1 #1 APC Outlet		25-3852-TO15-2 Test #2 #1 APC Outlet		25-3852-TO15-3 Test #3 #1 APC Outlet		25-3852-TO15-4 Test #1 #2 APC Outlet		25-3852-TO15-5 Test #2 #2 APC Outlet	
Analyte	CAS Number	Method/Lab	LOR	Unit	Result		Result		Result		Result		Result		
Volatile Organic Compounds															
Methyl ethyl ketone [MEK]	78-93-3	EC621B/WT	0.59	µg/m³	5.10	6.52	4.54	6.93	6.43						
Styrene	100-42-5	E621B/WT	0.20	ppbv	<0.20	<0.21	<0.20	<0.22	<0.20						
Styrene	100-42-5	EC621B/WT	0.85	µg/m³	<0.85	<0.89	<0.85	<0.94	<0.85						
Tetrachloroethylene	127-18-4	E621B/WT	0.20	ppbv	<0.20	<0.21	<0.20	<0.22	<0.20						
Tetrachloroethylene	127-18-4	EC621B/WT	1.4	µg/m³	<1.4	<1.4	<1.4	<1.5	<1.4						
Toluene	108-88-3	E621B/WT	0.10	ppbv	4.94	0.98	0.46	3.99	1.02						
Toluene	108-88-3	EC621B/WT	0.38	µg/m³	18.6	3.69	1.73	15.0	3.84						
Trichloro-1,2,2-trifluoroethane, 1,1,2- [Freon 113]	76-13-1	E621B/WT	0.20	ppbv	<0.20	<0.21	<0.20	<0.22	<0.20						
Trichloro-1,2,2-trifluoroethane, 1,1,2- [Freon 113]	76-13-1	EC621B/WT	1.5	µg/m³	<1.5	<1.6	<1.5	<1.7	<1.5						
Trichloroethane, 1,1,1-	71-55-6	E621B/WT	0.20	ppbv	<0.20	<0.21	<0.20	<0.22	<0.20						
Trichloroethane, 1,1,1-	71-55-6	EC621B/WT	1.1	µg/m³	<1.1	<1.1	<1.1	<1.2	<1.1						
Trichloroethylene	79-01-6	E621B/WT	0.20	ppbv	<0.20	<0.21	<0.20	<0.22	<0.20						
Trichloroethylene	79-01-6	EC621B/WT	1.1	µg/m³	<1.1	<1.1	<1.1	<1.2	<1.1						
Trichlorofluoromethane	75-69-4	E621B/WT	0.20	ppbv	<0.20	<0.21	<0.20	<0.22	<0.20						
Trichlorofluoromethane	75-69-4	EC621B/WT	1.1	µg/m³	<1.1	<1.2	<1.1	<1.2	<1.1						
Trimethylbenzene, 1,3,5-	108-67-8	E621B/WT	0.20	ppbv	<0.20	<0.21	<0.20	<0.22	<0.20						
Trimethylbenzene, 1,3,5-	108-67-8	EC621B/WT	1.0	µg/m³	<1.0	<1.0	<1.0	<1.1	<1.0						
Vinyl chloride	75-01-4	E621B/WT	0.20	ppbv	<0.20	<0.21	<0.20	<0.22	<0.20						
Vinyl chloride	75-01-4	EC621B/WT	0.51	µg/m³	<0.51	<0.54	<0.51	<0.56	<0.51						
Xylene, m+p-	179601-23-1	E621B/WT	0.20	ppbv	0.99	0.28	<0.20	1.00	0.22						



Analytical Results

Sub-Matrix: Canister
(Matrix: Air)

Sub-Matrix: Canister (Matrix: Air)		Client sample ID		Client sampling date / time													
Analyte	CAS Number	Method/Lab	LOR	Unit	25-3852-TO15-1 Test #1 #1 APC Outlet					25-3852-TO15-2 Test #2 #1 APC Outlet		25-3852-TO15-3 Test #3 #1 APC Outlet		25-3852-TO15-4 Test #1 #2 APC Outlet		25-3852-TO15-5 Test #2 #2 APC Outlet	
					29-Oct-2025 00:00	29-Oct-2025 00:00	29-Oct-2025 00:00	29-Oct-2025 00:00	29-Oct-2025 00:00	29-Oct-2025 00:00	29-Oct-2025 00:00	29-Oct-2025 00:00	29-Oct-2025 00:00	29-Oct-2025 00:00	29-Oct-2025 00:00	29-Oct-2025 00:00	29-Oct-2025 00:00
Volatile Organic Compounds																	
Xylene, m+p-	179601-23-1	EC621B/WT	0.87	µg/m³	4.30	1.22	<0.87	4.34	0.96								
Xylene, o-	95-47-6	E621B/WT	0.10	ppbv	0.21	<0.10	<0.10	0.23	<0.10								
Xylene, o-	95-47-6	EC621B/WT	0.43	µg/m³	0.91	<0.43	<0.43	1.00	<0.43								
Xylenes, total	1330-20-7	E621B/WT	0.30	ppbv	1.20	<0.30	<0.30	1.23	<0.30								
Xylenes, total	1330-20-7	EC621B/WT	1.3	µg/m³	5.2	<1.3	<1.3	5.3	<1.3								
Volatile Organic Compounds Surrogates																	
Bromofluorobenzene, 4-	460-00-4	E621B/WT	0.20	%	101	116	91.2	111	91.6								

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

Analytical Results

Sub-Matrix: Canister
(Matrix: Air)

Sub-Matrix: Canister (Matrix: Air)		Client sample ID				25-3852-TO15-6 Test #3 #2 APC Outlet	25-3852-TO15-Blank			
		Client sampling date / time				29-Oct-2025 00:00	29-Oct-2025 00:00			
Analyte	CAS Number	Method/Lab	LOR	Unit		BU2502999-006	BU2502999-007			
Field Tests										
ID, batch proof		EF001/WT	-	-		251001.216	251001.230			
ID, canister		EF001/WT	-	-		01400-0729	01400-0209			
ID, regulator		EF001/WT	-	-		G454	NR			
Pressure on receipt		EF001/WT	0.10	inches Hg		-7.76	-30.0			
Volatile Organic Compounds										
Acetone	67-64-1	E621B/WT	1.0	ppbv		<1.0	<1.0			
Acetone	67-64-1	EC621B/WT	2.4	µg/m³		<2.4	<2.4			



Analytical Results

Sub-Matrix: Canister
(Matrix: Air)

Sub-Matrix: Canister (Matrix: Air)		Client sample ID				25-3852-TO15-6 Test #3 #2 APC Outlet		25-3852-TO15- Blank							
		Client sampling date / time				29-Oct-2025 00:00		29-Oct-2025 00:00							
Analyte		CAS Number	Method/Lab	LOR	Unit	Result		Result							
Volatile Organic Compounds															
Benzene		71-43-2	E621B/WT	0.10	ppbv	0.28	<0.10								
Benzene		71-43-2	EC621B/WT	0.32	µg/m³	0.89	<0.32								
Bromodichloromethane		75-27-4	E621B/WT	0.20	ppbv	<0.20	<0.20								
Bromodichloromethane		75-27-4	EC621B/WT	1.3	µg/m³	<1.3	<1.3								
Bromoform		75-25-2	E621B/WT	0.20	ppbv	<0.20	<0.20								
Bromoform		75-25-2	EC621B/WT	2.1	µg/m³	<2.1	<2.1								
Bromomethane		74-83-9	E621B/WT	0.20	ppbv	<1.00	<1.00								
Bromomethane		74-83-9	EC621B/WT	0.78	µg/m³	<3.88	<3.88								
Butadiene, 1,3-		106-99-0	E621B/WT	0.20	ppbv	<0.20	<0.20								
Butadiene, 1,3-		106-99-0	EC621B/WT	0.44	µg/m³	<0.44	<0.44								
Carbon tetrachloride		56-23-5	E621B/WT	0.20	ppbv	<0.20	<0.20								
Carbon tetrachloride		56-23-5	EC621B/WT	1.30	µg/m³	<1.26	<1.26								
Chloroform		67-66-3	E621B/WT	0.20	ppbv	0.50	<0.20								
Chloroform		67-66-3	EC621B/WT	0.98	µg/m³	2.44	<0.98								
Dibromochloromethane		124-48-1	E621B/WT	0.20	ppbv	<0.20	<0.20								
Dibromochloromethane		124-48-1	EC621B/WT	1.7	µg/m³	<1.7	<1.7								
Dibromoethane, 1,2-		106-93-4	E621B/WT	0.20	ppbv	<0.20	<0.20								
Dibromoethane, 1,2-		106-93-4	EC621B/WT	1.5	µg/m³	<1.5	<1.5								
Dichlorodifluoromethane		75-71-8	E621B/WT	0.20	ppbv	<0.20	<0.20								
Dichlorodifluoromethane		75-71-8	EC621B/WT	1.0	µg/m³	<1.0	<1.0								
Dichloroethane, 1,2-		107-06-2	E621B/WT	0.20	ppbv	<0.20	<0.20								



Analytical Results

Sub-Matrix: Canister
(Matrix: Air)

Client sample ID				25-3852-TO15-6 Test #3 #2 APC Outlet	25-3852-TO15- Blank				
Client sampling date / time				29-Oct-2025 00:00	29-Oct-2025 00:00				
Analyte	CAS Number	Method/Lab	LOR	Unit	Result	Result			
Volatile Organic Compounds									
Dichloroethane, 1,2-	107-06-2	EC621B/W/T	0.81	µg/m ³	<0.81	<0.81			
Dichloroethylene, 1,1-	75-35-4	E621B/W/T	0.20	ppbv	<0.20	<0.20			
Dichloroethylene, 1,1-	75-35-4	EC621B/W/T	0.79	µg/m ³	<0.79	<0.79			
Dichloroethylene, trans-1,2-	156-60-5	E621B/W/T	0.20	ppbv	<0.20	<0.20			
Dichloroethylene, trans-1,2-	156-60-5	EC621B/W/T	0.79	µg/m ³	<0.79	<0.79			
Dichloromethane	75-09-2	E621B/W/T	0.20	ppbv	0.69	<0.20			
Dichloromethane	75-09-2	EC621B/W/T	0.69	µg/m ³	2.40	<0.69			
Dichloropropane, 1,2-	78-87-5	E621B/W/T	0.20	ppbv	<0.20	<0.20			
Dichloropropane, 1,2-	78-87-5	EC621B/W/T	0.9	µg/m ³	<0.9	<0.9			
Ethylbenzene	100-41-4	E621B/W/T	0.10	ppbv	0.12	<0.10			
Ethylbenzene	100-41-4	EC621B/W/T	0.43	µg/m ³	0.52	<0.43			
Isopropylbenzene	98-82-8	E621B/W/T	0.20	ppbv	<0.20	<0.20			
Isopropylbenzene	98-82-8	EC621B/W/T	1.0	µg/m ³	<1.0	<1.0			
Methyl ethyl ketone [MEK]	78-93-3	E621B/W/T	0.20	ppbv	2.68 ^{AI}	<0.20			
Methyl ethyl ketone [MEK]	78-93-3	EC621B/W/T	0.59	µg/m ³	7.90	<0.59			
Styrene	100-42-5	E621B/W/T	0.20	ppbv	<0.20	<0.20			
Styrene	100-42-5	EC621B/W/T	0.85	µg/m ³	<0.85	<0.85			
Tetrachloroethylene	127-18-4	E621B/W/T	0.20	ppbv	<0.20	<0.20			
Tetrachloroethylene	127-18-4	EC621B/W/T	1.4	µg/m ³	<1.4	<1.4			
Toluene	108-88-3	E621B/W/T	0.10	ppbv	0.91	<0.10			
Toluene	108-88-3	EC621B/W/T	0.38	µg/m ³	3.43	<0.38			



Analytical Results

Sub-Matrix: Canister
(Matrix: Air)

Sub-Matrix: Canister (Matrix: Air)		Client sample ID				25-3852-TO15-6 Test #3 #2 APC Outlet	25-3852-TO15-Blank				
		Client sampling date / time				29-Oct-2025 00:00	29-Oct-2025 00:00				
Analyte	CAS Number	Method/Lab	LOR	Unit	Result	Result	Result				
Volatile Organic Compounds											
Trichloro-1,2,2-trifluoroethane, 1,1,2- [Freon 113]	76-13-1	E621B/WT	0.20	ppbv	<0.20	<0.20	<0.20				
Trichloro-1,2,2-trifluoroethane, 1,1,2- [Freon 113]	76-13-1	EC621B/WT	1.5	µg/m³	<1.5	<1.5	<1.5				
Trichloroethane, 1,1,1-	71-55-6	E621B/WT	0.20	ppbv	<0.20	<0.20	<0.20				
Trichloroethane, 1,1,1-	71-55-6	EC621B/WT	1.1	µg/m³	<1.1	<1.1	<1.1				
Trichloroethylene	79-01-6	E621B/WT	0.20	ppbv	<0.20	<0.20	<0.20				
Trichloroethylene	79-01-6	EC621B/WT	1.1	µg/m³	<1.1	<1.1	<1.1				
Trichlorofluoromethane	75-69-4	E621B/WT	0.20	ppbv	<0.20	<0.20	<0.20				
Trichlorofluoromethane	75-69-4	EC621B/WT	1.1	µg/m³	<1.1	<1.1	<1.1				
Trimethylbenzene, 1,3,5-	108-67-8	E621B/WT	0.20	ppbv	<0.20	<0.20	<0.20				
Trimethylbenzene, 1,3,5-	108-67-8	EC621B/WT	1.0	µg/m³	<1.0	<1.0	<1.0				
Vinyl chloride	75-01-4	E621B/WT	0.20	ppbv	<0.20	<0.20	<0.20				
Vinyl chloride	75-01-4	EC621B/WT	0.51	µg/m³	<0.51	<0.51	<0.51				
Xylene, m+p-	179601-23-1	E621B/WT	0.20	ppbv	<0.20	<0.20	<0.20				
Xylene, m+p-	179601-23-1	EC621B/WT	0.87	µg/m³	<0.87	<0.87	<0.87				
Xylene, o-	95-47-6	E621B/WT	0.10	ppbv	<0.10	<0.10	<0.10				
Xylene, o-	95-47-6	EC621B/WT	0.43	µg/m³	<0.43	<0.43	<0.43				
Xylenes, total	1330-20-7	E621B/WT	0.30	ppbv	<0.30	<0.30	<0.30				
Xylenes, total	1330-20-7	EC621B/WT	1.3	µg/m³	<1.3	<1.3	<1.3				
Volatile Organic Compounds Surrogates											
Bromofluorobenzene, 4-	460-00-4	E621B/WT	0.20	%	93.4	107					



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

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: BU2502999	Page	: 1 of 6
Amendment	: 1		
Client	: Alliance Technical Group North Inc.	Laboratory	: ALS Environmental - Burlington
Contact	: Chris Belore	Account Manager	: Robert Chin
Address	: 804 Southdown Road Mississauga ON Canada L5J 2Y4	Address	: 1435 Norjohn Court, Unit 1 Burlington, Ontario Canada L7L 0E6
Telephone	: 905 822 4120	Telephone	: +1 905 331 3111
Project	: AST-2025-3852 Reworld	Date Samples Received	: 30-Oct-2025 13:30
PO	: ----	Issue Date	: 09-Dec-2025 13:07
C-O-C number	: ----		
Sampler	: ----		
Site	: ----		
Quote number	: BU2024-ORTE100-0006 - Reworld		
No. of samples received	: 7		
No. of samples analysed	: 7		

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 Service 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 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.



Page : 3 of 6
Work Order : BU2502999 Amendment 1
Client : Alliance Technical Group North Inc.
Project : AST-2025-3852 Reworld

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		Method	Sampling Date	Extraction / Preparation				Analysis		
Container / Client Sample ID(s)				Preparation Date	Holding Times		Eval	Analysis Date	Holding Times	
					Rec	Actual			Rec	Actual
Field Tests : Air Canister Information										
Air Canister	25-3852-TO15-1 Test #1 - #1 APC Outlet	EF001	29-Oct-2025					31-Oct-2025		
Field Tests : Air Canister Information										
Air Canister	25-3852-TO15-2 Test #2 - #1 APC Outlet	EF001	29-Oct-2025					31-Oct-2025		
Field Tests : Air Canister Information										
Air Canister	25-3852-TO15-3 Test #3 - #1 APC Outlet	EF001	29-Oct-2025					31-Oct-2025		
Field Tests : Air Canister Information										
Air Canister	25-3852-TO15-4 Test #1 - #2 APC Outlet	EF001	29-Oct-2025					31-Oct-2025		
Field Tests : Air Canister Information										
Air Canister	25-3852-TO15-5 Test #2 - #2 APC Outlet	EF001	29-Oct-2025					31-Oct-2025		
Field Tests : Air Canister Information										
Air Canister	25-3852-TO15-6 Test #3 - #2 APC Outlet	EF001	29-Oct-2025					31-Oct-2025		
Field Tests : Air Canister Information										
Air Canister	25-3852-TO15-Blank	EF001	29-Oct-2025					31-Oct-2025		



Page : 4 of 6
Work Order : BU2502999 Amendment 1
Client : Alliance Technical Group North Inc.
Project : AST-2025-3852 Reworld

Matrix: Air													
Analyte Group : Analytical Method				Sampling Date	Method	Extraction / Preparation			Analysis				
Container / Client Sample ID(s)						Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		
				Rec	Actual	Rec	Actual	Rec	Actual	Rec	Actual		
Volatile Organic Compounds : VOCs (TO-15 List) in Air by Canister or Bag by GC-MS (ppbV)													
Air Canister	25-3852-TO15-1 Test #1 - #1 APC Outlet		E621B	29-Oct-2025						05-Nov-2025	30 days	7 days	✓
Volatile Organic Compounds : VOCs (TO-15 List) in Air by Canister or Bag by GC-MS (ppbV)													
Air Canister	25-3852-TO15-2 Test #2 - #1 APC Outlet		E621B	29-Oct-2025						05-Nov-2025	30 days	7 days	✓
Volatile Organic Compounds : VOCs (TO-15 List) in Air by Canister or Bag by GC-MS (ppbV)													
Air Canister	25-3852-TO15-3 Test #3 - #1 APC Outlet		E621B	29-Oct-2025						05-Nov-2025	30 days	7 days	✓
Volatile Organic Compounds : VOCs (TO-15 List) in Air by Canister or Bag by GC-MS (ppbV)													
Air Canister	25-3852-TO15-4 Test #1 - #2 APC Outlet		E621B	29-Oct-2025						05-Nov-2025	30 days	7 days	✓
Volatile Organic Compounds : VOCs (TO-15 List) in Air by Canister or Bag by GC-MS (ppbV)													
Air Canister	25-3852-TO15-5 Test #2 - #2 APC Outlet		E621B	29-Oct-2025						05-Nov-2025	30 days	7 days	✓
Volatile Organic Compounds : VOCs (TO-15 List) in Air by Canister or Bag by GC-MS (ppbV)													
Air Canister	25-3852-TO15-6 Test #3 - #2 APC Outlet		E621B	29-Oct-2025						05-Nov-2025	30 days	7 days	✓
Volatile Organic Compounds : VOCs (TO-15 List) in Air by Canister or Bag by GC-MS (ppbV)													
Air Canister	25-3852-TO15-Blank		E621B	29-Oct-2025						05-Nov-2025	30 days	7 days	✓

Legend & Qualifier Definitions

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	Method	QC Lot #	Count		Frequency (%)		
			QC	Regular	Actual	Expected	Evaluation
Analytical Methods							
Laboratory Duplicates (DUP)							
VOCs (TO-15 List) in Air by Canister or Bag by GC-MS (ppbV)	E621B	2319068	1	7	14.2	5.0	✓
Laboratory Control Samples (LCS)							
VOCs (TO-15 List) in Air by Canister or Bag by GC-MS (ppbV)	E621B	2319068	1	7	14.2	5.0	✓
Method Blanks (MB)							
VOCs (TO-15 List) in Air by Canister or Bag by GC-MS (ppbV)	E621B	2319068	1	7	14.2	5.0	✓
Air Canister Information	EF001	2311738	1	17	5.8	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").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
VOCs (TO-15 List) in Air by Canister or Bag by GC-MS (ppbV)	E621B ALS Environmental - Waterloo	Air	EPA TO-15 (mod)	Volatile Organic Compounds (VOC) in canisters (or bags) are transferred to a preconcentrator system and then thermally desorbed prior to injection into a GC-MS system for analysis.
VOCs (TO-15 List) in Air by Canister or Bag by GC-MS (ug/m3)	EC621B ALS Environmental - Waterloo	Air	unit conversion	Convert ppbV to ug/m3
Air Canister Information	EF001 ALS Environmental - Waterloo	Air	In-house	Air canister information provided by client and recorded on ALS report may affect the validity of results.



QUALITY CONTROL REPORT

Work Order	: BU2502999	Page	: 1 of 7
Amendment	: 1	Laboratory	: ALS Environmental - Burlington
Client	: Alliance Technical Group North Inc.	Account Manager	: Robert Chin
Contact	: Chris Before	Address	: 1435 Norjohn Court, Unit 1 Burlington, Ontario Canada L7L 0E6
Address	: 804 Southdown Road Mississauga ON Canada L5J 2Y4	Telephone	: +1 905 331 3111
Telephone	: 905 822 4120	Date Samples Received	: 30-Oct-2025 13:30
Project	: AST-2025-3852 Reworld	Date Analysis Commenced	: 31-Oct-2025
PO	: ----	Issue Date	: 09-Dec-2025 13:07
C-O-C number	: ----		
Sampler	: ----		
Site	: ----		
Quote number	: BU2024-ORTE100-0006 - Reworld		
No. of samples received	: 7		
No. of samples analysed	: 7		

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
- 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
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Andrea Armstrong	Department Manager - Air Quality and Volatiles	Waterloo Air Quality, Waterloo, Ontario
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Page : 2 of 7
Work Order : BU2502999 Amendment 1
Client : Alliance Technical Group North Inc.
Project : AST-2025-3852 Reworld

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: Air

Sub-Matrix: Air														
Laboratory sample ID			Client sample ID	Analyte	CAS Number	Method	Laboratory Duplicate (DUP) Report					Qualifier		
Volatile Organic Compounds (QC Lot: 2319068)							LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits		
BU2502999-001			25-3852-TO15-1 Test #1 #1 APC Outlet		Acetone	67-64-1	E621B	1.0	ppbv	<1.0	<1.0	0	Diff <2x LOR	----
					Benzene	71-43-2	E621B	0.10	ppbv	0.41	0.37	0.03	Diff <2x LOR	----
					Bromodichloromethane	75-27-4	E621B	0.20	ppbv	<0.20	<0.20	0	Diff <2x LOR	----
					Bromoform	75-25-2	E621B	0.20	ppbv	<0.20	<0.20	0	Diff <2x LOR	----
					Bromomethane	74-83-9	E621B	1.00	ppbv	<1.00	<1.00	0	Diff <2x LOR	----
					Butadiene, 1,3-	106-99-0	E621B	0.20	ppbv	<0.20	<0.20	0	Diff <2x LOR	----
					Carbon tetrachloride	56-23-5	E621B	0.20	ppbv	<0.20	<0.20	0	Diff <2x LOR	----
					Chloroform	67-66-3	E621B	0.20	ppbv	0.32	0.24	0.08	Diff <2x LOR	----
					Dibromochloromethane	124-48-1	E621B	0.20	ppbv	<0.20	<0.20	0	Diff <2x LOR	----
					Dibromoethane, 1,2-	106-93-4	E621B	0.20	ppbv	<0.20	<0.20	0	Diff <2x LOR	----
					Dichlorodifluoromethane	75-71-8	E621B	0.20	ppbv	<0.20	<0.20	0	Diff <2x LOR	----
					Dichloroethane, 1,2-	107-06-2	E621B	0.20	ppbv	<0.20	<0.20	0	Diff <2x LOR	----
					Dichloroethylene, 1,1-	75-35-4	E621B	0.20	ppbv	<0.20	<0.20	0	Diff <2x LOR	----
					Dichloroethylene, trans-1,2-	156-60-5	E621B	0.20	ppbv	<0.20	<0.20	0	Diff <2x LOR	----
					Dichloromethane	75-09-2	E621B	0.20	ppbv	0.93	1.21	0.28	Diff <2x LOR	----
					Dichloropropane, 1,2-	78-87-5	E621B	0.20	ppbv	<0.20	<0.20	0	Diff <2x LOR	----
					Ethylbenzene	100-41-4	E621B	0.10	ppbv	0.41	0.44	0.03	Diff <2x LOR	----
					Isopropylbenzene	98-82-8	E621B	0.20	ppbv	<0.20	<0.20	0	Diff <2x LOR	----
					Methyl ethyl ketone [MEK]	78-93-3	E621B	0.20	ppbv	1.73	1.52	13.0%	30%	----
					Styrene	100-42-5	E621B	0.20	ppbv	<0.20	<0.20	0	Diff <2x LOR	----
					Tetrachloroethylene	127-18-4	E621B	0.20	ppbv	<0.20	<0.20	0	Diff <2x LOR	----
					Toluene	108-88-3	E621B	0.50	ppbv	4.94	4.78	3.31%	30%	----
					Trichloro-1,2,2-trifluoroethane, 1,1,2-[Freon 113]	76-13-1	E621B	0.20	ppbv	<0.20	<0.20	0	Diff <2x LOR	----
					Trichloroethane, 1,1,1-	71-55-6	E621B	0.20	ppbv	<0.20	<0.20	0	Diff <2x LOR	----
					Trichloroethylene	79-01-6	E621B	0.20	ppbv	<0.20	<0.20	0	Diff <2x LOR	----
					Trichlorofluoromethane	75-69-4	E621B	0.20	ppbv	<0.20	<0.20	0	Diff <2x LOR	----
					Trimethylbenzene, 1,3,5-	108-67-8	E621B	0.20	ppbv	<0.20	<0.20	0	Diff <2x LOR	----
					Vinyl chloride	75-01-4	E621B	0.20	ppbv	<0.20	<0.20	0	Diff <2x LOR	----
					Xylene, m+p-	179601-23-1	E621B	0.20	ppbv	0.99	1.06	0.07	Diff <2x LOR	----



Sub-Matrix: **Air**

Sub-Matrix: Air				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
Volatile Organic Compounds (QC Lot: 2319068) - continued											
BU2502999-001	25-3852-TO15-1 Test #1 #1 APC Outlet	Xylene, o-	95-47-6	E621B	0.10	ppbv	0.21	0.23	0.01	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
Field Tests (QCLot: 2311738)						
Pressure on receipt	---	EF001	0.1	Inches Hg	-30.0	----
Volatile Organic Compounds (QCLot: 2319068)						
Acetone	67-64-1	E621B	1	ppbv	<1.0	----
Benzene	71-43-2	E621B	0.1	ppbv	<0.10	----
Bromodichloromethane	75-27-4	E621B	0.2	ppbv	<0.20	----
Bromoform	75-25-2	E621B	0.2	ppbv	<0.20	----
Bromomethane	74-83-9	E621B	0.2	ppbv	<0.20	----
Butadiene, 1,3-	106-99-0	E621B	0.2	ppbv	<0.20	----
Carbon tetrachloride	56-23-5	E621B	0.2	ppbv	<0.20	----
Chloroform	67-66-3	E621B	0.2	ppbv	<0.20	----
Dibromochloromethane	124-48-1	E621B	0.2	ppbv	<0.20	----
Dibromoethane, 1,2-	106-93-4	E621B	0.2	ppbv	<0.20	----
Dichlorodifluoromethane	75-71-8	E621B	0.2	ppbv	<0.20	----
Dichloroethane, 1,2-	107-06-2	E621B	0.2	ppbv	<0.20	----
Dichloroethylene, 1,1-	75-35-4	E621B	0.2	ppbv	<0.20	----
Dichloroethylene, trans-1,2-	156-60-5	E621B	0.2	ppbv	<0.20	----
Dichloromethane	75-09-2	E621B	0.2	ppbv	<0.20	----
Dichloropropane, 1,2-	78-87-5	E621B	0.2	ppbv	<0.20	----
Ethylbenzene	100-41-4	E621B	0.1	ppbv	<0.10	----
Isopropylbenzene	98-82-8	E621B	0.2	ppbv	<0.20	----
Methyl ethyl ketone [MEK]	78-93-3	E621B	0.2	ppbv	<0.20	----
Styrene	100-42-5	E621B	0.2	ppbv	<0.20	----
Tetrachloroethylene	127-18-4	E621B	0.2	ppbv	<0.20	----
Toluene	108-88-3	E621B	0.1	ppbv	<0.10	----
Trichloro-1,2,2-trifluoroethane, 1,1,2-[Freon 113]	76-13-1	E621B	0.2	ppbv	<0.20	----
Trichloroethane, 1,1,1'-	71-55-6	E621B	0.2	ppbv	<0.20	----
Trichloroethylene	79-01-6	E621B	0.2	ppbv	<0.20	----
Trichlorofluoromethane	75-69-4	E621B	0.2	ppbv	<0.20	----
Trimethylbenzene, 1,3,5-	108-67-8	E621B	0.2	ppbv	<0.20	----
Vinyl chloride	75-01-4	E621B	0.2	ppbv	<0.20	----
Xylene, m+p-	179601-23-1	E621B	0.2	ppbv	<0.20	----
Xylene, o-	95-47-6	E621B	0.1	ppbv	<0.10	----



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

Sub-Matrix: Air		Laboratory Control Sample (LCS) Report					
		Spike		Recovery Limits (%)			
		Recovery (%)		Recovery Limits (%)			
		Target Concentration		LCS			
Analyte	CAS Number	Method	LOR	Unit	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 2319068)							
Acetone	67-64-1	E621B	1	ppbv	70.0	130	-----
Benzene	71-43-2	E621B	0.1	ppbv	70.0	130	-----
Bromodichloromethane	75-27-4	E621B	0.2	ppbv	70.0	130	-----
Bromoform	75-25-2	E621B	0.2	ppbv	70.0	130	-----
Bromomethane	74-83-9	E621B	0.2	ppbv	70.0	130	-----
Butadiene, 1,3-	106-99-0	E621B	0.2	ppbv	70.0	130	-----
Carbon tetrachloride	56-23-5	E621B	0.2	ppbv	70.0	130	-----
Chloroform	67-66-3	E621B	0.2	ppbv	70.0	130	-----
Dibromochloromethane	124-48-1	E621B	0.2	ppbv	70.0	130	-----
Dibromoethane, 1,2-	106-93-4	E621B	0.2	ppbv	70.0	130	-----
Dichlorodifluoromethane	75-71-8	E621B	0.2	ppbv	70.0	130	-----
Dichloroethane, 1,2-	107-06-2	E621B	0.2	ppbv	70.0	130	-----
Dichloroethylene, 1,1-	75-35-4	E621B	0.2	ppbv	70.0	130	-----
Dichloroethylene, trans-1,2-	156-60-5	E621B	0.2	ppbv	70.0	130	-----
Dichloromethane	75-09-2	E621B	0.2	ppbv	70.0	130	-----
Dichloropropane, 1,2-	78-87-5	E621B	0.2	ppbv	70.0	130	-----
Ethylbenzene	100-41-4	E621B	0.1	ppbv	70.0	130	-----
Isopropylbenzene	98-82-8	E621B	0.2	ppbv	70.0	130	-----
Methyl ethyl ketone [MEK]	78-93-3	E621B	0.2	ppbv	70.0	130	-----
Styrene	100-42-5	E621B	0.2	ppbv	70.0	130	-----
Tetrachloroethylene	127-18-4	E621B	0.2	ppbv	70.0	130	-----
Toluene	108-88-3	E621B	0.1	ppbv	70.0	130	-----
Trichloro-1,2,2-trifluoroethane, 1,1,2- [Freon 113]	76-13-1	E621B	0.2	ppbv	70.0	130	-----
Trichloroethane, 1,1,1-	71-55-6	E621B	0.2	ppbv	70.0	130	-----
Trichloroethylene	79-01-6	E621B	0.2	ppbv	70.0	130	-----
Trichlorofluoromethane	75-69-4	E621B	0.2	ppbv	70.0	130	-----
Trimethylbenzene, 1,3,5-	108-67-8	E621B	0.2	ppbv	70.0	130	-----
Vinyl chloride	75-01-4	E621B	0.2	ppbv	70.0	130	-----
Xylene, m+p-	179601-23-1	E621B	0.2	ppbv	70.0	130	-----
Xylene, o-	95-47-6	E621B	0.1	ppbv	70.0	130	-----

Batch Proof Report



right solutions.
right partner.

Batch Proof ID: 251001.227

Canister ID: 01400-0533

Analysis Date: 23-Oct-25

1,1,1-Trichloroethane	<0.02	ppb(V)	cis-1,3-Dichloropropene	<0.02	ppb(V)
1,1,1,2-Tetrachloroethane	<0.02	ppb(V)	Cyclohexane	<0.20	ppb(V)
1,1,2,2-Tetrachloroethane	<0.02	ppb(V)	Dibromochloromethane	<0.20	ppb(V)
1,1,2-Trichloroethane	<0.02	ppb(V)	Dichlorodifluoromethane	<0.20	ppb(V)
1,1-Dichloroethane	<0.02	ppb(V)	Ethyl Acetate	<0.20	ppb(V)
1,1-Dichloroethene	<0.02	ppb(V)	Ethyl Benzene	<0.02	ppb(V)
1,2,4-Trichlorobenzene	<0.20	ppb(V)	Freon 113	<0.20	ppb(V)
1,2,4-Trimethylbenzene	<0.20	ppb(V)	Freon 114	<0.20	ppb(V)
1,2-Dibromoethane	<0.01	ppb(V)	Hexachlorobutadiene	<0.02	ppb(V)
1,2-Dichlorobenzene	<0.02	ppb(V)	Isooctane	<0.20	ppb(V)
1,2-Dichloroethane	<0.01	ppb(V)	Isopropyl Alcohol	<0.20	ppb(V)
1,2-Dichloropropane	<0.02	ppb(V)	Isopropylbenzene	<0.20	ppb(V)
1,3,5-Trimethylbenzene	<0.20	ppb(V)	m&p-Xylene	<0.04	ppb(V)
1,3-Butadiene	<0.20	ppb(V)	Methyl Ethyl Ketone	<0.20	ppb(V)
1,3-Dichlorobenzene	<0.02	ppb(V)	Methylcyclohexane	<0.20	ppb(V)
1,4-Dichlorobenzene	<0.02	ppb(V)	Methyl Isobutyl Ketone	<0.20	ppb(V)
1,4-Dioxane	<0.20	ppb(V)	Methylene Chloride	<0.02	ppb(V)
2-Chlorophenol	<0.20	ppb(V)	MTBE	<0.20	ppb(V)
2-Hexanone	<1.0	ppb(V)	Naphthalene	<0.05	ppb(V)
4-Ethyltoluene	<0.20	ppb(V)	n-Decane	<0.20	ppb(V)
Acetone	<1.0	ppb(V)	n-Heptane	<0.20	ppb(V)
Acrolein	<0.10	ppb(V)	n-Hexane	<0.02	ppb(V)
Allyl Chloride	<0.20	ppb(V)	o-Xylene	<0.02	ppb(V)
Benzene	<0.02	ppb(V)	Propylene	<0.20	ppb(V)
Benzyl Chloride	<0.20	ppb(V)	Styrene	<0.02	ppb(V)
Bromodichloromethane	<0.20	ppb(V)	Tetrachloroethylene	<0.02	ppb(V)
Bromobenzene	<0.20	ppb(V)	Tetrahydrofuran	<0.20	ppb(V)
Bromoform	<0.02	ppb(V)	Toluene	<0.02	ppb(V)
Bromomethane	<0.20	ppb(V)	trans-1,2-Dichloroethene	<0.02	ppb(V)
Carbon Disulfide	<0.50	ppb(V)	trans-1,3-Dichloropropene	<0.02	ppb(V)
Carbon Tetrachloride	<0.02	ppb(V)	Trichloroethylene	<0.02	ppb(V)
Chlorobenzene	<0.20	ppb(V)	Trichlorofluoromethane	<0.20	ppb(V)
Chloroethane	<0.02	ppb(V)	Vinyl Acetate	<0.50	ppb(V)
Chloroform	<0.02	ppb(V)	Vinyl Bromide	<0.20	ppb(V)
Chloromethane	<0.20	ppb(V)	Vinyl Chloride	<0.02	ppb(V)
cis-1,2-Dichloroethene	<0.02	ppb(V)	4-Bromofluorobenzene	130.83	%

APPENDIX 18

Aldehydes Recovery Data Sheet (1 page)

Alliance Technical Group North, Inc. - Recovery & Sample Log
NCASI Method ISS/FP-A105.01

Client: Reworld DYEC
 Job/Report Number: AST-2025-3852
 Received By: Chris Belore
 How Received: Train Recovery
 Job Assigned To: ALS
 Quote / PO #:

Test Number	Test Location	Alliance Sample ID	Date Sampled	ID of BHA Sample Bottle	Empty Weight BHA Sample Bottle (g)	Initial Weight Sample Bottle + BHA (g)	Final Weight of BHA Sample Bottle (g)	Weight of Sample Bottle BHA & H2O (g)	Weight of Sample Bottle BHA & H2O & Hexane (g)
1	APC Outlet #1	ALD-1	10/29/25	ALD-3	114.1	153.2	154.9	162.7	169.8
2	APC Outlet #1	ALD-2		ALD-2	115.2	157.3	159.7	166.7	172.3
3	APC Outlet #1	ALD-3		ALD-3	115.2	158.3	162.2	170.2	179.9
Blank		Blank		ALD-4	113.8	156.2	156.2	160	175.7
1	APC Outlet #2	ALD-5		ALD-4	115.5	162.9	163.4	173.4	182.5
2	APC Outlet #2	ALD-6		ALD-6	113.8	164.3	165.7	174.1	186.9
3	APC Outlet #2	ALD-7		ALD-7	114.7	164.0	165.1	176.0	184.8
	Field BHA & Spike		na	na	na	na	na	na	na
	BHA Blank		na	na	na	na	na	na	na

Analyze each sample for Acetaldehyde, Formaldehyde, Acrolein.

Relinquished by: Dust Date: 10/30/25
 Relinquished to: Arar Burton Date: 30-Oct-2025 13:20 7.0°C

Environmental Division
 Burlington
 Work Order Reference
BU2503000



Telephone : +1 806 331 3111

APPENDIX 19

Aldehydes Analytical Report (11 pages)



CERTIFICATE OF ANALYSIS

Work Order	: BU2503000	
Client	: Alliance Technical Group North Inc.	
Contact	: Chris Belore	
Address	: 804 Southdown Road	
	Mississauga Ontario Canada L5J 2Y4	
Telephone	: 905 822 4120	
Project	: AST-2025-3852 Reworld	
PO	: ---	
C-O-C number	: ---	
Sampler	: ---	
Site	: ---	
Quote number	: BU2024-ORTE100-0006 - Reworld	
No. of samples received	: 9	
No. of samples analysed	: 9	
Laboratory Account Manager	: ALS Environmental - Burlington	
Address	: Robert Chin	
	1435 Norjohn Court, Unit 1	
	Burlington ON Canada L7L 0E6	
E-mail	: Robert.Chin@ALSGlobal.com	
Telephone	: +1 905 331 3111	
Date Samples Received	: 30-Oct-2025 13:30	
Date Analysis Commenced	: 05-Nov-2025	
Issue Date	: 21-Nov-2025 15:47	

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.

Signatories	Position	Laboratory Department
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Ron McLeod	Technical Manager	Organics, Burlington, Ontario
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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
µg/sample	micrograms per sample

<: 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

Field Spike Recoveries were 49% for acrolein and 490% for formaldehyde. The Field Spike recoveries are high for formaldehyde indicating likely contamination from the field. Re-analyses confirmed the values. The laboratory method blank shows levels of formaldehyde above the reporting limit and providing biased high formaldehyde levels in the field samples.

Qualifiers

Qualifier	Description
[B]	The analyte was detected in the Method Blank at >10% of the sample concentration.



Analytical Results

Sub-Matrix: Impinger
(Matrix: Air)

Sub-Matrix: Impinger (Matrix: Air)																																	
Analyte	CAS Number	Method/Lab	Client sample ID					Client sampling date / time	25-3852-ALD-1 Test#1 #1 APC Outlet					25-3852-ALD-2 Test#2 #1 APC Outlet					25-3852-ALD-3 Test#3 #1 APC Outlet					25-3852-ALD-Blank *****					25-3852-ALD-5 Test#1 #2 APC Outlet				
			LOR		Unit		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result						
Aldehydes																																	
Acetaldehyde	75-07-0	E690/BU	0.10	µg/sample	83.8	<0.50	0.10	29-Oct-2025 00:00	BU2503000-001	BU2503000-002	BU2503000-003	BU2503000-004	BU2503000-005																				
	107-02-8	E690/BU	0.10	µg/sample	<0.50	<0.50	0.10	29-Oct-2025 00:00																									
Acrolein	50-00-0	E690/BU	0.10	µg/sample	35.1 [B]	35.8 [B]	0.10	29-Oct-2025 00:00																									
Formaldehyde																																	

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

Analytical Results

Sub-Matrix: Impinger
(Matrix: Air)

Sub-Matrix: Impinger (Matrix: Air)														
Analyte	CAS Number	Method/Lab	Client sample ID			Client sampling date / time			Field BHA Spike			Field BHA Blank		
			LOR	Unit		25-3852-ALD-6 Test#2 #2 APC Outlet	25-3852-ALD-7 Test#3 #2 APC Outlet		29-Oct-2025 00:00	29-Oct-2025 00:00		29-Oct-2025 00:00	29-Oct-2025 00:00	
Aldehydes														
Acetaldehyde	75-07-0	E690/BU	0.10	µg/sample	97.0	54.6			45.1		9.30			
Acrolein	107-02-8	E690/BU	0.10	µg/sample	<0.50	<0.50			6.13		<0.50			
Formaldehyde	50-00-0	E690/BU	0.10	µg/sample	32.5 [B]	42.4 [B]			61.4 [B]		15.0 [B]			

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

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: BU2503000	Page	: 1 of 7
Client	: Alliance Technical Group North Inc.	Laboratory	: ALS Environmental - Burlington
Contact	: Chris Belore	Account Manager	: Robert Chin
Address	: 804 Southdown Road Mississauga ON Canada L5J 2Y4	Address	: 1435 Norjohn Court, Unit 1 Burlington, Ontario Canada L7L 0E6
Telephone	: 905 822 4120	Telephone	: +1 905 331 3111
Project	: AST-2025-3852 Reworld	Date Samples Received	: 30-Oct-2025 13:30
PO	: -----	Issue Date	: 21-Nov-2025 15:47
C-O-C number	: -----		
Sampler	: -----		
Site	: -----		
Quote number	: BU2024-ORTE100-0006 - Reworld		
No. of samples received	: 9		
No. of samples analysed	: 9		

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 Service 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

- Method Blank value outliers occur - please see following pages for full details.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- Reference Material (RM) Sample outliers occur - please see the following pages for full details.

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.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: Air

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Method Blank (MB) Values								
Aldehydes	QC-2314766-001	----	Formaldehyde	50-00-0	E690	11.8 µg/sampl e	0.1 µg/sample	Blank result exceeds permitted value
Reference Material (RM) Sample								
Aldehydes	QC-2314766-002	----	Acrolein	107-02-8	E690	43.3 %	50.0-150%	Recovery less than lower control limit



Page : 4 of 7
Work Order : BU2503000
Client : Alliance Technical Group North Inc.
Project : AST-2025-3852 Reworld

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		Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)				Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		
					Rec	Actual				Rec	Actual
Aldehydes : Aldehydes in Air via BHA solution by GC-MS											
Amber glass/Teflon lined closed cap 25-3852-ALD-1 Test#1 - #1 APC Outlet		E690	29-Oct-2025	05-Nov-2025	21 days	8 days	✓	06-Nov-2025	40 days	0 days	✓
Aldehydes : Aldehydes in Air via BHA solution by GC-MS											
Amber glass/Teflon lined closed cap 25-3852-ALD-2 Test#2 - #1 APC Outlet		E690	29-Oct-2025	05-Nov-2025	21 days	8 days	✓	06-Nov-2025	40 days	0 days	✓
Aldehydes : Aldehydes in Air via BHA solution by GC-MS											
Amber glass/Teflon lined closed cap 25-3852-ALD-3 Test#3 - #1 APC Outlet		E690	29-Oct-2025	05-Nov-2025	21 days	8 days	✓	06-Nov-2025	40 days	0 days	✓
Aldehydes : Aldehydes in Air via BHA solution by GC-MS											
Amber glass/Teflon lined closed cap 25-3852-ALD-5 Test#1 - #2 APC Outlet		E690	29-Oct-2025	05-Nov-2025	21 days	8 days	✓	06-Nov-2025	40 days	0 days	✓
Aldehydes : Aldehydes in Air via BHA solution by GC-MS											
Amber glass/Teflon lined closed cap 25-3852-ALD-6 Test#2 - #2 APC Outlet		E690	29-Oct-2025	05-Nov-2025	21 days	8 days	✓	06-Nov-2025	40 days	0 days	✓
Aldehydes : Aldehydes in Air via BHA solution by GC-MS											
Amber glass/Teflon lined closed cap 25-3852-ALD-7 Test#3 - #2 APC Outlet		E690	29-Oct-2025	05-Nov-2025	21 days	8 days	✓	06-Nov-2025	40 days	0 days	✓
Aldehydes : Aldehydes in Air via BHA solution by GC-MS											
Amber glass/Teflon lined closed cap 25-3852-ALD-Blank		E690	29-Oct-2025	05-Nov-2025	21 days	8 days	✓	06-Nov-2025	40 days	0 days	✓



Page : 5 of 7
Work Order : BU2503000
Client : Alliance Technical Group North Inc.
Project : AST-2025-3852 Reworld

Matrix: Air

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

Analyte Group : Analytical Method		Method	Sampling Date	Extraction / Preparation				Analysis		
				Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual
Container / Client Sample ID(s)										
Aldehydes : Aldehydes in Air via BHA solution by GC-MS										
Amber glass/Teflon lined closed cap Field BHA Blank		E690	29-Oct-2025	05-Nov-2025	21 days	8 days	✔	06-Nov-2025	40 days	0 days
Aldehydes : Aldehydes in Air via BHA solution by GC-MS										
Amber glass/Teflon lined closed cap Field BHA Spike		E690	29-Oct-2025	05-Nov-2025	21 days	8 days	✔	06-Nov-2025	40 days	0 days

Legend & Qualifier Definitions

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							
Analytical Methods	Method	QC Lot #	Count		Frequency (%)		
			QC	Regular	Actual	Expected	Evaluation
Laboratory Control Samples (LCS)							
Aldehydes in Air via BHA solution by GC-MS	E690	2314766	1	9	11.1	10.0	✓
Method Blanks (MB)							
Aldehydes in Air via BHA solution by GC-MS	E690	2314766	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").

Analytical Methods		Method / Lab	Matrix	Method Reference	Method Descriptions
Aldehydes in Air via BHA solution by GC-MS	E690	Air	NCASI A105.01	Sample is collected in BHA Solution. Extracted compounds are analyzed by GC-MS.	
	ALS Environmental - Burlington				
Preparation Methods					
Extraction (Soxhlet and liquid-liquid) of Stack for Organic Analytes	EP800	Air	EPA Method 3540C (Soxhlet) and EPA Method 3510C (L-L)	Samples are extracted with Soxhlet and/or separatory funnel apparatus, followed by appropriate cleanup.	
	ALS Environmental - Burlington				



QUALITY CONTROL REPORT

Work Order	: BU2503000	Page	: 1 of 2
Client	: Alliance Technical Group North Inc.	Laboratory	: ALS Environmental - Burlington
Contact	: Chris Belore	Account Manager	: Robert Chin
Address	: 804 Southdown Road Mississauga ON Canada L5J 2Y4	Address	: 1435 Norjohn Court, Unit 1 Burlington, Ontario Canada L7L 0E6
Telephone	: 905 822 4120	Telephone	: +1 905 331 3111
Project	: AST-2025-3852 Reworld	Date Samples Received	: 30-Oct-2025 13:30
PO	: ----	Date Analysis Commenced	: 05-Nov-2025
C-O-C number	: ----	Issue Date	: 21-Nov-2025 15:46
Sampler	: ----		
Site	: ----		
Quote number	: BU2024-ORTE100-0006 - Reworld		
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 Quality Control Report contains the following information:

- Reference Material (RM) 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
-------------	----------	-----------------------

Ron McLeod	Technical Manager	Burlington Organics, Burlington, Ontario
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Page : 2 of 2
Work Order : BU2503000
Client : Alliance Technical Group North Inc.
Project : AST-2025-3852 Reworld

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.

Reference Material (RM) Report

A Reference Material (RM) is a homogenous material with known and well-established analyte concentrations. RMs are processed in an identical manner to test samples, and are used to monitor and control the accuracy and precision of a test method for a typical sample matrix. RM results are expressed as percent recovery of the target analyte concentration. RM targets may be certified target concentrations provided by the RM supplier, or may be ALS long-term mean values (for empirical test methods).

Sub-Matrix:

Sub-Matrix:					Reference Material (RM) Report				
					RM Target Concentration	Recovery (%)	Recovery Limits (%)		Qualifier
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	RM	Low	High		
Aldehydes (QCLot: 2314766)									
QC-2314766-002	LCS-LL	Acetaldehyde	75-07-0	E690	66.4	50.0	150	-----	
QC-2314766-002	LCS-LL	Acrolein	107-02-8	E690	# 43.3	50.0	150	-----	
QC-2314766-002	LCS-LL	Formaldehyde	50-00-0	E690	107	50.0	150	-----	

APPENDIX 20

SVOC and VOC Proof Data (31 pages)

CERTIFICATE OF ANALYSIS

Work Order : BU2502717
Amendment : 1
Client : Alliance Technical Group North Inc.
Contact : Chris Belore
Address : 804 Southdown Road
Mississauga Ontario Canada L5J 2Y4
Telephone : 905 822 4120
Project : AST-2025-3852 Reworld
PO : 25-3852
C-O-C number :
Sampler :
Site :
Quote number : BU2024-ORTE100-0006 - Reworld
No. of samples received : 58
No. of samples analysed : 58

Laboratory : ALS Environmental - Burlington
Account Manager : Robert Chin
Address : 1435 Norjohn Court, Unit 1
Burlington ON Canada L7L 0E6
E-mail : Robert.Chin@ALSGlobal.com
Telephone : +1 905 331 3111
Date Samples Received : 29-Sep-2025 11:00
Date Analysis Commenced : 01-Oct-2025
Issue Date : 06-Jan-2026 09:36

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
- Surrogate Control Limits

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.

Signatories	Position	Laboratory Department
Sabir Ahmed	Analyst	Inorganics, Burlington, Ontario
Sabrina Jin	Analyst	Organics, 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
mg/L	milligrams per litre
mg/sample	milligrams per sample
ng/sample	nanograms per sample
µg/sample	micrograms per sample

<: 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 (06/01/2026): This report has been amended as a result of changes to the contacts for the distribution of the report. All analysis results are as per the previous report.

Qualifiers

Qualifier	Description
[B]	The analyte was detected in the Method Blank at >10% of the sample concentration.



Analytical Results

Sub-Matrix: Air
(Matrix: Air)

Sub-Matrix: Air (Matrix: Air)		Client sample ID				*0.1N Sulphuric acid Proof		Glassware proof -8 sets-		BHA Proof					
Analyte		Client sampling date / time				30-Sep-2025 00:00		30-Sep-2025 00:00		30-Sep-2025 00:00					
CAS Number		Method/Lab				LOR		Unit		Result		Result			
Inorganics															
Chloride, average	16887-00-6	E252/BU	0.47	mg/L	<0.47										
	16887-00-6	E252/BU	0.47	mg/L	<0.47										
	16887-00-6	E252/BU	0.47	mg/L	<0.47										
Fluoride, average		E252/BU	0.31	mg/L	<0.31										
Fluoride, replicate 1		E252/BU	0.31	mg/L	<0.31										
Fluoride, replicate 2		E252/BU	0.31	mg/L	<0.31										
Hydrogen chloride, average	7647-01-0	EC252/BU	0.015	mg/sample	<0.480										
Hydrogen chloride, replicate 1	7647-01-0	EC252/BU	0.015	mg/sample	<0.480										
Hydrogen chloride, replicate 2	7647-01-0	EC252/BU	0.015	mg/sample	<0.480										
Hydrogen fluoride, average	7664-39-3	EC252/BU	0.0098	mg/sample	<0.330										
Hydrogen fluoride, replicate 1	7664-39-3	EC252/BU	0.0098	mg/sample	<0.330										
Hydrogen fluoride, replicate 2	7664-39-3	EC252/BU	0.0098	mg/sample	<0.330										
Polycyclic Aromatic Hydrocarbons															
Acenaphthene	83-32-9	E649/BU	2.0	ng/sample	<12										
Acenaphthylene	208-96-8	E649/BU	2.0	ng/sample	<12										
Anthracene	120-12-7	E649/BU	2.0	ng/sample	<12										
Benz(a)anthracene	56-55-3	E649/BU	2.0	ng/sample	<12										
Benzo(a)fluorene	238-84-6	E649/BU	2.0	ng/sample	<12										
Benzo(a)pyrene	50-32-8	E649/BU	2.0	ng/sample	<12										



Analytical Results

Sub-Matrix: Air (Matrix: Air)		Client sample ID				*0.1N Sulphuric acid Proof	Glassware proof -8	BHA Proof		
Analyte		CAS Number	Method/Lab	LOR	Unit	30-Sep-2025 00:00 BU2502717-024	30-Sep-2025 00:00 BU2502717-032	30-Sep-2025 00:00 BU2502717-049		
						Result	Result	Result		
Polycyclic Aromatic Hydrocarbons										
Benzo(b)fluoranthene		205-99-2	E649/BU	2.0	ng/sampl e		<12			
Benzo(b)fluorene		243-17-4	E649/BU	2.0	ng/sampl e		<12			
Benzo(e)pyrene		192-97-2	E649/BU	2.0	ng/sampl e		<12			
Benzo(g,h,i)perylene		191-24-2	E649/BU	2.0	ng/sampl e		17.9			
Biphenyl		92-52-4	E649/BU	2.0	ng/sampl e		<12			
Chloronaphthalene, 2-		91-58-7	E649/BU	2.0	ng/sampl e		<12			
Coronene		191-07-1	E649/BU	2.0	ng/sampl e		13.1			
Dibenz(a, j) acridine		224-42-0	E649/BU	2.0	ng/sampl e		<12			
Dibenzo(a,e)pyrene		192-65-4	E649/BU	2.0	ng/sampl e		<12			
Dibenzo(a,i)pyrene		189-55-9	E649/BU	2.0	ng/sampl e		<12			
Dibenzo(c,g)carbazole, 7H-		194-59-2	E649/BU	2.0	ng/sampl e		<12			
Dimethylanthracene, 9,10-		781-43-1	E649/BU	2.0	ng/sampl e		<12			
Dimethylbenz(a)anthracene, 7,12-		57-97-6	E649/BU	2.0	ng/sampl e		<12			
Fluoranthene		206-44-0	E649/BU	2.0	ng/sampl e		<12 ^[B]			
Fluorene		86-73-7	E649/BU	2.0	ng/sampl e		<12			
Indeno(1,2,3-c,d)pyrene		193-39-5	E649/BU	2.0	ng/sampl e		<12			
Methylanthracene, 2-		613-12-7	E649/BU	2.0	ng/sampl e		<12			
Methylcholanthrene, 3-		56-49-5	E649/BU	2.0	ng/sampl e		<12			
Methylnaphthalene, 1-		90-12-0	E649/BU	2.0	ng/sampl e		<12			



Analytical Results

Sub-Matrix: Air (Matrix: Air)		Client sample ID				*0.1N Sulphuric acid Proof	Glassware proof -8	BHA Proof		
Analyte		CAS Number	Method/Lab	LOR	Unit	Client sampling date / time	30-Sep-2025 00:00	30-Sep-2025 00:00	30-Sep-2025 00:00	
							BU2502717-024	BU2502717-032	BU2502717-049	
							Result	Result	Result	
Polycyclic Aromatic Hydrocarbons										
Methylnaphthalene, 2-	91-57-6	E649/BU	2.0	ng/sample	<12					
Methylphenanthrene, 1-	832-69-9	E649/BU	2.0	ng/sample	<12					
Methylphenanthrene, 9-	883-20-5	E649/BU	2.0	ng/sample	<12					
Naphthalene	91-20-3	E649/BU	2.0	ng/sample	<12 [B]					
Perylene	198-55-0	E649/BU	2.0	ng/sample	<12					
Phenanthrene	85-01-8	E649/BU	2.0	ng/sample	19.5					
Picene	213-46-7	E649/BU	2.0	ng/sample	<12					
Pyrene	129-00-0	E649/BU	2.0	ng/sample	<12 [B]					
Quinoline	91-22-5	E649/BU	2.0	ng/sample	<12					
Terphenyl, m-	92-06-8	E649/BU	2.0	ng/sample	<12					
Terphenyl, o-	84-15-1	E649/BU	2.0	ng/sample	<12					
Terphenyl, p-	92-94-4	E649/BU	2.0	ng/sample	<12					
Tetralin	119-64-2	E649/BU	2.0	ng/sample	<12					
Polycyclic Aromatic Hydrocarbons Surrogates										
Acenaphthylene-d8	93951-97-4	E649/BU	2.0	%	60.7					
Anthracene-d10	1719-06-8	E649/BU	2.0	%	94.5					
Benz(a)anthracene-d12	1718-53-2	E649/BU	2.0	%	101					
Benzo(a)pyrene-d12	63466-71-7	E649/BU	2.0	%	99.7					
Benzo(b)fluoranthene-d12	93951-98-5	E649/BU	2.0	%	102					



Analytical Results

Sub-Matrix: Air (Matrix: Air)		Client sample ID					*0.1N Sulphuric acid Proof		Glassware proof -8	BHA Proof		
Analyte	CAS Number	Method/Lab	Client sampling date / time			Result	Result	Result	Result	Result		
			LOR	Unit								
Polycyclic Aromatic Hydrocarbons Surrogates												
Benzo(g,h,i)perylene-d12	93951-66-7	E649/BU	2.0	%			97.1					
Benzo(k)fluoranthene-d12	93952-01-3	E649/BU	2.0	%			109					
Chrysene-d12	1719-03-5	E649/BU	2.0	%			106					
Dibenz(a,h)anthracene-d14	13250-98-1	E649/BU	2.0	%			115					
Fluoranthene-d10	93951-69-0	E649/BU	2.0	%			105					
Indeno(1,2,3-cd)pyrene-d12	203578-33-0	E649/BU	2.0	%			108					
Methylnaphthalene-d10, 2-	7297-45-2	E649/BU	2.0	%			96.7					
Naphthalene-d8	1146-65-2	E649/BU	2.0	%			99.0					
Perylene-d12	1520-96-3	E649/BU	2.0	%			99.6					
Phenanthrene-d10	1517-22-2	E649/BU	2.0	%			94.2					
Aldehydes												
Acetaldehyde	75-07-0	E690/BU	0.10	µg/sample						<0.10		
Acrolein	107-02-8	E690/BU	0.10	µg/sample						<0.10		
Formaldehyde	50-00-0	E690/BU	0.10	µg/sample						<0.10		
Chlorinated Benzenes												
Chlorobenzene	108-90-7	E650/BU	2.0	ng/sample			<12.0					
Dichlorobenzene, 1,2-	95-50-1	E650/BU	2.0	ng/sample			<12.0					
Dichlorobenzene, 1,3-	541-73-1	E650/BU	2.0	ng/sample			<12.0					
Dichlorobenzene, 1,4-	106-46-7	E650/BU	2.0	ng/sample			<12.0					
Hexachlorobenzene	118-74-1	E650/BU	2.0	ng/sample			<12.0					



Analytical Results

Sub-Matrix: Air (Matrix: Air)		Client sample ID				*0.1N Sulphuric acid Proof	Glassware proof -8	BHA Proof		
Analyte		CAS Number	Method/Lab	LOR	Unit	Client sampling date / time	30-Sep-2025 00:00	30-Sep-2025 00:00	30-Sep-2025 00:00	
							BU2502717-024	BU2502717-049		
							Result	Result		
Chlorinated Benzenes										
Pentachlorobenzene	608-93-5	E650/BU	2.0	ng/sample						
Tetrachlorobenzene, 1,2,3,4-	634-66-2	E650/BU	2.0	ng/sample						
Tetrachlorobenzene, 1,2,3,5- + 1,2,4,5-	----	E650/BU	2.0	ng/sample						
Trichlorobenzene, 1,2,3-	87-61-6	E650/BU	2.0	ng/sample						
Trichlorobenzene, 1,2,4-	120-82-1	E650/BU	2.0	ng/sample						
Trichlorobenzene, 1,3,5-	108-70-3	E650/BU	2.0	ng/sample						
Chlorinated Benzenes Surrogates										
Chlorobenzene-13C6	287389-52-0	E650/BU	2.0	%						
Dichlorobenzene-13C6, 1,4-	----	E650/BU	2.0	%						
Hexachlorobenzene-13C6	----	E650/BU	2.0	%						
Pentachlorobenzene-13C6	----	E650/BU	2.0	%						
Tetrachlorobenzene-13C6, 1,2,3,4-	----	E650/BU	2.0	%						
Trichlorobenzene-13C6, 1,2,3-	----	E650/BU	2.0	%						
Chlorinated Phenolics										
Chlorophenol, 2-	95-57-8	E651L/BU	10	ng/sample						
Chlorophenol, 3+4-	n/a	E651L/BU	10	ng/sample						
Dichlorophenol, 2,3-	576-24-9	E651L/BU	10	ng/sample						
Dichlorophenol, 2,4- + 2,5-	----	E651L/BU	10	ng/sample						
Dichlorophenol, 2,6-	87-65-0	E651L/BU	10	ng/sample						



Analytical Results

Sub-Matrix: Air (Matrix: Air)		Client sample ID				*0.1N Sulphuric acid Proof	Glassware proof -8 sets-	BHA Proof		
Analyte		CAS Number	Method/Lab	LOR	Unit	Client sampling date / time	30-Sep-2025 00:00	30-Sep-2025 00:00	30-Sep-2025 00:00	
							BU2502717-024	BU2502717-032	BU2502717-049	
							Result	Result	Result	
Chlorinated Phenolics										
Dichlorophenol, 3,4-	95-77-2	E651L/BU	10	ng/sample				<60		
Dichlorophenol, 3,5-	591-35-5	E651L/BU	10	ng/sample				<60		
Hexachlorophene	70-30-4	E651L/BU	10	ng/sample				<60		
Pentachlorophenol	87-86-5	E651L/BU	10	ng/sample				<60		
Tetrachlorophenol, 2,3,4,5- + 2,3,4,6-	n/a	E651L/BU	10	ng/sample				<60		
Tetrachlorophenol, 2,3,5,6-	935-95-5	E651L/BU	10	ng/sample				<60		
Trichlorophenol, 2,3,4-	15950-66-0	E651L/BU	10	ng/sample				<60		
Trichlorophenol, 2,3,5-	933-78-8	E651L/BU	10	ng/sample				<60		
Trichlorophenol, 2,3,6-	933-75-5	E651L/BU	10	ng/sample				<60		
Trichlorophenol, 2,4,5-	95-95-4	E651L/BU	10	ng/sample				<60		
Trichlorophenol, 2,4,6-	88-06-2	E651L/BU	10	ng/sample				<60		
Trichlorophenol, 3,4,5-	609-19-8	E651L/BU	10	ng/sample				<60		
Chlorinated Phenolics Surrogates										
Chlorophenol-13C6, 4-	n/a	E651L/BU	10	%				49.5		
Dichlorophenol-13C6, 2,4-	n/a	E651L/BU	10	%				98.1		
Pentachlorophenol-13C6	85380-74-1	E651L/BU	10	%				97.2		
Tetrachlorophenol-13C6, 2,3,4,5-	n/a	E651L/BU	10	%				78.5		
Trichlorophenol-13C6, 2,4,5-	n/a	E651L/BU	10	%				95.4		

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

Quality Control Interpretive Report

Work Order	: BU2502717
Amendment	: 1
Client	: Alliance Technical Group North Inc.
Contact	: Chris Belore
Address	: 804 Southdown Road Mississauga ON Canada L5J 2Y4
Telephone	: 905 822 4120
Project	: AST-2025-3852 Reworld
PO	: 25-3852
C-O-C number	: ----
Sampler	: ----
Site	: ----
Quote number	: BU2024-ORTE100-0006 - Reworld
No. of samples received	: 58
No. of samples analysed	: 58

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

- Method Blank value outliers occur - please see following pages for full details.
- 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.
- Test sample Surrogate recovery outliers exist for all regular sample matrices - please see following pages for full details.

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

- Quality Control Sample Frequency Outliers occur - please see following pages for full details.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix :Air

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Method Blank (MB) Values								
Polycyclic Aromatic Hydrocarbons	QC-MRG5-2265396-001	----	Benzo(b) fluoranthene	205-99-2	E649	<12 ng/sample	2 ng/sample	Blank result exceeds permitted value
Polycyclic Aromatic Hydrocarbons	QC-MRG5-2265396-001	----	Biphenyl	92-52-4	E649	<12 ng/sample	2 ng/sample	Blank result exceeds permitted value
Polycyclic Aromatic Hydrocarbons	QC-MRG5-2265396-001	----	Fluoranthene	206-44-0	E649	15.5 ng/sample	2 ng/sample	Blank result exceeds permitted value
Polycyclic Aromatic Hydrocarbons	QC-MRG5-2265396-001	----	Methylnaphthalen e, 1-	90-12-0	E649	<12 ng/sample	2 ng/sample	Blank result exceeds permitted value
Polycyclic Aromatic Hydrocarbons	QC-MRG5-2265396-001	----	Methylnaphthalen e, 2-	91-57-6	E649	<12 ng/sample	2 ng/sample	Blank result exceeds permitted value
Polycyclic Aromatic Hydrocarbons	QC-MRG5-2265396-001	----	Naphthalene	91-20-3	E649	14.0 ng/sample	2 ng/sample	Blank result exceeds permitted value
Polycyclic Aromatic Hydrocarbons	QC-MRG5-2265396-001	----	Phenanthrene	85-01-8	E649	<12 ng/sample	2 ng/sample	Blank result exceeds permitted value
Polycyclic Aromatic Hydrocarbons	QC-MRG5-2265396-001	----	Pyrene	129-00-0	E649	14.5 ng/sample	2 ng/sample	Blank result exceeds permitted value
Polycyclic Aromatic Hydrocarbons	QC-MRG5-2265396-001	----	Tetralin	119-64-2	E649	<12 ng/sample	2 ng/sample	Blank result exceeds permitted value

Regular Sample Surrogates

Matrix: Air

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Samples Submitted								
Chlorinated Phenolics Surrogates	BU2502717-032	Glassware proof -8 sets-	Chlorophenol-13C6, 4-	n/a	E651L	49.5 %	50.0-150%	Recovery less than lower data quality objective



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	Rec	Actual	Eval	Analysis Date	Rec	Actual	Eval
Client sample ID													
Aldehydes : Aldehydes in Air via BHA solution by GC-MS													
Amber glass/Teflon lined closed cap													
BHA Proof		049	2278974	E690	30-Sep-2025	16-Oct-2025	21 days	16 days	✓	06-Nov-2025	40 days	21 days	✓
Chlorinated Benzenes : Chlorobenzenes in Stack by GC-MS													
Amber glass/Teflon lined closed cap													
Glassware proof -8 sets-		032	2265401	E650	30-Sep-2025	08-Oct-2025	14 days	9 days	✓	15-Oct-2025	40 days	7 days	✓
Chlorinated Phenolics : Chlorophenols in Stack by GC-MS													
Amber glass/Teflon lined closed cap													
Glassware proof -8 sets-		032	2265400	E651L	30-Sep-2025	08-Oct-2025	14 days	9 days	✓	15-Oct-2025	14 days	7 days	✓
Inorganics : Ion Chromatography Analysis (M26/26A Anions)													
M26/A: Amber Glass (0.1N H2SO4)													
*0.1N Sulphuric acid Proof		024	2251492	E252	30-Sep-2025	01-Oct-2025	28 days	1 days	✓	01-Oct-2025	28 days	1 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs - Extended List in Stack by GC-MS													
Amber glass/Teflon lined closed cap													
Glassware proof -8 sets-		032	2265396	E649	30-Sep-2025	08-Oct-2025	21 days	9 days	✓	04-Nov-2025	40 days	27 days	✓

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	QC Lot #	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)									
Ion Chromatography Analysis (M26/26A Anions)	E252		2251492	1	1	100.0	5.0	✓	
	E651L		2265400	0	1	0.0	5.0	✗	
Laboratory Control Samples (LCS)									
Ion Chromatography Analysis (M26/26A Anions)	E252		2251492	1	1	100.0	5.0	✓	
	E649		2265396	0	1	0.0	5.0	✗	
Chlorobenzenes in Stack by GC-MS	E650		2265401	0	1	0.0	5.0	✗	
	E651L		2265400	0	1	0.0	5.0	✗	
Aldehydes in Air via BHA solution by GC-MS	E690		2278974	0	1	0.0	10.0	✗	
Method Blanks (MB)									
Ion Chromatography Analysis (M26/26A Anions)	E252		2251492	1	1	100.0	5.0	✓	
	E649		2265396	1	1	100.0	5.0	✓	
Chlorobenzenes in Stack by GC-MS	E650		2265401	1	1	100.0	5.0	✓	
	E651L		2265400	1	1	100.0	5.0	✓	
Aldehydes in Air via BHA solution by GC-MS	E690		2278974	1	1	100.0	5.0	✓	
Matrix Spikes (MS)									
Ion Chromatography Analysis (M26/26A Anions)	E252		2251492	1	1	100.0	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").

Analytical Methods		Method / Lab	Matrix	Method Reference	Method Descriptions
Aldehydes in Air via BHA solution by GC-MS	ALS Environmental - Burlington	E690	Air	NCASI A105.01	Sample is collected in BHA Solution. Extracted compounds are analyzed by GC-MS.
Chlorobenzenes in Stack by GC-MS	ALS Environmental - Burlington	E650	Air	EPA Method 8270E	Sample extracts are analyzed for chlorobenzene analytes using selected ion monitoring (SIM) by GC-MS, using isotope dilution.
Chlorophenols in Stack by GC-MS	ALS Environmental - Burlington	E651L	Air	EPA Method 8270E	The sample is extracted by liquid/liquid extraction using dichloromethane. The extract is then derivatized, the acetate derivatives are prepared using column chromatography, reduced in volume and analyzed using selected ion monitoring (SIM) by GC-MS, using isotope dilution.
Ion Chromatography Analysis (M26/26A Anions)	ALS Environmental - Burlington	EC252	Air	unit conversion	Convert mg/L to mg/sample
PAHs - Extended List in Stack by GC-MS	ALS Environmental - Burlington	E649	Air	CARB 429, mod. EPA TO -13A	Polycyclic Aromatic Hydrocarbons (PAHs) are analyzed by GC-MS. This method reports to the instrument detection limit, which is not the default ALS Canada reporting policy. The laboratory method blank data should be reviewed and considered alongside sample data.
Stack Emission Impinger volume (L)	ALS Environmental - Burlington	EF003.1	Air		Volume of impinger contents is measured in the laboratory for use in later calculations.
Preparation Methods		Method / Lab	Matrix	Method Reference	Method Descriptions
Prep for Ion Chromatography Analysis (M26/26A Anions)	ALS Environmental - Burlington	EP252	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	: BU2502717	Page	: 1 of 6
Amendment	: 1	Laboratory	: ALS Environmental - Burlington
Client	: Alliance Technical Group North Inc.	Account Manager	: Robert Chin
Contact	: Chris Before	Address	: 1435 Norjohn Court, Unit 1 Burlington, Ontario Canada L7L 0E6
Address	: 804 Southdown Road Mississauga ON Canada L5J 2Y4	Telephone	: +1 905 331 3111
Telephone	: 905 822 4120	Date Samples Received	: 29-Sep-2025 11:00
Project	: AST-2025-3852 Reworld	Date Analysis Commenced	: 01-Oct-2025
PO	: 25-3852	Issue Date	: 06-Jan-2026 09:36
C-O-C number	: ----		
Sampler	: ----		
Site	: ----		
Quote number	: BU2024-ORTE100-0006 - Reworld		
No. of samples received	: 58		
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 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
Sabir Ahmed	Analyst	Burlington Inorganics, Burlington, Ontario
Sabrina Jin	Analyst	Burlington Organics, Burlington, Ontario



Page : 2 of 6
Work Order : BU2502717 Amendment 1
Client : Alliance Technical Group North Inc.
Project : AST-2025-3852 Reworld

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: Air

Sub-Matrix: Air											
Laboratory sample ID				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: 2251492)											
BU2502717-024	*0.1N Sulphuric acid Proof	Chloride, average	16887-00-6	E252	0.47	mg/L	<0.47	<0.47	0	Diff <2x LOR	----
		Chloride, replicate 1	16887-00-6	E252	0.47	mg/L	<0.47	<0.47	0	Diff <2x LOR	----
		Chloride, replicate 2	16887-00-6	E252	0.47	mg/L	<0.47	<0.47	0	Diff <2x LOR	----
		Fluoride, average	-----	E252	0.31	mg/L	<0.31	<0.31	0	Diff <2x LOR	----
		Fluoride, replicate 1	-----	E252	0.31	mg/L	<0.31	<0.31	0	Diff <2x LOR	----
		Fluoride, replicate 2	-----	E252	0.31	mg/L	<0.31	<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 (QCLot: 2251492)						
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	---
Polycyclic Aromatic Hydrocarbons (QCLot: 2265396)						
Acenaphthene	83-32-9	E649	2	ng/sample	<12	---
Acenaphthylene	208-96-8	E649	2	ng/sample	<12	---
Anthracene	120-12-7	E649	2	ng/sample	<12	---
Benz(a)anthracene	56-55-3	E649	2	ng/sample	<12	---
Benzo(a)fluorene	238-84-6	E649	2	ng/sample	<12	---
Benzo(a)pyrene	50-32-8	E649	2	ng/sample	<12	---
Benzo(b)fluoranthene	205-99-2	E649	2	ng/sample	# <12	---
Benzo(b)fluorene	243-17-4	E649	2	ng/sample	<12	---
Benzo(e)pyrene	192-97-2	E649	2	ng/sample	<12	---
Benzo(g,h,i)perylene	191-24-2	E649	2	ng/sample	<12	---
Biphenyl	92-52-4	E649	2	ng/sample	# <12	---
Chloronaphthalene, 2-	91-58-7	E649	2	ng/sample	<12	---
Coronene	191-07-1	E649	2	ng/sample	<12	---
Dibenz(a,j)acridine	224-42-0	E649	2	ng/sample	<12	---
Dibenzo(a,e)pyrene	192-65-4	E649	2	ng/sample	<12	---
Dibenzo(a,i)pyrene	189-55-9	E649	2	ng/sample	<12	---
Dibenzo(c,g)carbazole, 7H-	194-59-2	E649	2	ng/sample	<12	---
Dimethylantracene, 9,10-	781-43-1	E649	2	ng/sample	<12	---
Dimethylbenz(a)anthracene, 7,12-	57-97-6	E649	2	ng/sample	<12	---
Fluoranthene	206-44-0	E649	2	ng/sample	# 15.5	B
Fluorene	86-73-7	E649	2	ng/sample	<12	---
Indeno(1,2,3-c,d)pyrene	193-39-5	E649	2	ng/sample	<12	---
Methylantracene, 2-	613-12-7	E649	2	ng/sample	<12	---
Methylcholanthrene, 3-	56-49-5	E649	2	ng/sample	<12	---
Methylnaphthalene, 1-	90-12-0	E649	2	ng/sample	# <12	---



Sub-Matrix: Air

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Polycyclic Aromatic Hydrocarbons (QCLot: 2265396) - continued						
Methylnaphthalene, 2-	91-57-6	E649	2	ng/sample	# <12	---
Methylphenanthrene, 1-	832-69-9	E649	2	ng/sample	<12	---
Methylphenanthrene, 9-	883-20-5	E649	2	ng/sample	<12	---
Naphthalene	91-20-3	E649	2	ng/sample	# 14.0	B
Perylene	198-55-0	E649	2	ng/sample	<12	---
Phenanthrene	85-01-8	E649	2	ng/sample	# <12	---
Picene	213-46-7	E649	2	ng/sample	<12	---
Pyrene	129-00-0	E649	2	ng/sample	# 14.5	B
Quinoline	91-22-5	E649	2	ng/sample	<12	---
Terphenyl, m-	92-06-8	E649	2	ng/sample	<12	---
Terphenyl, o-	84-15-1	E649	2	ng/sample	<12	---
Terphenyl, p-	92-94-4	E649	2	ng/sample	<12	---
Tetralin	119-64-2	E649	2	ng/sample	# <12	---
Aldehydes (QCLot: 2278974)						
Acetaldehyde	75-07-0	E690	0.1	µg/sample	<0.10	---
Acrolein	107-02-8	E690	0.1	µg/sample	<0.10	---
Formaldehyde	50-00-0	E690	0.1	µg/sample	<0.10	---
Chlorinated Benzenes (QCLot: 2265401)						
Chlorobenzene	108-90-7	E650	2	ng/sample	<12.0	---
Dichlorobenzene, 1,2-	95-50-1	E650	2	ng/sample	<12.0	---
Dichlorobenzene, 1,3-	541-73-1	E650	2	ng/sample	<12.0	---
Dichlorobenzene, 1,4-	106-46-7	E650	2	ng/sample	<12.0	---
Hexachlorobenzene	118-74-1	E650	2	ng/sample	<12.0	---
Pentachlorobenzene	608-93-5	E650	2	ng/sample	<12.0	---
Tetrachlorobenzene, 1,2,3,4-	634-66-2	E650	2	ng/sample	<12.0	---
Tetrachlorobenzene, 1,2,3,5- + 1,2,4,5-	---	E650	2	ng/sample	<12.0	---
Trichlorobenzene, 1,2,3-	87-61-6	E650	2	ng/sample	<12.0	---
Trichlorobenzene, 1,2,4-	120-82-1	E650	2	ng/sample	<12.0	---
Trichlorobenzene, 1,3,5-	108-70-3	E650	2	ng/sample	<12.0	---
Chlorinated Phenolics (QCLot: 2265400)						
Chlorophenol, 2-	95-57-8	E651L	10	ng/sample	<60	---
Chlorophenol, 3+4-	n/a	E651L	10	ng/sample	<60	---
Dichlorophenol, 2,3-	576-24-9	E651L	10	ng/sample	<60	---
Dichlorophenol, 2,4- + 2,5-	---	E651L	10	ng/sample	<60	---
Dichlorophenol, 2,6-	87-65-0	E651L	10	ng/sample	<60	---



Sub-Matrix: Air

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Chlorinated Phenolics (QCLOT: 2265400) - continued						
Dichlorophenol, 3,4-	95-77-2	E651L	10	ng/sample	<60	----
Dichlorophenol, 3,5-	591-35-5	E651L	10	ng/sample	<60	----
Hexachlorophene	70-30-4	E651L	10	ng/sample	<60	----
Pentachlorophenol	87-86-5	E651L	10	ng/sample	<60	----
Tetrachlorophenol, 2,3,4,5- + 2,3,4,6-	n/a	E651L	10	ng/sample	<60	----
Tetrachlorophenol, 2,3,5,6-	935-95-5	E651L	10	ng/sample	<60	----
Trichlorophenol, 2,3,4-	15950-66-0	E651L	10	ng/sample	<60	----
Trichlorophenol, 2,3,5-	933-78-8	E651L	10	ng/sample	<60	----
Trichlorophenol, 2,3,6-	933-75-5	E651L	10	ng/sample	<60	----
Trichlorophenol, 2,4,5-	95-95-4	E651L	10	ng/sample	<60	----
Trichlorophenol, 2,4,6-	88-06-2	E651L	10	ng/sample	<60	----
Trichlorophenol, 3,4,5-	609-19-8	E651L	10	ng/sample	<60	----

Qualifiers

Qualifier Description

B Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.

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

Sub-Matrix: Air					Laboratory Control Sample (LCS) Report						
					Spike		Recovery (%)		Recovery Limits (%)		Qualifier
							Target Concentration	LCS	Low	High	
Analyte	CAS Number	Method	LOR	Unit							
Inorganics (QCLot: 2251492)											
Chloride, average	16887-00-6	E252	0.47	mg/L	15 mg/L	95.3	90.0	110	-----		
Chloride, replicate 1	16887-00-6	E252	0.47	mg/L	15 mg/L	95.2	90.0	110	-----		
Chloride, replicate 2	16887-00-6	E252	0.47	mg/L	15 mg/L	95.4	90.0	110	-----		
Fluoride, average	-----	E252	0.31	mg/L	10 mg/L	96.6	90.0	110	-----		
Fluoride, replicate 1	-----	E252	0.31	mg/L	10 mg/L	96.5	90.0	110	-----		
Fluoride, replicate 2	-----	E252	0.31	mg/L	10 mg/L	96.8	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 the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level $\geq 1 \times$ spike level.

Sub-Matrix: Air

Sub-Matrix: Air					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	Target	MS	Low	High	
Inorganics (QCLot: 2251492)										
BU2502717-024	*0.1N Sulphuric acid Proof	Chloride, average	16887-00-6	E252	14.4 mg/L	15 mg/L	96.0	90.0	110	MS-MS
		Chloride, replicate 1	16887-00-6	E252	14.4 mg/L	15 mg/L	96.0	90.0	110	MS-MS
		Chloride, replicate 2	16887-00-6	E252	14.4 mg/L	15 mg/L	96.1	90.0	110	MS-MS
		Fluoride, average	----	E252	9.43 mg/L	10 mg/L	94.3	90.0	110	MS-MS
		Fluoride, replicate 1	----	E252	9.40 mg/L	10 mg/L	94.0	90.0	110	MS-MS
		Fluoride, replicate 2	----	E252	9.38 mg/L	10 mg/L	93.8	90.0	110	MS-MS



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Certificate of Analysis

ALS Project Contact: Robert Chin
ALS Project ID: ORTE100
ALS WO#: BU2502717
Date of Report 22-Oct-25
Date of Sample Receipt 29-Sep-25

Client Name: Alliance Technical Group North Inc.
Client Address: 804 Southdown Road
Mississauga
ON L5J 2Y4
Client Contact: Chris Belore
Client Project ID:

COMMENTS: PCDD/F by EPA M23

The proof consists of the pooled solvent rinses of eight sets of sampling glassware.
Target analyte has not been detected in the proof.
Glassware is approved for the collection of samples for PCDD/F analysis.

Certified by:

A handwritten signature in black ink, appearing to read "Jin", is positioned above a horizontal line.

Sabrina Jin
Technical Specialist

Results in this certificate relate only to the samples as submitted to the laboratory.

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ALS Life Sciences

Sample Analysis summary Report

Sample Name

Glassware proof -8
sets-

ALS Sample ID

BU2502717-032

Sample Size

1

Sample size units

Sample

Percent Moisture

n/a

Sample Matrix

Air

Sampling Date

30-Sep-25

Extraction Date

10-Oct-25

Target Analytes

pg

2,3,7,8-TCDD	<1.7
1,2,3,7,8-PeCDD	<2.9
1,2,3,4,7,8-HxCDD	<3.8
1,2,3,6,7,8-HxCDD	<3.7
1,2,3,7,8,9-HxCDD	<3.7
1,2,3,4,6,7,8-HpCDD	<4.4
OCDD	<9.1
2,3,7,8-TCDF	<1.5
1,2,3,7,8-PeCDF	<1.8
2,3,4,7,8-PeCDF	<1.7
1,2,3,4,7,8-HxCDF	<2.0
1,2,3,6,7,8-HxCDF	<2.0
2,3,4,6,7,8-HxCDF	<2.1
1,2,3,7,8,9-HxCDF	<2.8
1,2,3,4,6,7,8-HpCDF	<3.2
1,2,3,4,7,8,9-HpCDF	<4.1
OCDF	<5.2

Extraction Standards

13C12-2,3,7,8-TCDD	101
13C12-1,2,3,7,8-PeCDD	86
13C12-1,2,3,6,7,8-HxCDD	109
13C12-1,2,3,4,6,7,8-HpCDD	109
13C12-OCDD	111
13C12-2,3,7,8-TCDF	99
13C12-1,2,3,7,8-PeCDF	87
13C12-1,2,3,6,7,8-HxCDF	111
13C12-1,2,3,4,6,7,8-HpCDF	98

Homologue Group Totals

pg

Total-TCDD	4.73
Total-PeCDD	<2.9
Total-HxCDD	<3.8
Total-HpCDD	<4.4
Total-TCDF	<1.5
Total-PeCDF	<1.8
Total-HxCDF	<2.5
Total-HpCDF	<4.1

Toxic Equivalency - (WHO 2005)

Lower Bound PCDD/F TEQ (WHO 2005)	0.00
Mid Point PCDD/F TEQ (WHO 2005)	3.89
Upper Bound PCDD/F TEQ (WHO 2005)	7.45

ALS Life Sciences

Quality Control Summary Report

Sample Name

Method Blank

ALS Sample ID

QC-MRG5-
2265396001

Sample Size

1.00

Sample size units

Sample

Percent Moisture

n/a

Sample Matrix

QC

Sampling Date

n/a

Extraction Date

10-Oct-25

Target Analytes

pg

2,3,7,8-TCDD	<1.5
1,2,3,7,8-PeCDD	<1.6
1,2,3,4,7,8-HxCDD	<2.2
1,2,3,6,7,8-HxCDD	<2.1
1,2,3,7,8,9-HxCDD	<2.1
1,2,3,4,6,7,8-HpCDD	<2.9
OCDD	<13
2,3,7,8-TCDF	<1.4
1,2,3,7,8-PeCDF	2.64
2,3,4,7,8-PeCDF	<0.99
1,2,3,4,7,8-HxCDF	<1.1
1,2,3,6,7,8-HxCDF	<1.0
2,3,4,6,7,8-HxCDF	<1.1
1,2,3,7,8,9-HxCDF	<2.1
1,2,3,4,6,7,8-HpCDF	<2.8
1,2,3,4,7,8,9-HpCDF	<2.5
OCDF	<5.2

Extraction Standards

13C12-2,3,7,8-TCDD	101
13C12-1,2,3,7,8-PeCDD	113
13C12-1,2,3,6,7,8-HxCDD	111
13C12-1,2,3,4,6,7,8-HpCDD	106
13C12-OCDD	102
13C12-2,3,7,8-TCDF	100
13C12-1,2,3,7,8-PeCDF	112
13C12-1,2,3,6,7,8-HxCDF	106
13C12-1,2,3,4,6,7,8-HpCDF	89

Homologue Group Totals

pg

Total-TCDD	<1.5
Total-PeCDD	<1.6
Total-HxCDD	<2.2
Total-HpCDD	<2.3
Total-TCDF	<1.4
Total-PeCDF	2.64
Total-HxCDF	<1.4
Total-HpCDF	<2.5

Toxic Equivalency - (WHO 2005)

Lower Bound PCDD/F TEQ (WHO 2005)	0.0792
Mid Point PCDD/F TEQ (WHO 2005)	2.61
Upper Bound PCDD/F TEQ (WHO 2005)	4.87

ALS Life Sciences

Sample Analysis Report

Sample Name	Glassware proof -8 sets-	Sampling Date	30-Sep-25	Sample	Approved: S.Sarhaddi --e-signature-- 20-Oct-2025
ALS Sample ID	BU2502717-032	Extraction Date	10-Oct-25		
Analysis Method	EPA M23	Sample Size	1		
Analysis Type	Sample	Percent Moisture	n/a		
Sample Matrix	Air	Split Ratio	6		

Run Information	Run 1
Filename	7-251016A10
Run Date	16-Oct-25 18:52
Final Volume	20 uL
Dilution Factor	1
Analysis Units	pg
Instrument - Column	HRMS-7 ZB-DX1199025

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg	EDL pg	Flags	EMPC pg	LQL
2,3,7,8-TCDD	1	NotFnd	<1.7	1.7	U		60
1,2,3,7,8-PeCDD	1	NotFnd	<2.9	2.9	U		60
1,2,3,4,7,8-HxCDD	0.1	NotFnd	<3.8	3.8	U		60
1,2,3,6,7,8-HxCDD	0.1	NotFnd	<3.7	3.7	U		60
1,2,3,7,8,9-HxCDD	0.1	NotFnd	<3.7	3.7	U		60
1,2,3,4,6,7,8-HpCDD	0.01	NotFnd	<4.4	4.4	U		60
OCDD	0.0003	39.07	<9.1	9.1	M,U	5.6	120
2,3,7,8-TCDF	0.1	NotFnd	<1.5	1.5	U		60
1,2,3,7,8-PeCDF	0.03	30.77	<1.8	1.8	M,J,R	1.8	60
2,3,4,7,8-PeCDF	0.3	NotFnd	<1.7	1.7	U		60
1,2,3,4,7,8-HxCDF	0.1	NotFnd	<2.0	2.0	U		60
1,2,3,6,7,8-HxCDF	0.1	NotFnd	<2.0	2.0	U		60
2,3,4,6,7,8-HxCDF	0.1	NotFnd	<2.1	2.1	U		60
1,2,3,7,8,9-HxCDF	0.1	34.32	<2.8	2.5	M,J,R	2.8	60
1,2,3,4,6,7,8-HpCDF	0.01	NotFnd	<3.2	3.2	U		60
1,2,3,4,7,8,9-HpCDF	0.01	NotFnd	<4.1	4.1	U		60
OCDF	0.0003	39.37	<5.2	5.2	M,U	3.9	120
Extraction Standards							
13C12-2,3,7,8-TCDD	12000	28.39	101	40-130			
13C12-1,2,3,7,8-PeCDD	12000	31.48	86	40-130			
13C12-1,2,3,6,7,8-HxCDD	12000	33.75	109	40-130			
13C12-1,2,3,4,6,7,8-HpCDD	12000	36.19	109	25-130			
13C12-OCDD	24000	39.04	111	25-130			
13C12-2,3,7,8-TCDF	12000	27.82	99	40-130			
13C12-1,2,3,7,8-PeCDF	12000	30.76	87	40-130			
13C12-1,2,3,6,7,8-HxCDF	12000	33.20	111	40-130			
13C12-1,2,3,4,6,7,8-HpCDF	12000	35.28	98	25-130			
Homologue Group Totals							
		# peaks	Conc. pg	EDL pg			
Total-TCDD		1	4.73	1.7			60
Total-PeCDD		0	<2.9	2.9	U		60
Total-HxCDD		0	<3.8	3.8	U		60
Total-HpCDD		0	<4.4	4.4	U		60
Total-TCDF		0	<1.5	1.5	U		60
Total-PeCDF		0	<1.8	1.8	U		60
Total-HxCDF		0	<2.5	2.5	U		60
Total-HpCDF		0	<4.1	4.1	U		60

Toxic Equivalency - (WHO 2005)	pg
Lower Bound PCDD/F TEQ (WHO 2005)	0.00
Mid Point PCDD/F TEQ (WHO 2005)	3.89
Upper Bound PCDD/F TEQ (WHO 2005)	7.45

EDL	Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
TEF	Indicates the Toxic Equivalency Factor
	TEQ Indicates the Toxic Equivalency
M	Indicates that a peak has been manually integrated.
U	Indicates that this compound was not detected above the EDL.
J	Indicates that a target analyte was detected below the calibrated range.
R	Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.
LQL	Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
EMPC	Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Laboratory Method Blank Analysis Report

Sample Name	Method Blank	Sampling Date	n/a	Sample	Approved: <i>S.Sarhaddi</i> --e-signature-- 20-Oct-2025
ALS Sample ID	QC-MRG5-2265396001	Extraction Date	10-Oct-25		
Analysis Method	EPA M23	Sample Size	1		
Analysis Type	Blank	Percent Moisture	n/a		
Sample Matrix	QC	Split Ratio	6		

Run Information	Run 1
Filename	7-251016A07
Run Date	16-Oct-25 16:39
Final Volume	20 uL
Dilution Factor	1
Analysis Units	pg
Instrument - Column	HRMS-7 ZB-DX1199025

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg	EDL pg	Flags	EMPC pg	LQL
2,3,7,8-TCDD	1	NotFnd	<1.5	1.5	U		60
1,2,3,7,8-PeCDD	1	NotFnd	<1.6	1.6	U		60
1,2,3,4,7,8-HxCDD	0.1	NotFnd	<2.2	2.2	U		60
1,2,3,6,7,8-HxCDD	0.1	NotFnd	<2.1	2.1	U		60
1,2,3,7,8,9-HxCDD	0.1	NotFnd	<2.1	2.1	U		60
1,2,3,4,6,7,8-HpCDD	0.01	36.24	<2.9	2.3	M,J,R	2.9	60
OCDD	0.0003	39.05	<13	4.5	M,J,R	13	120
2,3,7,8-TCDF	0.1	NotFnd	<1.4	1.4	U		60
1,2,3,7,8-PeCDF	0.03	30.77	2.64	1.0	M,J		60
2,3,4,7,8-PeCDF	0.3	NotFnd	<0.99	0.99	U		60
1,2,3,4,7,8-HxCDF	0.1	NotFnd	<1.1	1.1	U		60
1,2,3,6,7,8-HxCDF	0.1	NotFnd	<1.0	1.0	U		60
2,3,4,6,7,8-HxCDF	0.1	NotFnd	<1.1	1.1	U		60
1,2,3,7,8,9-HxCDF	0.1	34.32	<2.1	1.4	M,J,R	2.1	60
1,2,3,4,6,7,8-HpCDF	0.01	35.33	<2.8	2.0	M,J,R	2.8	60
1,2,3,4,7,8,9-HpCDF	0.01	NotFnd	<2.5	2.5	U		60
OCDF	0.0003	39.39	<5.2	4.9	M,J,R	5.2	120
Extraction Standards							
13C12-2,3,7,8-TCDD	12000	28.39	101	40-130			
13C12-1,2,3,7,8-PeCDD	12000	31.48	113	40-130			
13C12-1,2,3,6,7,8-HxCDD	12000	33.75	111	40-130			
13C12-1,2,3,4,6,7,8-HpCDD	12000	36.21	106	25-130			
13C12-OCDD	24000	39.05	102	25-130			
13C12-2,3,7,8-TCDF	12000	27.82	100	40-130			
13C12-1,2,3,7,8-PeCDF	12000	30.76	112	40-130			
13C12-1,2,3,6,7,8-HxCDF	12000	33.20	106	40-130			
13C12-1,2,3,4,6,7,8-HpCDF	12000	35.29	89	25-130			
Homologue Group Totals							
		# peaks	Conc. pg	EDL pg			
Total-TCDD		0	<1.5	1.5	U		60
Total-PeCDD		0	<1.6	1.6	U		60
Total-HxCDD		0	<2.2	2.2	U		60
Total-HpCDD		0	<2.3	2.3	U		60
Total-TCDF		0	<1.4	1.4	U		60
Total-PeCDF		1	2.64	1.0			60
Total-HxCDF		0	<1.4	1.4	U		60
Total-HpCDF		0	<2.5	2.5	U		60

Toxic Equivalency - (WHO 2005)	pg
Lower Bound PCDD/F TEQ (WHO 2005)	0.0792
Mid Point PCDD/F TEQ (WHO 2005)	2.61
Upper Bound PCDD/F TEQ (WHO 2005)	4.87

EDL	Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
TEF	Indicates the Toxic Equivalency Factor
M	Indicates that a peak has been manually integrated.
U	Indicates that this compound was not detected above the EDL.
J	Indicates that a target analyte was detected below the calibrated range.
R	Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.
LQL	Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
EMPC	Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure



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Phone: 905-331-3111, FAX: 905-331-4567

Certificate of Analysis

ALS Project Contact: Robert Chin
ALS Project ID: ORTE100
ALS WO#: BU2502717
Date of Report 17-Oct-25
Date of Sample Receipt 29-Sep-25

Client Name: Alliance Technical Group North Inc.
Client Address: 804 Southdown Road
Mississauga
ON L5J 2Y4
Client Contact: Chris Belore
Client Project ID:
Project Description:

COMMENTS: PCB Congeners by EPA 1668C

PCB Congener Group Totals and Total PCB are a sum of all congeners that are positively identified by the criteria of the applied reference method.

The proof consists of the pooled solvent rinses of eight sets of sampling glassware.

some targets were detected in significant levels.

CoC requires toxic PCBs only.

Glassware is approved for the collection of samples for toxic PCB analysis.

Certified by:

Sabrina Jin
Technical Specialist

Results in this certificate relate only to the samples as submitted to the laboratory.

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Quality Control Summary Report

Sample Name

Method Blank Glassware proof -8
sets-

ALS Sample ID QC-MRG5-2265396001 BU2502717-032

Sample Size	1	1
Sample size units	Sample	Sample
Percent Moisture	n/a	n/a
Sample Matrix	QC	AIR
Sampling Date	n/a	30-Sep-25
Extraction Date	10-Oct-25	10-Oct-25
Reference Sample		

Target Analytes	pg	pg
PCB 001	<3.0	<4.1
PCB 002	<2.9	<68
PCB 003	<3.1	<4.2
PCB 004	<14	<10
PCB 010	<6.2	<4.4
PCB 009	<6.1	<4.4
PCB 007	<5.5	<3.9
PCB 006	<6.3	<4.5
PCB 005	<5.7	<4.0
PCB 008	<6.2	<18
PCB 014	<10	<9.0
PCB 011	<9.7	138
PCB 012+013	<8.8	<7.7
PCB 015	<7.5	<18
PCB 019	<6.7	<6.5
PCB 018+030	<6.7	35.6
PCB 017	<7.5	19.4
PCB 027	<5.7	<5.6
PCB 024	<5.3	<5.2
PCB 016	<9.3	<31
PCB 032	<5.3	16.7
PCB 034	<5.1	<7.5
PCB 023	<4.7	<7.1
PCB 026+029	<4.6	18.8
PCB 025	<4.9	11.1
PCB 031	<4.8	97.7
PCB 020+028	<4.5	98.0
PCB 021+033	<5.0	71.5
PCB 022	<4.6	59.5
PCB 036	<4.6	<6.8
PCB 039	<4.2	<6.2
PCB 038	<4.9	<7.4
PCB 035	<5.0	<7.5
PCB 037	<4.5	75.5
PCB 054	<3.5	<4.4
PCB 050+053	<4.2	24.7
PCB 045+051	<4.4	74.1
PCB 046	<4.9	<12
PCB 052	<4.4	478
PCB 073	<3.2	<8.0
PCB 043	<4.9	<12
PCB 049+069	<3.7	109
PCB 048	<4.0	22.1
PCB 044+047+065	<3.9	418
PCB 059+062+075	<3.1	<10
PCB 042	<5.1	<32
PCB 040+041+071	<4.2	<73
PCB 064	<3.3	<69
PCB 072	<3.9	<6.7
PCB 068	<3.4	18.7
PCB 057	<4.0	<6.9
PCB 058	<3.7	13.0
PCB 067	<3.4	<6.2
PCB 063	<3.9	<6.7
PCB 061+070+074+076	<3.8	328
PCB 066	<3.9	125
PCB 055	<3.8	<6.6
PCB 056	<3.7	<59
PCB 060	<3.7	<38
PCB 080	<3.2	<5.5
PCB 079	<3.6	<6.2
PCB 078	<4.4	<7.6
PCB 081	<4.1	<7.4
PCB 077	<4.1	9.50
PCB 104	<3.3	<3.5
PCB 096	<4.5	<5.8
PCB 103	<5.5	<7.7
PCB 094	<5.6	<7.8
PCB 095	<6.5	404
PCB 093+098+100+102	<5.2	<7.4

ALS Life Sciences

Quality Control Summary Report

Sample Name

Method Blank Glassware proof -8
sets-

ALS Sample ID QC-MRG5-2265396001 BU2502717-032

Sample Size	1	1
Sample size units	Sample	Sample
Percent Moisture	n/a	n/a
Sample Matrix	QC	AIR
Sampling Date	n/a	30-Sep-25
Extraction Date	10-Oct-25	10-Oct-25
Reference Sample		

Target Analytes	pg	pg
PCB 088+091	<5.7	<44
PCB 084	<5.8	<83
PCB 089	<7.0	<9.9
PCB 121	<3.6	<5.1
PCB 092	<6.4	<46
PCB 090+101+113	<4.8	250
PCB 083+099	<5.5	116
PCB 112	<3.8	<5.3
PCB 086+087+097+109+119+125	<4.5	133
PCB 085+110+115+116+117	<4.2	<200
PCB 082	<7.1	<15
PCB 111	<3.6	<5.0
PCB 120	<3.8	<5.4
PCB 108+124	<3.5	<4.9
PCB 107	<3.0	<4.2
PCB 123	<3.9	<6.1
PCB 106	<4.0	<5.6
PCB 118	<3.6	74.9
PCB 122	<5.1	<7.1
PCB 114	<3.8	<5.9
PCB 105	<3.6	21.9
PCB 127	<3.9	<5.5
PCB 126	<3.7	<8.0
PCB 155	<2.5	<3.1
PCB 152	<4.6	<8.7
PCB 150	<3.8	<7.2
PCB 136	<4.5	<22
PCB 145	<3.9	<7.4
PCB 148	<6.0	<11
PCB 135+151	<5.9	26.0
PCB 154	<4.2	<8.0
PCB 144	<5.8	<11
PCB 147+149	<5.0	<56
PCB 134+143	<6.8	<16
PCB 139+140	<4.8	<12
PCB 131	<8.2	<20
PCB 142	<6.8	<16
PCB 132	<6.1	<33
PCB 133	<6.8	<16
PCB 165	<4.6	<11
PCB 146	<4.5	<11
PCB 161	<4.2	<10
PCB 153+168	<5.2	<31
PCB 141	<5.2	<12
PCB 130	<6.6	<16
PCB 137+164	<4.6	<11
PCB 129+138+163	<5.6	<42
PCB 160	<4.3	<10
PCB 158	<3.8	<9.1
PCB 128+166	<4.7	<11
PCB 159	<4.0	<9.7
PCB 162	<3.9	<9.5
PCB 167	<3.8	<10
PCB 156+157	<5.6	<16
PCB 169	<4.6	<16
PCB 188	<3.8	<4.8
PCB 179	<4.8	<8.4
PCB 184	<3.4	<6.0
PCB 176	<5.7	<10
PCB 186	<4.1	<7.2
PCB 178	<6.4	<11
PCB 175	<5.8	<10
PCB 187	<4.5	<8.0
PCB 182	<6.3	<11
PCB 183	<6.1	<11
PCB 185	<5.7	<10
PCB 174	<5.2	<9.2
PCB 177	<6.5	<11
PCB 181	<5.6	<9.8
PCB 171+173	<7.1	<12
PCB 172	<7.3	<13

ALS Life Sciences

Quality Control Summary Report

Sample Name

Method Blank Glassware proof -8
sets-

ALS Sample ID

QC-MRG5-2265396001

BU2502717-032

Sample Size

1

1

Sample size units

Sample

Sample

Percent Moisture

n/a

n/a

Sample Matrix

QC

AIR

Sampling Date

n/a

30-Sep-25

Extraction Date

10-Oct-25

10-Oct-25

Reference Sample

Target Analytes

pg

pg

PCB 192	<4.7	<8.3
PCB 180+193	<5.2	<9.2
PCB 191	<4.9	<8.6
PCB 170	<7.0	<12
PCB 190	<6.1	<11
PCB 189	<3.8	<16
PCB 202	<4.8	<10
PCB 201	<5.8	<15
PCB 204	<5.2	<13
PCB 197	<4.9	<12
PCB 200	<5.3	<13
PCB 198+199	<8.9	<22
PCB 196	<8.4	<21
PCB 203	<7.1	<18
PCB 195	<7.0	<24
PCB 194	<6.8	<23
PCB 205	<5.8	<27
PCB 208	<10	<28
PCB 207	<11	<34
PCB 206	<20	<75
PCB 209	<4.1	<22

Extraction Standards

% Rec

% Rec

PCB 001, 13C12	39	52
PCB 003, 13C12	42	54
PCB 004, 13C12	52	63
PCB 015, 13C12	50	60
PCB 019, 13C12	51	59
PCB 037, 13C12	57	62
PCB 054, 13C12	62	66
PCB 081, 13C12	59	63
PCB 077, 13C12	58	58
PCB 104, 13C12	66	87
PCB 123, 13C12	57	54
PCB 118, 13C12	58	58
PCB 114, 13C12	54	54
PCB 105, 13C12	57	44
PCB 126, 13C12	58	40
PCB 155, 13C12	70	82
PCB 167, 13C12	77	70
PCB 156+157, 13C12	75	61
PCB 169, 13C12	73	51
PCB 188, 13C12	70	93
PCB 189, 13C12	58	35
PCB 202, 13C12	56	47
PCB 205, 13C12	67	72
PCB 208, 13C12	82	108
PCB 206, 13C12	81	75
PCB 209, 13C12	78	70

Cleanup Standards

PCB 028, 13C12	0	0
PCB 111, 13C12	0	0
PCB 178, 13C12	0	1

ALS Life Sciences

Quality Control Summary Report

Sample Name

Method Blank Glassware proof -8
sets-

ALS Sample ID QC-MRG5-2265396001 BU2502717-032

Sample Size	1	1
Sample size units	Sample	Sample
Percent Moisture	n/a	n/a
Sample Matrix	QC	AIR
Sampling Date	n/a	30-Sep-25
Extraction Date	10-Oct-25	10-Oct-25
Reference Sample		

Target Analytes	pg	pg
Homologue Group Totals		
Monochlorinated biphenyls, total	<2.9	<4.0
Dichlorinated biphenyls, total	<5.5	138
Trichlorinated biphenyls, total	<4.2	504
Tetrachlorinated biphenyls, total	<3.1	1620
Pentachlorinated biphenyls, total	<3.0	1000
Hexachlorinated biphenyls, total	<2.5	26.0
Heptachlorinated biphenyls, total	<3.4	<4.8
Octachlorinated biphenyls, total	<4.8	<10
Nonachlorinated biphenyls, total	<10	<28
Decachlorobiphenyl	<4.1	<22
Polychlorinated biphenyls [PCBs], total	0.00	3290
Toxic Equivalency		
PCB TEQ - WHO 2005 (ND=0*EDL)	0.00	0.00385
PCB TEQ - WHO 2005 (ND=0.5*EDL)	0.255	0.646
PCB TEQ - WHO 2005 (ND=1*EDL)	0.510	1.29

Batch Proof Report



right solutions.
right partner.

Batch Proof ID: 251001.227

Canister ID: 01400-0533

Analysis Date: 23-Oct-25

1,1,1-Trichloroethane	<0.02	ppb(V)	cis-1,3-Dichloropropene	<0.02	ppb(V)
1,1,1,2-Tetrachloroethane	<0.02	ppb(V)	Cyclohexane	<0.20	ppb(V)
1,1,2,2-Tetrachloroethane	<0.02	ppb(V)	Dibromochloromethane	<0.20	ppb(V)
1,1,2-Trichloroethane	<0.02	ppb(V)	Dichlorodifluoromethane	<0.20	ppb(V)
1,1-Dichloroethane	<0.02	ppb(V)	Ethyl Acetate	<0.20	ppb(V)
1,1-Dichloroethene	<0.02	ppb(V)	Ethyl Benzene	<0.02	ppb(V)
1,2,4-Trichlorobenzene	<0.20	ppb(V)	Freon 113	<0.20	ppb(V)
1,2,4-Trimethylbenzene	<0.20	ppb(V)	Freon 114	<0.20	ppb(V)
1,2-Dibromoethane	<0.01	ppb(V)	Hexachlorobutadiene	<0.02	ppb(V)
1,2-Dichlorobenzene	<0.02	ppb(V)	Isooctane	<0.20	ppb(V)
1,2-Dichloroethane	<0.01	ppb(V)	Isopropyl Alcohol	<0.20	ppb(V)
1,2-Dichloropropane	<0.02	ppb(V)	Isopropylbenzene	<0.20	ppb(V)
1,3,5-Trimethylbenzene	<0.20	ppb(V)	m&p-Xylene	<0.04	ppb(V)
1,3-Butadiene	<0.20	ppb(V)	Methyl Ethyl Ketone	<0.20	ppb(V)
1,3-Dichlorobenzene	<0.02	ppb(V)	Methylcyclohexane	<0.20	ppb(V)
1,4-Dichlorobenzene	<0.02	ppb(V)	Methyl Isobutyl Ketone	<0.20	ppb(V)
1,4-Dioxane	<0.20	ppb(V)	Methylene Chloride	<0.02	ppb(V)
2-Chlorophenol	<0.20	ppb(V)	MTBE	<0.20	ppb(V)
2-Hexanone	<1.0	ppb(V)	Naphthalene	<0.05	ppb(V)
4-Ethyltoluene	<0.20	ppb(V)	n-Decane	<0.20	ppb(V)
Acetone	<1.0	ppb(V)	n-Heptane	<0.20	ppb(V)
Acrolein	<0.10	ppb(V)	n-Hexane	<0.02	ppb(V)
Allyl Chloride	<0.20	ppb(V)	o-Xylene	<0.02	ppb(V)
Benzene	<0.02	ppb(V)	Propylene	<0.20	ppb(V)
Benzyl Chloride	<0.20	ppb(V)	Styrene	<0.02	ppb(V)
Bromodichloromethane	<0.20	ppb(V)	Tetrachloroethylene	<0.02	ppb(V)
Bromobenzene	<0.20	ppb(V)	Tetrahydrofuran	<0.20	ppb(V)
Bromoform	<0.02	ppb(V)	Toluene	<0.02	ppb(V)
Bromomethane	<0.20	ppb(V)	trans-1,2-Dichloroethene	<0.02	ppb(V)
Carbon Disulfide	<0.50	ppb(V)	trans-1,3-Dichloropropene	<0.02	ppb(V)
Carbon Tetrachloride	<0.02	ppb(V)	Trichloroethylene	<0.02	ppb(V)
Chlorobenzene	<0.20	ppb(V)	Trichlorofluoromethane	<0.20	ppb(V)
Chloroethane	<0.02	ppb(V)	Vinyl Acetate	<0.50	ppb(V)
Chloroform	<0.02	ppb(V)	Vinyl Bromide	<0.20	ppb(V)
Chloromethane	<0.20	ppb(V)	Vinyl Chloride	<0.02	ppb(V)
cis-1,2-Dichloroethene	<0.02	ppb(V)	4-Bromofluorobenzene	130.83	%

APPENDIX 21

Equipment Calibration Data (18 pages)

	DGM Calibration-Orifices	Document ID	620.004
		Revision	24.2
		Effective Date	6/17/25
Issuing Department	Tech Services	Page	1 of 1

Equipment Detail - Dry Gas Meter

Console ID: MB 16
 Meter S/N: 2622
 Critical Orifice S/N: CO-2035s

Calibration Detail

Initial Barometric Pressure, in. Hg	(P _b)	29.32					
Final Barometric Pressure, in. Hg	(P _{bF})	29.35					
Average Barometric Pressure, in. Hg	(P _b)	29.34					
Critical Orifice ID	(Y)	2035-26	2035-26	2035-20	2035-20	2035-17	2035-17
K' Factor, ft ³ ·R ^{1/2} / in. WC·min	(K')	0.7036	0.7036	0.5459	0.546	0.4672	0.467
Vacuum Pressure, in. Hg	(V _p)	18.5	18.5	20.0	20.0	21.5	21.5
Initial DGM Volume, ft ³	(V _m)	60.550	69.810	79.060	86.930	94.120	103.320
Final DGM Volume, ft ³	(V _{mF})	69.810	79.060	86.930	94.120	103.320	109.500
Total DGM Volume, ft ³	(V _m)	9.260	9.250	7.870	7.190	9.200	6.180
Ambient Temperature, °F	(T _a)	71	71	71	71	71	71
Initial DGM Temperature, °F	(T _m)	70	70	70	70	70	70
Final DGM Temperature, °F	(T _{mF})	70	70	70	70	70	70
Average DGM Temperature, °F	(T _m)	70	70	70	70	70	70
Elapsed Time	(Θ)	10.00	10.00	11.00	10.00	15.00	10.00
Meter Orifice Pressure, in. WC	(ΔH)	2.85	2.85	1.75	1.75	1.25	1.25
Standard Meter volume, ft ³	(V _{mstd})	9.1110	9.1011	7.7222	7.0549	9.0159	6.0563
Standard Critical Orifice Volume, ft ³	(V _{cr})	8.9597	8.9597	7.6467	6.9515	8.9240	5.9493
Meter Correction Factor	(Y)	0.983	0.984	0.990	0.985	0.990	0.982
Tolerance	--	0.003	0.001	0.004	0.001	0.004	0.004
Orifice Calibration Value	(ΔH @)	1.965	1.965	1.999	1.999	1.947	1.947
Tolerance	--	0.005	0.005	0.029	0.029	0.023	0.023
Orifice Cal Check	--	0.39		0.39		0.22	
Meter Correction Factor	(Y)	0.986					
Orifice Calibration Value	(ΔH @)	1.970					
Positive Pressure Leak Check		Yes					

Equipment Detail - Thermocouple Sensor

Reference Calibrator Make: FLUKE
 Reference Calibrator Model: 714
 Reference Calibrator S/N: 8923036 - COE 20024

Calibration Detail

Reference Temp.		Display Temp.		Accuracy	Absolute Difference
°F	°R	°F	°R	%	°F
0	460	0	460	0.0	0
68	528	66	526	0.4	2
100	560	98	558	0.4	2
223	683	223	683	0.0	0
248	708	248	708	0.0	0
273	733	273	733	0.0	0
300	760	300	760	0.0	0
400	860	398	858	0.2	2
500	960	497	957	0.3	3
600	1,060	598	1,058	0.2	2
700	1,160	700	1,160	0.0	0
800	1,260	799	1,259	0.1	1
900	1,360	899	1,359	0.1	1
1,000	1,460	999	1,459	0.1	1
1,100	1,560	1,099	1,559	0.1	1
1,200	1,660	1,199	1,659	0.1	1

Personnel

Calibration By: Brayden Pacheco
 Calibration Date: 10/20/2025
 Reviewed By: Stacey Cunningham

	DGM Calibration-Orifices	Document ID	620.004
		Revision	24.2
		Effective Date	6/17/25
Issuing Department	Tech Services	Page	1 of 1

Equipment Detail - Dry Gas Meter

Console ID: MB 18
Meter S/N: 2612
Critical Orifice S/N: CO-2035s

Calibration Detail

Initial Barometric Pressure, in. Hg (P _b)		30.09					
Final Barometric Pressure, in. Hg (P _{bF})		30.12					
Average Barometric Pressure, in. Hg (P _b)		30.11					
Critical Orifice ID (Y)	2035-26	2035-26	2035-20	2035-20	2035-17	2035-17	
K' Factor, ft ³ ·R ^{1/2} / in. WC·min (K')	0.7036	0.7036	0.5459	0.546	0.4672	0.467	
Vacuum Pressure, in. Hg (V _p)	19.5	19.5	21.0	21.0	21.5	21.5	
Initial DGM Volume, ft ³ (V _m)	94.510	3.720	12.910	20.050	27.180	33.300	
Final DGM Volume, ft ³ (V _{mF})	103.720	12.910	20.050	27.180	33.300	39.420	
Total DGM Volume, ft ³ (V _m)	9.210	9.190	7.140	7.130	6.120	6.120	
Ambient Temperature, °F (T _a)	67	67	67	67	67	67	
Initial DGM Temperature, °F (T _m)	66	66	67	67	68	68	
Final DGM Temperature, °F (T _{mF})	66	67	67	68	68	69	
Average DGM Temperature, °F (T _m)	66	67	67	68	68	69	
Elapsed Time (Θ)	10.00	10.00	10.00	10.00	10.00	10.00	
Meter Orifice Pressure, in. WC (ΔH)	2.85	2.85	1.70	1.70	1.30	1.30	
Standard Meter volume, ft ³ (V _{mstd})	9.3687	9.3395	7.2290	7.2121	6.1785	6.1727	
Standard Critical Orifice Volume, ft ³ (V _{cr})	9.2297	9.2297	7.1610	7.1610	6.1286	6.1286	
Meter Correction Factor (Y)	0.985	0.988	0.991	0.993	0.992	0.993	
Tolerance --	0.005	0.002	0.000	0.003	0.002	0.003	
Orifice Calibration Value (ΔH @)	1.914	1.912	1.888	1.886	1.966	1.964	
Tolerance --	0.007	0.009	0.034	0.035	0.044	0.042	
Orifice Cal Check --	0.57		0.51		0.58		
Meter Correction Factor (Y)	0.990						
Orifice Calibration Value (ΔH @)	1.922						
Positive Pressure Leak Check	Yes						

Equipment Detail - Thermocouple Sensor

Reference Calibrator Make: FLUKE
Reference Calibrator Model: 714
Reference Calibrator S/N: 8923036 - COE 20024

Calibration Detail

Reference Temp.		Display Temp.		Accuracy	Absolute Difference
°F	°R	°F	°R	%	°F
0	460	2	462	-0.4	2
68	528	67	527	0.2	1
100	560	99	559	0.2	1
223	683	224	684	-0.1	1
248	708	249	709	-0.1	1
273	733	274	734	-0.1	1
300	760	301	761	-0.1	1
400	860	399	859	0.1	1
500	960	498	958	0.2	2
600	1,060	599	1,059	0.1	1
700	1,160	701	1,161	-0.1	1
800	1,260	800	1,260	0.0	0
900	1,360	900	1,360	0.0	0
1,000	1,460	1,001	1,461	-0.1	1
1,100	1,560	1,101	1,561	-0.1	1
1,200	1,660	1,201	1,661	-0.1	1

Personnel

Calibration By: Brayden Pacheco
Calibration Date: 10/9/2025
Reviewed By: Stacey Cunningham

	DGM Calibration-Orifices	Document ID	620.004
		Revision	24.0
		Effective Date	1/31/24
Issuing Department	Tech Services	Page	1 of 1

Equipment Detail - Dry Gas Meter

Console ID: Team 2
 Meter S/N: COE20092
 Critical Orifice S/N: 2035s

Calibration Detail

Initial Barometric Pressure, in. Hg	(P _b)	29.59					
Final Barometric Pressure, in. Hg	(P _b _f)	29.62					
Average Barometric Pressure, in. Hg	(P _b)	29.61					
Critical Orifice ID	(Y)	2035-26	2035-26	2035-20	2035-20	2035-17	2035-17
K' Factor, ft ³ -R ^{1/2} / in. WC-min	(K')	0.7036	0.7036	0.5459	0.546	0.4672	0.467
Vacuum Pressure, in. Hg	(V _p)	17.5	17.5	19.0	19.0	20.0	20.0
Initial DGM Volume, ft ³	(V _m)	55.17	64.32	73.47	80.59	87.71	93.81
Final DGM Volume, ft ³	(V _m _f)	64.32	73.47	80.59	87.71	93.81	99.93
Total DGM Volume, ft ³	(V _m)	9.150	9.150	7.118	7.115	6.100	6.115
Ambient Temperature, °F	(T _a)	72	72	72	72	72	72
Initial DGM Temperature, °F	(T _m)	72	72	73	74	74	75
Final DGM Temperature, °F	(T _m _f)	72	73	74	74	75	75
Average DGM Temperature, °F	(T _m)	72	73	74	74	75	75
Elapsed Time	(Θ)	10.0	10.0	10.0	10.0	10.0	10.0
Meter Orifice Pressure, in. WC	(ΔH)	2.70	2.70	1.60	1.60	1.20	1.20
Standard Meter volume, ft ³	(V _m std)	9.0475	9.0390	6.9994	6.9899	5.9812	5.9903
Standard Critical Orifice Volume, ft ³	(V _{cr})	9.0370	9.0336	7.0089	7.0089	5.9984	5.9984
Meter Correction Factor	(Y)	0.999	0.999	1.001	1.003	1.003	1.001
Tolerance	--	0.002	0.002	0.000	0.002	0.002	0.000
Orifice Calibration Value	(ΔH @)	1.839	1.838	1.802	1.800	1.839	1.838
Tolerance	--	0.013	0.013	0.024	0.026	0.013	0.012
Orifice Cal Check	--	0.30		0.29		0.30	
Meter Correction Factor	(Y)	1.001					
Orifice Calibration Value	(ΔH @)	1.826					
Positive Pressure Leak Check		Yes					

Equipment Detail - Thermocouple Sensor

Reference Calibrator Make: Fluke
 Reference Calibrator Model: 714
 Reference Calibrator S/N: 2923036 - COE 20024

Calibration Detail

Reference Temp.		Display Temp.		Accuracy	Absolute Difference
°F	°R	°F	°R	%	°F
32	492	33	493	-0.2	1
68	528	68	528	0.0	0
100	560	100	560	0.0	0
200	660	201	661	-0.2	1
250	710	252	712	-0.3	2
300	760	301	761	-0.1	1
400	860	400	860	0.0	0
500	960	499	959	0.1	1
600	1,060	600	1,060	0.0	0
700	1,160	701	1,161	-0.1	1
800	1,260	800	1,260	0.0	0
900	1,360	901	1,361	-0.1	1
1,000	1,460	1,001	1,461	-0.1	1
1,100	1,560	1,101	1,561	-0.1	1
1,200	1,660	1,201	1,661	-0.1	1

Personnel

Calibration By: Tyler Curtis
 Calibration Date: 7/29/2025
 Reviewed By: Stacey Cunningham

	Low Volume DGM Calibration-Orifices	Document ID		620.005						
		Revision		24.1						
		Effective Date		8/22/24						
Issuing Department	Tech Services	Page		1 of 1						
Low Volume Dry Gas Meter Calibration										
Console ID	--	VOST 1								
Meter S/N	--	M05498								
Critical Orifice S/N	--	CO-2807								
Initial Barometric Pressure, in. Hg	(P _b)	29.41								
Final Barometric Pressure, in. Hg	(P _b)	29.41								
Average Barometric Pressure, in. Hg	(P _b)	29.41								
Orifice Nominal Flow, lpm	(Q)	0.54		1.04		1.54				
Run No.	--	1	2	3	1	2	3	1	2	3
K' Factor, L·R ^{1/2} / in. WC·min	(K')	0.4256	0.4256	0.4256	0.8112	0.8112	0.8112	1.2075	1.2075	1.2075
Vacuum Pressure, in. Hg	(V _p)	20.5	20.5	20.5	18.5	18.5	18.5	16.0	16.0	16.0
Initial DGM Volume, L	(V _m)	59.540	65.100	70.650	77.770	82.950	88.150	94.800	2.560	10.280
Final DGM Volume, L	(V _m)	65.100	70.650	76.220	82.950	88.150	93.350	102.560	10.280	17.990
Total DGM Volume, L	(V _m)	5.560	5.550	5.570	5.180	5.200	5.200	7.760	7.720	7.710
Ambient Temperature, °C	(T _a)	22	22	22	22	22	22	22	22	22
Initial Inlet DGM Temperature, °C	(T _m)	23	22	22	22	22	22	22	23	22
Final Inlet DGM Temperature, °C	(T _m)	22	22	22	22	22	22	22	23	23
Initial Outlet DGM Temperature, °C	(T _m)	23	22	22	22	22	22	22	23	22
Final Outlet DGM Temperature, °C	(T _m)	22	22	22	22	22	22	22	23	23
Average Outlet DGM Temperature, °C	(T _m)	23	22	22.0	22	22	22	22	23	23
Elapsed Time	(Θ)	10.00	10.00	10.00	5.00	5.00	5.00	5.00	5.00	5.00
Meter Orifice Pressure, in. WC	(ΔH)	1.40	1.40	1.40	2.00	2.00	2.00	2.80	2.80	2.80
Standard Meter volume, L	(V _m)	5.4390	5.4384	5.4580	5.0834	5.1031	5.1031	7.6305	7.5655	7.5685
Standard Critical Orifice Volume, L	(V _c)	5.4350	5.4350	5.4350	5.1796	5.1796	5.1796	7.710	7.710	7.710
Meter Correction Factor	(Y)	0.9993	0.9994	0.9958	1.0189	1.0150	1.0150	1.0104	1.0191	1.0187
Tolerance	--	0.11%	0.12%	-0.24%	0.26%	-0.13%	-0.13%	-0.56%	0.30%	0.26%
Orifice Cal Check	--	1.79			1.82			1.80		
Average Meter Correction Factor	(Y)	0.9981			1.0163			1.0161		
Meter Correction Factor	(Y)	1.0102								

Reference Calibrator Make		Fluke			
Reference Calibrator Model		714			
Reference Calibrator S/N		COE 20024			
Reference Temp.		Display Temp.		Accuracy	Absolute Difference
°C	°K	°C	°K	%	°C
0	273	0	273	0.0	0
20	293	20	293	0.0	0
50	323	50	323	0.0	0
100	373	102	375	-0.5	2
150	423	151	424	-0.2	1
200	473	201	474	-0.2	1
300	573	301	574	-0.2	1
400	673	401	674	-0.1	1
500	773	501	774	-0.1	1
600	873	601	874	-0.1	1

Calibration Performed By: Dan Turton

Date Conducted: 10/20/25

Reviewed By: Stacey Cunningham

	Low Volume DGM Calibration-Orifices	Document ID		620.005						
		Revision		24.1						
		Effective Date		8/22/24						
Issuing Department	Tech Services	Page		1 of 1						
Low Volume Dry Gas Meter Calibration										
Console ID	--	VOST 6								
Meter S/N	--	1811-D								
Critical Orifice S/N	--	CO-2807								
Initial Barometric Pressure, in. Hg	(P _b)	29.56								
Final Barometric Pressure, in. Hg	(P _b _F)	29.56								
Average Barometric Pressure, in. Hg	(P _b)	29.56								
Orifice Nominal Flow, lpm	(Q)	0.54		1.04		1.54				
Run No.	--	1	2	3	1	2	3	1	2	3
K' Factor, L·R ^{1/2} / in. WC·min	(K')	0.4256	0.4256	0.4256	0.8112	0.8112	0.8112	1.2075	1.2075	1.2075
Vacuum Pressure, in. Hg	(V _p)	22.0	22.0	22.0	20.0	20.0	20.0	18.0	18.0	18.0
Initial DGM Volume, L	(V _m)	0.000	5.189	10.425	0.000	5.943	10.890	0.000	8.856	16.175
Final DGM Volume, L	(V _m _F)	5.189	10.425	15.650	5.943	10.890	15.828	8.856	16.175	23.544
Total DGM Volume, L	(V _m)	5.189	5.236	5.225	5.943	4.947	4.938	8.856	7.319	7.369
Ambient Temperature, °C	(T _a)	74	74	74	74	74	74	74	74	74
Initial Inlet DGM Temperature, °C	(T _m) _{ii}	22	23	23	23	23	23	24	24	24
Final Inlet DGM Temperature, °C	(T _m) _{fi}	23	23	23	23	23	24	24	24	24
Initial Outlet DGM Temperature, °C	(T _m) _{io}	22	23	23	23	23	23	24	24	24
Final Outlet DGM Temperature, °C	(T _m) _{fo}	23	23	23	23	23	24	24	24	24
Average Outlet DGM Temperature, °C	(T _m)	23	23	23.0	23	23	24	24	24	24
Elapsed Time	(Θ)	10.00	10.00	10.00	6.00	5.00	5.00	6.00	5.00	5.00
Meter Orifice Pressure, in. WC	(ΔH)	0.70	0.70	0.70	1.00	1.00	1.00	1.50	1.50	1.50
Standard Meter volume, L	(V _m std)	5.0930	5.1305	5.1197	5.8276	4.8509	4.8339	8.6655	7.1616	7.2105
Standard Critical Orifice Volume, L	(V _{cr})	5.0327	5.0327	5.0327	5.7555	4.7962	4.7962	8.5672	7.1394	7.1394
Meter Correction Factor	(Y)	0.9882	0.9809	0.9830	0.9876	0.9887	0.9922	0.9887	0.9969	0.9901
Tolerance	--	0.42%	-0.31%	-0.10%	-0.19%	-0.08%	0.27%	-0.33%	0.50%	-0.18%
Orifice Cal Check	--	0.79			0.56			0.80		
Average Meter Correction Factor	(Y)	0.9840			0.9895			0.9919		
Meter Correction Factor	(Y)	0.9885								

Reference Calibrator Make		Fluke			
Reference Calibrator Model		714			
Reference Calibrator S/N		COE 20024			
Reference Temp.		Display Temp.		Accuracy	Absolute Difference
°C	°K	°C	°K	%	°C
0	273	0	273	0.0	0
20	293	20	293	0.0	0
50	323	50	323	0.0	0
100	373	101	374	-0.3	1
150	423	151	424	-0.2	1
200	473	200	473	0.0	0
300	573	300	573	0.0	0
400	673	401	674	-0.1	1
500	773	501	774	-0.1	1
600	873	602	875	-0.2	2

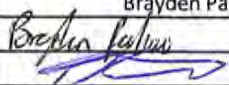
Calibration Performed By: Brayden Pacheco

Date Conducted: 7/14/25

Reviewed By: Stacey Cunningham

ORTECH Alliance Consulting Inc.
Pitot Tube Calibration

Date	January 20, 2025
Probe/Pitot ID	15E
MII Number	COE 20113
Calibrated Against	B02911
Cp standard	0.99777
Calibration Procedure	03-SOP-007

Calibration Facility	Alliance Testing Group North
Calibrated By	Brayden Pacheco
Signature	
Reviewed/Accepted By	

Cp = Cpstd * _____	Pstd _____
	Ps _____

Configuration	Wind Tunnel Velocity m/s	Velocity Head Standard Pitot in. H ₂ O Pstd	Velocity Head S-Type Pitot in. H ₂ O Ps	S-Type Pitot Coefficient Cp _s	Deviation From The Mean
With Nozzle	8.63	0.180	0.255	0.840	0.0010
(0.25")	10.66	0.275	0.390	0.839	0.0015
	12.62	0.385	0.540	0.844	0.0032
	15.08	0.550	0.770	0.845	0.0039
	17.84	0.770	1.100	0.836	0.0046
			Mean	0.841	0.0028

Without Nozzle	8.51	0.175	0.245	0.845	0.0010
	10.57	0.270	0.380	0.842	0.0012
	12.54	0.380	0.530	0.846	0.0026
	14.80	0.530	0.740	0.846	0.0022
	17.49	0.740	1.050	0.839	0.0046
			Mean	0.844	0.0023

Note: Pitots must always be used in the orientation that they are calibrated in (marked F for front and B for back).

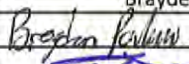
Acceptance Criteria:

The Cp of Standard Pitots must be in the range of 0.99 ±0.01.

For Stausscheibe (S-Type) Pitots refer to the measurement criteria as specified in Method 2 of the Ontario Source Testing Code. If the pitot meets these measurement requirements it is assigned a Cp of 0.84. Otherwise, calculate the absolute differences between the average pitot tube coefficient and the coefficient obtained for each of the wind tunnel settings. The average of these differences must not exceed 0.01. Otherwise, the calibration must be repeated.
(Environment Canada Reference Method EPS 1/RM/8, Section 6).

ORTECH Alliance Consulting Inc.
Pitot Tube Calibration

Date	January 20, 2025
Probe/Pitot ID	PM 10 2.5
MII Number	COE 20132
Calibrated Against	B02911
Cp standard	0.99777
Calibration Procedure	03-SOP-007

Calibration Facility	Alliance Testing Group North
Calibrated By	Brayden Pacheco
Signature	
Reviewed/Accepted By	

Cp = Cpstd * _____	Pstd _____
	Ps _____

Nozzle Size inches	Wind Tunnel Velocity m/s	Velocity Head Standard Pitot in. H ₂ O Pstd	Velocity Head S-Type Pitot in. H ₂ O Ps	S-Type Pitot Coefficient Cp_s	Deviation From The Mean
NA	8.38	0.170	0.240	0.841	0.0011
	10.37	0.260	0.370	0.838	0.0023
	12.37	0.370	0.520	0.843	0.0030
	14.59	0.515	0.730	0.839	0.0006
	17.49	0.740	1.050	0.839	0.0011
			Mean	0.840	0.0016

Note: Pitots must always be used in the orientation that they are calibrated in.

Acceptance Criteria:

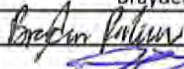
The Cp of Standard Pitots must be in the range of 0.99 ±0.01.

For Stausscheibe (S-Type) Pitots refer to the measurement criteria as specified in Method 2 of the Ontario Source Testing Code. If the pitot meets these measurement requirements it is assigned a Cp of 0.84. Otherwise, calculate the absolute differences between the average pitot tube coefficient and the coefficient obtained for each of the wind tunnel settings. The average of these differences must not exceed 0.01. Otherwise, the calibration must be repeated.

(Environment Canada Reference Method EPS 1/RM/8, Section 6).

ORTECH Alliance Consulting Inc.
Pitot Tube Calibration

Date	January 20, 2025
Probe/Pitot ID	S6
MII Number	B03767
Calibrated Against	B02911
Cp standard	0.99777
Calibration Procedure	03-SOP-007

Calibration Facility	Alliance Testing Group North
Calibrated By	Brayden Pacheco
Signature	
Reviewed/Accepted By	

Cp = Cpstd * $\frac{P_{std}}{P_s}$	Pstd	
	Ps	

Configuration	Wind Tunnel Velocity m/s	Velocity Head Standard Pitot in. H ₂ O Pstd	Velocity Head S-Type Pitot in. H ₂ O Ps	S-Type Pitot Coefficient Cp _s	Deviation From The Mean
With Nozzle	7.88	0.150	0.210	0.845	0.0010
(0.25")	9.75	0.230	0.320	0.847	0.0036
	11.68	0.330	0.460	0.847	0.0028
	13.79	0.460	0.650	0.841	0.0029
	16.64	0.670	0.950	0.839	0.0044
			Mean	0.844	0.0029

Without Nozzle	7.88	0.150	0.210	0.845	0.0015
	9.75	0.230	0.325	0.841	0.0024
	11.77	0.335	0.470	0.844	0.0006
	13.49	0.440	0.620	0.842	0.0012
	16.39	0.650	0.910	0.845	0.0015
			Mean	0.843	0.0014

Note: Pitots must always be used in the orientation that they are calibrated in (marked F for front and B for back).

Acceptance Criteria:

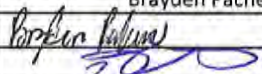
The Cp of Standard Pitots must be in the range of 0.99 ± 0.01 .

For Stausscheibe (S-Type) Pitots refer to the measurement criteria as specified in Method 2 of the Ontario Source Testing Code. If the pitot meets these measurement requirements it is assigned a Cp of 0.84. Otherwise, calculate the absolute differences between the average pitot tube coefficient and the coefficient obtained for each of the wind tunnel settings. The average of these differences must not exceed 0.01. Otherwise, the calibration must be repeated.

(Environment Canada Reference Method EPS 1/RM/8, Section 6).

ORTECH Alliance Consulting Inc.
Pitot Tube Calibration

Date	January 21, 2025
Probe/Pitot ID	S10
MII Number	B03771
Calibrated Against	B02911
Cp standard	0.99777
Calibration Procedure	03-SOP-007

Calibration Facility	Alliance Testing Group North
Calibrated By	Brayden Pacheco
Signature	
Reviewed/Accepted By	

Cp = Cpstd * $\frac{P_{std}}{P_s}$	Pstd
	Ps

Configuration	Wind Tunnel Velocity m/s	Velocity Head Standard Pitot in. H ₂ O Pstd	Velocity Head S-Type Pitot in. H ₂ O Ps	S-Type Pitot Coefficient Cp _s	Deviation From The Mean
With Nozzle	8.63	0.180	0.255	0.840	0.0003
(0.25")	10.95	0.290	0.410	0.841	0.0006
	12.78	0.395	0.560	0.839	0.0006
	15.22	0.560	0.790	0.842	0.0015
	17.90	0.775	1.100	0.839	0.0011
			Mean	0.840	0.0008

Without Nozzle	8.51	0.175	0.245	0.845	0.0013
	10.95	0.290	0.410	0.841	0.0028
	13.02	0.410	0.580	0.840	0.0030
	15.22	0.560	0.785	0.844	0.0008
	18.07	0.790	1.100	0.847	0.0037
			Mean	0.843	0.0023

Note: Pitots must always be used in the orientation that they are calibrated in (marked F for front and B for back).

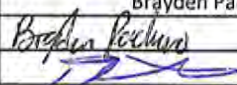
Acceptance Criteria:

The Cp of Standard Pitots must be in the range of 0.99 ±0.01.

For Stausscheibe (S-Type) Pitots refer to the measurement criteria as specified in Method 2 of the Ontario Source Testing Code. If the pitot meets these measurement requirements it is assigned a Cp of 0.84. Otherwise, calculate the absolute differences between the average pitot tube coefficient and the coefficient obtained for each of the wind tunnel settings. The average of these differences must not exceed 0.01. Otherwise, the calibration must be repeated. (Environment Canada Reference Method EPS 1/RM/8, Section 6).

ORTECH Alliance Consulting Inc.
Pitot Tube Calibration

Date	January 20, 2025
Probe/Pitot ID	SP6
MII Number	COE20098
Calibrated Against	B02911
Cp standard	0.99777
Calibration Procedure	03-SOP-007

Calibration Facility	Alliance Testing Group North
Calibrated By	Brayden Pacheco
Signature	
Reviewed/Accepted By	

Cp = Cpstd *	Pstd
	Ps

Configuration	Wind Tunnel Velocity m/s	Velocity Head Standard Pitot in. H ₂ O Pstd	Velocity Head S-Type Pitot in. H ₂ O Ps	S-Type Pitot Coefficient Cp _s	Deviation From The Mean
With Nozzle	8.63	0.180	0.255	0.840	0.0019
(0.25")	10.57	0.270	0.380	0.842	0.0009
	12.54	0.380	0.530	0.846	0.0047
	14.66	0.520	0.740	0.838	0.0038
	17.96	0.780	1.100	0.842	0.0000
			Mean	0.842	0.0023

Without Nozzle	8.63	0.180	0.255	0.840	0.0010
	10.66	0.275	0.390	0.839	0.0015
	12.62	0.385	0.540	0.844	0.0032
	15.08	0.550	0.770	0.845	0.0039
	17.84	0.770	1.100	0.836	0.0046
			Mean	0.841	0.0028

Note: Pitots must always be used in the orientation that they are calibrated in (marked F for front and B for back).

Acceptance Criteria:

The Cp of Standard Pitots must be in the range of 0.99 ±0.01.

For Stausscheibe (S-Type) Pitots refer to the measurement criteria as specified in Method 2 of the Ontario Source Testing Code. If the pitot meets these measurement requirements it is assigned a Cp of 0.84. Otherwise, calculate the absolute differences between the average pitot tube coefficient and the coefficient obtained for each of the wind tunnel settings. The average of these differences must not exceed 0.01. Otherwise, the calibration must be repeated. (Environment Canada Reference Method EPS 1/RM/8, Section 6).

Calibration Data

Location: Reworld Durham York Renewable Energy L.P - Courtice
Source: APC Outlet No. 1
Project No.: AST-2025-3852
Date: 10-27-25

Parameter	THC - Outlet
Desired Span	90.00
Actual Concentration (% or ppm)	
Zero	0.00
Low	22.35
Mid	44.70
High	89.40
Upscale Calibration Gas (C _{MA})	Mid
Instrument Response (% or ppm)	
Zero	0.10
Low	23.01
Mid	43.72
High	89.45
Performance (% of Span or Cal. Gas Conc.)	
Zero	0.00
Low	2.56
Mid	-2.36
High	0.00
Status	
Zero	PASS
Low	PASS
Mid	PASS
High	PASS

Bias/Drift Determinations

Location: Reworld Durham York Renewable Energy

Source: APC Outlet No. 1

Project No.: AST-2025-3852

Parameter			THC - Outlet
Run 1	Date	10-27-25	
Span Value			90.00
Initial Instrument Zero Cal Response			0.10
Initial Instrument Upscale Cal Response			43.72
Pretest System Zero Response			0.10
Posttest System Zero Response			0.00
Pretest System Upscale Response			43.72
Posttest System Upscale Response			44.86
Bias (%)			
Pretest Zero			NA
Posttest Zero			NA
Pretest Span			NA
Posttest Span			NA
Drift (%)			
Zero			-0.11
Mid			1.27
Run 2	Date	10-27-25	
Span Value			90.00
Instrument Zero Cal Response			0.10
Instrument Upscale Cal Response			43.72
Pretest System Zero Response			0.00
Posttest System Zero Response			0.00
Pretest System Upscale Response			44.86
Posttest System Upscale Response			43.84
Bias (%)			
Pretest Zero			NA
Posttest Zero			NA
Pretest Span			NA
Posttest Span			NA
Drift (%)			
Zero			0.00
Mid			-1.13
Run 3	Date	10-27-25	
Span Value			90.00
Instrument Zero Cal Response			0.10
Instrument Upscale Cal Response			43.72
Pretest System Zero Response			0.00
Posttest System Zero Response			0.00
Pretest System Upscale Response			43.84
Posttest System Upscale Response			43.98
Bias (%)			
Pretest Zero			NA
Posttest Zero			NA
Pretest Span			NA
Posttest Span			NA
Drift (%)			
Zero			0.00
Mid			0.16

Calibration Data

Location: Reworld Durham York Renewable Energy L.P - Courtice
Source: No. 1 Quench Inlet
Project No.: AST-2025-3852
Date: 10-27-25

Parameter	THC - Outlet
Desired Span	90.00
Actual Concentration (% or ppm)	
Zero	0.00
Low	22.35
Mid	44.70
High	89.40
Upscale Calibration Gas (C _{MA})	Mid
Instrument Response (% or ppm)	
Zero	0.00
Low	22.70
Mid	44.98
High	89.27
Performance (% of Span or Cal. Gas Conc.)	
Zero	0.00
Low	1.71
Mid	0.77
High	0.00
Status	
Zero	PASS
Low	PASS
Mid	PASS
High	PASS

Bias/Drift Determinations

Location: Reworld Durham York Renewable Energy
Source: No. 1 Quench Inlet
Project No.: AST-2025-3852

Parameter			THC - Outlet
Run 1	Date	10-27-25	
Span Value			90.00
Initial Instrument Zero Cal Response			0.00
Initial Instrument Upscale Cal Response			44.98
Pretest System Zero Response			0.00
Posttest System Zero Response			0.08
Pretest System Upscale Response			44.98
Posttest System Upscale Response			45.56
Bias (%)			
Pretest Zero			NA
Posttest Zero			NA
Pretest Span			NA
Posttest Span			NA
Drift (%)			
Zero			0.09
Mid			0.64
Run 2	Date	10-27-25	
Span Value			90.00
Instrument Zero Cal Response			0.00
Instrument Upscale Cal Response			44.98
Pretest System Zero Response			0.08
Posttest System Zero Response			0.13
Pretest System Upscale Response			45.56
Posttest System Upscale Response			44.49
Bias (%)			
Pretest Zero			NA
Posttest Zero			NA
Pretest Span			NA
Posttest Span			NA
Drift (%)			
Zero			0.06
Mid			-1.19
Run 3	Date	10-27-25	
Span Value			90.00
Instrument Zero Cal Response			0.00
Instrument Upscale Cal Response			44.98
Pretest System Zero Response			0.13
Posttest System Zero Response			0.17
Pretest System Upscale Response			44.49
Posttest System Upscale Response			43.59
Bias (%)			
Pretest Zero			NA
Posttest Zero			NA
Pretest Span			NA
Posttest Span			NA
Drift (%)			
Zero			0.04
Mid			-1.00

Calibration Data

Location: Reworld Durham York Renewable Energy L.P - Courtice
Source: APC Outlet No. 2
Project No.: AST-2025-3852
Date: 10-28-25

Parameter	THC - Outlet
Desired Span	90.00
Actual Concentration (% or ppm)	
Zero	0.00
Low	22.35
Mid	44.70
High	89.40
Upscale Calibration Gas (C _{MA})	Mid
Instrument Response (% or ppm)	
Zero	0.00
Low	22.32
Mid	43.63
High	89.23
Performance (% of Span or Cal. Gas Conc.)	
Zero	0.00
Low	0.06
Mid	-2.20
High	0.00
Status	
Zero	PASS
Low	PASS
Mid	PASS
High	PASS

Bias/Drift Determinations

Location: Reworld Durham York Renewable Energy

Source: APC Outlet No. 2

Project No.: AST-2025-3852

Parameter			THC - Outlet
Run 1	Date	10-28-25	
Span Value			90.00
Initial Instrument Zero Cal Response			0.00
Initial Instrument Upscale Cal Response			43.63
Pretest System Zero Response			0.00
Posttest System Zero Response			0.44
Pretest System Upscale Response			43.63
Posttest System Upscale Response			44.78
Bias (%)			
Pretest Zero			NA
Posttest Zero			NA
Pretest Span			NA
Posttest Span			NA
Drift (%)			
Zero			0.49
Mid			1.28
Run 2	Date	10-28-25	
Span Value			90.00
Instrument Zero Cal Response			0.00
Instrument Upscale Cal Response			43.63
Pretest System Zero Response			0.44
Posttest System Zero Response			0.00
Pretest System Upscale Response			44.78
Posttest System Upscale Response			44.39
Bias (%)			
Pretest Zero			NA
Posttest Zero			NA
Pretest Span			NA
Posttest Span			NA
Drift (%)			
Zero			-0.49
Mid			-0.43
Run 3	Date	10-28-25	
Span Value			90.00
Instrument Zero Cal Response			0.00
Instrument Upscale Cal Response			43.63
Pretest System Zero Response			0.00
Posttest System Zero Response			0.00
Pretest System Upscale Response			44.39
Posttest System Upscale Response			44.92
Bias (%)			
Pretest Zero			NA
Posttest Zero			NA
Pretest Span			NA
Posttest Span			NA
Drift (%)			
Zero			0.00
Mid			0.59

Calibration Data

Location: Reworld Durham York Renewable Energy L.P - Courtice
Source: No. 2 Quench Inlet
Project No.: AST-2025-3852
Date: 10-28-25

Parameter	THC - Outlet
Desired Span	90.00
Actual Concentration (% or ppm)	
Zero	0.00
Low	22.35
Mid	44.70
High	89.40
Upscale Calibration Gas (C _{MA})	Mid
Instrument Response (% or ppm)	
Zero	0.10
Low	22.54
Mid	45.27
High	90.39
Performance (% of Span or Cal. Gas Conc.)	
Zero	0.00
Low	-0.59
Mid	0.06
High	0.00
Status	
Zero	PASS
Low	PASS
Mid	PASS
High	PASS

Bias/Drift Determinations

Location: Reworld Durham York Renewable Energy
Source: No. 2 Quench Inlet
Project No.: AST-2025-3852

Parameter			THC - Outlet
Run 1	Date	10-28-25	
Span Value			90.00
Initial Instrument Zero Cal Response			0.10
Initial Instrument Upscale Cal Response			45.27
Pretest System Zero Response			0.10
Posttest System Zero Response			0.02
Pretest System Upscale Response			45.27
Posttest System Upscale Response			44.54
Bias (%)			
Pretest Zero			NA
Posttest Zero			NA
Pretest Span			NA
Posttest Span			NA
Drift (%)			
Zero			-0.09
Mid			-0.81
Run 2	Date	10-28-25	
Span Value			90.00
Instrument Zero Cal Response			0.10
Instrument Upscale Cal Response			45.27
Pretest System Zero Response			0.02
Posttest System Zero Response			0.27
Pretest System Upscale Response			44.54
Posttest System Upscale Response			44.30
Bias (%)			
Pretest Zero			NA
Posttest Zero			NA
Pretest Span			NA
Posttest Span			NA
Drift (%)			
Zero			0.28
Mid			-0.27
Run 3	Date	10-28-25	
Span Value			90.00
Instrument Zero Cal Response			0.10
Instrument Upscale Cal Response			45.27
Pretest System Zero Response			0.27
Posttest System Zero Response			0.01
Pretest System Upscale Response			44.30
Posttest System Upscale Response			44.65
Bias (%)			
Pretest Zero			NA
Posttest Zero			NA
Pretest Span			NA
Posttest Span			NA
Drift (%)			
Zero			-0.29
Mid			0.39

APPENDIX 22

Particulate and Metals Test Emission Calculations (10 pages)

Emission Calculations

Location Reworld Durham York Renewable Energy L.P - Courtice, ON
Source APC Outlet No. 1
Project No. AST-2025-3852
Parameter PM, Metals

Run Number		Run 1	Run 2	Run 3	Average
Date		10-27-25	10-27-25	10-28-25	--
Start Time		8:57	13:06	14:46	--
Stop Time		12:10	16:13	17:52	--
Run Time, min	(θ)	180.0	180.0	180.0	180.0
INPUT DATA					
Barometric Pressure, kPa	(Pb)	101.660	101.660	101.490	101.603
Meter Correction Factor	(Y)	0.99	0.99	0.986	0.988666667
Orifice Calibration Value	($\Delta H @$)	1.922	1.922	1.97	1.938
Meter Volume, m ³	(Vm)	3.653	3.773	3.613	3.680
Meter Temperature, °C	(Tm)	21.3	24.9	24.3	23.5
Meter Temperature, °K	(Tm)	294.4	298.0	297.4	296.6
Meter Orifice Pressure, kPa	(ΔH)	0.440	0.464	0.408	0.437
Volume H ₂ O Collected, mL	(Vlc)	517.6	571.0	531.3	540.0
Nozzle Diameter, mm	(Dn)	6.340	6.340	6.203	6.294
ISOKINETIC DATA					
Reference Meter Volume, Rm ³	(Vmref)	3.687	3.763	3.589	3.679
Reference Water Volume, Rm ³	(Vwref)	0.704	0.777	0.723	0.734
Moisture Fraction Measured	(BWSmsd)	0.160	0.171	0.168	0.166
Moisture Fraction @ Saturation	(BWSsat)	1.000	1.000	1.000	1.000
Moisture Fraction	(BWS)	0.160	0.171	0.168	0.166
Meter Pressure, kPa	(Pm)	102.100	102.124	101.898	102.041
Volume at Nozzle, m ³	(Vn)	6.204	6.408	6.079	6.23
Isokinetic Sampling Rate, (%)	(I)	100.2	102.2	102.2	101.5

Reference conditions: 25°C, 1 atm (77°F, 29.92 in. Hg)

Emission Calculations

Location **Reworld Durham York Renewable Energy L.P - Courtice, ON**
Source **APC Outlet No. 1**
Project No. **AST-2025-3852**
Parameter **PM, Metals**

Run Number		Run 1	Run 2	Run 3	Average
Date		10-27-25	10-27-25	10-28-25	--
Start Time		8:57	13:06	14:46	--
Stop Time		12:10	16:13	17:52	--
Run Time, min		180.0	180.0	180.0	180.0
CALCULATED DATA					
Square Root of ΔP , (in. WC) ^{1/2}	(ΔP)	0.873	0.883	0.877	0.877
Pitot Tube Coefficient	(Cp)	0.842	0.842	0.841	0.842
Barometric Pressure, kPa	(Pb)	101.660	101.660	101.490	101.603
Static Pressure, kPa	(Pg)	-2.701	-2.701	-2.459	-2.620
Stack Pressure, kPa	(Ps)	98.959	98.959	99.031	98.983
Stack Cross-sectional Area, m ²	(As)	1.48	1.48	1.48	1.48
Temperature, °C	(Ts)	138.2	137.9	137.7	137.9
Temperature, °K	(Ts)	411.4	411.0	410.8	411.1
Moisture Fraction Measured	(BWSmsd)	0.160	0.171	0.168	0.166
Moisture Fraction @ Saturation	(BWSsat)	1.000	1.000	1.000	1.000
Moisture Fraction	(BWS)	0.160	0.171	0.168	0.166
O ₂ Concentration, %	(O ₂)	9.59	9.47	9.45	9.50
CO ₂ Concentration, %	(CO ₂)	9.86	9.97	9.94	9.92
CO Concentration, ppmvd	(CO)	9.3	8.9	21.2	13.13
Ar Concentration, %	(Ar)	0.95	0.95	0.95	0.95
Molecular Weight, lb/lb-mole (dry)	(Md)	30.07	30.09	30.08	30.08
Molecular Weight, lb/lb-mole (wet)	(Ms)	28.14	28.02	28.06	28.07
Velocity, m/s	(Vs)	18.2	18.4	18.2	18.3
VOLUMETRIC FLOW RATE					
At Stack Conditions, m ³ /s	(Qa)	26.85	27.20	26.95	27.00
At Reference Conditions, dry Rm ³ /s	(Qs)	15.96	15.97	15.91	15.95
At Reference Conditions (corrected), dry Rm ³ /s @ 11% O ₂	(Qsc)	18.23	18.44	18.41	18.36
At Reference Conditions, wet Rm ³ /s	(Qsw)	19.00	19.27	19.12	19.13

Reference conditions: 25°C, 1 atm (77°F, 29.92 in. Hg)

Emission Calculations

Location **Reworld Durham York Renewable Energy L.P - Courtice, ON**
Source **APC Outlet No. 2**
Project No. **AST-2025-3852**
Parameter **PM, Metals**

Run Number		Run 1	Run 2	Run 3	Average
Date		10-27-25	10-28-25	10-28-25	--
Start Time		16:01	7:35	11:34	--
Stop Time		19:09	10:44	14:40	--
Run Time, min	(θ)	180.0	180.0	180.0	180.0
INPUT DATA					
Barometric Pressure, kPa	(Pb)	101.660	101.490	101.490	101.547
Meter Correction Factor	(Y)	0.986	0.990	0.990	0.989
Orifice Calibration Value	($\Delta H @$)	1.97	1.922	1.922	1.938
Meter Volume, m ³	(Vm)	3.741	4.032	4.068	3.947
Meter Temperature, °C	(Tm)	24.4	22.5	25.0	24.0
Meter Temperature, °K	(Tm)	297.5	295.7	298.2	297.1
Meter Orifice Pressure, kPa	(ΔH)	0.438	0.537	0.544	0.506
Volume H ₂ O Collected, mL	(Vlc)	524.1	588.7	578.2	563.7
Nozzle Diameter, mm	(Dn)	6.203	6.340	6.340	6.294
ISOKINETIC DATA					
Reference Meter Volume, Rm ³	(Vmref)	3.721	4.050	4.052	3.941
Reference Water Volume, Rm ³	(Vwref)	0.713	0.801	0.786	0.767
Moisture Fraction Measured	(BWSmsd)	0.161	0.165	0.163	0.163
Moisture Fraction @ Saturation	(BWSsat)	1.000	1.000	1.000	1.000
Moisture Fraction	(BWS)	0.161	0.165	0.163	0.163
Meter Pressure, kPa	(Pm)	102.098	102.027	102.034	102.053
Volume at Nozzle, m ³	(Vn)	6.216	6.791	6.762	6.59
Isokinetic Sampling Rate, (%)	(I)	101.9	101.0	100.6	101.1

Reference conditions: 25°C, 1 atm (77°F, 29.92 in. Hg)

Emission Calculations

Location **Reworld Durham York Renewable Energy L.P - Courtice, ON**
Source **APC Outlet No. 2**
Project No. **AST-2025-3852**
Parameter **PM, Metals**

Run Number		Run 1	Run 2	Run 3	Average
Date		10-27-25	10-28-25	10-28-25	--
Start Time		16:01	7:35	11:34	--
Stop Time		19:09	10:44	14:40	--
Run Time, min		180.0	180.0	180.0	180.0
CALCULATED DATA					
Square Root of ΔP , (in. WC) ^{1/2}	(ΔP)	0.904	0.951	0.952	0.936
Pitot Tube Coefficient	(Cp)	0.841	0.842	0.842	0.842
Barometric Pressure, kPa	(Pb)	101.660	101.490	101.490	101.547
Static Pressure, kPa	(Pg)	-2.698	-2.459	-2.459	-2.539
Stack Pressure, kPa	(Ps)	98.961	99.031	99.031	99.008
Stack Cross-sectional Area, m ²	(As)	1.48	1.48	1.48	1.48
Temperature, °C	(Ts)	135.0	134.8	134.1	134.6
Temperature, °K	(Ts)	408.1	407.9	407.3	407.8
Moisture Fraction Measured	(BWSmsd)	0.161	0.165	0.163	0.163
Moisture Fraction @ Saturation	(BWSsat)	1.000	1.000	1.000	1.000
Moisture Fraction	(BWS)	0.161	0.165	0.163	0.163
O ₂ Concentration, %	(O ₂)	9.22	9.75	9.67	9.55
CO ₂ Concentration, %	(CO ₂)	9.97	9.59	9.62	9.73
CO Concentration, ppmvd	(CO)	12.9	11	11.2	11.70
Ar Concentration, %	(Ar)	0.95	0.95	0.95	0.95
Molecular Weight, lb/lb-mole (dry)	(Md)	30.08	30.04	30.04	30.05
Molecular Weight, lb/lb-mole (wet)	(Ms)	28.14	28.05	28.09	28.09
Velocity, m/s	(Vs)	18.7	19.7	19.7	19.4
VOLUMETRIC FLOW RATE					
At Stack Conditions, m ³ /s	(Qa)	27.65	29.18	29.16	28.66
At Reference Conditions, dry Rm ³ /s	(Qs)	16.56	17.40	17.47	17.14
At Reference Conditions (corrected), dry Rm ³ /s @ 11% O ₂	(Qsc)	19.54	19.60	19.82	19.65
At Reference Conditions, wet Rm ³ /s	(Qsw)	19.73	20.84	20.86	20.48

Reference conditions: 25°C, 1 atm (77°F, 29.92 in. Hg)

APPENDIX 23

Particle Size Distribution Test Emission Calculations (10 pages)

Location **Reworld Durham York Renewable Energy L.P - Courtice, ON**
Source **APC Outlet No. 1**
Project No. **AST-2025-3852**
Parameter **PM10, PM2.5**

Run Number		Run 1	Run 2	Run 3	Average
Date		10-28-25	10-28-25	10-28-25	-
Start Time		7:35	10:26	13:15	-
Stop Time		9:37	12:32	15:17	-
INPUT DATA					
Run Time, min	(θ)	119.3	122.7	119.0	120.3
Barometric Pressure, kPa	(Pb)	101.494	101.596	101.494	101.528
Meter Correction Factor	(Y)	1.001	1.001	1.001	1.001
Orifice Calibration Value	($\Delta H@$)	1.827	1.827	1.827	1.827
Meter Volume, m ³	(Vm)	1.151	1.191	1.143	1.162
Meter Temperature, °C	(Tm)	22.9	25.4	26.0	24.8
Meter Temperature, °K	(Tm)	296.1	298.5	299.2	297.9
Meter Orifice Pressure, kPa	(ΔH)	0.090	0.087	0.087	0.088
Volume H2O Collected, mL	(Vlc)	148.2	180.1	135.6	154.6
Nozzle Diameter, mm	(Dn)	4.509	4.509	4.509	4.509
CALCULATED DATA					
Reference Meter Volume, m ³	(Vmstd)	1.162	1.194	1.143	1.166
Reference Water Volume, m ³	(Vwstd)	0.202	0.245	0.184	0.210
Sampling Rate, m ³	(Qs)	0.016	0.017	0.016	0.016
Moisture Fraction Measured	(BWSmsd)	0.148	0.170	0.139	0.152
Moisture Fraction @ Saturation	(BWSsat)	3.422	3.441	3.287	3.383
Moisture Fraction	(BWS)	0.148	0.170	0.139	0.152
Meter Pressure, kPa	(Pm)	101.58	101.68	101.58	101.616
Isokinetic Sampling Rate, % (+/- 20%)	(I)	98.1	98.0	94.4	96.8

Location Reworld Durham York Renewable Energy L.P - Courtice, ON
Source APC Outlet No. 1
Project No. AST-2025-3852
Parameter PM10, PM2.5

Run Number		Run 1	Run 2	Run 3	Average
Date		10-28-25	10-28-25	10-28-25	-
Start Time		7:35	10:26	13:15	-
Stop Time		9:37	12:32	15:17	-
Run Time, min		119.3	122.7	119.0	120.3
CALCULATED DATA					
Square Root of ΔP	(in. WC) ^{1/2}	0.834	0.853	0.846	0.844
Pitot Tube Coefficient	(Cp)	0.840	0.840	0.840	0.840
Barometric Pressure, kPa	(Pb)	101.494	101.596	101.494	101.528
Static Pressure, kPa	(Pg)	-2.564	-2.564	-2.564	-2.564
Stack Pressure, kPa	(Ps)	98.930	99.032	98.930	98.964
Stack Cross-sectional Area, m ²	(As)	1.48	1.48	1.48	1.48
Temperature, °C	(Ts)	139.1	139.4	137.7	138.7
Temperature, °K	(Ts)	412.3	412.5	410.8	411.9
Moisture Fraction Measured	(BWSmsd)	0.148	0.170	0.139	0.152
Moisture Fraction @ Saturation	(BWSsat)	3.422	3.441	3.287	3.383
Moisture Fraction	(BWS)	0.148	0.170	0.139	0.152
O ₂ Concentration, %	(O ₂)	9.77	9.63	9.44	9.61
CO ₂ Concentration, %	(CO ₂)	9.73	9.85	9.98	9.85
CO Concentration, ppmvd	(CO)	13.3	8.5	15.7	12.5
Ar Concentration, %	(Ar)	0.95	0.95	0.95	0.9
Molecular Weight, lb/lb-mole (dry)	(Md)	30.06	30.07	30.09	30.07
Molecular Weight, lb/lb-mole (wet)	(Ms)	28.28	28.02	28.41	28.24
Velocity, m/s	(Vs)	17.3	17.7	17.4	17.5
VOLUMETRIC FLOW RATE					
At Stack Conditions, m ³ /s	(Qa)	25.53	26.21	25.78	25.84
At Reference Conditions, dry Rm ³ /s	(Qs)	15.36	15.37	15.73	15.48
At Reference Conditions, wet Rm ³ /s	(Qsw)	18.03	18.52	18.26	18.27

Reference conditions: 25°C, 101.3 kPa (77°F, 29.92 in. Hg)

Location: <u>Reworld Durham York Renewable Energy L.P - Courtice, ON</u>			Start Time: <u>7:35</u>		Source: <u>APC Outlet No. 1</u>				
Date: <u>10-28-25</u>	<u>Run 1</u>	<u>VALID</u>	End Time: <u>9:37</u>		Project No.: <u>AST-2025-3852</u>		Parameter:	<u>PM10, PM2.5</u>	
STACK DATA (EST)			EQUIPMENT		STACK DATA (EST)			<u>+/- 50°F ΔH</u>	VOLUME CORRECTION
Moisture: <u>15.5</u> % est.	METER BOX: <u>Team2</u>		Ts (°F): <u>285</u> Tm (°F): <u>68</u>		Ts-50° <u>235</u> Ts+50° <u>335</u>		Mid 1 (cf): <u> </u>		
Barometric: <u>29.97</u> in. Hg	Y: <u>1.001</u>		Est. Qs: <u>0.553</u> cfm		Est. Qs: <u>0.512</u> Est. Qs: <u>0.593</u>		Mid 2 (cf): <u> </u>		
Static Press: <u>-10.5</u> in. WC	AH@ (in. WC): <u>1.827</u>		Est. μs: <u>215.06</u> mpoise		Est. μs: <u>203.38</u> Est. μs: <u>226.52</u>		Mid 3 (cf): <u> </u>		
Stack Press: <u>29.20</u> in. Hg	Probe ID/Material: <u>PM10/2.5</u> <u>SS</u>		Est. ΔH: <u>0.353</u> in. WC		Est. ΔH: <u>0.348</u> Est. ΔH: <u>0.357</u>		Total (cf): <u> </u>		
CO ₂ : <u>11.0</u> %	Pitot ID Cp/Cp': <u>PM10/2.5</u> <u>PM10/2.5</u>		LEAK CHECKS				FILTER NO.	STACK DATA (FINAL)	
O ₂ : <u>8.0</u> %	Pitot Type Cp/Cp': <u>s-type</u> <u>s-type</u>		Pre	Mid 1	Mid 2	Post	--	Pb: <u>29.97</u> in. Hg	
N ₂ : <u>80.0</u> %	Pitot Cp/Cp': <u>0.840</u> <u>0.840</u>		Leak Rate (cfm):	<u>0.002</u>	--	--	<u>0.002</u>	Pg: <u>-10.3</u> in. WC	
CO: <u>14.0</u> ppm	Nozzle ID/Dn (in.): <u>A</u> <u>0.1775</u>		Pump Vac (in Hg):	<u>12.0</u>	--	--	<u>13</u>	O ₂ : <u>9.77</u> %	
Md: <u>30.19</u> lb/lb-mole	No. Pts/Time (min): <u>12</u> <u>120</u>		Pitot Tube:	<u>PASS</u>	--	--	<u>PASS</u>	CO ₂ : <u>9.73</u> %	
Ms: <u>28.31</u> lb/lb-mole								CO: <u>13.30</u> ppm	

Sample Point	Dwell Time	Total Time	Dry Gas Meter Reading (ft ³)	Pitot Tube ΔP (in. WC)	Gas Temperatures (°F)		Orifice Press. ΔH (in. WC)		Pump Vac (in. Hg)	Gas Temps (°F)				Qs (acfm)	% ISO	D ₅₀ [10 um]	D ₅₀ [2.5 um]
					DGM Average	Stack				Probe	Filter	Imp. Exit	CPM Filter				
					Amb.	Amb.				Amb.	Amb.	Amb.	Amb.				
					66	66	Ideal	Actual		67	68	66	66				
A1	10:11	0:10:11	43.010	0.73	68	283	0.35	0.36	3	253	262	66	66	0.59	98.0	10.04	2.29
A2	10:11	0:20:22	46.530	0.73	70	283	0.36	0.36	3	254	263	62	72	0.59	97.9	10.04	2.30
A3	10:02	0:30:24	50.060	0.71	72	283	0.36	0.36	3	255	254	61	73	0.59	99.1	10.05	2.30
A4	09:58	0:40:23	53.550	0.70	73	283	0.36	0.36	3	255	255	60	69	0.58	99.2	10.10	2.32
A5	09:32	0:49:55	57.000	0.64	73	283	0.36	0.36	3	255	255	60	70	0.58	102.8	10.16	2.34
A6	09:05	0:58:59	60.270	0.58	74	286	0.36	0.36	3	255	255	59	68	0.57	106.9	10.25	2.38
B1	10:40	1:09:39	63.350	0.80	74	285	0.36	0.36	3	256	255	62	68	0.55	87.5	10.54	2.49
B2	10:36	1:20:14	66.830	0.79	74	282	0.36	0.36	3	255	254	58	66	0.57	91.0	10.28	2.39
B3	10:15	1:30:29	70.410	0.74	75	281	0.36	0.36	3	255	255	58	65	0.56	93.3	10.32	2.40
B4	09:58	1:40:27	73.860	0.70	75	280	0.36	0.36	3	255	254	58	67	0.57	96.9	10.25	2.37
B5	09:36	1:50:04	77.250	0.65	75	280	0.36	0.36	3	255	255	58	68	0.56	100.0	10.29	2.39
B6	09:14	1:59:18	80.500	0.60	76	280	0.36	0.36	3	256	256	58	69	0.57	104.8	10.24	2.37
Final DGM:			83.650														

Actual Run Time	Vm	ΔP	Tm	Ts	Max Vac.	ΔH	% ISO	D ₅₀ 10 um	D ₅₀ 2.5 um
119.3 min	40.640 ft ³	0.70 in. WC	73.3 °F	282.4 °F	3	0.360 in. WC	98.1	10.21	2.36

Location: Reworld Durham York Renewable Energy L.P - Courtice, ON
 Date: 10-28-25 Run 2 VALID

Start Time: 10:26
 End Time: 12:32

Source: APC Outlet No. 1
 Project No.: AST-2025-3852 Parameter: PM10, PM2.5

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			+/- 50°F ΔH				VOLUME CORRECTIONS		
Moisture:	15.5	% est.	METER BOX: Team2			Ts (°F):	282	Tm (°F):	73	Ts-50°	232	Ts+50°	332	Mid 1 (cf):	
Barometric:	29.97	in. Hg	Y: 1.001			Est. Qs:	0.552	cfm		Est. Qs:	0.511	Est. Qs:	0.593	Mid 2 (cf):	
Static Press:	-10.3	in. WC	AH@ (in. WC): 1.827			Est. μs:	214.46	mpoise		Est. μs:	202.77	Est. μs:	225.94	Mid 3 (cf):	
Stack Press:	29.21	in. Hg	Probe ID/Material: PM10/2.5 SS			Est. ΔH:	0.355	in. WC		Est. ΔH:	0.350	Est. ΔH:	0.359	Total (cf):	
CO ₂ :	9.7	%	Pitot ID Cp/Cp': PM10/2.5 PM10/2.5			LEAK CHECKS				FILTER NO.		STACK DATA (FINAL)			
O ₂ :	9.8	%	Pitot Type Cp/Cp': s-type s-type			Pre Mid 1 Mid 2 Post				--		Pb: 30 in. Hg			
N ₂ :	80.5	%	Pitot Cp/Cp': 0.840 0.840			Leak Rate (cfm): 0.002 -- -- 0.002				--		Pg: -10.3 in. WC			
CO:	13.3	ppm	Nozzle ID/Dn (in.): A 0.1775			Pump Vac (in Hg): 12 -- -- 15				--		O2: 9.63 %			
Md:	29.95	lb/lb-mole	No. Pts/Time (min): 12 120			Pitot Tube: PASS -- -- PASS				--		CO2: 9.85 %			
Ms:	28.10	lb/lb-mole										CO: 8.50 ppm			

Sample Point	Dwell Time	Total Time	Dry Gas Meter Reading (ft ³)	Pitot Tube ΔP (in. WC)	Gas Temperatures (°F)		Orifice Press. ΔH (in. WC)		Pump Vac (in. Hg)	Gas Temps (°F)				Qs (acfm)	% ISO	D ₅₀ [10 um]	D ₅₀ [2.5 um]
					DGM Average	Stack				Probe	Filter	Imp. Exit	CPM Filter				
					Amb.	Amb.	Amb.	Amb.		Amb.	Amb.						
					--	--	Ideal	Actual		--	--	--	--				
A1	10:15	0:10:15	84.330	0.73	75	282	0.36	0.35	3	257	258	65	65	0.57	95.4	10.21	2.36
A2	10:35	0:20:50	87.750	0.78	75	283	0.36	0.35	3	256	257	49	69	0.60	95.9	9.94	2.26
A3	10:06	0:30:56	91.420	0.71	76	283	0.36	0.35	3	255	255	50	72	0.59	99.7	10.00	2.28
A4	10:02	0:40:58	94.900	0.70	77	283	0.36	0.35	3	256	255	50	71	0.59	100.1	10.02	2.29
A5	09:35	0:50:33	98.350	0.64	77	283	0.36	0.35	3	256	256	50	71	0.59	104.7	10.02	2.29
A6	09:12	0:59:45	101.650	0.59	78	282	0.36	0.35	3	255	256	50	70	0.58	106.4	10.19	2.36
B1	11:03	1:10:48	104.750	0.85	78	282	0.36	0.35	3	255	255	52	67	0.58	89.1	10.15	2.34
B2	10:51	1:21:40	108.490	0.82	78	283	0.36	0.35	3	255	256	47	69	0.58	91.0	10.14	2.34
B3	10:35	1:32:15	112.170	0.78	79	283	0.36	0.35	3	256	255	46	68	0.58	93.4	10.13	2.33
B4	10:23	1:42:38	115.770	0.75	79	282	0.36	0.35	3	256	256	46	69	0.59	97.3	9.97	2.27
B5	10:23	1:53:01	119.380	0.75	80	284	0.36	0.35	3	256	256	46	70	0.60	97.8	9.95	2.26
B6	09:40	2:02:41	123.010	0.65	80	284	0.36	0.35	3	255	255	47	71	0.60	105.4	9.92	2.26
Final DGM:			126.400														

Actual Run Time		Vm	ΔP		Tm		Ts		Max Vac.	ΔH		% ISO		D ₅₀ 10 μm	D ₅₀ 2.5 μm						
122.7	min	42.070	ft ³		0.73	in. WC		77.7	°F	282.8	°F		3	0.350	in. WC		98.0		10.05	2.30	

Location: Reworld Durham York Renewable Energy L.P - Courtice, ON
 Date: 10-28-25 Run 3 VALID

Start Time: 13:15
 End Time: 15:17

Source: APC Outlet No. 1
 Project No.: AST-2025-3852 Parameter: PM10, PM2.5

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			+/- 50°F ΔH				VOLUME CORRECTION			
Moisture:	15.0	% est.	METER BOX: Team2			Ts (°F):	283	Tm (°F):	78	Ts-50°	233	Ts+50°	333	Mid 1 (cf):		
Barometric:	30.00	in. Hg	Y: 1.001			Est. Qs:	0.553	cfm		Est. Qs:	0.512	Est. Qs:	0.593	Mid 2 (cf):		
Static Press:	-10.3	in. WC	AH@ (in. WC): 1.827			Est. μs:	215.00	mpoise		Est. μs:	203.32	Est. μs:	226.47	Mid 3 (cf):		
Stack Press:	29.24	in. Hg	Probe ID/Material: PM10/2.5 SS			Est. ΔH:	0.363	in. WC		Est. ΔH:	0.355	Est. ΔH:	0.364	Total (cf):		
CO ₂ :	9.9	%	Pitot ID Cp/Cp': PM10/2.5 PM10/2.5			LEAK CHECKS					FILTER NO.		STACK DATA (FINAL)			
O ₂ :	9.6	%	Pitot Type Cp/Cp': s-type s-type			Pre	Mid 1	Mid 2	Post	--		Pb:		29.97	in. Hg	
N ₂ :	80.5	%	Pitot Cp/Cp': 0.840 0.840			Leak Rate (cfm):	0.002	--	--	0.002	--		Pg:		-10.3	in. WC
CO:	8.5	ppm	Nozzle ID/Dn (in.): A			Pump Vac (in Hg):	12	--	--	16	--		O2:		9.44	%
Md:	29.96	lb/lb-mole	No. Pts/Time (min): 12 120			Pitot Tube:	PASS	--	--	PASS	--		CO2:		9.98	%
Ms:	28.17	lb/lb-mole											CO:		15.70	ppm

Sample Point	Dwell Time	Total Time	Dry Gas Meter Reading (ft ³)	Pitot Tube ΔP (in. WC)	Gas Temperatures (°F)		Orifice Press. ΔH (in. WC)		Pump Vac (in. Hg)	Gas Temps (°F)				Qs (acfm)	% ISO	D ₅₀ [10 um]	D ₅₀ [2.5 um]
					DGM Average	Stack				Probe	Filter	Imp. Exit	CPM Filter				
					Amb.	Amb.				Amb.	Amb.	Amb.	Amb.				
					--	--	Ideal	Actual		--	--	--	--				
A1	10:01	0:10:01	26.520	0.73	79	284	0.36	0.35	3	250	250	68	68	0.57	94.6	10.32	2.39
A2	10:21	0:20:22	29.960	0.78	78	281	0.37	0.35	3	257	254	65	67	0.57	92.4	10.23	2.36
A3	09:40	0:30:03	33.550	0.68	78	279	0.37	0.35	3	256	254	65	67	0.56	98.2	10.28	2.38
A4	09:49	0:39:51	36.880	0.70	79	278	0.37	0.35	3	256	255	65	68	0.55	94.3	10.46	2.45
A5	09:23	0:49:14	40.180	0.64	79	278	0.37	0.35	3	256	256	65	69	0.55	98.7	10.45	2.44
A6	09:00	0:58:14	43.340	0.59	79	279	0.37	0.35	3	256	255	61	70	0.56	103.8	10.39	2.42
B1	10:09	1:08:24	46.400	0.75	79	279	0.37	0.35	3	257	254	60	71	0.54	90.2	10.54	2.48
B2	10:37	1:19:01	49.780	0.82	79	279	0.37	0.35	3	256	255	58	70	0.55	87.6	10.43	2.43
B3	10:13	1:29:14	53.370	0.76	79	279	0.37	0.35	3	256	255	57	71	0.56	91.6	10.37	2.41
B4	10:09	1:39:23	56.850	0.75	79	280	0.37	0.35	3	257	255	58	70	0.55	91.3	10.45	2.45
B5	10:09	1:49:33	60.270	0.75	79	281	0.37	0.35	3	257	256	59	71	0.56	91.9	10.41	2.43
B6	09:27	1:59:00	63.710	0.65	79	281	0.37	0.35	3	257	255	60	71	0.55	98.3	10.44	2.44
Final DGM:			66.900														

Actual Run Time		Vm	ΔP		Tm		Ts		Max Vac.	ΔH		% ISO	D ₅₀ 10 μm		D ₅₀ 2.5 μm						
119.0	min	40.380	ft ³		0.72	in. WC		78.8	°F	279.8	°F		3	0.350	in. WC		94.4		10.40	2.42	

Location Reworld Durham York Renewable Energy L.P - Courtice, ON
Source APC Outlet No. 2
Project No. AST-2025-3852
Parameter PM10, PM2.5

Run Number		Run 1	Run 2	Run 3	Average
Date		10-27-25	10-27-25	10-27-25	-
Start Time		8:48	11:43	14:28	-
Stop Time		10:51	13:47	16:33	-
INPUT DATA					
Run Time, min	(Θ)	119.8	120.0	123.2	121.0
Barometric Pressure, kPa	(Pb)	101.664	101.664	101.562	101.630
Meter Correction Factor	(Y)	1.001	1.001	1.001	1.001
Orifice Calibration Value	($\Delta H@$)	1.827	1.827	1.827	1.827
Meter Volume, m ³	(Vm)	1.139	1.152	1.214	1.168
Meter Temperature, °C	(Tm)	21.9	25.4	26.7	24.7
Meter Temperature, °K	(Tm)	295.0	298.6	299.8	297.8
Meter Orifice Pressure, kPa	(ΔH)	0.087	0.087	0.090	0.088
Volume H2O Collected, mL	(Vlc)	145.0	147.0	160.0	150.7
Nozzle Diameter, mm	(Dn)	4.509	4.509	4.509	4.509
CALCULATED DATA					
Reference Meter Volume, m ³	(Vmstd)	1.156	1.156	1.211	1.174
Reference Water Volume, m ³	(Vwstd)	0.197	0.200	0.218	0.205
Sampling Rate, m ³	(Qs)	0.016	0.016	0.016	0.016
Moisture Fraction Measured	(BWSmsd)	0.146	0.147	0.152	0.148
Moisture Fraction @ Saturation	(BWSsat)	3.273	3.252	3.167	3.231
Moisture Fraction	(BWS)	0.146	0.147	0.152	0.148
Meter Pressure, kPa	(Pm)	101.75	101.75	101.65	101.718
Isokinetic Sampling Rate, % (+/- 20%)	(I)	91.7	91.7	91.4	91.6

Location Reworld Durham York Renewable Energy L.P - Courtice, ON
Source APC Outlet No. 2
Project No. AST-2025-3852
Parameter PM10, PM2.5

Run Number		Run 1	Run 2	Run 3	Average
Date		10-27-25	10-27-25	10-27-25	-
Start Time		8:48	11:43	14:28	-
Stop Time		10:51	13:47	16:33	-
Run Time, min		119.8	120.0	123.2	121.0
CALCULATED DATA					
Square Root of ΔP	(in. WC) ^{1/2}	0.882	0.882	0.905	0.890
Pitot Tube Coefficient	(Cp)	0.840	0.840	0.840	0.840
Barometric Pressure, kPa	(Pb)	101.664	101.664	101.562	101.630
Static Pressure, kPa	(Pg)	-2.589	-2.589	-2.589	-2.589
Stack Pressure, kPa	(Ps)	99.075	99.075	98.973	99.041
Stack Cross-sectional Area, m ²	(As)	1.48	1.48	1.48	1.48
Temperature, °C	(Ts)	137.6	137.4	136.4	137.1
Temperature, °K	(Ts)	410.7	410.5	409.5	410.3
Moisture Fraction Measured	(BWSmsd)	0.146	0.147	0.152	0.148
Moisture Fraction @ Saturation	(BWSsat)	3.273	3.252	3.167	3.231
Moisture Fraction	(BWS)	0.146	0.147	0.152	0.148
O ₂ Concentration, %	(O ₂)	9.33	9.29	9.25	9.29
CO ₂ Concentration, %	(CO ₂)	10.01	10.06	10.05	10.04
CO Concentration, ppmvd	(CO)	7.9	7.6	8.1	7.9
Ar Concentration, %	(Ar)	0.95	0.95	0.95	0.9
Molecular Weight, lb/lb-mole (dry)	(Md)	30.09	30.10	30.09	30.09
Molecular Weight, lb/lb-mole (wet)	(Ms)	28.33	28.31	28.25	28.30
Velocity, m/s	(Vs)	18.2	18.2	18.7	18.4
VOLUMETRIC FLOW RATE					
At Stack Conditions, m ³ /s	(Qa)	26.91	26.89	27.62	27.14
At Reference Conditions, dry Rm ³ /s	(Qs)	16.31	16.28	16.65	16.42
At Reference Conditions, wet Rm ³ /s	(Qsw)	19.10	19.10	19.64	19.28

Reference conditions: 25°C, 101.3 kPa (77°F, 29.92 in. Hg)

Location:	Reworld Durham York Renewable Energy L.P - Courtice, ON			Start Time:	8:48	Source: APC Outlet No. 2			
Date:	10-27-25	Run 1	VALID	End Time:	10:51	Project No.:	AST-2025-3852	Parameter:	PM10, PM2.5

STACK DATA (EST)		EQUIPMENT		STACK DATA (EST)		+/- 50°F ΔH		VOLUME CORRECTION					
Moisture:	15.0 % est.	METER BOX: Team2		Ts (°F):	285	Tm (°F):	65	Ts-50°:	235	Ts+50°:	335	Mid 1 (cf):	
Barometric:	30.02 in. Hg	Y: 1.001		Est. Qs:	0.559 cfm	Est. Qs:	0.518	Est. Qs:	0.600			Mid 2 (cf):	
Static Press:	-9.5 in. WC	ΔH@ (in. WC): 1.827		Est. μ:	217.01 mpoise	Est. μ:	205.33	Est. μ:	228.47			Mid 3 (cf):	
Stack Press:	29.32 in. Hg	Probe ID/Material: PM10/2.5 SS		Est. ΔH:	0.361 in. WC	Est. ΔH:	0.356	Est. ΔH:	0.365			Total (cf):	
CO ₂ :	8.0 %	Pitot ID Cp/Cp':	PM10/2.5 PM10/2.5	LEAK CHECKS				FILTER NO.	STACK DATA (FINAL)				
O ₂ :	11.0 %	Pitot Type Cp/Cp':	s-type s-type	Pre	Mid 1	Mid 2	Post	--	Pb: 30.02 in. Hg				
N ₂ :	80.0 %	Pitot Cp/Cp':	0.840 0.840	Leak Rate (cfm):	0.0	--	0.002	--	Pg: -10.4 in. WC				
CO:	14.0 ppm	Nozzle ID/Dn (in.):	A 0.1775	Pump Vac (in Hg):	12.0	--	14	--	O ₂ : 9.33 %				
Md:	29.83 lb/lb-mole	No. Pts/Time (min):	12 120	Pitot Tube:	PASS	--	PASS	--	CO ₂ : 10.01 %				
Ms:	28.06 lb/lb-mole								CO: 7.90 ppm				

Sample Point	Dwell Time	Total Time	Dry Gas Meter Reading (ft³)	Pitot Tube ΔP (in. WC)	Gas Temperatures (°F)		Orifice Press. ΔH (in. WC)		Pump Vac (in. Hg)	Gas Temps (°F)				Qs (acfm)	% ISO	D ₅₀ [10 μm]	D ₅₀ [2.5 μm]
					DGM Average	Stack				Probe	Filter	Imp. Exit	CPM Filter				
					Amb.	Amb.	Amb.	Amb.		Amb.	Amb.						
					65	65	Ideal	Actual		66	66	65	65				
B1	10:51	0:10:51	16.160	0.92	62	280	0.36	0.35	4	257	243	62	65	0.57	85.4	10.25	2.35
B2	10:44	0:21:36	19.800	0.90	67	280	0.37	0.35	4	257	243	51	66	0.56	84.3	10.42	2.41
B3	10:33	0:32:09	23.350	0.87	69	281	0.37	0.35	4	258	243	51	66	0.57	86.9	10.32	2.38
B4	09:52	0:42:01	26.900	0.76	70	280	0.37	0.35	4	258	245	50	67	0.55	90.9	10.49	2.44
B5	09:44	0:51:46	30.150	0.74	71	278	0.37	0.35	4	258	244	50	67	0.57	95.6	10.20	2.33
B6	08:59	1:00:45	33.490	0.63	72	278	0.37	0.35	4	254	245	51	67	0.56	102.0	10.32	2.37
A1	10:22	1:11:07	36.530	0.84	73	280	0.37	0.35	4	255	245	52	65	0.55	86.0	10.53	2.45
A2	10:37	1:21:44	39.950	0.88	74	280	0.37	0.35	4	254	247	50	68	0.55	83.6	10.56	2.47
A3	10:04	1:31:48	43.440	0.79	74	283	0.37	0.35	4	255	246	50	68	0.56	90.1	10.42	2.42
A4	09:48	1:41:36	46.810	0.75	75	280	0.37	0.35	4	255	247	50	68	0.57	94.0	10.29	2.36
A5	09:28	1:51:04	50.160	0.70	75	279	0.37	0.35	4	255	246	50	68	0.57	97.7	10.26	2.35
A6	08:46	1:59:50	53.410	0.60	75	277	0.38	0.35	4	256	246	51	68	0.56	104.3	10.33	2.37
Final DGM:			56.390														

Actual Run Time	Vm	ΔP	Tm	Ts	Max Vac.	ΔH	% ISO	D ₅₀ 10 um	D ₅₀ 2.5 um
119.8 min	40.230 ft ³	0.78 in. WC	71.4 °F	279.7 °F	4	0.350 in. WC	91.7	10.37	2.39

Location: Reworld Durham York Renewable Energy L.P - Courtice, ON
 Date: 10-27-25 Run 2 VALID

Start Time: 11:43
 End Time: 13:47

Source: APC Outlet No. 2
 Project No.: AST-2025-3852 Parameter: PM10, PM2.5

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			+/- 50°F ΔH			VOLUME CORRECTION		
Moisture:	15.0	% est.	METER BOX: Team2			Ts (°F):	280	Tm (°F):	71	Ts-50°	230	Ts+50°	330	Mid 1 (cf):
Barometric:	30.02	in. Hg	Y: 1.001			Est. Qs:	0.554	cfm		Est. Qs:	0.514	Est. Qs:	0.595	Mid 2 (cf):
Static Press:	-10.4	in. WC	ΔH@ (in. WC): 1.827			Est. μs:	215.77	mpoise		Est. μs:	204.08	Est. μs:	227.25	Mid 3 (cf):
Stack Press:	29.26	in. Hg	Probe ID/Material:		PM10/2.5	SS	Est. ΔH:	0.365	in. WC	Est. ΔH:	0.354	Est. ΔH:	0.362	Total (cf):
CO ₂ :	10.0	%	Pitot ID Cp/Cp':	PM10/2.5	PM10/2.5	LEAK CHECKS					FILTER NO.	STACK DATA (FINAL)		
O ₂ :	9.3	%	Pitot Type Cp/Cp':	s-type	s-type	Pre	Mid 1	Mid 2	Post	--				
N ₂ :	80.7	%	Pitot Cp/Cp':	0.840	0.840	Leak Rate (cfm):	0.002	--	--	0.002	--	Pb:	30.02	in. Hg
CO:	7.9	ppm	Nozzle ID/Dn (in.):	A	0.1775	Pump Vac (in Hg):	10	--	--	13	--	Pg:	-10.4	in. WC
Md:	29.97	lb/lb-mole	No. Pts/Time (min):	12	120	Pitot Tube:	PASS	--	--	PASS	--	O ₂ :	9.29	%
Ms:	28.18	lb/lb-mole										CO ₂ :	10.06	%
												CO:	7.60	ppm

Sample Point	Dwell Time	Total Time	Dry Gas Meter Reading (ft ³)	Pitot Tube ΔP (in. WC)	Gas Temperatures (°F)		Orifice Press. ΔH (in. WC)		Pump Vac (in. Hg)	Gas Temps (°F)				Qs (acfm)	% ISO	D ₅₀ [10 um]	D ₅₀ [2.5 um]
					DGM Average	Stack				Probe	Filter	Imp. Exit	CPM Filter				
					Amb.	Amb.				Amb.	Amb.	Amb.	Amb.				
					--	--	Ideal	Actual		--	--	--	--				
B1	10:52	0:10:52	56.500	0.92	75	279	0.37	0.35	4	250	250	64	66	0.56	83.5	10.40	2.40
B2	10:45	0:21:37	60.150	0.90	75	281	0.37	0.35	4	257	241	59	68	0.57	85.5	10.32	2.38
B3	10:31	0:32:08	63.800	0.86	76	281	0.37	0.35	4	256	245	57	65	0.54	83.4	10.68	2.51
B4	10:08	0:42:16	67.210	0.80	77	281	0.37	0.35	4	256	244	56	66	0.57	91.8	10.23	2.34
B5	09:45	0:52:01	70.710	0.74	78	281	0.37	0.35	4	256	245	57	66	0.56	93.2	10.41	2.41
B6	09:00	1:01:01	74.000	0.63	78	281	0.37	0.35	4	256	244	57	67	0.56	100.5	10.45	2.42
A1	10:23	1:11:25	77.020	0.84	79	280	0.37	0.35	4	257	245	60	71	0.56	87.8	10.37	2.39
A2	10:23	1:21:48	80.550	0.84	79	278	0.37	0.35	4	256	244	62	68	0.55	86.7	10.45	2.42
A3	10:04	1:31:52	84.040	0.79	79	278	0.37	0.35	4	256	244	62	69	0.56	89.8	10.42	2.41
A4	09:49	1:41:41	87.440	0.75	79	278	0.37	0.35	4	256	244	62	69	0.58	96.3	10.10	2.29
A5	09:29	1:51:10	90.900	0.70	79	277	0.37	0.35	4	256	244	63	70	0.57	97.4	10.26	2.35
A6	08:47	1:59:57	94.170	0.60	79	276	0.37	0.35	4	256	244	63	71	0.57	104.9	10.28	2.35
Final DGM:			97.190														

Actual Run Time		Vm	ΔP	Tm		Ts		Max Vac.	ΔH	% ISO		D ₅₀ 10 μm	D ₅₀ 2.5 μm				
120.0	min	40.690	ft ³	0.78	in. WC	77.8	°F	279.3	°F	4	0.350	in. WC	91.7		10.36	2.39	

Location: Reworld Durham York Renewable Energy L.P - Courtice, ON
 Date: 10-27-25 Run 3 VALID

Start Time: 14:28
 End Time: 16:33

Source: APC Outlet No. 2
 Project No.: AST-2025-3852 Parameter: PM10, PM2.5

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			+/- 50°F ΔH				VOLUME CORRECTIONS		
Moisture:	15.0	% est.	METER BOX: Team2 Y: 1.001			Ts (°F):	279	Tm (°F):	78	Ts-50°	229	Ts+50°	329	Mid 1 (cf):	
Barometric:	30.02	in. Hg				Est. Qs:	0.554	cfm	Est. Qs:	0.513	Est. Qs:	0.595	Mid 2 (cf):		
Static Press:	-10.4	in. WC	AH@ (in. WC): 1.827			Est. μs:	215.67	mpoise		Est. μs:	203.98	Est. μs:	227.16	Mid 3 (cf):	
Stack Press:	29.26	in. Hg				Est. AH:	0.369	in. WC	Est. AH:	0.354	Est. AH:	0.362	Total (cf):		
CO ₂ :	10.1	%	Probe ID/Material:	PM10/2.5	SS	LEAK CHECKS				FILTER NO.		STACK DATA (FINAL)			
O ₂ :	9.3	%	Pitot ID Cp/Cp':	PM10/2.5	PM10/2.5		Pre	Mid 1	Mid 2	Post	--		Pb:	29.99	in. Hg
N ₂ :	80.7	%	Pitot Type Cp/Cp':	s-type	s-type		Leak Rate (cfm):	0.008	--	--	0.002	--	Pg:	-10.4	in. WC
			Pitot Cp/Cp':	0.840	0.840								O ₂ :	9.25	%
CO:	7.6	ppm	Nozzle ID/Dn (in.):	A	0.1775	Pump Vac (in Hg):	16	--	--	13	--		CO ₂ :	10.05	%
Md:	29.98	lb/lb-mole	No. Pts/Time (min):	12	120	Pitot Tube:	PASS	--	--	PASS	--		CO:	8.10	ppm
Ms:	28.18	lb/lb-mole													

Sample Point	Dwell Time	Total Time	Dry Gas Meter Reading (ft ³)	Pitot Tube ΔP (in. WC)	Gas Temperatures (°F)		Orifice Press. ΔH (in. WC)		Pump Vac (in. Hg)	Gas Temps (°F)				Qs (acfm)	% ISO	D ₅₀ [10 um]	D ₅₀ [2.5 um]
					DGM Average	Stack				Probe	Filter	Imp. Exit	CPM Filter				
					Amb.	Amb.				Amb.	Amb.	Amb.	Amb.				
					--	--	Ideal	Actual		--	--	--	--				
B1	10:38	0:10:38	97.590	0.88	77	275	0.37	0.36	3	257	245	68	84	0.58	88.0	10.15	2.31
B2	10:45	0:21:24	101.280	0.90	77	276	0.37	0.36	3	256	247	52	75	0.58	87.3	10.14	2.30
B3	10:31	0:31:55	105.020	0.86	78	277	0.37	0.36	3	257	246	50	73	0.57	87.8	10.26	2.35
B4	10:09	0:42:03	108.620	0.80	78	277	0.37	0.36	3	257	246	50	73	0.58	93.1	10.10	2.29
B5	09:21	0:51:24	112.170	0.68	80	277	0.37	0.36	3	257	247	51	73	0.58	99.9	10.18	2.32
B6	09:00	1:00:24	115.420	0.63	81	277	0.37	0.36	3	257	247	51	73	0.57	103.0	10.24	2.34
A1	10:56	1:11:20	118.530	0.93	81	278	0.37	0.36	3	258	246	54	74	0.58	85.3	10.20	2.33
A2	10:53	1:22:13	122.330	0.92	81	277	0.37	0.36	3	258	247	51	74	0.58	86.2	10.16	2.31
A3	10:45	1:32:58	126.130	0.90	81	278	0.37	0.36	3	257	248	52	74	0.57	86.3	10.23	2.34
A4	10:12	1:43:11	129.850	0.81	82	279	0.37	0.36	3	257	248	52	74	0.57	90.9	10.24	2.35
A5	10:12	1:53:23	133.380	0.81	82	279	0.37	0.36	3	257	248	52	74	0.59	93.4	10.04	2.27
A6	09:49	2:03:12	137.010	0.75	82	280	0.37	0.36	3	258	248	54	75	0.58	95.7	10.15	2.31
Final DGM:			140.450														

Actual Run Time		Vm	ΔP		Tm		Ts		Max Vac.	ΔH		% ISO		D ₅₀ 10 μm	D ₅₀ 2.5 μm						
123.2	min	42.860	ft ³		0.82	in. WC		80.0	°F	277.5	°F		3	0.360	in. WC		91.4		10.18	2.32	

APPENDIX 24

Acid Gases Test Emission Calculations (10 pages)

Emission Calculations

Location	Reworld Durham York Renewable Energy L.P - Courtice, ON
Source	APC Outlet No. 1
Project No.	AST-2025-3852
Parameter	Acid Gases

Run Number		Run 1	Run 2	Run 3	Average
Date		10-27-25	10-27-25	10-27-25	--
Start Time		9:00	11:14	13:30	--
Stop Time		10:00	12:14	14:30	--
Run Time, min	(θ)	60.0	60.0	60.0	60.0
INPUT DATA					
Barometric Pressure, kPa	(Pb)	101.660	101.660	101.660	101.660
Meter Correction Factor	(Y)	0.986	0.986	0.986	0.986
Orifice Calibration Value	($\Delta H @$)	1.97	1.97	1.97	1.97
Meter Volume, m ³	(Vm)	1.160	1.165	1.145	1.157
Meter Temperature, °C	(Tm)	17.0	20.2	21.5	19.6
Meter Temperature, °K	(Tm)	290.2	293.3	294.7	292.7
Meter Orifice Pressure, kPa	(ΔH)	0.386	0.384	0.369	0.380
Volume H ₂ O Collected, mL	(Vlc)	164.7	187.7	166.3	172.9
Nozzle Diameter, mm	(Dn)	6.203	6.203	6.203	6.203
ISOKINETIC DATA					
Reference Meter Volume, Rm ³	(Vmref)	1.182	1.175	1.150	1.169
Reference Water Volume, Rm ³	(Vwref)	0.224	0.255	0.226	0.235
Moisture Fraction Measured	(BWSmsd)	0.159	0.179	0.164	0.167
Moisture Fraction @ Saturation	(BWSsat)	1.000	1.000	1.000	1.000
Moisture Fraction	(BWS)	0.159	0.179	0.164	0.167
Meter Pressure, kPa	(Pm)	102.046	102.043	102.029	102.039
Volume at Nozzle, m ³	(Vn)	1.989	2.024	1.940	1.98
Isokinetic Sampling Rate, (%)	(I)	100.0	102.9	101.5	101.5

Reference conditions: 25°C, 1 atm (77°F, 29.92 in. Hg)

Emission Calculations

Location **Reworld Durham York Renewable Energy L.P - Courtice, ON**
Source **APC Outlet No. 1**
Project No. **AST-2025-3852**
Parameter **Acid Gases**

Run Number		Run 1	Run 2	Run 3	Average
Date		10-27-25	10-27-25	10-27-25	--
Start Time		9:00	11:14	13:30	--
Stop Time		10:00	12:14	14:30	--
Run Time, min		60.0	60.0	60.0	60.0
CALCULATED DATA					
Square Root of ΔP , (in. WC) ^{1/2}	(ΔP)	0.879	0.866	0.846	0.864
Pitot Tube Coefficient	(Cp)	0.841	0.841	0.841	0.841
Barometric Pressure, kPa	(Pb)	101.660	101.660	101.660	101.660
Static Pressure, kPa	(Pg)	-2.701	-2.701	-2.701	-2.701
Stack Pressure, kPa	(Ps)	98.959	98.959	98.959	98.959
Stack Cross-sectional Area, m ²	(As)	1.48	1.48	1.48	1.48
Temperature, °C	(Ts)	138.7	139.0	137.5	138.4
Temperature, °K	(Ts)	411.8	412.1	410.6	411.5
Moisture Fraction Measured	(BWSmsd)	0.159	0.179	0.164	0.167
Moisture Fraction @ Saturation	(BWSsat)	1.000	1.000	1.000	1.000
Moisture Fraction	(BWS)	0.159	0.179	0.164	0.167
O ₂ Concentration, %	(O ₂)	9.71	9.47	9.57	9.58
CO ₂ Concentration, %	(CO ₂)	9.75	9.97	9.94	9.89
CO Concentration, ppmvd	(CO)	13.6	7.6	12.2	11.13
Ar Concentration, %	(Ar)	0.95	0.95	0.95	0.95
Molecular Weight, lb/lb-mole (dry)	(Md)	30.06	30.09	30.09	30.08
Molecular Weight, lb/lb-mole (wet)	(Ms)	28.14	27.93	28.10	28.06
Velocity, m/s	(Vs)	18.3	18.1	17.6	18.0
VOLUMETRIC FLOW RATE					
At Stack Conditions, m ³ /s	(Qa)	27.03	26.73	25.98	26.58
At Reference Conditions, dry Rm ³ /s	(Qs)	16.07	15.51	15.40	15.66
At Reference Conditions (corrected), dry Rm ³ /s @ 11% O ₂	(Qsc)	18.16	17.91	17.62	17.90
At Reference Conditions, wet Rm ³ /s	(Qsw)	19.11	18.89	18.43	18.81

Reference conditions: 25°C, 1 atm (77°F, 29.92 in. Hg)

Isokinetic Field Data

Location: Reworld Durham York Renewable Energy I			Start Time: 9:00		Source: APC Outlet No. 1									
Date: 10-27-25		Run 1	VALID		End Time: 10:00		Project No.: AST-2025-3852		Parameter: Acid Gases					
STACK DATA (EST)		EQUIPMENT		STACK DATA (EST)		FILTER NO.		STACK DATA (FINAL)		MOIST. DATA				
Moisture: % est.		Meter Box ID: MB16		Est. Tm: 60 °F				Pb: 30.02 in. Hg		Vlc (ml)				
Barometric: in. Hg		Y: 0.986		Est. Ts: -- °F				Pg: -10.85 in. WC		164.7				
Static Press: in. WC		ΔH @ (in.WC): 1.97		Est. ΔP: -- in. WC				O ₂ : 9.71 %		K-FACTOR				
Stack Press: in. Hg		Probe ID: 7 series		Est. Dn: -- in.				CO ₂ : 9.75 %		--				
CO ₂ : %		Liner Material: glass		Target Rate: 0.67 scfm				CO: 13.6 ppm						
O ₂ : %		Pitot ID: 15E						Check Pt.		Initial	Final	Corr.		
N ₂ : %		Pitot Cp/Type: 0.841		S-type		LEAK CHECK:		Pre	Mid 1	Mid 2	Mid 3	Post	Mid 1 (cf)	--
CO: ppm		Nozzle ID: Fred 11				Leak Rate (cfm):		0.010	--	--	--	0.016	Mid 2 (cf)	--
Md: lb/lb-mole		Nozzle Dn (in.): 0.2442				Vacuum (in Hg):		15	--	--	--	15	Mid 3 (cf)	--
Ms: lb/lb-mole						Pitot Tube:		Pass	--	--	--	Pass	Mid-Point Leak Check Vol (cf):	--

Sample Pt.	Sample Time (minutes)	Dry Gas Meter Reading (ft ³)	Pitot Tube ΔP (in WC)	Gas Temperatures (°F)		Orifice Press. ΔH (in. WC)		Pump Vac (in. Hg)	Gas Temperatures (°F)				% ISO	Vs (m/s)
				DGM Average	Stack	Ideal	Actual		Probe	Filter	Imp Exit	Aux		
	Amb.	Amb.	Amb.	Amb.	Amb.			Amb.	Amb.	Amb.				
	1	Begin												
	0.00	53.820	0.83	60	277	1.76	1.70	3	253	254	60	61	103.2	18.90
	5.00	57.460	0.82	60	285	1.72	1.70	3	252	255	50	62	101.3	18.88
	10.00	60.990	0.80	60	284	1.68	1.60	3	253	254	48	62	99.8	18.64
	15.00	64.430	0.78	61	283	1.64	1.55	3	255	253	51	62	98.8	18.39
	20.00	67.800	0.78	61	282	1.65	1.55	3	254	253	57	63	99.9	18.38
	25.00	71.210	0.74	62	282	1.57	1.45	3	254	253	65	63	101.1	17.90
	30.00	74.580	0.74	63	281	1.57	1.45	3	255	254	70	71	99.0	17.89
	35.00	77.890	0.77	64	281	1.64	1.55	3	255	253	68	69	99.6	18.25
	40.00	81.290	0.77	64	281	1.64	1.55	3	255	254	65	71	99.9	18.25
	45.00	84.700	0.75	65	282	1.60	1.50	3	255	253	62	71	99.9	18.02
	50.00	88.070	0.75	66	281	1.60	1.50	3	254	254	59	71	99.6	18.01
	55.00	91.440	0.75	66	280	1.60	1.50	3	254	253	58	71	98.6	18.00
		94.780												

RESULTS	Run Time	Vm	ΔP		Tm		Ts		Max Vac	ΔH	%ISO	BWS	Y _{qa}
	60.0	40.960 ft ³	0.77	in. WC	62.7	°F	281.6	°F	3	1.550 in. WC	100.0	0.159	3.8

Isokinetic Field Data

Location: Reworld Durham York Renewable Energy I				Start Time: 11:14		Source: APC Outlet No. 1					
Date: 10-27-25		Run 2		End Time: 12:14		Project No.: AST-2025-3852		Parameter: Acid Gases			
STACK DATA (EST)		EQUIPMENT		STACK DATA (EST)		FILTER NO.		STACK DATA (FINAL)		MOIST. DATA	
Moisture: % est.		Meter Box ID: MB16		Est. Tm: 63 °F				Pb: 30.02 in. Hg		Vlc (ml)	
Barometric: in. Hg		Y: 0.986		Est. Ts: 282 °F				Pg: -10.85 in. WC		187.7	
Static Press: in. WC		ΔH @ (in.WC): 1.97		Est. ΔP: 0.77 in. WC				O ₂ : 9.47 %		K-FACTOR	
Stack Press: in. Hg		Probe ID: 7 series		Est. Dn: 0.242 in.				CO ₂ : 9.97 %		2.16	
CO ₂ : %		Liner Material: glass		Target Rate: 0.67 scfm				CO: 7.6 ppm			
O ₂ : %		Pitot ID: 15E						Check Pt.		Initial Final Corr.	
N ₂ : %		Pitot Cp/Type: 0.841		S-type		LEAK CHECK: Pre Mid 1 Mid 2 Mid 3 Post		Mid 1 (cf)		--	
CO: ppm		Nozzle ID: Fred 11				Leak Rate (cfm): 0.010 -- -- -- 0.014		Mid 2 (cf)		--	
Md: lb/lb-mole		Nozzle Dn (in.): 0.2442				Vacuum (in Hg): 15 -- -- -- 16		Mid 3 (cf)		--	
Ms: lb/lb-mole						Pitot Tube: Pass -- -- -- Pass		Mid-Point Leak Check Vol (cf):		--	

Sample Pt.	Sample Time (minutes)	Dry Gas Meter Reading (ft ³)	Pitot Tube ΔP (in WC)	Gas Temperatures (°F)		Orifice Press. ΔH (in. WC)		Pump Vac (in. Hg)	Gas Temperatures (°F)				% ISO	Vs (m/s)
				DGM Average	Stack	Ideal	Actual		Probe	Filter	Imp Exit	Aux		
	Amb.	Amb.	Amb.	Amb.	Amb.			Amb.	Amb.	Amb.				
	Begin				--	--			--	--	--	--		
1	0.00	97.770	0.74	66	280	1.61	1.50	2	255	255	62	226	102.8	17.95
--	5.00	101.160	0.72	67	280	1.57	1.45	2	252	253	49	229	101.2	17.70
--	10.00	104.460	0.75	67	281	1.64	1.50	2	252	252	45	228	101.4	18.08
--	15.00	107.830	0.75	67	282	1.63	1.50	2	252	254	44	229	102.0	18.09
--	20.00	111.220	0.75	67	282	1.63	1.55	2	251	253	44	230	103.9	18.09
--	25.00	114.670	0.75	67	282	1.63	1.55	2	251	253	44	230	102.6	18.09
--	30.00	118.080	0.72	68	282	1.57	1.50	2	251	253	45	230	104.6	17.73
--	35.00	121.490	0.78	69	283	1.70	1.65	3	251	253	45	231	103.9	18.46
--	40.00	125.020	0.78	70	284	1.70	1.65	3	251	253	46	231	103.8	18.47
--	45.00	128.550	0.78	70	284	1.70	1.65	3	251	253	47	231	103.2	18.47
--	50.00	132.060	0.74	71	283	1.62	1.50	3	251	253	48	231	102.9	17.98
--	55.00	135.480	0.74	71	283	1.62	1.50	3	251	253	48	231	102.9	17.98
		138.900												

RESULTS	Run Time	Vm	ΔP	Tm	Ts	Max Vac	ΔH	%ISO	BWS	Y _{qa}
	60.0	41.130 ft ³	0.75 in. WC	68.3 °F	282.2 °F	3	1.542 in. WC	102.9	0.179	4.0

Isokinetic Field Data

Location: Reworld Durham York Renewable Energy I				Start Time: 13:30		Source: APC Outlet No. 1					
Date: 10-27-25		Run 3		VALID		End Time: 14:30		Project No.: AST-2025-3852		Parameter: Acid Gases	

STACK DATA (EST)		EQUIPMENT		STACK DATA (EST)		FILTER NO.		STACK DATA (FINAL)		MOIST. DATA	
Moisture: % est.		Meter Box ID: MB16		Est. Tm: 68 °F				Pb: 30.02 in. Hg		Vlc (ml)	
Barometric: in. Hg		Y: 0.986		Est. Ts: 282 °F				Pg: -10.85 in. WC		166.3	
Static Press: in. WC		ΔH @ (in.WC): 1.97		Est. ΔP: 0.75 in. WC				O2: 9.57 %		K-FACTOR	
Stack Press: in. Hg		Probe ID: 7 series		Est. Dn: 0.243 in.				CO2: 9.94 %		2.180	
CO2: %		Liner Material: glass		Target Rate: 0.67 scfm				CO: 12.2 ppm			
O2: %		Pitot ID: 15E						Check Pt.		Initial Final Corr.	
N2: %		Pitot Cp/Type: 0.841		S-type		LEAK CHECK: Pre Mid 1 Mid 2 Mid 3 Post		Mid 1 (cf)		--	
CO: ppm		Nozzle ID: Fred 11				Leak Rate (cfm): 0.012 -- -- -- 0.018		Mid 2 (cf)		--	
Md: lb/lb-mole		Nozzle Dn (in.): 0.2442				Vacuum (in Hg): 15 -- -- -- 16		Mid 3 (cf)		--	
Ms: lb/lb-mole						Pitot Tube: Pass -- -- -- Pass		Mid-Point Leak Check Vol (cf):		--	

Sample Pt.	Sample Time (minutes)	Dry Gas Meter Reading (ft³)	Pitot Tube ΔP (in WC)	Gas Temperatures (°F)		Orifice Press. ΔH (in. WC)		Pump Vac (in. Hg)	Gas Temperatures (°F)				% ISO	Vs (m/s)
				DGM Average	Stack				Probe	Filter	Imp Exit	Aux		
	Begin				Amb.	Amb.			Amb.	Amb.	Amb.	Amb.		
					--	--	Ideal	Actual	--	--	--	--		
1	0.00	40.460	0.73	70	280	1.60	1.50	3	252	264	60	235	102.8	17.77
--	5.00	43.900	0.73	70	280	1.60	1.50	3	252	255	47	274	100.4	17.77
--	10.00	47.260	0.73	69	280	1.60	1.50	3	253	254	46	267	100.3	17.77
--	15.00	50.610	0.73	69	280	1.60	1.50	3	254	250	45	259	102.1	17.77
--	20.00	54.020	0.75	70	280	1.65	1.60	3	254	252	45	262	101.1	18.01
--	25.00	57.450	0.75	70	280	1.65	1.60	3	254	254	46	265	103.5	18.01
--	30.00	60.960	0.72	70	280	1.58	1.50	3	254	252	46	261	102.6	17.65
--	35.00	64.370	0.72	71	280	1.58	1.50	3	254	252	48	261	100.6	17.65
--	40.00	67.720	0.72	72	279	1.59	1.50	3	254	253	47	263	100.9	17.64
--	45.00	71.090	0.67	72	279	1.48	1.40	3	253	253	47	263	103.0	17.01
--	50.00	74.410	0.67	73	278	1.48	1.35	3	254	252	48	261	100.6	17.00
--	55.00	77.660	0.67	73	277	1.49	1.35	3	254	253	48	262	100.5	16.99
		80.910												

RESULTS	Run Time	Vm	ΔP		Tm		Ts		Max Vac	ΔH		%ISO	BWS	Yqa
	60.0	40.450 ft³	0.72	in. WC	70.8	°F	279.4	°F	3	1.483	in. WC	101.5	0.164	4.0

Emission Calculations

Location Reworld Durham York Renewable Energy L.P - Courtice, ON
Source APC Outlet No. 2
Project No. AST-2025-3852
Parameter Acid Gases

Run Number		Run 1	Run 2	Run 3	Average
Date		10-28-25	10-28-25	10-28-25	--
Start Time		7:37	9:23	11:08	--
Stop Time		8:37	10:23	12:08	--
Run Time, min	(θ)	60.0	60.0	60.0	60.0
INPUT DATA					
Barometric Pressure, kPa	(Pb)	101.490	101.490	101.490	101.490
Meter Correction Factor	(Y)	0.986	0.986	0.986	0.986
Orifice Calibration Value	($\Delta H @$)	1.97	1.97	1.97	1.97
Meter Volume, m ³	(Vm)	1.243	1.204	1.299	1.248
Meter Temperature, °C	(Tm)	18.8	20.8	21.9	20.5
Meter Temperature, °K	(Tm)	292.0	294.0	295.1	293.7
Meter Orifice Pressure, kPa	(ΔH)	0.441	0.407	0.473	0.440
Volume H ₂ O Collected, mL	(Vlc)	182.6	165.4	183.2	177.1
Nozzle Diameter, mm	(Dn)	6.203	6.203	6.203	6.203
ISOKINETIC DATA					
Reference Meter Volume, Rm ³	(Vmref)	1.257	1.209	1.301	1.256
Reference Water Volume, Rm ³	(Vwref)	0.248	0.225	0.249	0.241
Moisture Fraction Measured	(BWSmsd)	0.165	0.157	0.161	0.161
Moisture Fraction @ Saturation	(BWSsat)	1.000	1.000	1.000	1.000
Moisture Fraction	(BWS)	0.165	0.157	0.161	0.161
Meter Pressure, kPa	(Pm)	101.931	101.897	101.963	101.931
Volume at Nozzle, m ³	(Vn)	2.103	2.005	2.175	2.09
Isokinetic Sampling Rate, (%)	(I)	101.4	100.6	100.3	100.8

Reference conditions: 25°C, 1 atm (77°F, 29.92 in. Hg)

Emission Calculations

Location **Reworld Durham York Renewable Energy L.P - Courtice, ON**
Source **APC Outlet No. 2**
Project No. **AST-2025-3852**
Parameter **Acid Gases**

Run Number		Run 1	Run 2	Run 3	Average
Date		10-28-25	10-28-25	10-28-25	--
Start Time		7:37	9:23	11:08	--
Stop Time		8:37	10:23	12:08	--
Run Time, min		60.0	60.0	60.0	60.0
CALCULATED DATA					
Square Root of ΔP , (in. WC) ^{1/2}	(ΔP)	0.921	0.887	0.962	0.923
Pitot Tube Coefficient	(Cp)	0.841	0.841	0.841	0.841
Barometric Pressure, kPa	(Pb)	101.490	101.490	101.490	101.490
Static Pressure, kPa	(Pg)	-2.459	-2.459	-2.459	-2.459
Stack Pressure, kPa	(Ps)	99.031	99.031	99.031	99.031
Stack Cross-sectional Area, m ²	(As)	1.48	1.48	1.48	1.48
Temperature, °C	(Ts)	133.8	134.1	135.5	134.4
Temperature, °K	(Ts)	406.9	407.2	408.7	407.6
Moisture Fraction Measured	(BWSmsd)	0.165	0.157	0.161	0.161
Moisture Fraction @ Saturation	(BWSsat)	1.000	1.000	1.000	1.000
Moisture Fraction	(BWS)	0.165	0.157	0.161	0.161
O ₂ Concentration, %	(O ₂)	9.58	9.80	9.78	9.72
CO ₂ Concentration, %	(CO ₂)	9.74	9.51	9.56	9.60
CO Concentration, ppmvd	(CO)	10.6	10.7	7.8	9.70
Ar Concentration, %	(Ar)	0.95	0.95	0.95	0.95
Molecular Weight, lb/lb-mole (dry)	(Md)	30.06	30.03	30.03	30.04
Molecular Weight, lb/lb-mole (wet)	(Ms)	28.07	28.14	28.10	28.11
Velocity, m/s	(Vs)	19.1	18.3	19.9	19.1
VOLUMETRIC FLOW RATE					
At Stack Conditions, m ³ /s	(Qa)	28.18	27.10	29.47	28.25
At Reference Conditions, dry Rm ³ /s	(Qs)	16.85	16.35	17.64	16.95
At Reference Conditions (corrected), dry Rm ³ /s @ 11% O ₂	(Qsc)	19.27	18.33	19.81	19.14
At Reference Conditions, wet Rm ³ /s	(Qsw)	20.18	19.39	21.02	20.20

Reference conditions: 25°C, 1 atm (77°F, 29.92 in. Hg)

Isokinetic Field Data

Location: Reworld Durham York Renewable Energy I			Start Time: 7:37		Source: APC Outlet No. 2			
Date: 10-28-25	Run 1	VALID	End Time: 8:37		Project No.: AST-2025-3852		Parameter: Acid Gases	

STACK DATA (EST)		EQUIPMENT		STACK DATA (EST)		FILTER NO.		STACK DATA (FINAL)		MOIST. DATA	
Moisture: % est.		Meter Box ID: MB16		Est. Tm: 75 °F				Pb: 29.97 in. Hg		Vlc (ml)	
Barometric: in. Hg		Y: 0.986		Est. Ts: -- °F				Pg: -9.88 in. WC		182.6	
Static Press: in. WC		ΔH @ (in.WC): 1.97		Est. ΔP: -- in. WC				O ₂ : 9.58 %		K-FACTOR	
Stack Press: in. Hg		Probe ID: 7 series		Est. Dn: -- in.				CO ₂ : 9.74 %		--	
CO ₂ : %		Liner Material: glass		Target Rate: 0.67 scfm				CO: 10.6 ppm			
O ₂ : %		Pitot ID: 15E						Check Pt.		Initial Final Corr.	
N ₂ : %		Pitot Cp/Type: 0.841 S-type		LEAK CHECK: Pre Mid 1 Mid 2 Mid 3 Post				Mid 1 (cf)		--	
CO: ppm		Nozzle ID: Fred 11		Leak Rate (cfm): 0.010 -- -- -- 0.010				Mid 2 (cf)		--	
Md: lb/lb-mole		Nozzle Dn (in.): 0.2442		Vacuum (in Hg): 15 -- -- -- 15				Mid 3 (cf)		--	
Ms: lb/lb-mole				Pitot Tube: Pass -- -- -- Pass				Mid-Point Leak Check Vol (cf):		--	

Sample Pt.	Sample Time (minutes)	Dry Gas Meter Reading (ft ³)	Pitot Tube ΔP (in WC)	Gas Temperatures (°F)		Orifice Press. ΔH (in. WC)		Pump Vac (in. Hg)	Gas Temperatures (°F)				% ISO	Vs (m/s)
				DGM Average	Stack	Ideal	Actual		Probe	Filter	Imp Exit	Aux		
	Amb.	Amb.	Amb.	Amb.	Amb.			Amb.	Amb.	Amb.				
	Begin													
1	0.00	14.740	0.83	63	276	1.81	1.70	3	253	253	61	258	100.6	18.90
	5.00	18.300	0.85	64	276	1.86	1.80	3	253	253	51	258	102.4	19.13
	10.00	21.970	0.85	64	270	1.87	1.80	3	252	253	51	257	102.2	19.05
	15.00	25.650	0.82	64	270	1.81	1.75	3	253	253	53	255	102.1	18.71
	20.00	29.260	0.81	64	270	1.78	1.70	3	253	253	53	255	101.0	18.60
	25.00	32.810	0.83	66	270	1.83	1.70	3	254	253	56	256	100.5	18.82
	30.00	36.400	0.85	66	271	1.88	1.75	3	253	253	58	255	100.5	19.06
	35.00	40.030	0.88	67	272	1.94	1.80	3	254	253	60	256	100.6	19.41
	40.00	43.730	0.93	67	273	2.05	1.95	3	254	253	59	255	101.1	19.97
	45.00	47.550	0.86	68	275	1.89	1.80	3	254	253	56	256	102.8	19.23
	50.00	51.290	0.82	69	275	1.81	1.70	3	254	253	55	256	100.6	18.77
	55.00	54.870	0.86	69	275	1.90	1.80	3	254	254	55	256	102.9	19.23
		58.620												

RESULTS	Run Time	Vm	ΔP		Tm		Ts		Max Vac	ΔH		%ISO	BWS	Y _{qa}
	60.0	43.880 ft ³	0.85	in. WC	65.9	°F	272.8	°F	3	1.771 in. WC	101.4	0.165	3.6	

Isokinetic Field Data

Location: Reworld Durham York Renewable Energy I				Start Time: 9:23		Source: APC Outlet No. 2					
Date: 10-28-25		Run 2		VALID		End Time: 10:23		Project No.: AST-2025-3852		Parameter: Acid Gases	

STACK DATA (EST)		EQUIPMENT		STACK DATA (EST)		FILTER NO.		STACK DATA (FINAL)		MOIST. DATA	
Moisture: % est.		Meter Box ID: MB16		Est. Tm: 66 °F				Pb: 29.97 in. Hg		Vlc (ml)	
Barometric: in. Hg		Y: 0.986		Est. Ts: 273 °F				Pg: -9.88 in. WC		165.4	
Static Press: in. WC		ΔH @ (in.WC): 1.97		Est. ΔP: 0.85 in. WC				O ₂ : 9.8 %		K-FACTOR	
Stack Press: in. Hg		Probe ID: 7 series		Est. Dn: 0.235 in.				CO ₂ : 9.51 %		2.20	
CO ₂ : %		Liner Material: glass		Target Rate: 0.67 scfm				CO: 10.7 ppm			
O ₂ : %		Pitot ID: 15E						Check Pt.		Initial Final Corr.	
N ₂ : %		Pitot Cp/Type: 0.841 S-type		LEAK CHECK:		Pre Mid 1 Mid 2 Mid 3 Post		Mid 1 (cf)		--	
CO: ppm		Nozzle ID: Fred 11		Leak Rate (cfm):		0.008 -- -- -- 0.014		Mid 2 (cf)		--	
Md: lb/lb-mole		Nozzle Dn (in.): 0.2442		Vacuum (in Hg):		15 -- -- -- 15		Mid 3 (cf)		--	
Ms: lb/lb-mole				Pitot Tube:		Pass -- -- -- Pass		Mid-Point Leak Check Vol (cf):		--	

Sample Pt.	Sample Time (minutes)	Dry Gas Meter Reading (ft ³)	Pitot Tube ΔP (in WC)	Gas Temperatures (°F)		Orifice Press. ΔH (in. WC)		Pump Vac (in. Hg)	Gas Temperatures (°F)				% ISO	Vs (m/s)
				DGM Average	Stack				Probe	Filter	Imp Exit	Aux		
	Begin				Amb.	Amb.			Amb.	Amb.	Amb.	Amb.		
					--	--	Ideal	Actual	--	--	--	--		
1	0.00	59.330	0.76	69	275	1.68	1.60	3	253	235	61	252	100.1	18.05
--	5.00	62.790	0.76	68	272	1.68	1.60	3	251	254	50	259	99.5	18.01
--	10.00	66.230	0.76	68	273	1.68	1.60	3	254	249	48	254	102.8	18.03
--	15.00	69.780	0.78	68	272	1.73	1.60	3	252	255	48	261	99.4	18.25
--	20.00	73.260	0.80	68	273	1.77	1.65	3	253	254	48	259	99.6	18.49
--	25.00	76.790	0.80	69	274	1.77	1.65	3	252	252	48	256	99.2	18.51
--	30.00	80.310	0.83	69	273	1.84	1.70	3	252	253	49	258	100.7	18.84
--	35.00	83.950	0.83	70	274	1.84	1.70	3	252	254	50	259	101.1	18.85
--	40.00	87.610	0.81	70	274	1.79	1.65	3	253	252	51	258	98.7	18.62
--	45.00	91.140	0.81	71	274	1.80	1.65	3	252	253	52	258	101.9	18.62
--	50.00	94.790	0.74	71	273	1.65	1.60	3	253	254	53	260	102.1	17.79
--	55.00	98.290	0.76	73	273	1.70	1.60	3	253	252	55	258	101.5	18.03
		101.830												

RESULTS	Run Time	Vm	ΔP		Tm		Ts		Max Vac	ΔH		%ISO	BWS	Y _{qa}
	60.0	42.500 ft ³	0.79	in. WC	69.5	°F	273.3	°F	3	1.633 in. WC	100.6	0.157	4.0	

Isokinetic Field Data

Location: Reworld Durham York Renewable Energy I			Start Time: 11:08		Source: APC Outlet No. 2			
Date: 10-28-25	Run 3	VALID	End Time: 12:08		Project No.: AST-2025-3852		Parameter: Acid Gases	

STACK DATA (EST)		EQUIPMENT		STACK DATA (EST)		FILTER NO.		STACK DATA (FINAL)		MOIST. DATA		
Moisture: % est.		Meter Box ID: MB16		Est. Tm: 70 °F				Pb: 29.97 in. Hg		Vlc (ml)		
Barometric: in. Hg		Y: 0.986		Est. Ts: 273 °F				Pg: -9.88 in. WC		183.2		
Static Press: in. WC		ΔH @ (in.WC): 1.97		Est. ΔP: 0.79 in. WC				O ₂ : 9.78 %		K-FACTOR		
Stack Press: in. Hg		Probe ID: 7 Series		Est. Dn: 0.240 in.				CO ₂ : 9.56 %		2.192		
CO ₂ : %		Liner Material: glass		Target Rate: 0.67 scfm				CO: 7.8 ppm				
O ₂ : %		Pitot ID: 15E							Check Pt.	Initial	Final	Corr.
N ₂ : %		Pitot Cp/Type: 0.841	S-type	LEAK CHECK:	Pre	Mid 1	Mid 2	Mid 3	Post	Mid 1 (cf)	--	
CO: ppm		Nozzle ID: Fred 11		Leak Rate (cfm):	0.012	--	--	--	0.008	Mid 2 (cf)	--	
Md: lb/lb-mole		Nozzle Dn (in.): 0.2442		Vacuum (in Hg):	15	--	--	--	15	Mid 3 (cf)	--	
Ms: lb/lb-mole				Pitot Tube:	Pass	--	--	--	Pass	Mid-Point Leak Check Vol (cf):	--	

Sample Pt.	Sample Time (minutes)	Dry Gas Meter Reading (ft ³)	Pitot Tube ΔP (in WC)	Gas Temperatures (°F)		Orifice Press. ΔH (in. WC)		Pump Vac (in. Hg)	Gas Temperatures (°F)				% ISO	Vs (m/s)
				DGM Average	Stack				Probe	Filter	Imp Exit	Aux		
	Begin				Amb.	Amb.			Amb.	Amb.	Amb.	Amb.		
					--	--	Ideal	Actual	--	--	--	--		
1	0.00	2.320	0.95	71	275	2.08	1.95	3	254	254	63	261	99.7	20.19
--	5.00	6.170	0.95	71	275	2.08	1.95	3	254	254	63	261	101.0	20.19
--	10.00	10.070	0.90	71	276	1.97	1.85	3	250	254	49	263	99.9	19.67
--	15.00	13.820	0.90	70	276	1.97	1.80	3	251	254	47	261	99.0	19.67
--	20.00	17.530	0.90	71	276	1.97	1.80	3	251	251	45	259	99.9	19.67
--	25.00	21.280	0.93	71	276	2.04	1.90	3	251	253	45	261	100.1	19.99
--	30.00	25.100	0.93	71	277	2.03	1.90	3	251	254	44	260	100.4	20.01
--	35.00	28.930	0.93	72	276	2.04	1.90	3	251	252	44	260	100.2	19.99
--	40.00	32.760	0.96	72	276	2.11	2.05	3	251	253	44	260	101.7	20.31
--	45.00	36.710	0.92	72	276	2.02	1.90	3	250	253	44	261	100.7	19.89
--	50.00	40.540	0.92	73	276	2.02	1.90	3	250	253	45	261	99.5	19.89
--	55.00	44.330	0.92	73	276	2.02	1.90	3	250	252	45	260	101.6	19.89
		48.200												

RESULTS	Run Time	Vm	ΔP		Tm		Ts		Max Vac	ΔH		%ISO	BWS	Y _{qa}
	60.0	45.880 ft ³	0.93	in. WC	71.5	°F	275.9	°F	3	1.900 in. WC	100.3	0.161	4.0	

APPENDIX 25

SVOC Test Emission Calculations (10 pages)

Emission Calculations

Location Reworld Durham York Renewable Energy L.P - Courtice, ON
Source APC Outlet No. 1
Project No. AST-2025-3852
Parameter SVOCs

Run Number		Run 1	Run 2	Run 3	Average
Date		10-29-25	10-29-25	10-30-25	--
Start Time		8:01	13:14	8:06	--
Stop Time		12:14	17:28	12:14	--
Run Time, min	(θ)	240.0	240.0	240.0	240.0
INPUT DATA					
Barometric Pressure, kPa	(Pb)	100.915	100.915	99.865	100.565
Meter Correction Factor	(Y)	0.986	0.986	0.986	0.986
Orifice Calibration Value	($\Delta H @$)	1.97	1.97	1.97	1.97
Meter Volume, m ³	(Vm)	4.592	4.757	4.808	4.719
Meter Temperature, °C	(Tm)	20.2	24.2	21.8	22.1
Meter Temperature, °K	(Tm)	293.3	297.4	294.9	295.2
Meter Orifice Pressure, kPa	(ΔH)	0.378	0.402	0.417	0.399
Volume H ₂ O Collected, mL	(Vlc)	628.3	695.3	683.7	669.1
Nozzle Diameter, mm	(Dn)	6.203	6.203	6.203	6.203
ISOKINETIC DATA					
Reference Meter Volume, Rm ³	(Vmref)	4.596	4.699	4.739	4.678
Reference Water Volume, Rm ³	(Vwref)	0.854	0.946	0.930	0.910
Moisture Fraction Measured	(BWSmsd)	0.157	0.168	0.164	0.163
Moisture Fraction @ Saturation	(BWSsat)	1.000	1.000	1.000	1.000
Moisture Fraction	(BWS)	0.157	0.168	0.164	0.163
Meter Pressure, kPa	(Pm)	101.292	101.316	100.282	100.963
Volume at Nozzle, m ³	(Vn)	7.794	8.014	8.222	8.01
Isokinetic Sampling Rate, (%)	(I)	100.0	101.1	100.5	100.5

Reference conditions: 25°C, 1 atm (77°F, 29.92 in. Hg)

Emission Calculations

Location **Reworld Durham York Renewable Energy L.P - Courtice, ON**
Source **APC Outlet No. 1**
Project No. **AST-2025-3852**
Parameter **SVOCs**

Run Number		Run 1	Run 2	Run 3	Average
Date		10-29-25	10-29-25	10-30-25	--
Start Time		8:01	13:14	8:06	--
Stop Time		12:14	17:28	12:14	--
Run Time, min		240.0	240.0	240.0	240.0
CALCULATED DATA					
Square Root of ΔP , (in. WC) ^{1/2}	(ΔP)	0.859	0.875	0.893	0.876
Pitot Tube Coefficient	(Cp)	0.840	0.840	0.840	0.840
Barometric Pressure, kPa	(Pb)	100.915	100.915	99.865	100.565
Static Pressure, kPa	(Pg)	-2.696	-2.696	-2.927	-2.773
Stack Pressure, kPa	(Ps)	98.219	98.219	96.937	97.792
Stack Cross-sectional Area, m ²	(As)	1.48	1.48	1.48	1.48
Temperature, °C	(Ts)	140.0	137.2	140.5	139.2
Temperature, °K	(Ts)	413.2	410.3	413.7	412.4
Moisture Fraction Measured	(BWSmsd)	0.157	0.168	0.164	0.163
Moisture Fraction @ Saturation	(BWSsat)	1.000	1.000	1.000	1.000
Moisture Fraction	(BWS)	0.157	0.168	0.164	0.163
O ₂ Concentration, %	(O ₂)	9.46	9.13	9.25	9.28
CO ₂ Concentration, %	(CO ₂)	9.95	10.09	9.95	10.00
CO Concentration, ppmvd	(CO)	9.9	9	16.5	11.80
Ar Concentration, %	(Ar)	0.95	0.95	0.95	0.95
Molecular Weight, lb/lb-mole (dry)	(Md)	30.08	30.09	30.08	30.08
Molecular Weight, lb/lb-mole (wet)	(Ms)	28.19	28.07	28.10	28.12
Velocity, m/s	(Vs)	17.9	18.2	18.8	18.3
VOLUMETRIC FLOW RATE					
At Stack Conditions, m ³ /s	(Qa)	26.49	26.95	27.80	27.08
At Reference Conditions, dry Rm ³ /s	(Qs)	15.63	15.80	16.03	15.82
At Reference Conditions (corrected), dry Rm ³ /s @ 11% O ₂	(Qsc)	18.06	18.78	18.86	18.57
At Reference Conditions, wet Rm ³ /s	(Qsw)	18.53	18.98	19.17	18.89

Reference conditions: 25°C, 1 atm (77°F, 29.92 in. Hg)

Isokinetic Field Data

Location: Reworld Durham York Renewable Energy I				Start Time: 8:01		Source: APC Outlet No. 1					
Date: 10-29-25		Run 1		VALID		End Time: 12:14		Project No.: AST-2025-3852		Parameter: SVOCs	
STACK DATA (EST)		EQUIPMENT		STACK DATA (EST)		FILTER NO.		STACK DATA (FINAL)		MOIST. DATA	
Moisture: % est.		Meter Box ID: MB16		Est. Tm: 75 °F				Pb: 29.80 in. Hg		Vlc (ml)	
Barometric: in. Hg		Y: 0.986		Est. Ts: -- °F				Pg: -10.83 in. WC		628.3	
Static Press: in. WC		ΔH @ (in.WC): 1.97		Est. ΔP: -- in. WC				O ₂ : 9.46 %		K-FACTOR	
Stack Press: in. Hg		Probe ID: 7 series		Est. Dn: -- in.				CO ₂ : 9.95 %		--	
CO ₂ : %		Liner Material: glass		Target Rate: 0.50 scfm				CO: 9.9 ppm			
O ₂ : %		Pitot ID: S10						Check Pt.		Initial Final Corr.	
N ₂ : %		Pitot Cp/Type: 0.840		S-type		LEAK CHECK: Pre Mid 1 Mid 2 Mid 3 Post		Mid 1 (cf)		156.780 ##### 0.370	
CO: ppm		Nozzle ID: Fred 11				Leak Rate (cfm): 0.006 -- -- --		Mid 2 (cf)		--	
Md: lb/lb-mole		Nozzle Dn (in.): 0.2442				Vacuum (in Hg): 15 -- -- --		Mid 3 (cf)		--	
Ms: lb/lb-mole						Pitot Tube: Pass -- -- --		Mid-Point Leak Check Vol (cf):		0.370	

Sample Pt.	Sample Time (minutes)	Dry Gas Meter Reading (ft ³)	Pitot Tube ΔP (in WC)	Gas Temperatures (°F)		Orifice Press. ΔH (in. WC)		Pump Vac (in. Hg)	Gas Temperatures (°F)				% ISO	Vs (m/s)
				DGM Average	Stack	Ideal	Actual		Probe	Filter	Imp Exit	Trap		
	Amb.	Amb.	Amb.	Amb.	Amb.			Amb.	Amb.	Amb.				
	Begin													
	0.00	77.280	0.83	60	276	1.79	1.70	3	253	252	60	48	101.0	18.91
	5.00	80.860	0.85	60	280	1.83	1.70	3	253	248	45	42	98.1	19.19
	10.00	84.370	0.85	61	280	1.83	1.70	4	253	253	43	41	98.8	19.19
	15.00	87.910	0.83	61	281	1.79	1.65	4	253	259	42	41	98.6	18.98
	20.00	91.400	0.86	62	281	1.85	1.70	4	253	251	41	40	98.6	19.32
	25.00	94.960	0.82	62	281	1.77	1.60	4	253	249	40	40	96.7	18.86
	30.00	98.370	0.75	63	282	1.62	1.60	4	253	258	40	41	102.2	18.05
	35.00	101.820	0.71	63	282	1.53	1.45	4	253	256	40	40	100.7	17.57
	40.00	105.130	0.66	64	281	1.43	1.35	4	253	247	41	40	100.4	16.92
	45.00	108.320	0.66	64	280	1.43	1.35	4	253	254	40	40	101.0	16.91
	50.00	111.530	0.56	65	280	1.22	1.20	3	253	260	40	40	101.5	15.58
	55.00	114.510	0.61	65	280	1.33	1.25	3	253	251	41	40	99.9	16.26
	60.00	117.570	0.67	66	282	1.45	1.40	4	253	249	41	41	100.3	17.06
	65.00	120.790	0.66	66	282	1.43	1.35	4	252	260	40	42	100.1	16.94
	70.00	123.980	0.69	67	283	1.50	1.45	4	253	256	41	43	101.2	17.33
	75.00	127.280	0.69	67	283	1.50	1.45	4	253	248	41	44	101.5	17.33
	80.00	130.590	0.69	68	283	1.50	1.40	4	253	254	41	43	99.7	17.33
	85.00	133.850	0.69	68	283	1.50	1.40	4	253	259	41	42	99.1	17.33
	90.00	137.090	0.70	68	283	1.52	1.40	4	253	250	42	42	99.3	17.45
	95.00	140.360	0.71	69	280	1.55	1.40	4	253	250	42	42	97.9	17.54
	100.00	143.620	0.65	69	280	1.42	1.40	4	253	259	42	42	102.4	16.78
	105.00	146.880	0.69	69	280	1.51	1.40	4	252	254	42	40	98.1	17.29
	110.00	150.100	0.69	69	280	1.51	1.45	4	253	248	43	40	100.0	17.29
	115.00	153.380	0.71	70	280	1.56	1.50	4	253	256	43	40	102.0	17.54
	120.00	156.780	0.82	70	280	1.80	1.75	4	253	251	51	39	101.6	18.85
	125.00	160.790	0.85	70	287	1.84	1.75	4	253	257	43	40	102.2	19.28
	130.00	164.500	0.85	69	287	1.84	1.80	4	253	254	43	41	101.1	19.28
	135.00	168.160	0.86	69	287	1.86	1.80	4	253	248	44	40	100.2	19.40
	140.00	171.810	0.87	70	287	1.89	1.80	4	253	254	44	41	99.4	19.51
	145.00	175.460	0.87	70	287	1.89	1.80	4	253	259	44	41	100.2	19.51
	150.00	179.140	0.81	70	288	1.76	1.70	4	253	251	44	41	101.1	18.84
	155.00	182.720	0.81	70	288	1.76	1.65	4	253	249	44	41	100.0	18.84
	160.00	186.260	0.75	71	289	1.63	1.55	4	253	258	44	41	100.8	18.14
	165.00	189.700	0.76	71	288	1.65	1.50	4	253	256	44	40	98.6	18.25
	170.00	193.090	0.71	71	288	1.54	1.45	4	253	248	45	40	100.2	17.64
	175.00	196.420	0.71	71	288	1.54	1.45	4	253	253	45	40	99.9	17.64
	180.00	199.740	0.74	72	288	1.61	1.55	4	253	260	45	40	100.6	18.00
	185.00	203.160	0.74	72	289	1.61	1.50	4	253	251	43	40	99.8	18.02
	190.00	206.550	0.74	72	287	1.61	1.50	4	253	248	42	40	100.3	17.99
	195.00	209.960	0.75	72	288	1.63	1.50	4	253	258	41	41	101.1	18.13
	200.00	213.420	0.74	72	288	1.61	1.50	4	252	255	40	40	98.0	18.00
	205.00	216.750	0.71	73	288	1.55	1.40	4	253	248	40	40	98.3	17.64
	210.00	220.030	0.72	73	288	1.57	1.40	4	253	252	40	40	97.6	17.76
	215.00	223.310	0.69	73	286	1.51	1.50	4	252	259	40	39	99.9	17.36
	220.00	226.600	0.66	73	286	1.44	1.35	4	252	252	40	40	103.4	16.98
	225.00	229.930	0.69	73	286	1.51	1.40	4	252	248	40	39	99.0	17.36
	230.00	233.190	0.71	73	286	1.55	1.45	4	252	257	40	40	96.7	17.61
	235.00	236.420	0.71	73	286	1.55	1.50	4	252	257	41	41	100.9	17.61
		239.790												

RESULTS	Run Time	Vm	ΔP	Tm	Ts	Max Vac	ΔH	%ISO	BWS	Y _{qa}
	240.0	162.140 ft ³	0.74 in. WC	68.3 °F	284.0 °F	4	1.517 in. WC	100.0	0.157	3.1

Isokinetic Field Data

Location: Reworld Durham York Renewable Energy I				Start Time: 13:14		Source: APC Outlet No. 1							
Date: 10-29-25		Run 2	VALID	End Time: 17:28		Project No.: AST-2025-3852		Parameter: SVOCs					
STACK DATA (EST)		EQUIPMENT		STACK DATA (EST)		FILTER NO.		STACK DATA (FINAL)		MOIST. DATA			
Moisture: % est.		Meter Box ID: MB16		Est. Tm: 68 °F				Pb: 29.80 in. Hg		Vlc (ml)			
Barometric: in. Hg		Y: 0.986		Est. Ts: 284 °F				Pg: -10.83 in. WC		695.3			
Static Press: in. WC		AH @ (in.WC): 1.97		Est. ΔP: 0.74 in. WC				O ₂ : 9.13 %		K-FACTOR			
Stack Press: in. Hg		Probe ID: 7 series		Est. Dn: 0.212 in.				CO ₂ : 10.09 %		2.17			
CO ₂ : %		Liner Material: glass		Target Rate: 0.50 scfm				CO: 9 ppm					
O ₂ : %		Pitot ID: S10								Check Pt.	Initial	Final	Corr.
N ₂ : %		Pitot Cp/Type: 0.840		S-type		LEAK CHECK: Pre Mid 1 Mid 2 Mid 3 Post		Mid 1 (cf)		123.680	#####	0.705	
CO: ppm		Nozzle ID: Fred 11				Leak Rate (cfm): 0.002 -- -- -- 0.002		Mid 2 (cf)				--	
Md: lb/lb-mole		Nozzle Dn (in.): 0.2442				Vacuum (in Hg): 15 -- -- -- 15		Mid 3 (cf)				--	
Ms: lb/lb-mole						Pitot Tube: Pass -- -- -- Pass		Mid-Point Leak Check Vol (cf):		0.705			

Sample Pt.	Sample Time (minutes)	Dry Gas Meter Reading (ft ³)	Pitot Tube ΔP (in WC)	Gas Temperatures (°F)		Orifice Press. ΔH (in. WC)		Pump Vac (in. Hg)	Gas Temperatures (°F)				% ISO	Vs (m/s)
				DGM Average	Stack				Probe	Filter	Imp Exit	Trap		
				Amb.	Amb.	Amb.	Amb.		Amb.	Amb.				
				Begin										
--	0.00	40.210	0.80	70	276	1.76	1.66	3	253	255	65	63	98.0	18.61
--	5.00	43.650	0.85	70	287	1.84	1.70	3	253	250	60	43	99.4	19.33
--	10.00	47.220	0.87	70	287	1.89	1.80	4	252	257	57	43	102.2	19.55
--	15.00	50.930	0.87	70	287	1.89	1.80	4	252	253	57	44	102.2	19.55
--	20.00	54.640	0.87	70	287	1.89	1.75	4	252	250	56	43	100.8	19.55
--	25.00	58.300	0.87	71	287	1.89	1.75	4	252	255	56	44	101.4	19.55
--	30.00	61.990	0.90	71	287	1.96	1.75	4	252	255	55	44	102.4	19.89
--	35.00	65.780	0.90	72	283	1.97	1.95	4	252	251	55	45	102.2	19.83
--	40.00	69.580	0.72	72	281	1.58	1.90	4	252	252	55	45	99.7	17.71
--	45.00	72.900	0.73	73	279	1.61	1.40	3	252	254	55	44	101.6	17.81
--	50.00	76.320	0.64	73	278	1.41	1.55	4	252	252	54	45	103.7	16.67
--	55.00	79.590	0.65	74	278	1.44	1.35	3	252	255	54	44	103.0	16.80
--	60.00	82.870	0.71	74	278	1.57	1.40	3	250	251	54	43	100.0	17.56
--	65.00	86.200	0.75	75	279	1.66	1.50	4	252	253	54	42	100.7	18.06
--	70.00	89.650	0.79	75	280	1.75	1.60	4	252	253	54	43	98.2	18.54
--	75.00	93.100	0.77	75	279	1.71	1.65	4	252	253	55	44	102.6	18.29
--	80.00	96.660	0.75	76	279	1.66	1.65	4	252	253	55	44	102.0	18.06
--	85.00	100.160	0.78	76	265	1.76	1.55	4	252	252	55	46	100.2	18.24
--	90.00	103.700	0.68	76	265	1.54	1.65	4	252	253	55	47	102.5	17.03
--	95.00	107.080	0.66	76	265	1.49	1.45	3	252	253	55	46	102.2	16.78
--	100.00	110.400	0.63	76	265	1.43	1.40	3	252	252	56	44	101.1	16.39
--	105.00	113.610	0.70	77	265	1.59	1.35	3	252	252	56	44	98.7	17.28
--	110.00	116.920	0.68	77	265	1.54	1.50	4	252	253	56	45	102.0	17.03
--	115.00	120.290	0.70	77	265	1.59	1.50	4	252	253	56	45	101.1	17.28
--	120.00	124.385	0.88	77	279	1.96	1.85	5	249	250	60	45	100.7	19.56
--	125.00	128.130	0.88	77	282	1.95	1.85	5	252	259	60	45	102.9	19.60
--	130.00	131.950	0.85	76	281	1.88	1.85	5	252	255	58	43	101.8	19.25
--	135.00	135.660	0.86	76	281	1.90	1.80	4	252	248	57	43	100.6	19.36
--	140.00	139.350	0.86	77	281	1.91	1.80	4	252	254	57	43	101.3	19.36
--	145.00	143.070	0.86	77	281	1.91	1.80	4	252	256	56	44	101.3	19.36
--	150.00	146.790	0.80	77	281	1.77	1.80	4	252	247	57	44	101.6	18.67
--	155.00	150.390	0.81	77	281	1.80	1.65	4	252	253	57	44	99.5	18.79
--	160.00	153.940	0.75	77	281	1.66	1.65	4	252	256	57	45	101.4	18.08
--	165.00	157.420	0.73	77	280	1.62	1.55	4	252	251	57	45	100.6	17.83
--	170.00	160.830	0.67	77	280	1.49	1.50	4	252	251	57	45	101.6	17.08
--	175.00	164.130	0.69	78	280	1.54	1.40	4	252	255	57	44	100.2	17.33
--	180.00	167.440	0.69	78	281	1.53	1.45	4	252	252	57	44	101.5	17.34
--	185.00	170.790	0.66	78	281	1.47	1.45	4	252	252	57	42	101.0	16.96
--	190.00	174.050	0.67	78	280	1.49	1.40	4	252	254	57	42	100.2	17.08
--	195.00	177.310	0.72	78	279	1.60	1.40	4	252	253	57	42	100.7	17.69
--	200.00	180.710	0.74	78	279	1.65	1.50	4	252	251	57	43	101.1	17.94
--	205.00	184.170	0.75	78	279	1.67	1.55	4	252	253	57	44	101.1	18.06
--	210.00	187.650	0.72	78	280	1.60	1.60	4	252	254	57	44	100.9	17.70
--	215.00	191.050	0.75	79	281	1.67	1.50	4	252	252	58	45	101.6	18.08
--	220.00	194.550	0.75	78	281	1.67	1.60	4	252	252	58	47	101.5	18.08
--	225.00	198.040	0.76	79	282	1.69	1.60	4	252	252	58	48	100.1	18.21
--	230.00	201.510	0.83	79	283	1.84	1.60	4	252	252	58	51	100.9	19.05
--	235.00	205.160	0.87	79	285	1.93	1.75	5	252	253	59	53	101.5	19.53
		208.915												

RESULTS	Run Time	Vm	ΔP	Tm	Ts	Max Vac	ΔH	%ISO	BWS	Y _{qa}
	240.0	168.000 ft ³	0.77 in. WC	75.6 °F	278.9 °F	5	1.614 in. WC	101.1	0.168	2.9

Emission Calculations

Location Reworld Durham York Renewable Energy L.P - Courtice, ON
Source APC Outlet No. 2
Project No. AST-2025-3852
Parameter SVOCs

Run Number		Run 1	Run 2	Run 3	Average
Date		10-29-25	10-29-25	10-30-25	--
Start Time		7:57	13:09	7:49	--
Stop Time		12:08	17:21	11:57	--
Run Time, min	(θ)	240.0	240.0	240.0	240.0
INPUT DATA					
Barometric Pressure, kPa	(Pb)	100.915	100.915	99.865	100.565
Meter Correction Factor	(Y)	0.99	0.99	0.99	0.99
Orifice Calibration Value	($\Delta H @$)	1.922	1.922	1.922	1.922
Meter Volume, m ³	(Vm)	4.973	5.076	5.002	5.017
Meter Temperature, °C	(Tm)	21.3	25.6	22.9	23.2
Meter Temperature, °K	(Tm)	294.4	298.7	296.0	296.4
Meter Orifice Pressure, kPa	(ΔH)	0.458	0.472	0.463	0.464
Volume H ₂ O Collected, mL	(Vlc)	667.0	715.4	691.8	691.4
Nozzle Diameter, mm	(Dn)	6.340	6.340	6.340	6.340
ISOKINETIC DATA					
Reference Meter Volume, Rm ³	(Vmref)	4.983	5.014	4.934	4.977
Reference Water Volume, Rm ³	(Vwref)	0.907	0.973	0.941	0.940
Moisture Fraction Measured	(BWSmsd)	0.154	0.163	0.160	0.159
Moisture Fraction @ Saturation	(BWSsat)	1.000	1.000	1.000	1.000
Moisture Fraction	(BWS)	0.154	0.163	0.160	0.159
Meter Pressure, kPa	(Pm)	101.373	101.386	100.328	101.029
Volume at Nozzle, m ³	(Vn)	8.292	8.422	8.373	8.36
Isokinetic Sampling Rate, (%)	(I)	99.7	100.8	99.9	100.1

Reference conditions: 25°C, 1 atm (77°F, 29.92 in. Hg)

Emission Calculations

Location **Reworld Durham York Renewable Energy L.P - Courtice, ON**
Source **APC Outlet No. 2**
Project No. **AST-2025-3852**
Parameter **SVOCs**

Run Number		Run 1	Run 2	Run 3	Average
Date		10-29-25	10-29-25	10-30-25	--
Start Time		7:57	13:09	7:49	--
Stop Time		12:08	17:21	11:57	--
Run Time, min		240.0	240.0	240.0	240.0
CALCULATED DATA					
Square Root of ΔP , (in. WC) ^{1/2}	(ΔP)	0.881	0.883	0.881	0.882
Pitot Tube Coefficient	(Cp)	0.844	0.844	0.844	0.844
Barometric Pressure, kPa	(Pb)	100.915	100.915	99.865	100.565
Static Pressure, kPa	(Pg)	-2.524	-2.524	-2.800	-2.616
Stack Pressure, kPa	(Ps)	98.391	98.391	97.064	97.948
Stack Cross-sectional Area, m ²	(As)	1.48	1.48	1.48	1.48
Temperature, °C	(Ts)	134.4	134.1	133.9	134.1
Temperature, °K	(Ts)	407.5	407.2	407.0	407.2
Moisture Fraction Measured	(BWSmsd)	0.154	0.163	0.160	0.159
Moisture Fraction @ Saturation	(BWSsat)	1.000	1.000	1.000	1.000
Moisture Fraction	(BWS)	0.154	0.163	0.160	0.159
O ₂ Concentration, %	(O ₂)	9.08	8.99	9.02	9.03
CO ₂ Concentration, %	(CO ₂)	10.07	10.08	10.02	10.06
CO Concentration, ppmvd	(CO)	8.4	8.7	11.8	9.63
Ar Concentration, %	(Ar)	0.95	0.95	0.95	0.95
Molecular Weight, lb/lb-mole (dry)	(Md)	30.09	30.09	30.08	30.08
Molecular Weight, lb/lb-mole (wet)	(Ms)	28.23	28.12	28.15	28.17
Velocity, m/s	(Vs)	18.3	18.4	18.5	18.4
VOLUMETRIC FLOW RATE					
At Stack Conditions, m ³ /s	(Qa)	27.06	27.17	27.28	27.17
At Reference Conditions, dry Rm ³ /s	(Qs)	16.27	16.18	16.08	16.18
At Reference Conditions (corrected), dry Rm ³ /s @ 11% O ₂	(Qsc)	19.42	19.47	19.30	19.39
At Reference Conditions, wet Rm ³ /s	(Qsw)	19.23	19.32	19.15	19.23

Reference conditions: 25°C, 1 atm (77°F, 29.92 in. Hg)

APPENDIX 26

Total Hydrocarbon CEM Data (12 pages)

Run 1 - RM Data

Location: Reworld Durham York Renewable Energy L.P - Courtice, ON
Source: APC Outlet No. 1
Project No.: AST-2025-3852
Date: 10-27-25

Time Unit Status	THC - Outlet ppmvw Valid	THC - 10 min ppmvw Valid
Run Average (C_{obs})	0.08	0.07
MIN	0.00	0.00
MAX	0.90	0.24
Standard Deviation	0.17	0.06
Cal Gas Concentration (C_{MA})	44.70	NA
Pretest System Zero Response	0.10	NA
Posttest System Zero Response	0.00	NA
Average Zero Response (C_0)	0.05	NA
Pretest System Cal Response	43.72	NA
Posttest System Cal Response	44.86	NA
Average Cal Response (C_M)	44.29	NA
9:25	0.00	
9:26	0.37	
9:27	0.57	
9:28	0.90	
9:29	0.00	
9:30	0.32	
9:31	0.00	
9:32	0.00	
9:33	0.26	
9:34	0.00	0.24
9:35	0.00	0.24
9:36	0.21	0.23
9:37	0.10	0.18
9:38	0.07	0.10
9:39	0.00	0.10
9:40	0.00	0.06
9:41	0.00	0.06
9:42	0.00	0.06
9:43	0.00	0.04
9:44	0.42	0.08
9:45	0.30	0.11
9:46	0.00	0.09
9:47	0.00	0.08
9:48	0.33	0.11
9:49	0.00	0.11
9:50	0.33	0.14
9:51	0.17	0.16
9:52	0.00	0.16
9:53	0.03	0.16
9:54	0.00	0.12
9:55	0.00	0.09
9:56	0.00	0.09
9:57	0.00	0.09
9:58	0.00	0.05
9:59	0.19	0.07
10:00	0.00	0.04
10:01	0.00	0.02
10:02	0.00	0.02
10:03	0.00	0.02
10:04	0.00	0.02
10:05	0.00	0.02
10:06	0.00	0.02
10:07	0.00	0.02
10:08	0.00	0.02
10:09	0.00	0.00
10:10	0.00	0.00
10:11	0.00	0.00
10:12	0.00	0.00
10:13	0.00	0.00
10:14	0.00	0.00
10:15	0.00	0.00
10:16	0.00	0.00
10:17	0.00	0.00
10:18	0.06	0.01
10:19	0.36	0.04
10:20	0.00	0.04
10:21	0.06	0.05
10:22	0.00	0.05
10:23	0.00	0.05
10:24	0.00	0.05
10:25	0.00	0.05

Run 2 - RM Data

Location: Reworld Durham York Renewable Energy L.P - Courtice, ON
Source: APC Outlet No. 1
Project No.: AST-2025-3852
Date: 10-27-25

Time Unit Status	THC - Outlet ppmvw Valid	THC - 10 min ppmvw Valid
Run Average (C_{obs})	0.18	0.17
MIN	0.00	0.03
MAX	1.06	0.29
Standard Deviation	0.25	0.07
Cal Gas Concentration (C_{MA})	44.70	NA
Pretest System Zero Response	0.00	NA
Posttest System Zero Response	0.00	NA
Average Zero Response (C_0)	0.00	NA
Pretest System Cal Response	44.86	NA
Posttest System Cal Response	43.84	NA
Average Cal Response (C_M)	44.35	NA
10:40	1.01	
10:41	0.45	
10:42	0.13	
10:43	0.47	
10:44	0.02	
10:45	0.49	
10:46	0.31	
10:47	0.05	
10:48	0.00	
10:49	0.00	0.29
10:50	0.25	0.22
10:51	0.11	0.18
10:52	0.24	0.19
10:53	0.44	0.19
10:54	0.23	0.21
10:55	0.06	0.17
10:56	0.54	0.19
10:57	0.12	0.20
10:58	0.07	0.21
10:59	0.16	0.22
11:00	0.00	0.20
11:01	0.92	0.28
11:02	0.10	0.26
11:03	0.20	0.24
11:04	0.00	0.22
11:05	0.30	0.24
11:06	0.35	0.22
11:07	0.00	0.21
11:08	0.25	0.23
11:09	0.03	0.22
11:10	0.29	0.24
11:11	0.00	0.15
11:12	0.00	0.14
11:13	0.30	0.15
11:14	0.00	0.15
11:15	0.09	0.13
11:16	0.00	0.10
11:17	0.00	0.10
11:18	0.00	0.07
11:19	0.00	0.07
11:20	0.00	0.04
11:21	0.00	0.04
11:22	0.30	0.07
11:23	0.00	0.04
11:24	0.00	0.04
11:25	0.00	0.03
11:26	0.27	0.06
11:27	0.41	0.10
11:28	0.00	0.10
11:29	1.06	0.20
11:30	0.46	0.25
11:31	0.10	0.26
11:32	0.01	0.23
11:33	0.00	0.23
11:34	0.06	0.24
11:35	0.00	0.24
11:36	0.00	0.21
11:37	0.00	0.17
11:38	0.00	0.17
11:39	0.19	0.08
11:40	0.28	0.06

Run 3 - RM Data

Location: Reworld Durham York Renewable Energy L.P - Courtice, ON
Source: APC Outlet No. 1
Project No.: AST-2025-3852
Date: 10-27-25

Time Unit Status	THC - Outlet ppmvw Valid	THC - 10 min ppmvw Valid
Run Average (C_{obs})	0.04	0.04
MIN	0.00	0.00
MAX	0.47	0.14
Standard Deviation	0.10	0.05
Cal Gas Concentration (C_{MA})	44.70	NA
Pretest System Zero Response	0.00	NA
Posttest System Zero Response	0.00	NA
Average Zero Response (C_0)	0.00	NA
Pretest System Cal Response	43.84	NA
Posttest System Cal Response	43.98	NA
Average Cal Response (C_M)	43.91	NA
11:56	0.00	
11:57	0.06	
11:58	0.12	
11:59	0.02	
12:00	0.10	
12:01	0.00	
12:02	0.00	
12:03	0.00	
12:04	0.00	
12:05	0.08	0.04
12:06	0.47	0.09
12:07	0.44	0.12
12:08	0.12	0.12
12:09	0.00	0.12
12:10	0.02	0.11
12:11	0.04	0.12
12:12	0.00	0.12
12:13	0.18	0.14
12:14	0.00	0.14
12:15	0.00	0.13
12:16	0.00	0.08
12:17	0.00	0.04
12:18	0.00	0.02
12:19	0.00	0.02
12:20	0.47	0.07
12:21	0.00	0.07
12:22	0.00	0.07
12:23	0.00	0.05
12:24	0.00	0.05
12:25	0.00	0.05
12:26	0.00	0.05
12:27	0.00	0.05
12:28	0.00	0.05
12:29	0.00	0.05
12:30	0.00	0.00
12:31	0.00	0.00
12:32	0.00	0.00
12:33	0.00	0.00
12:34	0.00	0.00
12:35	0.00	0.00
12:36	0.00	0.00
12:37	0.09	0.01
12:38	0.00	0.01
12:39	0.00	0.01
12:40	0.00	0.01
12:41	0.00	0.01
12:42	0.00	0.01
12:43	0.00	0.01
12:44	0.00	0.01
12:45	0.00	0.01
12:46	0.00	0.01
12:47	0.00	0.00
12:48	0.00	0.00
12:49	0.00	0.00
12:50	0.00	0.00
12:51	0.00	0.00
12:52	0.00	0.00
12:53	0.00	0.00
12:54	0.00	0.00
12:55	0.00	0.00
12:56	0.00	0.00

Run 1 - RM Data

Location: Reworld Durham York Renewable Energy L.P - Courtice, ON
Source: No. 1 Quench Inlet
Project No.: AST-2025-3852
Date: 10-27-25

Time Unit Status	THC - Outlet ppmvw Valid	THC - 10 min ppmvw Valid
Run Average (C_{obs})	0.66	0.64
MIN	0.47	0.55
MAX	1.18	0.81
Standard Deviation	0.13	0.07
Cal Gas Concentration (C_{MA})	44.70	NA
Pretest System Zero Response	0.00	NA
Posttest System Zero Response	0.08	NA
Average Zero Response (C_0)	0.04	NA
Pretest System Cal Response	44.98	NA
Posttest System Cal Response	45.56	NA
Average Cal Response (C_M)	45.27	NA
9:25	0.62	
9:26	0.72	
9:27	0.75	
9:28	0.77	
9:29	0.75	
9:30	0.88	
9:31	1.18	
9:32	1.15	
9:33	0.57	
9:34	0.47	0.79
9:35	0.52	0.78
9:36	0.73	0.78
9:37	1.12	0.81
9:38	0.69	0.81
9:39	0.61	0.79
9:40	0.58	0.76
9:41	0.56	0.70
9:42	0.60	0.65
9:43	0.59	0.65
9:44	0.60	0.66
9:45	0.56	0.66
9:46	0.51	0.64
9:47	0.56	0.59
9:48	0.53	0.57
9:49	0.54	0.56
9:50	0.54	0.56
9:51	0.59	0.56
9:52	0.61	0.56
9:53	0.56	0.56
9:54	0.54	0.55
9:55	0.60	0.56
9:56	0.63	0.57
9:57	0.62	0.58
9:58	0.61	0.58
9:59	0.59	0.59
10:00	0.60	0.60
10:01	0.62	0.60
10:02	0.66	0.60
10:03	0.62	0.61
10:04	0.61	0.62
10:05	0.63	0.62
10:06	0.63	0.62
10:07	0.66	0.62
10:08	0.63	0.63
10:09	0.63	0.63
10:10	0.65	0.63
10:11	0.66	0.64
10:12	0.67	0.64
10:13	0.66	0.64
10:14	0.64	0.65
10:15	0.66	0.65
10:16	0.67	0.65
10:17	0.67	0.65
10:18	0.68	0.66
10:19	0.66	0.66
10:20	0.68	0.67
10:21	0.72	0.67
10:22	0.69	0.67
10:23	0.67	0.67
10:24	0.69	0.68
10:25	0.71	0.68

Run 2 - RM Data

Location: Reworld Durham York Renewable Energy L.P - Courtice, ON
Source: No. 1 Quench Inlet
Project No.: AST-2025-3852
Date: 10-27-25

Time Unit Status	THC - Outlet ppmvw Valid	THC - 10 min ppmvw Valid
Run Average (C_{obs})	0.93	0.98
MIN	0.07	0.20
MAX	1.75	1.73
Standard Deviation	0.62	0.57
Cal Gas Concentration (C_{MA})	44.70	NA
Pretest System Zero Response	0.08	NA
Posttest System Zero Response	0.13	NA
Average Zero Response (C_0)	0.11	NA
Pretest System Cal Response	45.56	NA
Posttest System Cal Response	44.49	NA
Average Cal Response (C_M)	45.03	NA
10:40	0.65	
10:41	0.66	
10:42	0.63	
10:43	0.74	
10:44	1.01	
10:45	1.19	
10:46	1.31	
10:47	1.40	
10:48	1.45	
10:49	1.49	1.05
10:50	1.53	1.14
10:51	1.59	1.23
10:52	1.60	1.33
10:53	1.59	1.42
10:54	1.57	1.47
10:55	1.61	1.51
10:56	1.67	1.55
10:57	1.68	1.58
10:58	1.67	1.60
10:59	1.67	1.62
11:00	1.68	1.63
11:01	1.73	1.65
11:02	1.70	1.66
11:03	1.72	1.67
11:04	1.71	1.68
11:05	1.72	1.70
11:06	1.75	1.70
11:07	1.75	1.71
11:08	1.75	1.72
11:09	1.73	1.72
11:10	1.72	1.73
11:11	0.12	1.57
11:12	0.07	1.40
11:13	0.13	1.25
11:14	0.12	1.09
11:15	0.20	0.93
11:16	0.22	0.78
11:17	0.24	0.63
11:18	0.28	0.48
11:19	0.31	0.34
11:20	0.30	0.20
11:21	0.32	0.22
11:22	0.37	0.25
11:23	0.36	0.27
11:24	0.43	0.30
11:25	0.43	0.33
11:26	0.46	0.35
11:27	0.43	0.37
11:28	0.48	0.39
11:29	0.52	0.41
11:30	0.49	0.43
11:31	0.51	0.45
11:32	0.48	0.46
11:33	0.51	0.47
11:34	0.50	0.48
11:35	0.47	0.49
11:36	0.47	0.49
11:37	0.46	0.49
11:38	0.49	0.49
11:39	0.52	0.49
11:40	0.58	0.50

Run 3 - RM Data

Location: Reworld Durham York Renewable Energy L.P - Courtice, ON
Source: No. 1 Quench Inlet
Project No.: AST-2025-3852
Date: 10-27-25

Time Unit Status	THC - Outlet ppmvw Valid	THC - 10 min ppmvw Valid
Run Average (C_{obs})	0.68	0.66
MIN	0.19	0.23
MAX	1.49	1.46
Standard Deviation	0.47	0.44
Cal Gas Concentration (C_{MA})	44.70	NA
Pretest System Zero Response	0.13	NA
Posttest System Zero Response	0.17	NA
Average Zero Response (C_0)	0.15	NA
Pretest System Cal Response	44.49	NA
Posttest System Cal Response	43.59	NA
Average Cal Response (C_M)	44.04	NA
11:56	0.68	
11:57	1.24	
11:58	1.39	
11:59	1.41	
12:00	1.41	
12:01	1.43	
12:02	1.45	
12:03	1.47	
12:04	1.43	
12:05	1.45	1.34
12:06	1.46	1.41
12:07	1.47	1.44
12:08	1.46	1.44
12:09	1.47	1.45
12:10	1.49	1.46
12:11	1.48	1.46
12:12	1.46	1.46
12:13	0.98	1.42
12:14	0.53	1.33
12:15	0.55	1.24
12:16	0.58	1.15
12:17	0.62	1.06
12:18	0.62	0.98
12:19	0.58	0.89
12:20	0.58	0.80
12:21	0.54	0.70
12:22	0.50	0.61
12:23	0.51	0.56
12:24	0.49	0.56
12:25	0.49	0.55
12:26	0.48	0.54
12:27	0.47	0.53
12:28	0.47	0.51
12:29	0.45	0.50
12:30	0.43	0.48
12:31	0.38	0.47
12:32	0.37	0.45
12:33	0.39	0.44
12:34	0.38	0.43
12:35	0.35	0.42
12:36	0.33	0.40
12:37	0.33	0.39
12:38	0.30	0.37
12:39	0.28	0.35
12:40	0.28	0.34
12:41	0.30	0.33
12:42	0.27	0.32
12:43	0.27	0.31
12:44	0.25	0.30
12:45	0.22	0.28
12:46	0.24	0.27
12:47	0.21	0.26
12:48	0.19	0.25
12:49	0.20	0.24
12:50	0.24	0.24
12:51	0.22	0.23
12:52	0.25	0.23
12:53	0.37	0.24
12:54	0.47	0.26
12:55	0.47	0.29
12:56	0.42	0.30

Run 1 - RM Data

Location: Reworld Durham York Renewable Energy L.P - Courtice, ON
Source: APC Outlet No. 2
Project No.: AST-2025-3852
Date: 10-28-25

Time Unit Status	THC - Outlet ppmvw Valid	THC - 10 min ppmvw Valid
Run Average (C_{obs})	0.01	0.01
MIN	0.00	0.00
MAX	0.51	0.08
Standard Deviation	0.07	0.02
Cal Gas Concentration (C_{MA})	44.70	NA
Pretest System Zero Response	0.00	NA
Posttest System Zero Response	0.44	NA
Average Zero Response (C_0)	0.22	NA
Pretest System Cal Response	43.63	NA
Posttest System Cal Response	44.78	NA
Average Cal Response (C_M)	44.21	NA
7:35	0.15	
7:36	0.00	
7:37	0.00	
7:38	0.51	
7:39	0.15	
7:40	0.00	
7:41	0.00	
7:42	0.00	
7:43	0.00	
7:44	0.00	0.08
7:45	0.00	0.07
7:46	0.00	0.07
7:47	0.00	0.07
7:48	0.00	0.02
7:49	0.00	0.00
7:50	0.00	0.00
7:51	0.00	0.00
7:52	0.00	0.00
7:53	0.00	0.00
7:54	0.00	0.00
7:55	0.00	0.00
7:56	0.00	0.00
7:57	0.00	0.00
7:58	0.00	0.00
7:59	0.00	0.00
8:00	0.00	0.00
8:01	0.00	0.00
8:02	0.00	0.00
8:03	0.00	0.00
8:04	0.00	0.00
8:05	0.00	0.00
8:06	0.00	0.00
8:07	0.00	0.00
8:08	0.00	0.00
8:09	0.00	0.00
8:10	0.00	0.00
8:11	0.00	0.00
8:12	0.00	0.00
8:13	0.00	0.00
8:14	0.00	0.00
8:15	0.00	0.00
8:16	0.00	0.00
8:17	0.00	0.00
8:18	0.00	0.00
8:19	0.00	0.00
8:20	0.00	0.00
8:21	0.00	0.00
8:22	0.00	0.00
8:23	0.00	0.00
8:24	0.00	0.00
8:25	0.00	0.00
8:26	0.00	0.00
8:27	0.00	0.00
8:28	0.00	0.00
8:29	0.00	0.00
8:30	0.00	0.00
8:31	0.00	0.00
8:32	0.00	0.00
8:33	0.00	0.00
8:34	0.00	0.00
8:35	0.00	0.00

Run 2 - RM Data

Location: Reworld Durham York Renewable Energy L.P - Courtice, ON
Source: APC Outlet No. 2
Project No.: AST-2025-3852
Date: 10-28-25

Time Unit Status	THC - Outlet ppmvw Valid	THC - 10 min ppmvw Valid
Run Average (C_{obs})	0.58	0.58
MIN	0.00	0.24
MAX	1.56	0.86
Standard Deviation	0.33	0.13
Cal Gas Concentration (C_{MA})	44.70	NA
Pretest System Zero Response	0.44	NA
Posttest System Zero Response	0.00	NA
Average Zero Response (C_0)	0.22	NA
Pretest System Cal Response	44.78	NA
Posttest System Cal Response	44.39	NA
Average Cal Response (C_M)	44.59	NA
9:00	0.90	
9:01	0.85	
9:02	0.87	
9:03	0.77	
9:04	1.34	
9:05	0.85	
9:06	1.05	
9:07	0.54	
9:08	0.81	
9:09	0.49	0.85
9:10	0.75	0.83
9:11	0.85	0.83
9:12	0.34	0.78
9:13	1.56	0.86
9:14	0.28	0.75
9:15	0.84	0.75
9:16	0.46	0.69
9:17	0.55	0.69
9:18	0.63	0.68
9:19	0.47	0.67
9:20	0.82	0.68
9:21	0.67	0.66
9:22	0.74	0.70
9:23	1.03	0.65
9:24	0.49	0.67
9:25	0.55	0.64
9:26	0.72	0.67
9:27	0.27	0.64
9:28	0.54	0.63
9:29	0.74	0.66
9:30	0.48	0.62
9:31	0.13	0.57
9:32	0.48	0.54
9:33	0.30	0.47
9:34	0.46	0.47
9:35	0.94	0.51
9:36	0.54	0.49
9:37	0.00	0.46
9:38	0.96	0.50
9:39	1.04	0.53
9:40	0.39	0.52
9:41	0.69	0.58
9:42	0.03	0.54
9:43	0.21	0.53
9:44	0.75	0.56
9:45	0.95	0.56
9:46	0.54	0.56
9:47	0.27	0.58
9:48	0.10	0.50
9:49	0.89	0.48
9:50	0.84	0.53
9:51	0.59	0.52
9:52	0.19	0.53
9:53	0.40	0.55
9:54	0.29	0.51
9:55	0.26	0.44
9:56	0.28	0.41
9:57	0.05	0.39
9:58	0.16	0.40
9:59	0.19	0.33
10:00	0.00	0.24

Run 3 - RM Data

Location: Reworld Durham York Renewable Energy L.P - Courtice, ON
Source: APC Outlet No. 2
Project No.: AST-2025-3852
Date: 10-28-25

Time Unit Status	THC - Outlet ppmvw Valid	THC - 10 min ppmvw Valid
Run Average (C_{obs})	0.20	0.19
MIN	0.00	0.01
MAX	1.17	0.54
Standard Deviation	0.29	0.16
Cal Gas Concentration (C_{MA})	44.70	NA
Pretest System Zero Response	0.00	NA
Posttest System Zero Response	0.00	NA
Average Zero Response (C_0)	0.00	NA
Pretest System Cal Response	44.39	NA
Posttest System Cal Response	44.92	NA
Average Cal Response (C_M)	44.66	NA
10:20	0.64	
10:21	0.00	
10:22	0.25	
10:23	1.11	
10:24	0.40	
10:25	0.95	
10:26	0.17	
10:27	0.00	
10:28	0.34	
10:29	0.39	0.43
10:30	0.31	0.39
10:31	1.17	0.51
10:32	0.52	0.54
10:33	0.27	0.45
10:34	0.44	0.46
10:35	0.33	0.39
10:36	0.57	0.43
10:37	0.49	0.48
10:38	0.00	0.45
10:39	0.00	0.41
10:40	0.01	0.38
10:41	0.07	0.27
10:42	0.04	0.22
10:43	0.22	0.22
10:44	0.07	0.18
10:45	0.90	0.24
10:46	0.52	0.23
10:47	0.00	0.18
10:48	0.37	0.22
10:49	0.25	0.25
10:50	0.00	0.24
10:51	0.00	0.24
10:52	0.00	0.23
10:53	0.00	0.21
10:54	0.00	0.20
10:55	0.00	0.11
10:56	0.00	0.06
10:57	0.00	0.06
10:58	0.40	0.07
10:59	0.38	0.08
11:00	0.00	0.08
11:01	0.00	0.08
11:02	0.00	0.08
11:03	0.00	0.08
11:04	0.00	0.08
11:05	0.00	0.08
11:06	0.00	0.08
11:07	0.00	0.08
11:08	0.00	0.04
11:09	0.12	0.01
11:10	0.00	0.01
11:11	0.00	0.01
11:12	0.00	0.01
11:13	0.20	0.03
11:14	0.00	0.03
11:15	0.00	0.03
11:16	0.10	0.04
11:17	0.00	0.04
11:18	0.00	0.04
11:19	0.00	0.03
11:20	0.00	0.03

Run 1 - RM Data

Location: Reworld Durham York Renewable Energy L.P - Courtice, ON
Source: No. 2 Quench Inlet
Project No.: AST-2025-3852
Date: 10-28-25

Time Unit Status	THC - Outlet ppmvw Valid	THC - 10 min ppmvw Valid
Run Average (C_{obs})	0.62	0.63
MIN	0.41	0.54
MAX	0.86	0.70
Standard Deviation	0.09	0.04
Cal Gas Concentration (C_{MA})	44.70	NA
Pretest System Zero Response	0.10	NA
Posttest System Zero Response	0.02	NA
Average Zero Response (C_0)	0.06	NA
Pretest System Cal Response	45.27	NA
Posttest System Cal Response	44.54	NA
Average Cal Response (C_M)	44.91	NA
7:35	0.41	
7:36	0.44	
7:37	0.48	
7:38	0.53	
7:39	0.53	
7:40	0.55	
7:41	0.59	
7:42	0.63	
7:43	0.64	
7:44	0.62	0.54
7:45	0.62	0.56
7:46	0.62	0.58
7:47	0.61	0.59
7:48	0.57	0.60
7:49	0.59	0.60
7:50	0.56	0.61
7:51	0.58	0.60
7:52	0.60	0.60
7:53	0.62	0.60
7:54	0.74	0.61
7:55	0.86	0.64
7:56	0.86	0.66
7:57	0.78	0.68
7:58	0.68	0.69
7:59	0.65	0.69
8:00	0.58	0.70
8:01	0.52	0.69
8:02	0.53	0.68
8:03	0.51	0.67
8:04	0.52	0.65
8:05	0.56	0.62
8:06	0.66	0.60
8:07	0.72	0.59
8:08	0.74	0.60
8:09	0.73	0.61
8:10	0.69	0.62
8:11	0.66	0.63
8:12	0.63	0.64
8:13	0.56	0.65
8:14	0.57	0.65
8:15	0.57	0.65
8:16	0.57	0.64
8:17	0.61	0.63
8:18	0.64	0.62
8:19	0.67	0.62
8:20	0.70	0.62
8:21	0.68	0.62
8:22	0.69	0.63
8:23	0.69	0.64
8:24	0.70	0.65
8:25	0.70	0.67
8:26	0.69	0.68
8:27	0.67	0.68
8:28	0.68	0.69
8:29	0.64	0.68
8:30	0.61	0.68
8:31	0.56	0.66
8:32	0.50	0.64
8:33	0.58	0.63
8:34	0.57	0.62
8:35	0.53	0.60

Run 2 - RM Data

Location: Reworld Durham York Renewable Energy L.P - Courtice, ON
Source: No. 2 Quench Inlet
Project No.: AST-2025-3852
Date: 10-28-25

Time Unit Status	THC - Outlet ppmvw Valid	THC - 10 min ppmvw Valid
Run Average (C_{obs})	0.48	0.49
MIN	0.30	0.35
MAX	0.70	0.68
Standard Deviation	0.12	0.11
Cal Gas Concentration (C_{MA})	44.70	NA
Pretest System Zero Response	0.02	NA
Posttest System Zero Response	0.27	NA
Average Zero Response (C_0)	0.15	NA
Pretest System Cal Response	44.54	NA
Posttest System Cal Response	44.30	NA
Average Cal Response (C_M)	44.42	NA
9:00	0.47	
9:01	0.45	
9:02	0.41	
9:03	0.40	
9:04	0.37	
9:05	0.39	
9:06	0.36	
9:07	0.35	
9:08	0.34	
9:09	0.35	0.39
9:10	0.34	0.38
9:11	0.33	0.36
9:12	0.33	0.36
9:13	0.34	0.35
9:14	0.36	0.35
9:15	0.40	0.35
9:16	0.40	0.35
9:17	0.44	0.36
9:18	0.47	0.38
9:19	0.50	0.39
9:20	0.51	0.41
9:21	0.50	0.43
9:22	0.53	0.45
9:23	0.62	0.47
9:24	0.69	0.51
9:25	0.70	0.54
9:26	0.69	0.57
9:27	0.67	0.59
9:28	0.67	0.61
9:29	0.69	0.63
9:30	0.69	0.65
9:31	0.70	0.67
9:32	0.67	0.68
9:33	0.62	0.68
9:34	0.59	0.67
9:35	0.55	0.65
9:36	0.52	0.64
9:37	0.50	0.62
9:38	0.49	0.60
9:39	0.45	0.58
9:40	0.41	0.55
9:41	0.38	0.52
9:42	0.36	0.49
9:43	0.33	0.46
9:44	0.32	0.43
9:45	0.30	0.41
9:46	0.34	0.39
9:47	0.38	0.38
9:48	0.44	0.37
9:49	0.51	0.38
9:50	0.58	0.39
9:51	0.59	0.42
9:52	0.59	0.44
9:53	0.58	0.46
9:54	0.55	0.49
9:55	0.52	0.51
9:56	0.50	0.52
9:57	0.49	0.54
9:58	0.49	0.54
9:59	0.48	0.54
10:00	0.50	0.53

Run 3 - RM Data

Location: Reworld Durham York Renewable Energy L.P - Courtice, ON
Source: No. 2 Quench Inlet
Project No.: AST-2025-3852
Date: 10-28-25

Time Unit Status	THC - Outlet ppmvw Valid	THC - 10 min ppmvw Valid
Run Average (C_{obs})	0.50	0.48
MIN	0.00	0.14
MAX	1.01	0.85
Standard Deviation	0.24	0.19
Cal Gas Concentration (C_{MA})	44.70	NA
Pretest System Zero Response	0.27	NA
Posttest System Zero Response	0.01	NA
Average Zero Response (C_0)	0.14	NA
Pretest System Cal Response	44.30	NA
Posttest System Cal Response	44.65	NA
Average Cal Response (C_M)	44.48	NA
10:20	0.60	
10:21	0.62	
10:22	0.63	
10:23	0.61	
10:24	0.61	
10:25	0.62	
10:26	0.69	
10:27	0.73	
10:28	0.72	
10:29	0.73	0.66
10:30	0.72	0.67
10:31	0.73	0.68
10:32	0.81	0.70
10:33	0.85	0.72
10:34	0.91	0.75
10:35	0.99	0.79
10:36	1.01	0.82
10:37	0.99	0.85
10:38	0.80	0.85
10:39	0.53	0.83
10:40	0.30	0.79
10:41	0.07	0.73
10:42	0.00	0.65
10:43	0.00	0.56
10:44	0.00	0.47
10:45	0.00	0.37
10:46	0.00	0.27
10:47	0.31	0.20
10:48	0.33	0.15
10:49	0.37	0.14
10:50	0.36	0.14
10:51	0.33	0.17
10:52	0.35	0.21
10:53	0.37	0.24
10:54	0.43	0.29
10:55	0.44	0.33
10:56	0.44	0.37
10:57	0.43	0.39
10:58	0.40	0.39
10:59	0.40	0.40
11:00	0.45	0.40
11:01	0.46	0.42
11:02	0.44	0.43
11:03	0.43	0.43
11:04	0.41	0.43
11:05	0.44	0.43
11:06	0.46	0.43
11:07	0.45	0.43
11:08	0.42	0.44
11:09	0.41	0.44
11:10	0.42	0.43
11:11	0.46	0.43
11:12	0.50	0.44
11:13	0.47	0.44
11:14	0.47	0.45
11:15	0.47	0.45
11:16	0.48	0.46
11:17	0.59	0.47
11:18	0.71	0.50
11:19	0.76	0.53
11:20	0.83	0.57

APPENDIX 27

Dispersion Modelling Results (16 pages)



TECHNICAL MEMORANDUM

DATE January 26, 2026

Project No. CA0056180.9447

TO Supreet Kaur
Reworld Durham York Limited Partnership

CC Mano Narayanan, Poornitha Suresh

FROM Zachary Oldham

EMAIL zachary.oldham@wsp.com

CALPUFF MODELLING FOR OCTOBER 2025 VOLUNTARY SOURCE TESTING AT DURHAM YORK ENERGY CENTRE

1.0 INTRODUCTION

Reworld Durham York Limited Partnership (Reworld) operates the Durham York Energy Centre (DYEC) under the multi-media Environmental Compliance Approval (ECA) 7306-8FDKNX, as amended. Condition 7, Testing, Monitoring and Auditing, of the ECA requires annual source testing to be completed at the DYEC for over 100 contaminants as well as assessing the impact of the contaminants. According to the ECA Schedule "E" Source Testing Procedures, a source testing report is required that includes the following:

8. (7) the results of dispersion calculations in accordance with the O.Reg. 419/05, indicating the maximum concentration of the test contaminants, at the point of impingement.

8. (8) an updated site wide emission source inventory to assess the aggregate point of impingement concentrations of the test contaminants.

This memorandum summarizes the dispersion calculations/modelling results for the voluntary October 2025 source testing program with the aid of the updated CALPUFF model and other input data sets as used in the 2011 ESDM Report and 2007 Environmental Assessment (EA) and compares the results to O.Reg. 419/05 Schedule 3 limits as last updated April 2023.

2.0 EMISSION RATES

Voluntary source testing was completed by Alliance Technical Group in October 2025 for each of the two combustion train units and results were provided to WSP on a mass per time basis. Three tests were completed for each unit and averaged. The average emission rates for each unit were then summed together to provide the total stack emission rate of each contaminant to be modelled. Where source testing results indicated that the measured concentration was below the detection limit, the full detection limit was used as the emission rate for conservatism.

Emission rates for which source testing data was available were converted to grams per second (g/s) and are provided in an updated site-wide emission inventory included in Appendix A. This emission inventory includes emissions from silo filling and diesel generator testing taken from the ESDM report, in addition to source test emissions from the main stack.

In response to clarifications provided by the MECP of December 9, 2016, two different emission rates were calculated for Total Particulate Matter:

- 1) Filterable fraction emission rate only; and
- 2) Total Particulate Matter (Sum of condensable and filterable fractions).

As source testing for the condensable fraction of total particulate matter is not required pursuant to Schedule "D" of the ECA, the condensable content of $PM_{2.5}$ was used. Additionally, all the particulate source testing results (Total PM, PM_{10} , and $PM_{2.5}$) were below their respective laboratory detection limits. The detection limit for total filterable particulate matter was lower than the detection limits for PM_{10} and $PM_{2.5}$. As a result, the calculated total particulate matter emission rates are correspondingly lower than the PM_{10} and $PM_{2.5}$ emission rates. For conservatism, particulate emissions were modelled using the full detection limit values.

3.0 MODELLING

In 2020, MECP requested that the CALPUFF modelling for DYEC be updated to use more recent meteorological data and an updated version of the CALPUFF dispersion model. Formal approval was requested in August 2021 under Sections 7 (1) and 13 (1) of O.Reg. 419/05 for use of a specified dispersion model (CALPUFF version 7.2.1) and site-specific meteorological data for the 2014-2018 data period. Formal approval was granted in December 2021.

In response to the MECP request in 2020, the CALPUFF modelling software and CALMET meteorological data was updated. The MECP reviewed and approved the meteorological data and modelling input files in May 2021, prior to model execution. The following models and pre- and post-processors were used in the assessment:

- CALMET diagnostic meteorological model (v. 6.5.0, level 150223);
- CALPUFF dispersion model (v. 7.2.1, level 150618);
- CALPOST post processor (v. 7.1.0, Level 141010);
- BPIP building downwash pre-processor (v. 04274); and
- POSTUTIL post processor (v.7.0.0, Level 150207)

These model versions are updates from those used in the original 2011 ESDM report. Formal approval for their use was requested and approved under s7(1) and s13(1) of O.Reg. 419/05. Dispersion Modelling inputs are described in the following subsections.

3.1 Model Domain

The Model domain used in this assessment was modified slightly from the 2007 Environmental Assessment (EA) and ESDM Report. It extends 40 km by 40 km and is centred approximately 5 km north of the Site. This domain covers more than the air quality study area but will ensure that plumes are tracked beyond the furthest receptor locations to ensure the worst-case ground level concentrations are considered at all receptors.

3.2 Meteorology, Land Use and Terrain Data

The meteorology and terrain data used in this assessment were updated from those used in the 2007 Environmental Assessment (EA) and 2011 ESDM Report.

Meteorological data was updated using observation data from surface stations and large-scale mesoscale meteorological data from the Weather Research and Forecasting (WRF) model between 2014 – 2018, inclusive. The CALMET output files were submitted to MECP for review and approval prior to use in the modelling.

Terrain data was downloaded from the MECP's database of regional terrain data for modelling (MECP, 2017b) and processed using the CALPUFF pre-processor, TERREL.

3.3 Receptors

The receptors used in this assessment are similar to the receptors used in the 2011 ESDM Report but receptors at the edge of the domain were modified slightly to reflect the change in domain size. They include gridded ground level receptors to meet the requirements of O.Reg. 419/05 in addition to 400 discrete receptors to represent locations of interest, which were reviewed and updated in 2022. They include hospitals, nursing homes, schools, daycares, Senior citizen centres, the nearest residential receptors, specific watersheds and water bodies and parks.

3.4 Building Downwash

The buildings used in this assessment to represent building downwash are the same as the buildings used in the ESDM Report. Building wake effects were considered in this assessment using the U.S. EPA's Building Profile Input Program (BPIP-ISC). The inputs into this pre-processor include the coordinates and heights of the buildings and stacks. The output data from BPIP is used in the building wake effect calculations. No changes were made to the BPIP input or output file for this assessment.

3.5 Deposition

CALPUFF has the capability to account for wet and dry deposition of substances that would reduce ground level concentrations at the Point of Impingement (POI). However, the deposition algorithm has not been implemented for conservatism and to maintain consistency with the ESDM report and the previous EA for maximum POI predictions.

3.6 Thermal Internal Boundary Layer

CALPUFF contains an option to account for sub-grid coastal influences on plume dispersion such as the development of a thermal internal boundary layer (TIBL). Given the proximity of the proposed Facility to Lake Ontario (approximately 500 m) and the grid size (250 m), variations in coastline location within the grid cells near the proposed facility were accounted for in the dispersion modelling. To achieve this, a digitized sub-grid coastline, extending to the boundaries of the air quality study area was included as an additional input. This is consistent with the approach used in the ESDM report.

3.7 Averaging Times and Conversions

CALPUFF can predict 1-hour average values. Many of the relevant Schedule 3 standards are based on a 24-hour averaging time, which is also provided by CALPUFF. Several of the modelled contaminants have averaging periods less than 1 hour. For these contaminants, the 1-hour average concentration was converted using the conversion factors listed in Table 4-1 of Air Dispersion Modelling Guidance for Ontario (ADMGO). For example, the hourly concentrations can be converted to a 10-min average by multiplying the hour value by 1.65. This is consistent with the approach used in the ESDM report.

In 2016 and 2023, several O. Reg 419/05 standards were updated or modified to include annual average POI limits. CALPUFF can predict annual average values, therefore the CALPOST input file was modified to provide this output in addition to outputs for the 1 hour, 24 hour and 30-day averaging periods already provided.

3.8 Chemical Transformation

For the purposes of assessing project contributions to Secondary Particulate Matter (SPM) formation, chemical transformation was considered in the CALPUFF modelling of particulate matter. To model the chemical transformation of emitted NO, NO₂ and SO₂ into HNO₃, NO₃ and SO₄, CALPUFFs RIVAD/ARM3 mechanism was used. Monthly background ozone concentrations are required to generate SPM, as well as setting the MCHM Flag to 3 for particulate matter model runs. The monthly background ozone data used are consistent with the 2007 EA, as requested by MECP, and is summarised below in Table 1.

Table 1: Background Ozone Concentrations used for Chemical Transformation Modelling⁽¹⁾

Month	Ozone Concentrations (ppb)
January	13.70
February	18.50
March	24.22
April	11.09
May	32.29
June	33.63
July	16.32
August	21.33
September	12.63
October	15.39
November	17.10
December	20.91

1 – Ozone levels from Courtyce Road Station (2007-2008)

Chemical transformations were only modelled to calculate additional concentrations of particulate matter that is created as part of secondary transformations. Reported concentrations of NO₂ and SO₂ do not include the effects of depletion due to chemical transformation. The flag MCHEM is set to 0 for model runs used to produce concentrations of all other contaminants. This is consistent with the approach used in the 2011 ESDM report.

3.9 Dispersion Modelling Options

The options used in the CALPUFF dispersion model are summarized in Table 2. The model options used were reviewed in consultation with MECP but are generally consistent with those used in the ESDM Report. In the ESDM report, Exhibit 9 indicated that Puff splitting was used, however this was a typographical error and this option was not actually used in the modelling. To maintain consistency with the ESDM report, puff splitting was not modelled for this assessment.

Table 2: CALPUFF Options and Flags

Flag	Value used in 2011 ESDM Report	Value Used in this Assessment	Comments
MGAUSS	1	1	Vertical distribution used in the near field
MCTADJ	3	3	Terrain adjustment method (3 used for partial plume path adjustment)
MCTSG	0	0	Subgrid-Scale complex terrain flag
MSLUG	0	0	Near-field puffs modelled as elongated
MTRANS	1	1	Transitional Plume Rise modelled
MTIP	1	1	Stack-tip downwash
MBDW	2	2	Method used to simulate building downwash 1 = ISC method; 2 = PRIME method
MSHEAR	0	0	Vertical wind shear modelled above stack top
MSPLIT	0*	0	Puff splitting allowed 0 = No; 1 = Yes <i>* NB: Value of "1" reported in ESDM Report but value of "0" actually used in ESDM Report modelling</i>
MCHEM	3 (For SPM, PM ₁₀ and PM _{2.5}) 0 (All other Contaminants)	3 (For SPM, PM ₁₀ and PM _{2.5}) 0 (All other Contaminants)	Chemical Transformation Scheme 0 = chemical transformation not modeled 3 = transformation rates computed internally (RIVAD/ARM3 Scheme)
MAQCHEM	0	0	Aqueous phase transformation flag (only used if MCHEM = 1 or 3)
MWET	0	0	Wet removal modelled 0 = NO; 1 = Yes

Flag	Value used in 2011 ESDM Report	Value Used in this Assessment	Comments
MDRY	0	0	Dry deposition modelled 0 = NO; 1 = Yes
MTILT	0	0	Gravitational settling (plume tilt) modelled
MDISP	2	2	Methods used to compute dispersion coefficients 2 = (dispersion coefficients from internally calculated sigma v, sigma w using micrometeorological variables (u*, w*, L, etc.))
MTURBVW	3	3	Sigma measurements used (Used only if MDISP = 1 or 5)
MDISP2	3	3	Back-up method used to compute dispersion when measured turbulence data are missing (Used only if MDISP=1 or 5)
MTAULY	0	0	Method used for Lagrangian timescale for Sigma-y (used only if MDISP=1,2 or MDISP2=1,2)
MTAUADV	0	0	Method used for Advective-Decay timescale for Turbulence (used only if MDISP=2 or MDISP2=2)
MCTURB	1	1	Method used to compute turbulence sigma-v & sigma-w using micrometeorological variables (Used only if MDISP = 2 or MDISP2 = 2)
MROUGH	0	0	PG sigma y,z adjusted for roughness
MPARTL	1	1	Partial plume penetration of elevated inversion
MTINV	0	0	Strength of temp inversion provided in PROFILE.DAT extended records
MPDF	1	1	Probability Distribution Function used for dispersion under convective conditions 0 = NO; 1 = Yes
MSGTIBL	1	1	Sub-grid TIBL module used for shoreline
MBCON	0	0	Boundary conditions (concentration) modeled
MFOG	0	0	Configure for FOG Model output
MREG	0	0	Test options specified to see if they conform to regulatory values

3.10 Source Parameters

Stack exhaust temperature and flow rate were updated to match the stack characteristics at the time of the October 2025 source testing. All other source parameters are consistent with those used in the ESDM Report. The source parameters modelled are provided in Table 3, below:

Table 3: Modelled Source Parameters

Source ID	Stack Height [m]	Stack Diameter [m]	Flow Rate [m³/s]	Exit Velocity [m/s]	Exhaust Temperature [K]
STCK1	87.6 (No Change)	1.7 (No Change)	54.29 (UPDATED)	23.92 (UPDATED)	410.117 (UPDATED)

The ESDM Report has an additional modelling scenario which include emissions from silo loading and the standby generator (Scenario H). The predominant contaminants from these sources are particulate from the silo loading and nitrogen oxides from the generator. These two contaminants were assessed and because the main stack emissions presented in this report are less than those in the ESDM Report, the dispersion modelling would show a decrease in the point of impingement concentration for these two contaminants. As a result, additional dispersion modelling for Scenario H was not conducted.

4.0 MODELLING RESULTS

Modelling was completed for emissions from the main stack only, using a unit emission rate to generate dispersion factors in $\mu\text{g}/\text{m}^3$ per g/s for 10-minute, $\frac{1}{2}$ - hour, 1-hour, 24-hour, 30-day and annual averaging periods. In Ontario, MECP guidance allows for the removal of meteorological anomalies to account for extreme, rare and transient conditions that may be present in the datasets and considered outliers. As such, for air quality assessments that require 24-hour average concentrations, the highest predicted 24-hr concentration in each year of meteorological data may be removed. Similarly, for assessments that use shorter 1-hour average concentrations, the eight highest predicted concentrations in each year may be removed, as per the MECP guidance listed in ADMGO. No predicted results are removed for assessment against annual averaging periods. Elimination of these anomalies is optional, but both methodologies are considered acceptable for the demonstration of compliance with Ontario Regulation 419/05 standards. Previously, maximums with anomalies were presented.

The resulting dispersion factors are presented in Table 4, below for both the with and without meteorological anomaly removal:

Table 4: Modelling Dispersion Factors

Averaging Period	10-min	½- hr	1-hr	24-hr	30-day	Annual
Dispersion Factor without meteorological anomaly removal [$\mu\text{g}/\text{m}^3$ per g/s]	45.20	32.87	27.39	1.24	0.17	0.06
Dispersion Factor with meteorological anomaly removal [$\mu\text{g}/\text{m}^3$ per g/s]	17.39	12.64	10.54	1.17	0.17	0.06

The average emission rate for each contaminant presented in Appendix A was multiplied by the applicable dispersion factor above to calculate the maximum point of impingement concentration for emissions from the main stack.

The MECP updated the list of standards and guidelines for facilities to assess their emissions against, namely the Air Contaminants Benchmark (ACB) List, dated April 2023, which includes standards and guidelines (Benchmark 1) and screening levels (Benchmark 2). The ACB List is required to be used to assess point of impingement (POI) concentrations of contaminants released into the air. The modelled POI concentrations were compared to the ACB List and in the case of $\text{PM}_{2.5}$ and PM_{10} , the Ontario Ambient Air Quality Criteria (AAQC).

Contaminants released by the Facility that do not have Benchmark 1 standards or guidelines in the ACB List are considered 'Contaminants with No MECP POI Limits'. Where applicable, predicted POI concentrations of Contaminants with No MECP POI Limits were screened against the Benchmark 2 screening levels in the ACB List or the de minimus limit.

The modelled concentrations of all compounds assessed were below their relevant MECP standards. The Emission Summary Table has been updated and is included in Appendix B. It has been modified to include reference to the new ACB List and to meet the requirements of the updated MECP guidance document "Procedure for preparing an Emission Summary and Dispersion Modelling Report" (PIBs 3614e04.1, March 2018). Results are presented both with and without meteorological anomaly removal but only the results with meteorological anomaly removal are presented as a percentage of the relevant limit.

The contaminant with the highest predicted concentration relative to O.Reg. 419/05 standard is Nitrogen Oxides at 11% of the relevant limit.

5.0 SUMMARY OF MODELLING UPDATES

The dispersion modelling for the DYEC was updated to reflect data obtained from voluntary October 2025 source testing. A summary of the changes made to the modelling are provided in Table 5, below.

Table 5: ECA Concordance Table

Modelling Inputs	Changes from 2011 ESDM Report
Emission Rates	Updated to use October 2025 Source Testing Data. List of contaminants assessed expanded to include all contaminants for which source testing data was performed.
Model and Model Version	Updated model versions in consultation with MECP (See section 3.0)
Meteorology and Terrain data	Updated meteorological and terrain data prepared in consultation with MECP (See Section 3.2)
Receptors	Minor modifications made to receptors located on outskirts of modelling grid to reflect updated domain (See Section 3.3)
Building Downwash	No Change
Deposition	No Change
Chemical Transformations	No Change
Thermal Internal Boundary Layer	No Change
Averaging Times and Conversions	CALPOST input file was modified to generate annual averaging to account for new O.Reg. 419/05 standards introduced in 2016 and 2023 that include annual averaging periods.
Dispersion Modelling Options	No Change
Background Air Quality Concentrations	Ozone background data used in secondary particulate modelling consistent with the EA.
Emission Summary Table	Updated to include 2023 O.Reg. 419/05 standards introduced after the ECA was approved and contaminants that were not included in the ESDM report but for which source testing data was available.

6.0 CONCLUSIONS

This assessment was completed to document compliance with Condition 8(7) and 8(8) of Schedule E of the ECA for the DYEC. The results of this assessment demonstrate that the Facility is operating in compliance with the POI limits listed in s.20 of O. Reg. 419/05.

7.0 LIMITATIONS

WSP Canada Inc. prepared this report solely for the use of the intended recipient, Reworld Durham York Limited Partnership, in accordance with the professional services agreement. The intended recipient is solely responsible for the disclosure of any information contained in this report. The content and opinions contained in the present report are based on the observations and/or information available to WSP Canada Inc. at the time of preparation. The information, recommendations and opinions expressed in this report are for the sole benefit of Reworld Durham York Limited Partnership, subject to the limitations and purposes described herein.

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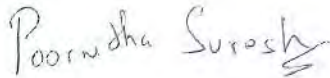
8.0 STANDARD OF CARE

WSP Canada Inc., has prepared this report in a manner consistent with that level of care and skill ordinarily exercised by members of the engineering and science professions currently practicing under similar conditions in the jurisdiction in which the services are provided, subject to the time limits and physical constraints applicable to this report. No other warranty, expressed or implied, is made.

9.0 CLOSURE

We trust this memorandum meets your needs at this time. Should you have any questions, please contact the undersigned.

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[https://wsponlinecan.sharepoint.com/sites/ca-ca0056180.9447/shared documents/05. technical/2. fall 2025/report/ca0056180.9447-tm-rev0 reworld updated modelling memo 26january2026.docx](https://wsponlinecan.sharepoint.com/sites/ca-ca0056180.9447/shared%20documents/05.%20technical/2.%20fall%202025/report/ca0056180.9447-tm-rev0%20reworld%20updated%20modelling%20memo%2026january2026.docx)

APPENDIX A

Site-Wide Emission Inventory

Appendix A
Site-Wide Emission Inventory

Source ID/Name	Source Description	Source Parameters					Emission Data						
		Stack Volumetric Flow Rate (Nm ³ /h)	Stack Exit Gas Temperature (°C)	Stack Inner Diameter (m)	Stack Height Above Grade (m)	Stack Location (x, y)	Contaminant	CAS No.	Maximum Emission Rate (g/h)	Averaging Period (hours)	Emission Estimating Technique	Emission Data Quality	Percentage of Overall Emissions (%)
LA	Main Stack - Fall 2025 Source Testing Conditions	54.22	136.57	1.7	87.6	(550539, 4662146)	3-methylthiophthalene	30-12-0	1.835E-07	1,24 annual	ST	Above Average	100%
							1,1,2-Trichloroethane	79-09-5	3.55E-05	1,24 annual	ST	Above Average	100%
							1,2,3,4-tetrachlorobenzene	634-66-3	7.96E-06	1,24 annual	ST	Above Average	100%
							1,2,3-Trichlorobenzene	87-61-8	9.75E-06	1,24 annual	ST	Above Average	100%
							1,2,4-Trichlorobenzene	120-82-1	7.80E-07	1,24 annual	ST	Above Average	100%
							1,2,4,5-Tetrachlorobenzene	85-84-3	7.94E-06	1,24 annual	ST	Above Average	100%
							1,3-Dichlorobenzene	96-50-1	8.84E-07	1,24 annual	ST	Above Average	100%
							1,2-Dichlorobenzene	107-06-3	2.65E-06	1,24 annual	ST	Above Average	100%
							1,2-Dichloropropane	78-67-5	2.96E-05	1,24 annual	ST	Above Average	100%
							3,3,5-trichlorobenzene	128-90-3	1.09E-07	1,24 annual	ST	Above Average	100%
							1,3-Bisulfone	106-99-0	1.44E-05	1,24 annual	ST	Above Average	100%
							1,3-Dichlorobenzene	96-50-1	1.41E-06	1,24 annual	ST	Above Average	100%
							1,4-Dichlorobenzene	106-48-2	7.33E-07	1,24 annual	ST	Above Average	100%
							1-Methylphenanthrene	833-69-9	7.14E-07	1,24 annual	ST	Above Average	100%
							2-methylthiophthalene	91-57-8	3.18E-07	1,24 annual	ST	Above Average	100%
							2,3,4,5-tetrachlorophenol	4801-51-3	3.86E-07	1,24 annual	ST	Above Average	100%
							2,3,4,5-Tetrachlorophenol	56-80-2	3.98E-07	1,24 annual	ST	Above Average	100%
							2,3,4-trichlorophenol	15590-66-0	3.56E-07	1,24 annual	ST	Above Average	100%
							2,3,5-tetrachlorophenol	930-69-5	3.98E-07	1,24 annual	ST	Above Average	100%
							2,3,5-trichlorophenol	933-78-8	3.98E-07	1,24 annual	ST	Above Average	100%
							2,3,6-trichlorophenol	933-75-5	3.98E-07	1,24 annual	ST	Above Average	100%
							2,3-dichlorophenol	75-24-9	3.98E-07	1,24 annual	ST	Above Average	100%
							2,4,5-trichlorophenol	85-85-4	3.98E-07	1,24 annual	ST	Above Average	100%
							2,4,6-trichlorophenol	86-86-1	3.98E-07	1,24 annual	ST	Above Average	100%
							2,4-Dichlorophenol	135-63-4	3.98E-07	1,24 annual	ST	Above Average	100%
							2,5-dichlorophenol	87-65-0	3.98E-07	1,24 annual	ST	Above Average	100%
							2-butanone	78-93-3	2.00E-04	1,24 annual	ST	Above Average	100%
							2-Chloronaphthalene	91-58-7	7.96E-06	1,24 annual	ST	Above Average	100%
							2-Methylthiophthalene	613-12-7	2.17E-07	1,24 annual	ST	Above Average	100%
							2-methoxythiophthalene	96-51-8	3.98E-07	1,24 annual	ST	Above Average	100%
							3,4,5-trichlorophenol	609-15-8	3.98E-07	1,24 annual	ST	Above Average	100%
							3,4-dichlorophenol	86-72-3	3.98E-07	1,24 annual	ST	Above Average	100%
							3,5-dichlorophenol	591-35-5	3.98E-07	1,24 annual	ST	Above Average	100%
							3-Methylthiophthalene	56-80-2	7.96E-06	1,24 annual	ST	Above Average	100%
							3-methoxythiophthalene	106-43-0	3.98E-07	1,24 annual	ST	Above Average	100%
							4-methoxythiophthalene	106-48-9	3.98E-07	1,24 annual	ST	Above Average	100%
							7,12-Dimethylbenzofuran	57-87-6	7.96E-06	1,24 annual	ST	Above Average	100%
							9,10-Dimethylanthracene	781-43-1	7.96E-06	1,24 annual	ST	Above Average	100%
							9-Methylphenanthrene	689-20-3	7.96E-06	1,24 annual	ST	Above Average	100%
							Acetanilide	93-51-9	7.96E-06	1,24 annual	ST	Above Average	100%
							Acetanilide	106-96-8	1.32E-07	1,24 annual	ST	Above Average	4%
							Acetophenone	75-07-0	8.90E-07	1,24 annual	ST	Above Average	100%
							Acetone	67-64-1	4.61E-04	1,24 annual	ST	Above Average	100%
							Acrylonitrile	107-02-8	4.60E-04	1,24 annual	ST	Above Average	99%
							Alumina	7664-40-7	2.11E-02	1,24 annual	ST	Above Average	100%
							Anthracene	135-12-7	1.42E-07	1,24 annual	ST	Above Average	26%
							Antimony	7440-36-0	2.03E-06	1,24 annual	ST	Above Average	100%
							Arsenic	7440-38-2	4.85E-06	1,24 annual	ST	Above Average	100%
							Barium	7440-39-3	1.04E-04	1,24 annual	ST	Above Average	100%
							Benzene	71-43-2	3.74E-05	1,24 annual	ST	Above Average	13%
							Benzofuran	66-58-3	7.96E-06	1,24 annual	ST	Above Average	28%
							Benzofuran	238-94-6	7.96E-06	1,24 annual	ST	Above Average	100%
							Benzofuran	50-32-8	7.96E-06	1,24 annual	ST	Above Average	49%
							Benzofuran	205-99-1	3.16E-07	1,24 annual	ST	Above Average	47%
							Benzofuran	243-17-4	7.96E-06	1,24 annual	ST	Above Average	100%
							Benzofuran	193-87-2	1.88E-07	1,24 annual	ST	Above Average	100%
							Benzofuran	193-74-7	3.38E-07	1,24 annual	ST	Above Average	100%
							Benzofuran	207-08-9	1.71E-07	1,24 annual	ST	Above Average	71%
							Beryllium	7440-41-7	1.74E-06	1,24 annual	ST	Above Average	100%
							Biphenyl	92-51-3	7.60E-07	1,24 annual	ST	Above Average	100%
							Bromodichloromethane	75-27-4	4.11E-06	1,24 annual	ST	Above Average	100%
							Bromodichloromethane	75-27-4	4.86E-06	1,24 annual	ST	Above Average	100%
							Bromodichloromethane	74-83-9	1.24E-04	1,24 annual	ST	Above Average	100%
							Cadmium	7440-43-9	2.16E-06	1,24 annual	ST	Above Average	100%
							Carbon Monoxide	630-08-0	5.27E-01	1,24 annual	ST	Above Average	67%
							Carbon tetrachloride	56-23-5	4.12E-05	1,24 annual	ST	Above Average	100%
							Chlorobenzene	108-90-7	1.09E-06	1,24 annual	ST	Above Average	100%
							Chloroform	67-66-3	6.30E-05	1,24 annual	ST	Above Average	100%
							Chromium (hexavalent)	18540-28-9	2.88E-05	1,24 annual	ST	Above Average	100%
							Chrysene	218-01-9	2.25E-07	1,24 annual	ST	Above Average	31%
							Coal	7440-43-4	1.73E-06	1,24 annual	ST	Above Average	100%
							Copper	7440-50-8	2.79E-06	1,24 annual	ST	Above Average	100%
							Cocaine	181-07-1	3.30E-07	1,24 annual	ST	Above Average	100%
							Cumene (isopropylbenzene)	96-42-9	3.24E-05	1,24 annual	ST	Above Average	100%
							Dibenz(a,h)anthracene	215-56-7	1.41E-07	1,24 annual	ST	Above Average	100%
							Dibenz(a,h)anthracene	193-65-4	7.96E-06	1,24 annual	ST	Above Average	100%
							Dibenz(a,h)anthracene	53-70-5	7.96E-06	1,24 annual	ST	Above Average	49%
							Dibenz(a,h)anthracene	174-48-1	6.58E-06	1,24 annual	ST	Above Average	100%
							Dichlorodibenzomethane	75-71-8	3.24E-05	1,24 annual	ST	Above Average	100%
							Dichloroethane, 1,1-	75-34-9	2.58E-05	1,24 annual	ST	Above Average	100%
							Dichloroethane, 1,2-	75-09-1	1.09E-04	1,24 annual	ST	Above Average	100%
							Dioxins, Furans and Dioxin-like PCBs	N/A	0.000001 (g TEQs)	1,24 annual	ST	Above Average	100%
							Dibenzofuran	183-41-4	2.58E-06	1,24 annual	ST	Above Average	100%
							Dibenzofuran	126-03-7	4.91E-05	1,24 annual	ST	Above Average	100%
							Dibenzofuran	106-44-0	7.27E-07	1,24 annual	ST	Above Average	85%
							Fluorides	7664-38-3	4.87E-03	1,24 annual	ST	Above Average	100%
							Fluorine	86-73-7	1.94E-07	1,24 annual	ST	Above Average	4%
							Formaldehyde	50-00-0	3.88E-02	1,24 annual	ST	Above Average	100%
							Hexachlorobenzene	118-74-1	7.96E-06	1,24 annual	ST	Above Average	100%
							Hydrogen Chloride	7647-02-0	1.28E-01	1,24 annual	ST	Above Average	100%
							Isotind(1,2,3-cis)-pyrene	199-38-5	1.88E-07	1,24 annual	ST	Above Average	58%
							Lead	7439-92-1	3.88E-05	1,24 annual	ST	Above Average	100%
							Methylcyclopentadiene	17900-23-1	6.68E-05	1,24 annual	ST	Above Average	100%
							Methylcyclopentadiene (1,3,5-trimethylbenzene)	7439-97-8	2.48E-06	1,24 annual	ST	Above Average	100%
							Molybdenum	126-07-6	3.16E-05	1,24 annual	ST	Above Average	100%
							m-Terphenyl	92-06-8	8.45E-06	1,24 annual	ST	Above Average	100%
							Naphthalene	91-20-3	3.68E-06	1,24 annual	ST	Above Average	8%
							Nickel	7440-02-0	2.17E-05	1,24 annual	ST	Above Average	100%
							Nitrogen Dioxide	10102-44-0	4.10E-02	1,24 annual	ST	Above Average	44%
							Nitrogen Oxides	10102-44-0	4.10E-02	1,24 annual	ST	Above Average	44%
							O-Terphenyl	84-15-1	9.61E-06	1,24 annual	ST	Above Average	100%
							O-Terphenyl	85-47-4	1.93E-05	1,24 annual	ST	Above Average	100%
							Perfluorobenzene	608-93-5	7.96E-06	1,24 annual	ST	Above Average	100%
							Perfluorobenzene	87-86-5	3.98E-07	1,24 annual	ST	Above Average	100%
							Phenanthrene	126-55-0	7.96E-06	1,24 annual	ST	Above Average	100%
							Phenanthrene	85-01-8	2.63E-06	1,24 annual	ST	Above Average	15%
							Phenanthrene	213-46-7	9.70E-06	1,24 annual	ST	Above Average	100%
							PM ₁₀ (Condensable and Filterable)	N/A	1.39E-01	1,24 annual	ST	Above Average	69%
							PM ₁₀ (Filterable Only)	N/A	3.81E-02	1,24 annual	ST	Above Average	100%
							PM _{2.5} (Condensable and Filterable)	N/A	2.06E-01	1,24 annual	ST	Above Average	69%
							PM _{2.5} (Filterable Only)	N/A	2.79E-02	1,24 annual	ST	Above Average	100%
							Polychlorinated Biphenyl (PCB)	N/A	6.18E-05	1,24 annual	ST	Above Average	100%
							p-Terphenyl	93-94-4	7.96E-06	1,24 annual	ST	Above Average	100%
							Pyrene	129-00-0	5.11E-07	1,24 annual	ST	Above Average	85%
							Selenium	7782-49-3	8.70E-06	1,24 annual	ST	Above Average	100%
							Silver	7440-22-4	1.74E-06	1,24 annual	ST	Above Average	100%
					</								

Source Identifier	Source Description	Source Parameters					Emission Data					
		Stack Volumetric Flow Rate (Nm ³ /h)	Stack Exit Gas Temperature (°C)	Stack Inlet Diameter (m)	Stack Height Above Grade (m)	Stack Location (x, y)	Contaminant	CAS No.	Maximum Emission Rate (g/s)	Averaging Period (hours)	Emission Estimating Technique	Percentage of Overall Emissions (%)
1	Sintering	0.31	Ambient	0.10	5.4894	(680551,48603 39)	Total Particulate Matter (Condensable and Filterable)	N/A	1.17E-01	1,24 annual	ST	Above-Average
							Total Particulate Matter (Filterable Only)	N/A	1.60E-02	1,24 annual	ST	Above-Average
							trans-1,2-Dichloroethene	156-60-5	2.56E-06	1,24 annual	ST	Above-Average
							Trichloroethane, 1,1,1-	79-53-6	3.56E-05	1,24 annual	ST	Above-Average
							Trichloroethene	79-01-6	3.56E-05	1,24 annual	ST	Above-Average
							Trichlorobutene, 1,1,2-	79-01-4	3.56E-05	1,24 annual	ST	Above-Average
							Trichlorofluoromethane	75-89-4	3.62E-05	1,24 annual	ST	Above-Average
							Trichlorofluoromethane	76-13-1	4.89E-05	1,24 annual	ST	Above-Average
							Vinylidene	7449-62-3	4.37E-05	1,24 annual	ST	Above-Average
							Vinyl chloride	75-01-4	1.67E-05	1,24 annual	ST	Above-Average
							xylenes, m-, p- and o-	1330-20-7	8.61E-05	1,24 annual	ST	Above-Average
							Dioxin	7440-66-4	1.98E-04	1,24 annual	ST	Above-Average
							Total Particulate Matter	N/A	1.07E-02	1	EC	Above-Average
							PM ₁₀	N/A	1.07E-02	1	EC	Above-Average
2	Sintering	0.31	Ambient	0.10	4.8768	(685113,48603 32)	Total Particulate Matter	N/A	1.07E-03	1	EC	Above-Average
							PM ₁₀	N/A	1.07E-03	1	EC	Above-Average
							PM _{2.5}	N/A	1.07E-03	1	EC	Above-Average
							Total Particulate Matter	N/A	1.07E-02	1	EC	Above-Average
							PM ₁₀	N/A	1.07E-02	1	EC	Above-Average
							PM _{2.5}	N/A	1.07E-02	1	EC	Above-Average
							Total Particulate Matter	N/A	1.07E-02	1	EC	Above-Average
							PM ₁₀	N/A	1.07E-02	1	EC	Above-Average
							PM _{2.5}	N/A	1.07E-02	1	EC	Above-Average
							Total Particulate Matter	N/A	1.07E-02	1	EC	Above-Average
							PM ₁₀	N/A	1.07E-02	1	EC	Above-Average
							PM _{2.5}	N/A	1.07E-02	1	EC	Above-Average
3	Sintering generator	1.36	265.95	0.3	8	(680475,48604 19)	Carbon Monoxide	530-08-0	2.56E-01	8	EF	Marginal
							Nitrogen Oxides	10102-44-0	1.12E+00	8	EF	Marginal
							Sulfur Dioxide	7446-09-5	1.88E-02	8	EF	Marginal
							Total Particulate Matter	N/A	3.25E-02	8	EF	Above-Average
							Filterable TSP	N/A	2.04E-02	8	EF	Above-Average
							PM ₁₀	N/A	1.88E-02	8	EF	Above-Average
							PM _{2.5}	N/A	1.88E-02	8	EF	Above-Average
							Sulfuric Acid	7664-93-9	3.88E-04	8	EC	Above-Average
							Benzene	71-43-2	2.54E-04	8	EF	Marginal
							Toluene	106-98-8	0.21E-05	8	EF	Marginal
							xylenes, m-, p- and o-	1330-20-7	6.33E-05	8	EF	Marginal
							Propylene	115-07-1	9.54E-04	8	EF	Marginal
							Formaldehyde	50-00-0	2.56E-05	8	EF	Marginal
							Acetaldehyde	75-07-0	8.26E-06	8	EF	Marginal
							Acetone	107-02-8	2.56E-06	8	EF	Marginal
							Naphthalene	91-20-3	4.26E-05	8	EF	Marginal
							Acenaphthylene	208-96-8	4.02E-06	8	EF	Marginal
							Acenaphthene	83-32-8	1.51E-06	8	EF	Marginal
							Fluorene	86-73-7	4.19E-06	8	EF	Marginal
							Phenanthrene	85-01-6	1.33E-05	8	EF	Marginal
							Anthracene	125-12-7	4.08E-07	8	EF	Marginal
							Fluoranthene	196-44-0	1.32E-06	8	EF	Marginal
							Pyrene	129-00-0	1.22E-06	8	EF	Marginal
							Benzo[a]anthracene	56-55-3	0.04E-07	8	EF	Marginal
							Chrysene	218-01-9	5.01E-07	8	EF	Marginal
							Benzo[b]fluoranthene	205-99-1	3.64E-07	8	EF	Marginal
							Benzo[k]fluoranthene	207-06-9	7.14E-08	8	EF	Marginal
							Benzo[a]pyrene	50-32-6	8.42E-08	8	EF	Marginal
							Indeno[1,2,3-cd]pyrene	130-59-5	1.36E-07	8	EF	Marginal
							Dibenz[a,h]anthracene	53-70-3	1.13E-07	8	EF	Marginal
							Benzo[ghi]perylene	191-24-3	1.82E-07	8	EF	Marginal

APPENDIX B

Emission Summary Table

Made by: PS
Checked by: ZO

APPENDIX 28

DYEC CEMS 1-Hour Average Data (4 pages)

**Reworld Durham York Renewable Energy L.P.
Boiler No. 1 CEMS**

Date	Time	BH Outlet								Scrubber Inlet		
		O ₂	CO		SO ₂		NOx		HCl		THC	O ₂
		%	mg/m ³ @ 11% O ₂	Rolling 4-hr	mg/m ³ @ 11% O ₂	Rolling 24-hr	mg/m ³ @ 11% O ₂	Rolling 24-hr	mg/m ³ @ 11% O ₂	Rolling 24-hr	mg/m ³ @ 11% O ₂	%
1-hr	1-hr	1-hr	1-hr	1-hr	1-hr	1-hr	1-hr	1-hr	1-hr	1-hr	1-hr	1-hr
27-Oct-25	0:00	10.16	16		0		108		1		1	8
27-Oct-25	1:00	9.68	20		0		110		1		1	7
27-Oct-25	2:00	9.73	23		0		109		2		1	7
27-Oct-25	3:00	9.54	19	19.5	0		112		1		0	7
27-Oct-25	4:00	9.85	13	18.8	0		107		0		0	7
27-Oct-25	5:00	9.75	14	17.3	0		106		2		0	7
27-Oct-25	6:00	9.53	8	13.5	0		97		2		0	7
27-Oct-25	7:00	9.44	12	11.8	0		114		1		0	7
27-Oct-25	8:00	9.56	7	10.3	0		109		1		0	7
27-Oct-25	9:00	9.72	14	10.3	0		111		1		0	8
27-Oct-25	10:00	9.46	8	10.3	0		104		1		0	7
27-Oct-25	11:00	9.52	7	9.0	0		109		1		0	7
27-Oct-25	12:00	9.45	7	9.0	0		110		1		0	7
27-Oct-25	13:00	9.59	6	7.0	0		106		1		0	7
27-Oct-25	14:00	9.51	14	8.5	0		107		1		0	7
27-Oct-25	15:00	9.27	7	8.5	0		110		1		0	7
27-Oct-25	16:00	9.46	6	8.3	0		114		1		0	7
27-Oct-25	17:00	9.36	9	9.0	0		104		1		0	7
27-Oct-25	18:00	9.18	12	8.5	0		110		1		0	7
27-Oct-25	19:00	9.40	14	10.3	0		106		0		0	7
27-Oct-25	20:00	9.38	14	12.3	0		106		1		0	7
27-Oct-25	21:00	9.30	23	15.8	0		114		0		0	7
27-Oct-25	22:00	9.12	9	15.0	0		108		1		0	7
27-Oct-25	23:00	9.30	16	15.5	2	0.1	113	109	1	1.0	0	7
28-Oct-25	0:00	9.07	10	14.5	0	0.1	109	109	1	1.0	0	7
28-Oct-25	1:00	9.15	12	11.8	0	0.1	108	108	1	1.0	0	7
28-Oct-25	2:00	9.34	21	14.8	0	0.1	113	109	1	1.0	0	7
28-Oct-25	3:00	9.40	11	13.5	0	0.1	104	108	1	1.0	0	7
28-Oct-25	4:00	9.48	43	21.8	0	0.1	127	109	0	1.0	0	8
28-Oct-25	5:00	9.45	12	21.8	2	0.2	96	109			0	8
28-Oct-25	6:00	9.57	11	19.3	0	0.2	112	109	3		0	7
28-Oct-25	7:00	9.71	13	19.8	0	0.2	112	109	1		0	8
28-Oct-25	8:00	9.91	14	12.5	0	0.2	106	109	0		0	8
28-Oct-25	9:00	9.49	11	12.3	0	0.2	111	109	0		0	7
28-Oct-25	10:00	9.53	9	11.8	0	0.2	110	109	0		0	7
28-Oct-25	11:00	9.76	8	10.5	0	0.2	110	109	0		0	7
28-Oct-25	12:00	9.42	11	9.8	0	0.2	100	109	0		0	7
28-Oct-25	13:00	9.11	12	10.0	0	0.2	112	109	0		0	7
28-Oct-25	14:00	9.55	14	11.3	0	0.2	114	110	0		0	7
28-Oct-25	15:00	9.49	29	16.5	0	0.2	106	109	0		0	7
28-Oct-25	16:00	9.45	12	16.8	0	0.2	116	109	0		0	7
28-Oct-25	17:00	9.47	20	18.8	0	0.2	108	110	0		0	7
28-Oct-25	18:00	9.15	11	18.0	2	0.3	112	110	0		0	7
28-Oct-25	19:00	9.32	10	13.3	0	0.3	111	110	0		0	7
28-Oct-25	20:00	9.26	12	13.3	0	0.3	104	110	0		0	7
28-Oct-25	21:00	9.15	14	11.8	0	0.3	109	110	0		0	7
28-Oct-25	22:00	9.35	16	13.0	0	0.3	112	110	0		0	7
28-Oct-25	23:00	8.92	19	15.3	0	0.2	99	109	0		0	7
29-Oct-25	0:00	9.07	9	14.5	0	0.2	108	109	0		0	7
29-Oct-25	1:00	9.08	6	12.5	0	0.2	115	109	0		0	7
29-Oct-25	2:00	9.26	13	11.8	0	0.2	110	109	1		0	7
29-Oct-25	3:00	9.22	8	9.0	0	0.2	105	109	0		0	7
29-Oct-25	4:00	9.32	11	9.5	0	0.2	109	109	0		0	7
29-Oct-25	5:00	9.51	16	12.0	54	2.3	105	109	4	0.4	0	7
29-Oct-25	6:00	9.70	15	12.5	0	2.3	110	109	2	0.3	0	8
29-Oct-25	7:00	9.33	7	12.3	4	2.5	113	109	2	0.4	0	7
29-Oct-25	8:00	9.29	7	11.3	10	2.9	113	109	2	0.5	0	7
29-Oct-25	9:00	9.66	10	9.8	3	3.0	109	109	2	0.5	0	7
29-Oct-25	10:00	9.52	8	8.0	10	3.5	106	109	2	0.6	0	7
29-Oct-25	11:00	9.28	12	9.3	0	3.5	111	109	2	0.7	0	7
29-Oct-25	12:00	9.46	17	11.8	0	3.5	107	109	1	0.8	0	7
29-Oct-25	13:00	9.45	8	11.3	0	3.5	112	109	0	0.8	0	7
29-Oct-25	14:00	9.36	7	11.0	0	3.5	110	109	0	0.8	0	7
29-Oct-25	15:00	9.16	12	11.0	0	3.5	105	109	0	0.8	0	7
29-Oct-25	16:00	8.53	8	8.8	0	3.5	113	109	0	0.8	0	6
29-Oct-25	17:00	9.63	12	9.8	0	3.5	98	109	1	0.8	0	8
29-Oct-25	18:00	9.38	27	14.8	0	3.4	110	109	0	0.8	0	7
29-Oct-25	19:00	9.31	14	15.3	0	3.4	111	109	1	0.8	0	7
29-Oct-25	20:00	9.40	23	19.0	0	3.4	104	109	0	0.8	0	7
29-Oct-25	21:00	9.25	20	21.0	0	3.4	105	108	0	0.8	0	7
29-Oct-25	22:00	9.41	14	17.8	0	3.4	116	109	1	0.9	0	7
29-Oct-25	23:00	9.51	12	17.3	0	3.4	110	109	1	0.9	0	7

Note: All times are Eastern Standard Time

**Reworld Durham York Renewable Energy L.P.
Boiler No. 1 CEMS**

Time	BH Outlet										Scrubber Inlet
	O ₂	CO		SO ₂		NO _x		HCl		THC	O ₂
	%	mg/m ³ @ 11% O ₂		mg/m ³ @ 11% O ₂		mg/m ³ @ 11% O ₂		mg/m ³ @ 11% O ₂		mg/m ³ @ 11% O ₂	%
	1-hr	1-hr	Rolling 4-hr	1-hr	Rolling 24-hr	1-hr	Rolling 24-hr	1-hr	Rolling 24-hr	1-hr	1-hr
30-Oct-25 0:00	9.35	11	14.3	0	3.4	105	109	1	1.0	0	7
30-Oct-25 1:00	9.61	11	12.0	0	3.4	107	109	1	1.0	0	7
30-Oct-25 2:00	9.08	16	12.5	0	3.4	109	108	1	1.0	0	7
30-Oct-25 3:00	9.14	24	15.5	0	3.4	94	108	1	1.0	0	7
30-Oct-25 4:00	9.05	29	20.0	0	3.4	99	108	0	1.0	1	7
30-Oct-25 5:00	9.31	11	20.0	0	1.1	112	108	1	0.9	1	7
30-Oct-25 6:00	9.24	13	19.3	0	1.1	111	108	1	0.9	1	7
30-Oct-25 7:00	9.29	14	16.8	0	1.0	105	108	1	0.8	1	7
30-Oct-25 8:00	9.29	19	14.3	0	0.5	113	108	1	0.8	1	7
30-Oct-25 9:00	9.39	11	14.3	5	0.6	110	108	2	0.8	1	7
30-Oct-25 10:00	9.32	9	13.3	0	0.2	106	108	2	0.8	1	7
30-Oct-25 11:00	8.96	28	16.8	0	0.2	100	107	1	0.8	1	7
30-Oct-25 12:00	9.31	15	15.8	0	0.2	114	107	1	0.8	0	7
Min	8.53	6	7.0	0	0.1	94	107	0	0.3	0	6
Max	10.16	43	21.8	54	3.5	127	110	4	1.0	1	8
Avg	9.39	14	13.5	1.08	1.4	109	109	1	0.8	0.1	7
Std Dev	0.24	6.3	3.7	6.1	1.5	5.00	0.7	0.8	0.2	0	0.3

Note: All times are Eastern Standard Time

**Reworld Durham York Renewable Energy L.P.
Boiler No. 2 CEMS**

Date	Time	BH Outlet								Scrubber Inlet		
		O ₂	CO		SO ₂		NO _x		HCl		THC	O ₂
		%	mg/m ³ @ 11% O ₂	Rolling 4-hr	mg/m ³ @ 11% O ₂	Rolling 24-hr	mg/m ³ @ 11% O ₂	Rolling 24-hr	mg/m ³ @ 11% O ₂	Rolling 24-hr	mg/m ³ @ 11% O ₂	%
1-hr	1-hr	1-hr	1-hr	1-hr	1-hr	1-hr	1-hr	1-hr	1-hr	1-hr	1-hr	1-hr
27-Oct-25	0:00	10.16	16		0		108		1		1	8
27-Oct-25	1:00	9.68	20		0		110		1		1	7
27-Oct-25	2:00	9.73	23		0		109		2		1	7
27-Oct-25	3:00	9.54	19		0		112		1		0	7
27-Oct-25	4:00	9.85	13		0		107		0		0	7
27-Oct-25	5:00	9.75	14		0		106		2		0	7
27-Oct-25	6:00	9.53	8		0		97		2		0	7
27-Oct-25	7:00	9.44	12		0		114		1		0	7
27-Oct-25	8:00	9.56	7		0		109		1		0	7
27-Oct-25	9:00	9.72	14		0		111		1		0	8
27-Oct-25	10:00	9.46	8	10.3	0		104		1		0	7
27-Oct-25	11:00	9.52	7	9.0	0		109		1		0	7
27-Oct-25	12:00	9.45	7	9.0	0		110		1		0	7
27-Oct-25	13:00	9.59	6	7.0	0		106		1		0	7
27-Oct-25	14:00	9.51	14	8.5	0		107		1		0	7
27-Oct-25	15:00	9.27	7	8.5	0		110		1		0	7
27-Oct-25	16:00	9.46	6	8.3	0		114		1		0	7
27-Oct-25	17:00	9.36	9	9.0	0		104		1		0	7
27-Oct-25	18:00	9.18	12	8.5	0		110		1		0	7
27-Oct-25	19:00	9.40	14	10.3	0		106		0		0	7
27-Oct-25	20:00	9.38	14	12.3	0		106		1		0	7
27-Oct-25	21:00	9.30	23	15.8	0		114		0		0	7
27-Oct-25	22:00	9.12	9	15.0	0		108		1		0	7
27-Oct-25	23:00	9.30	16	15.5	2	0.1	113	109	1	1.0	0	7
28-Oct-25	0:00	9.07	10	14.5	0	0.1	109	109	1	1.0	0	7
28-Oct-25	1:00	9.15	12	11.8	0	0.1	108	108	1	1.0	0	7
28-Oct-25	2:00	9.34	21	14.8	0	0.1	113	109	1	1.0	0	7
28-Oct-25	3:00	9.40	11	13.5	0	0.1	104	108	1	1.0	0	7
28-Oct-25	4:00	9.48	43	21.8	0	0.1	127	109	0	1.0	0	8
28-Oct-25	5:00	9.45	12	21.8	2	0.2	96	109			0	8
28-Oct-25	6:00	9.57	11	19.3	0	0.2	112	109	3		0	7
28-Oct-25	7:00	9.71	13	19.8	0	0.2	112	109	1		0	8
28-Oct-25	8:00	9.91	14	12.5	0	0.2	106	109	0		0	8
28-Oct-25	9:00	9.49	11	12.3	0	0.2	111	109	0		0	7
28-Oct-25	10:00	9.53	9	11.8	0	0.2	110	109	0		0	7
28-Oct-25	11:00	9.76	8	10.5	0	0.2	110	109	0		0	7
28-Oct-25	12:00	9.42	11	9.8	0	0.2	100	109	0		0	7
28-Oct-25	13:00	9.11	12	10.0	0	0.2	112	109	0		0	7
28-Oct-25	14:00	9.55	14	11.3	0	0.2	114	110	0		0	7
28-Oct-25	15:00	9.49	29	16.5	0	0.2	106	109	0		0	7
28-Oct-25	16:00	9.45	12	16.8	0	0.2	116	109	0		0	7
28-Oct-25	17:00	9.47	20	18.8	0	0.2	108	110	0		0	7
28-Oct-25	18:00	9.15	11	18.0	2	0.3	112	110	0		0	7
28-Oct-25	19:00	9.32	10	13.3	0	0.3	111	110	0		0	7
28-Oct-25	20:00	9.26	12	13.3	0	0.3	104	110	0		0	7
28-Oct-25	21:00	9.15	14	11.8	0	0.3	109	110	0		0	7
28-Oct-25	22:00	9.35	16	13.0	0	0.3	112	110	0		0	7
28-Oct-25	23:00	8.92	19	15.3	0	0.2	99	109	0		0	7
29-Oct-25	0:00	9.07	9	14.5	0	0.2	108	109	0		0	7
29-Oct-25	1:00	9.08	6	12.5	0	0.2	115	109	0		0	7
29-Oct-25	2:00	9.26	13	11.8	0	0.2	110	109	1		0	7
29-Oct-25	3:00	9.22	8	9.0	0	0.2	105	109	0		0	7
29-Oct-25	4:00	9.32	11	9.5	0	0.2	109	109	0		0	7
29-Oct-25	5:00	9.51	16	12.0	54	2.3	105	109	4	0.4	0	7
29-Oct-25	6:00	9.70	15	12.5	0	2.3	110	109	2	0.3	0	8
29-Oct-25	7:00	9.33	7	12.3	4	2.5	113	109	2	0.4	0	7
29-Oct-25	8:00	9.29	7	11.3	10	2.9	113	109	2	0.5	0	7
29-Oct-25	9:00	9.66	10	9.8	3	3.0	109	109	2	0.5	0	7
29-Oct-25	10:00	9.52	8	8.0	10	3.5	106	109	2	0.6	0	7
29-Oct-25	11:00	9.28	12	9.3	0	3.5	111	109	2	0.7	0	7
29-Oct-25	12:00	9.46	17	11.8	0	3.5	107	109	1	0.8	0	7
29-Oct-25	13:00	9.45	8	11.3	0	3.5	112	109	0	0.8	0	7
29-Oct-25	14:00	9.36	7	11.0	0	3.5	110	109	0	0.8	0	7
29-Oct-25	15:00	9.16	12	11.0	0	3.5	105	109	0	0.8	0	7
29-Oct-25	16:00	8.53	8	8.8	0	3.5	113	109	0	0.8	0	6
29-Oct-25	17:00	9.63	12	9.8	0	3.5	98	109	1	0.8	0	8
29-Oct-25	18:00	9.38	27	14.8	0	3.4	110	109	0	0.8	0	7
29-Oct-25	19:00	9.31	14	15.3	0	3.4	111	109	1	0.8	0	7
29-Oct-25	20:00	9.40	23	19.0	0	3.4	104	109	0	0.8	0	7
29-Oct-25	21:00	9.25	20	21.0	0	3.4	105	108	0	0.8	0	7
29-Oct-25	22:00	9.41	14	17.8	0	3.4	116	109	1	0.9	0	7
29-Oct-25	23:00	9.51	12	17.3	0	3.4	110	109	1	0.9	0	7

Note: All times are Eastern Standard Time

**Reworld Durham York Renewable Energy L.P.
Boiler No. 2 CEMS**

Time	BH Outlet										Scrubber Inlet
	O ₂	CO		SO ₂		NO _x		HCl		THC	O ₂
	%	mg/m ³ @ 11% O ₂		mg/m ³ @ 11% O ₂		mg/m ³ @ 11% O ₂		mg/m ³ @ 11% O ₂		mg/m ³ @ 11% O ₂	%
	1-hr	1-hr	Rolling 4-hr	1-hr	Rolling 24-hr	1-hr	Rolling 24-hr	1-hr	Rolling 24-hr	1-hr	1-hr
30-Oct-25 0:00	9.35	11	14.3	0	3.4	105	109	1	1.0	0	7
30-Oct-25 1:00	9.61	11	12.0	0	3.4	107	109	1	1.0	0	7
30-Oct-25 2:00	9.08	16	12.5	0	3.4	109	108	1	1.0	0	7
30-Oct-25 3:00	9.14	24	15.5	0	3.4	94	108	1	1.0	0	7
30-Oct-25 4:00	9.05	29	20.0	0	3.4	99	108	0	1.0	1	7
30-Oct-25 5:00	9.31	11	20.0	0	1.1	112	108	1	0.9	1	7
30-Oct-25 6:00	9.24	13	19.3	0	1.1	111	108	1	0.9	1	7
30-Oct-25 7:00	9.29	14	16.8	0	1.0	105	108	1	0.8	1	7
30-Oct-25 8:00	9.29	19	14.3	0	0.5	113	108	1	0.8	1	7
30-Oct-25 9:00	9.39	11	14.3	5	0.6	110	108	2	0.8	1	7
30-Oct-25 10:00	9.32	9	13.3	0	0.2	106	108	2	0.8	1	7
30-Oct-25 11:00	8.96	28	16.8	0	0.2	100	107	1	0.8	1	7
30-Oct-25 12:00	9.31	15	15.8	0	0.2	114	107	1	0.8	0	7
Min	8.53	6	7.0	0	0.1	94	107	0	0.3	0	6
Max	10.16	43	21.8	54	3.5	127	110	4	1.0	1	8
Avg	9.39	14	13.4	1.08	1.42	109	109	1	0.8	0.1	7
Std Dev	0.24	6.3	3.7	6.1	1.5	5.00	0.7	0.8	0.2	0.3	0.3

Note: All times are Eastern Standard Time