DOF DALTON OLMSTED FUGLEVAND

To: Andrew Smith and Kaia Peterson, Washington Department of Ecology (Ecology)

From: Patrick Hsieh, Tasya Gray, Dalton, Olmsted, and Fuglevand (DOF)

CC: Greg Fink, Katey Potter, Stericycle

Date: August 19, 2019

Subject: New Office Building Construction – Crawlspace Air Sampling, Stericycle Tacoma Facility

Dalton, Olmsted, and Fuglevand (DOF), prepared this technical memorandum on behalf of Stericycle Environmental Solutions (Stericycle) to describe the first crawlspace air sampling event under the new pre-fabricated office/laboratory building at their Tacoma facility (the modular building). The modular building was constructed in the center of the facility as shown on the attached Figure G1-2P.

Stericycle provided an air sampling plan in DOF's November 15, 2018 technical memorandum that included two rounds of air sampling (one before occupation of the modular building and another in the winter) in the crawlspace between the foundation slab and the modular building floor.

Air Sampling Methods

Stericycle and DOF coordinated the timing of air sampling with modular building contractors to reduce false positives from off gassing of construction materials (i.e. asphalt sealant, glue for piping and conduit, paint, glue for floor tiling, plywood, and veneers). Stericycle and DOF personnel periodically measured for volatile organic compounds (VOCs) with a photoionization detector (PID) beginning in mid-July as construction was nearing completion.

On July 19, 2019 PID measurements indicated 12 parts per million (ppm) VOCs at the north end of the crawl space and vapor sampling was delayed several days to allow for additional ventilation in the crawl space, increasing time for building construction materials containing VOCs to volatilize. Fans were used to increase the ventilation under the building for several days. On the morning of July 24. 2019, additional measurements were collected using a PID and indicated 0 ppm VOCs at the north and south end of crawl space. Fan operation was ceased following the measurements and crawl space doors were temporarily closed.

Four 6-liter single ion monitoring (SIM) certified Summa canisters and four 8-hour SIM certified flow regulators were provided by Eurofins Air Toxics laboratory prior to sample collection. Air sampling was conducted on July 25, 2019. Two air sampling locations were identified under the building, one in the northeast corner and one in the southwest corner (Figure G1-2P). An additional ambient air sampling location was identified along

the northern property line, adjacent to Taylor Way, due to the prevailing winds coming from the north (Figure G1-2P).

The air sampling Summa canister for sample MODBLD-NE-20190725 was placed under the modular building approximately 19 feet from northern wall and 11 feet from the eastern wall. The air sampling Summa canister for samples MODBLD-SW1-20190725 and MODBLD-SW2-20190725 (DUPLICATE) were placed under the modular building approximately 16 feet from the southern wall and 17 feet from the western wall. The summa canisters were connected using a laboratory supplied stainless steel tee designed for duplicate sample collection. The air sampling Summa canister for sample MODBLD-AMB1-20190725 was placed upwind, as mentioned above, near the northern property line. Prior to the start of sample collection the Summa canister identifications numbers, flow controller identification numbers and initial pressures were recorded. Sample collection began at approximately 07:00 for all sample vessels.

Samples were monitored approximately every hour to observe collection rate and remaining vacuum in each vessel. These observations were made to check that vacuums in the sample vessels did not drop below -5 inches mercury (Hg), per analytical laboratory requirements. All sample vessels were able to collect vapor for a minimum of eight hours with the exception of the duplicate sample location in the southwest corner of the crawl space. It was necessary to stop this sample early due to vacuum in sample MODBLD-SW2-20190725 reaching -5 inches Hg prior to completion of the full eight-hour period. DOF contacted the analytical laboratory during the sampling, and based on their recommendation, stopped the primary and duplicate samplers at the same time since the location is a duplicate. Both samples were stopped 27 minutes prior to the full eight-hour sample period.

All samples were collected in accordance with recommendations found in the Washington State Department of Ecology's Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action (revised April 2018) and recommendations and protocols in Appendix E (Naphthalene Soil Gas Collection) of the July 2015 California Active Soil Gas Investigations guidance document.

Following completion of sample collection, final sample vessel pressures were recorded and vessels were placed back in the shipping boxes and prepared for shipment back to the laboratory. Standard chain-of-custody (COC) protocols were followed for shipment of the samples. Samples were analyzed for VOCs by United States Environmental Protection Agency (USEPA) Method TO-15 (including naphthalene) and Air Phase Hydrocarbons by EPA Method TO-15.

Air Sampling Results

Laboratory results and Washington State Department of Ecology Method C Indoor Air Cleanup Levels are summarized in Table 1. Laboratory reports are provided in Attachment A. Results were below Method C Indoor Air Cleanup levels with the exception of four compounds that were reported as not detected above the reporting limit, but had a reporting limit slightly above the Method C cleanup level. DOF has contacted

the lab and they will provide a revised report with estimated results reported down to the lower method detection limits. These updated results will be reported with the results from the winter round of air sampling.

Attachments:

Figure G1-2P - Site Layout and Sample Locations
Table 1- Modular Building Air Sampling Results for July 25, 2019 Sampling Event
Attachment A – Laboratory Reports

Air Sample MODBLD-AMB1-20190725

Prevailing Wind Direction

Air Sample MODBLD-NE-20190725

Duplicate Air Sample MODBLD-SW1-20190725 and MODBLD-SW1-20190725

MP-002

MP-004

MP-001

Main Office

Modular Office Trailer Locations

Rain Garden

Taylor Way

Alexander Ave.

DITCH

INFILTRATION BASIN

Grass

Gravel

Grass with liner infiltrates/pond/evaporates

Parking/Storage Circulation Area (Gravel/Broken Pavement)

Asphalt Paving

Concrete Walk

KELLYBLOCK WALL

EXISTING TANK FARM CONTAINMENT AREA

EXISTING BUILDING

OFFICE/LABORATORY BUILDING

BOILER ROOM

COMPRESSOR ROOM

PROCESS AREA #2

SOUTH CONTAINER STORAGE BUILDING

LAB PACK BUILDING

STABILIZATION BUILDING

CHECK-IN AREA #3

CHECK-IN AREA #1

CHECK-IN AREA #2

PROCESS AREA #1

OFFICE/SHOP BUILDING TPN 0321352062

0 100

Scale in Feet

LEGEND

ASPHALT PAVEMENT	SS — SANITARY SEWER
CONCRETE	SD — STORM DRAIN
GRAVEL	FM — FIRE MAIN
GRASS	RD — ROOF DRAIN
BUILDING	W — WATER MAIN
INDUSTRIAL WASTEWATER DISCHARGE POINT	CHAIN LINK FENCE
STORM DRAIN CATCH BASIN	PROPERTY LINE

Stericycle
Tacoma Washington

Site Plan

DALTON OLMSTED FUGLEVAND

FIGURE G1-2P

06/11/2019

PLOT TIME: 6/11/2019 2:47 PM MOD TIME: 6/11/2019 2:01 PM USER: Kelley Begley DWG: P:\Stericycle\Tacoma\Cadd Figures\2019-05\SITE PLAN FIGURES\2019-05 Fig G1-2P - Site Plan.dwg

Table 1 Modular Building Air Sampling Results for July 25, 2019 Sampling Event
Stericycle Tacoma

	Sample Name				Indoor Air Cleanup Level	
Contaminant of Concern	**MOD BLD-NE**	**MOD BLD-SW1**	**MOD BLD-SW2**	**MOD BLD-AMB1**	**Method C Noncancer (µg/m³)**	**Method C Cancer (µg/m³)**
Volatile Organic Compounds (VOCs)						
1,3-Butadiene	<0.34	<0.35	<0.34	<0.39		0.83
Bromomethane	<3.0	<3.1	<3.0	<3.4	5	
Freon 11	1.5	1.4	1.4	1.6	700	
Ethanol	12	7.1	7.7	10		
Freon 113	<1.2	<1.2	<1.2	<1.3	5000	
Acetone	54	35	39	15		
2-Propanol	5.7	4.8	5.2	<2.2		
Carbon Disulfide	<2.4	<2.5	<2.4	<2.7	700	
3-Chloropropene	<2.4	<2.5	<2.4	<2.7		
Methylene Chloride	9.4	3.7	3.9	<1.2	600	
Hexane	<2.7	<2.8	<2.7	<3.1	700	
2-Butanone (Methyl Ethyl Ketone)	36	11	13	<2.6	5000	
Tetrahydrofuran	13	2.3	2.4	<2.6		
Cyclohexane	<0.53	<0.54	<0.53	<0.60		
2,2,4-Trimethylpentane	<3.6	<3.7	<3.6	<4.1		
Heptane	1.6	1.2	1.3	1		
1,2-Dichloropropane	<0.72	<0.73	<0.72	<0.81		6.8
1,4-Dioxane	<0.56	<0.57	<0.56	<0.63		
Bromodichloromethane	**<1.0**	**<1.0**	**<1.0**	**<1.2**		0.68
cis-1,3-Dichloropropene	<0.70	<0.72	<0.70	<0.79		
4-Methyl-2-pentanone	1	<0.72	1.4	<0.72		
trans-1,3-Dichloropropene	<.70	<0.72	<0.70	<0.79		
2-Hexanone	<3.2	<3.2	<3.2	<3.6		
Dibromochloromethane	<1.3	<1.3	<1.3	<1.5		
Chlorobenzene	<0.71	<0.73	<0.71	<0.80	50	
Styrene	0.8	<0.67	<0.66	<0.74	1000	
Bromoform	<1.6	<1.6	<1.6	<1.8		23
Cumene	<0.76	<0.78	<0.76	<0.86	400	
Propylbenzene	<0.76	<0.78	<0.76	<0.86		
4-Ethyltoluene	0.76	<0.78	<0.76	<0.86		
1,3,5-Trimethylbenzene	<0.76	<0.78	<0.76	<0.86		
1,2,4-Trimethylbenzene	<0.73	<0.78	<0.76	<0.86	60	
1,3-Dichlorobenzene	<0.93	<0.95	<0.93	<1.0		
alpha-Chlorotoluene	<0.80	<0.82	<0.80	<0.90		0.51
1,2-Dichlorobenzene	<0.93	<0.95	<0.93	<1.0	200	
1,2,4-Trichlorobenzene	**<5.8**	**<5.9**	**<5.8**	**<6.5**	2	
Hexachlorobutadiene	**<8.3**	**<8.4**	**<8.3**	**<9.3**		1.1
1,2-Dichloroethane-d4	106	<1.6	105	107		
Toluene-d8	102	<0.040	104	103		
4-Bromofluorobenzene	107	<0.21	103	100		
Freon 12	2.3	<0.063	2.3	2.4	100	
Freon 114	<0.22	<0.22	<0.22	<0.24		
Chloromethane	<1.6	<1.6	<1.6	<1.8	90	
Vinyl Chloride	<0.040	<0.040	<0.040	<0.045		2.8
Chloroethane	<0.20	<0.21	<0.20	<0.23	10000	
1,1-Dichloroethene	<0.061	<0.063	<0.061	<0.069	200	
trans-1,2-Dichloroethene	<0.61	<0.63	<0.61	<0.69		
Methyl tert-butyl ether	<0.56	<0.57	<0.56	<0.63		96
1,1-Dichloroethane	<0.12	<0.13	<0.12	<0.14		16
cis-1,2-Dichloroethene	<0.12	<0.12	<0.12	<0.14		
Chloroform	0.38	<0.22	0.32	<0.17		1.1
1,1,1-Trichloroethane	<0.17	<0.17	<0.17	<0.19	5000	
Carbon Tetrachloride	0.46	<0.41	0.44	0.43		4.2
Benzene	0.79	0.69	0.68	1.6		3.2
1,2-Dichloroethane	<0.12	<0.13	<0.12	<0.14		0.96
Trichloroethene	<0.17	<0.17	<0.17	<0.19	2	
Toluene	27	18	18	4.1	5000	
1,1,2-Trichloroethane	<0.17	<0.17	<0.17	<0.19	0.2	
Tetrachloroethene	0.45	0.28	0.48	0.26	40	
1,2-Dibromoethane (EDB)	**<0.24**	**<0.24**	**<0.24**	**<0.27**		0.042
Ethyl Benzene	1.2	0.82	0.84	0.68	1000	
Total Xylenes	5.6	3.78	3.93	3.02	100	
m,p-Xylene	4.3	2.9	3	2.3		
o-Xylene	1.3	0.88	0.93	0.72		
1,1,2,2-Tetrachloroethane	<0.21	<0.22	<0.21	<0.24		
1,4-Dichlorobenzene	<0.19	<0.19	<0.19	<0.21		2.3
Naphthalene	<0.41	<0.41	<0.41	<0.46		0.74
1,2-Dichloroethane-d4	97	98	98	99		
Toluene-d8	103	105	104	105		
4-Bromofluorobenzene	114	110	111	106		
Aliphatic Hydrocarbons (APHs)						
C5-C6 Aliphatic Hydrocarbons (ref. to Pentane + Hexane)	<50	<51	<50	<57		
>C6-C8 Aliphatic Hydrocarbons (ref. to Heptane)	<64	<65	<64	<72		
>C8-C10 Aliphatic Hydrocarbons (ref. to Decane)	<90	<92	<90	<100		
>C10-C12 Aliphatic Hydrocarbons (ref. to Dodecane)	<110	<110	<110	<120		
>C8-C10 Aromatic Hydrocarbons	<76	<78	<76	<86		
>C10-C12 Aromatic Hydrocarbons	<85	<87	<85	<96		

Notes:
1) Bold indicates result above the Method C Indoor Air Cleanup Level

Attachment A

Laboratory Reports

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8/5/2019
Mr. Bill Beck
Stericycle Environmental Solutions, Inc.
18000 72nd Ave. S
Suite 217
Kent WA 98032

Project Name: Tacoma Mod Building
Project #:
Workorder #: 1907637A

Dear Mr. Bill Beck

The following report includes the data for the above referenced project for sample(s) received on 7/29/2019 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Allyson Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Allyson Scott

Project Manager

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WORK ORDER #: 1907637A

Work Order Summary

CLIENT:	Mr. Bill Beck Stericycle Environmental Solutions, Inc. 18000 72nd Ave. S Suite 217 Kent, WA 98032	**BILL TO:**	Mr. Bill Beck Stericycle Environmental Solutions, Inc. 18000 72nd Ave. S Suite 217 Kent, WA 98032
PHONE:	425-227-6149	**P.O. #**	
FAX:		**PROJECT #**	Tacoma Mod Building
DATE RECEIVED:	07/29/2019	**CONTACT:**	Allyson Scott
DATE COMPLETED:	08/05/2019		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	MOD BLD-NE-20190725	Modified TO-15	4.0 "Hg	5 psi
01B	MOD BLD-NE-20190725	Modified TO-15	4.0 "Hg	5 psi
02A	MOD BLD-SW1-20190725	Modified TO-15	4.5 "Hg	5 psi
02B	MOD BLD-SW1-20190725	Modified TO-15	4.5 "Hg	5 psi
03A	MOD BLD-SW2-20190725	Modified TO-15	4.0 "Hg	5 psi
03B	MOD BLD-SW2-20190725	Modified TO-15	4.0 "Hg	5 psi
04A	MOD BLD-AMB1-20190725	Modified TO-15	7.0 "Hg	5 psi
04B	MOD BLD-AMB1-20190725	Modified TO-15	7.0 "Hg	5 psi
05A	Lab Blank	Modified TO-15	NA	NA
05B	Lab Blank	Modified TO-15	NA	NA
06A	CCV	Modified TO-15	NA	NA
06B	CCV	Modified TO-15	NA	NA
07A	LCS	Modified TO-15	NA	NA
07AA	LCSD	Modified TO-15	NA	NA
07B	LCS	Modified TO-15	NA	NA
07BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY:  DATE: 08/05/19

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Stericycle Environmental Solutions, Inc.
Workorder# 1907637A

Four 6 Liter Summa Canister (SIM Certified) samples were received on July 29, 2019. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

All Quality Control Limit exceedances and affected sample results are noted by flags. Each flag is

defined at the bottom of this Case Narrative and on each Sample Result Summary page. Target compound non-detects in the samples that are associated with high bias in QC analyses have not been flagged.

Definition of Data Qualifying Flags

Nine qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

CN - See case narrative explanation

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: MOD BLD-NE-20190725

Lab ID#: 1907637A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.16	0.27	0.87	1.5
Ethanol	0.78	6.6	1.5	12
Acetone	1.6	23	3.7	54
2-Propanol	0.78	2.3 J0	1.9	5.7 J0
Methylene Chloride	0.31	2.7	1.1	9.4
2-Butanone (Methyl Ethyl Ketone)	0.78	12	2.3	36
Tetrahydrofuran	0.78	4.3	2.3	13
Heptane	0.16	0.38	0.64	1.6
4-Methyl-2-pentanone	0.16	0.25	0.63	1.0
Styrene	0.16	0.19	0.66	0.80
4-Ethyltoluene	0.16	0.15 J	0.76	0.76 J

Client Sample ID: MOD BLD-NE-20190725

Lab ID#: 1907637A-01B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.031	0.47	0.15	2.3
Chloroform	0.031	0.077	0.15	0.38
Carbon Tetrachloride	0.031	0.074	0.20	0.46
Benzene	0.078	0.25	0.25	0.79
Toluene	0.078	7.3	0.29	27
Tetrachloroethene	0.031	0.066	0.21	0.45
Ethyl Benzene	0.031	0.27	0.13	1.2
m,p-Xylene	0.062	0.99	0.27	4.3
o-Xylene	0.031	0.30	0.13	1.3

Client Sample ID: MOD BLD-SW1-20190725

Lab ID#: 1907637A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.16	0.25	0.89	1.4
Ethanol	0.79	3.8	1.5	7.1
Acetone	1.6	15	3.8	35

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: MOD BLD-SW1-20190725

Lab ID#: 1907637A-02A

2-Propanol	0.79	2.0 J0	1.9	4.8 J0
Methylene Chloride	0.32	1.0	1.1	3.7
2-Butanone (Methyl Ethyl Ketone)	0.79	3.8	2.3	11
Tetrahydrofuran	0.79	0.79	2.3	2.3
Heptane	0.16	0.29	0.65	1.2
4-Methyl-2-pentanone	0.16	0.33	0.65	1.4

Client Sample ID: MOD BLD-SW1-20190725

Lab ID#: 1907637A-02B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.032	0.47	0.16	2.3
Chloroform	0.032	0.066	0.15	0.32
Carbon Tetrachloride	0.032	0.071	0.20	0.45
Benzene	0.079	0.22	0.25	0.69
Toluene	0.079	4.8	0.30	18
Tetrachloroethene	0.032	0.042	0.21	0.28
Ethyl Benzene	0.032	0.19	0.14	0.82
m,p-Xylene	0.063	0.68	0.27	2.9
o-Xylene	0.032	0.20	0.14	0.88

Client Sample ID: MOD BLD-SW2-20190725

Lab ID#: 1907637A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.16	0.25	0.87	1.4
Ethanol	0.78	4.1	1.5	7.7
Acetone	1.6	16	3.7	39
2-Propanol	0.78	2.1 J0	1.9	5.2 J0
Methylene Chloride	0.31	1.1	1.1	3.9
2-Butanone (Methyl Ethyl Ketone)	0.78	4.4	2.3	13
Tetrahydrofuran	0.78	0.82	2.3	2.4
Heptane	0.16	0.33	0.64	1.3
4-Methyl-2-pentanone	0.16	0.33	0.63	1.4

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: MOD BLD-SW2-20190725

Lab ID#: 1907637A-03B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.031	0.47	0.15	2.3
Chloroform	0.031	0.066	0.15	0.32
Carbon Tetrachloride	0.031	0.070	0.20	0.44
Benzene	0.078	0.21	0.25	0.68
Toluene	0.078	4.8	0.29	18
Tetrachloroethene	0.031	0.071	0.21	0.48
Ethyl Benzene	0.031	0.19	0.13	0.84
m,p-Xylene	0.062	0.70	0.27	3.0
o-Xylene	0.031	0.21	0.13	0.93

Client Sample ID: MOD BLD-AMB1-20190725

Lab ID#: 1907637A-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.18	0.29	0.98	1.6
Ethanol	0.88	5.4	1.6	10
Acetone	1.8	6.3	4.2	15
Heptane	0.18	0.26	0.72	1.0

Client Sample ID: MOD BLD-AMB1-20190725

Lab ID#: 1907637A-04B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.035	0.48	0.17	2.4
Carbon Tetrachloride	0.035	0.068	0.22	0.43
Benzene	0.088	0.51	0.28	1.6
Toluene	0.088	1.1	0.33	4.1
Tetrachloroethene	0.035	0.038	0.24	0.26
Ethyl Benzene	0.035	0.16	0.15	0.68
m,p-Xylene	0.070	0.52	0.30	2.3
o-Xylene	0.035	0.17	0.15	0.72

eurofins | Air Toxics

Client Sample ID: MOD BLD-NE-20190725

Lab ID#: 1907637A-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22073116**	**Date of Collection: 7/25/19 2:54:00 PM**	
Dil. Factor:	**1.55**	**Date of Analysis: 7/31/19 08:18 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,3-Butadiene	0.16	Not Detected	0.34	Not Detected
Bromomethane	0.78	Not Detected	3.0	Not Detected
Freon 11	0.16	0.27	0.87	1.5
Ethanol	0.78	6.6	1.5	12
Freon 113	0.16	Not Detected	1.2	Not Detected
Acetone	1.6	23	3.7	54
2-Propanol	0.78	2.3 J0	1.9	5.7 J0
Carbon Disulfide	0.78	Not Detected	2.4	Not Detected
3-Chloropropene	0.78	Not Detected	2.4	Not Detected
Methylene Chloride	0.31	2.7	1.1	9.4
Hexane	0.78	Not Detected	2.7	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.78	12	2.3	36
Tetrahydrofuran	0.78	4.3	2.3	13
Cyclohexane	0.16	Not Detected	0.53	Not Detected
2,2,4-Trimethylpentane	0.78	Not Detected	3.6	Not Detected
Heptane	0.16	0.38	0.64	1.6
1,2-Dichloropropane	0.16	Not Detected	0.72	Not Detected
1,4-Dioxane	0.16	Not Detected	0.56	Not Detected
Bromodichloromethane	0.16	Not Detected	1.0	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.70	Not Detected
4-Methyl-2-pentanone	0.16	0.25	0.63	1.0
trans-1,3-Dichloropropene	0.16	Not Detected	0.70	Not Detected
2-Hexanone	0.78	Not Detected	3.2	Not Detected
Dibromochloromethane	0.16	Not Detected	1.3	Not Detected
Chlorobenzene	0.16	Not Detected	0.71	Not Detected
Styrene	0.16	0.19	0.66	0.80
Bromoform	0.16	Not Detected	1.6	Not Detected
Cumene	0.16	Not Detected	0.76	Not Detected
Propylbenzene	0.16	Not Detected	0.76	Not Detected
4-Ethyltoluene	0.16	0.15 J	0.76	0.76 J
1,3,5-Trimethylbenzene	0.16	Not Detected	0.76	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.76	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.93	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.80	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.93	Not Detected
1,2,4-Trichlorobenzene	0.78	Not Detected	5.8	Not Detected
Hexachlorobutadiene	0.78	Not Detected	8.3	Not Detected

J0 = Estimated value due to bias in the CCV.
J = Estimated value.
Container Type: 6 Liter Summa Canister (SIM Certified)

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Client Sample ID: MOD BLD-NE-20190725

Lab ID#: 1907637A-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22073116**	**Date of Collection: 7/25/19 2:54:00 PM**	
Dil. Factor:	**1.55**	**Date of Analysis: 7/31/19 08:18 PM**	

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	107	70-130

eurofins | Air Toxics

Client Sample ID: MOD BLD-NE-20190725

Lab ID#: 1907637A-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22073116sim**	**Date of Collection:**	**7/25/19 2:54:00 PM**
Dil. Factor:	**1.55**	**Date of Analysis:**	**7/31/19 08:18 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.031	0.47	0.15	2.3
Freon 114	0.031	Not Detected	0.22	Not Detected
Chloromethane	0.78	Not Detected UJ	1.6	Not Detected UJ
Vinyl Chloride	0.016	Not Detected	0.040	Not Detected
Chloroethane	0.078	Not Detected	0.20	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.061	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.61	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.56	Not Detected
1,1-Dichloroethane	0.031	Not Detected	0.12	Not Detected
cis-1,2-Dichloroethene	0.031	Not Detected	0.12	Not Detected
Chloroform	0.031	0.077	0.15	0.38
1,1,1-Trichloroethane	0.031	Not Detected	0.17	Not Detected
Carbon Tetrachloride	0.031	0.074	0.20	0.46
Benzene	0.078	0.25	0.25	0.79
1,2-Dichloroethane	0.031	Not Detected	0.12	Not Detected
Trichloroethene	0.031	Not Detected	0.17	Not Detected
Toluene	0.078	7.3	0.29	27
1,1,2-Trichloroethane	0.031	Not Detected	0.17	Not Detected
Tetrachloroethene	0.031	0.066	0.21	0.45
1,2-Dibromoethane (EDB)	0.031	Not Detected	0.24	Not Detected
Ethyl Benzene	0.031	0.27	0.13	1.2
m,p-Xylene	0.062	0.99	0.27	4.3
o-Xylene	0.031	0.30	0.13	1.3
1,1,2,2-Tetrachloroethane	0.031	Not Detected	0.21	Not Detected
1,4-Dichlorobenzene	0.031	Not Detected	0.19	Not Detected
Naphthalene	0.078	Not Detected	0.41	Not Detected

UJ = Analyte associated with low bias in the CCV.

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	114	70-130

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Client Sample ID: MOD BLD-SW1-20190725

Lab ID#: 1907637A-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22073119**	**Date of Collection: 7/25/19 2:30:00 PM**	
Dil. Factor:	**1.58**	**Date of Analysis: 7/31/19 10:07 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,3-Butadiene	0.16	Not Detected	0.35	Not Detected
Bromomethane	0.79	Not Detected	3.1	Not Detected
Freon 11	0.16	0.25	0.89	1.4
Ethanol	0.79	3.8	1.5	7.1
Freon 113	0.16	Not Detected	1.2	Not Detected
Acetone	1.6	15	3.8	35
2-Propanol	0.79	2.0 J0	1.9	4.8 J0
Carbon Disulfide	0.79	Not Detected	2.5	Not Detected
3-Chloropropene	0.79	Not Detected	2.5	Not Detected
Methylene Chloride	0.32	1.0	1.1	3.7
Hexane	0.79	Not Detected	2.8	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.79	3.8	2.3	11
Tetrahydrofuran	0.79	0.79	2.3	2.3
Cyclohexane	0.16	Not Detected	0.54	Not Detected
2,2,4-Trimethylpentane	0.79	Not Detected	3.7	Not Detected
Heptane	0.16	0.29	0.65	1.2
1,2-Dichloropropane	0.16	Not Detected	0.73	Not Detected
1,4-Dioxane	0.16	Not Detected	0.57	Not Detected
Bromodichloromethane	0.16	Not Detected	1.0	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.72	Not Detected
4-Methyl-2-pentanone	0.16	0.33	0.65	1.4
trans-1,3-Dichloropropene	0.16	Not Detected	0.72	Not Detected
2-Hexanone	0.79	Not Detected	3.2	Not Detected
Dibromochloromethane	0.16	Not Detected	1.3	Not Detected
Chlorobenzene	0.16	Not Detected	0.73	Not Detected
Styrene	0.16	Not Detected	0.67	Not Detected
Bromoform	0.16	Not Detected	1.6	Not Detected
Cumene	0.16	Not Detected	0.78	Not Detected
Propylbenzene	0.16	Not Detected	0.78	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.78	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.78	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.78	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.95	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.82	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.95	Not Detected
1,2,4-Trichlorobenzene	0.79	Not Detected	5.9	Not Detected
Hexachlorobutadiene	0.79	Not Detected	8.4	Not Detected

J0 = Estimated value due to bias in the CCV.

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits

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Client Sample ID: MOD BLD-SW1-20190725

Lab ID#: 1907637A-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22073119**	**Date of Collection: 7/25/19 2:30:00 PM**	
Dil. Factor:	**1.58**	**Date of Analysis: 7/31/19 10:07 PM**	

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	102	70-130

eurofins | Air Toxics

Client Sample ID: MOD BLD-SW1-20190725

Lab ID#: 1907637A-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22073119sim**	**Date of Collection: 7/25/19 2:30:00 PM**	
Dil. Factor:	**1.58**	**Date of Analysis: 7/31/19 10:07 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.032	0.47	0.16	2.3
Freon 114	0.032	Not Detected	0.22	Not Detected
Chloromethane	0.79	Not Detected UJ	1.6	Not Detected UJ
Vinyl Chloride	0.016	Not Detected	0.040	Not Detected
Chloroethane	0.079	Not Detected	0.21	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.063	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.57	Not Detected
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.12	Not Detected
Chloroform	0.032	0.066	0.15	0.32
1,1,1-Trichloroethane	0.032	Not Detected	0.17	Not Detected
Carbon Tetrachloride	0.032	0.071	0.20	0.45
Benzene	0.079	0.22	0.25	0.69
1,2-Dichloroethane	0.032	Not Detected	0.13	Not Detected
Trichloroethene	0.032	Not Detected	0.17	Not Detected
Toluene	0.079	4.8	0.30	18
1,1,2-Trichloroethane	0.032	Not Detected	0.17	Not Detected
Tetrachloroethene	0.032	0.042	0.21	0.28
1,2-Dibromoethane (EDB)	0.032	Not Detected	0.24	Not Detected
Ethyl Benzene	0.032	0.19	0.14	0.82
m,p-Xylene	0.063	0.68	0.27	2.9
o-Xylene	0.032	0.20	0.14	0.88
1,1,2,2-Tetrachloroethane	0.032	Not Detected	0.22	Not Detected
1,4-Dichlorobenzene	0.032	Not Detected	0.19	Not Detected
Naphthalene	0.079	Not Detected	0.41	Not Detected

UJ = Analyte associated with low bias in the CCV.

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	110	70-130

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Client Sample ID: MOD BLD-SW2-20190725

Lab ID#: 1907637A-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22073117**	**Date of Collection: 7/25/19 2:30:00 PM**	
Dil. Factor:	**1.55**	**Date of Analysis: 7/31/19 08:55 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,3-Butadiene	0.16	Not Detected	0.34	Not Detected
Bromomethane	0.78	Not Detected	3.0	Not Detected
Freon 11	0.16	0.25	0.87	1.4
Ethanol	0.78	4.1	1.5	7.7
Freon 113	0.16	Not Detected	1.2	Not Detected
Acetone	1.6	16	3.7	39
2-Propanol	0.78	2.1 J0	1.9	5.2 J0
Carbon Disulfide	0.78	Not Detected	2.4	Not Detected
3-Chloropropene	0.78	Not Detected	2.4	Not Detected
Methylene Chloride	0.31	1.1	1.1	3.9
Hexane	0.78	Not Detected	2.7	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.78	4.4	2.3	13
Tetrahydrofuran	0.78	0.82	2.3	2.4
Cyclohexane	0.16	Not Detected	0.53	Not Detected
2,2,4-Trimethylpentane	0.78	Not Detected	3.6	Not Detected
Heptane	0.16	0.33	0.64	1.3
1,2-Dichloropropane	0.16	Not Detected	0.72	Not Detected
1,4-Dioxane	0.16	Not Detected	0.56	Not Detected
Bromodichloromethane	0.16	Not Detected	1.0	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.70	Not Detected
4-Methyl-2-pentanone	0.16	0.33	0.63	1.4
trans-1,3-Dichloropropene	0.16	Not Detected	0.70	Not Detected
2-Hexanone	0.78	Not Detected	3.2	Not Detected
Dibromochloromethane	0.16	Not Detected	1.3	Not Detected
Chlorobenzene	0.16	Not Detected	0.71	Not Detected
Styrene	0.16	Not Detected	0.66	Not Detected
Bromoform	0.16	Not Detected	1.6	Not Detected
Cumene	0.16	Not Detected	0.76	Not Detected
Propylbenzene	0.16	Not Detected	0.76	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.76	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.76	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.76	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.93	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.80	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.93	Not Detected
1,2,4-Trichlorobenzene	0.78	Not Detected	5.8	Not Detected
Hexachlorobutadiene	0.78	Not Detected	8.3	Not Detected

J0 = Estimated value due to bias in the CCV.

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits

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Client Sample ID: MOD BLD-SW2-20190725

Lab ID#: 1907637A-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22073117**	**Date of Collection:**	**7/25/19 2:30:00 PM**
Dil. Factor:	**1.55**	**Date of Analysis:**	**7/31/19 08:55 PM**

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	103	70-130

eurofins | Air Toxics

Client Sample ID: MOD BLD-SW2-20190725

Lab ID#: 1907637A-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22073117sim**	**Date of Collection:**	**7/25/19 2:30:00 PM**
Dil. Factor:	**1.55**	**Date of Analysis:**	**7/31/19 08:55 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.031	0.47	0.15	2.3
Freon 114	0.031	Not Detected	0.22	Not Detected
Chloromethane	0.78	Not Detected UJ	1.6	Not Detected UJ
Vinyl Chloride	0.016	Not Detected	0.040	Not Detected
Chloroethane	0.078	Not Detected	0.20	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.061	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.61	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.56	Not Detected
1,1-Dichloroethane	0.031	Not Detected	0.12	Not Detected
cis-1,2-Dichloroethene	0.031	Not Detected	0.12	Not Detected
Chloroform	0.031	0.066	0.15	0.32
1,1,1-Trichloroethane	0.031	Not Detected	0.17	Not Detected
Carbon Tetrachloride	0.031	0.070	0.20	0.44
Benzene	0.078	0.21	0.25	0.68
1,2-Dichloroethane	0.031	Not Detected	0.12	Not Detected
Trichloroethene	0.031	Not Detected	0.17	Not Detected
Toluene	0.078	4.8	0.29	18
1,1,2-Trichloroethane	0.031	Not Detected	0.17	Not Detected
Tetrachloroethene	0.031	0.071	0.21	0.48
1,2-Dibromoethane (EDB)	0.031	Not Detected	0.24	Not Detected
Ethyl Benzene	0.031	0.19	0.13	0.84
m,p-Xylene	0.062	0.70	0.27	3.0
o-Xylene	0.031	0.21	0.13	0.93
1,1,2,2-Tetrachloroethane	0.031	Not Detected	0.21	Not Detected
1,4-Dichlorobenzene	0.031	Not Detected	0.19	Not Detected
Naphthalene	0.078	Not Detected	0.41	Not Detected

UJ = Analyte associated with low bias in the CCV.

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	111	70-130

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Client Sample ID: MOD BLD-AMB1-20190725

Lab ID#: 1907637A-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22073118**	**Date of Collection: 7/25/19 3:08:00 PM**	
Dil. Factor:	**1.75**	**Date of Analysis: 7/31/19 09:31 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,3-Butadiene	0.18	Not Detected	0.39	Not Detected
Bromomethane	0.88	Not Detected	3.4	Not Detected
Freon 11	0.18	0.29	0.98	1.6
Ethanol	0.88	5.4	1.6	10
Freon 113	0.18	Not Detected	1.3	Not Detected
Acetone	1.8	6.3	4.2	15
2-Propanol	0.88	Not Detected UJ	2.2	Not Detected UJ
Carbon Disulfide	0.88	Not Detected	2.7	Not Detected
3-Chloropropene	0.88	Not Detected	2.7	Not Detected
Methylene Chloride	0.35	Not Detected	1.2	Not Detected
Hexane	0.88	Not Detected	3.1	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.88	Not Detected	2.6	Not Detected
Tetrahydrofuran	0.88	Not Detected	2.6	Not Detected
Cyclohexane	0.18	Not Detected	0.60	Not Detected
2,2,4-Trimethylpentane	0.88	Not Detected	4.1	Not Detected
Heptane	0.18	0.26	0.72	1.0
1,2-Dichloropropane	0.18	Not Detected	0.81	Not Detected
1,4-Dioxane	0.18	Not Detected	0.63	Not Detected
Bromodichloromethane	0.18	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.18	Not Detected	0.79	Not Detected
4-Methyl-2-pentanone	0.18	Not Detected	0.72	Not Detected
trans-1,3-Dichloropropene	0.18	Not Detected	0.79	Not Detected
2-Hexanone	0.88	Not Detected	3.6	Not Detected
Dibromochloromethane	0.18	Not Detected	1.5	Not Detected
Chlorobenzene	0.18	Not Detected	0.80	Not Detected
Styrene	0.18	Not Detected	0.74	Not Detected
Bromoform	0.18	Not Detected	1.8	Not Detected
Cumene	0.18	Not Detected	0.86	Not Detected
Propylbenzene	0.18	Not Detected	0.86	Not Detected
4-Ethyltoluene	0.18	Not Detected	0.86	Not Detected
1,3,5-Trimethylbenzene	0.18	Not Detected	0.86	Not Detected
1,2,4-Trimethylbenzene	0.18	Not Detected	0.86	Not Detected
1,3-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected
alpha-Chlorotoluene	0.18	Not Detected	0.90	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.88	Not Detected	6.5	Not Detected
Hexachlorobutadiene	0.88	Not Detected	9.3	Not Detected

UJ = Analyte associated with low bias in the CCV.

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits

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Client Sample ID: MOD BLD-AMB1-20190725

Lab ID#: 1907637A-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22073118**	**Date of Collection:**	**7/25/19 3:08:00 PM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**7/31/19 09:31 PM**

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	100	70-130

eurofins | Air Toxics

Client Sample ID: MOD BLD-AMB1-20190725

Lab ID#: 1907637A-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22073118sim**	**Date of Collection: 7/25/19 3:08:00 PM**	
Dil. Factor:	**1.75**	**Date of Analysis: 7/31/19 09:31 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.035	0.48	0.17	2.4
Freon 114	0.035	Not Detected	0.24	Not Detected
Chloromethane	0.88	Not Detected UJ	1.8	Not Detected UJ
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
Chloroethane	0.088	Not Detected	0.23	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.069	Not Detected
trans-1,2-Dichloroethene	0.18	Not Detected	0.69	Not Detected
Methyl tert-butyl ether	0.18	Not Detected	0.63	Not Detected
1,1-Dichloroethane	0.035	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected
Chloroform	0.035	Not Detected	0.17	Not Detected
1,1,1-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Carbon Tetrachloride	0.035	0.068	0.22	0.43
Benzene	0.088	0.51	0.28	1.6
1,2-Dichloroethane	0.035	Not Detected	0.14	Not Detected
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Toluene	0.088	1.1	0.33	4.1
1,1,2-Trichloroethane	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	0.038	0.24	0.26
1,2-Dibromoethane (EDB)	0.035	Not Detected	0.27	Not Detected
Ethyl Benzene	0.035	0.16	0.15	0.68
m,p-Xylene	0.070	0.52	0.30	2.3
o-Xylene	0.035	0.17	0.15	0.72
1,1,2,2-Tetrachloroethane	0.035	Not Detected	0.24	Not Detected
1,4-Dichlorobenzene	0.035	Not Detected	0.21	Not Detected
Naphthalene	0.088	Not Detected	0.46	Not Detected

UJ = Analyte associated with low bias in the CCV.

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1907637A-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22073106**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/31/19 12:32 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,3-Butadiene	0.10	Not Detected	0.22	Not Detected
Bromomethane	0.50	Not Detected	1.9	Not Detected
Freon 11	0.10	Not Detected	0.56	Not Detected
Ethanol	0.50	Not Detected	0.94	Not Detected
Freon 113	0.10	Not Detected	0.77	Not Detected
Acetone	1.0	Not Detected	2.4	Not Detected
2-Propanol	0.50	Not Detected UJ	1.2	Not Detected UJ
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
3-Chloropropene	0.50	Not Detected	1.6	Not Detected
Methylene Chloride	0.20	Not Detected	0.69	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	1.5	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Cyclohexane	0.10	Not Detected	0.34	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Heptane	0.10	Not Detected	0.41	Not Detected
1,2-Dichloropropane	0.10	Not Detected	0.46	Not Detected
1,4-Dioxane	0.10	Not Detected	0.36	Not Detected
Bromodichloromethane	0.10	Not Detected	0.67	Not Detected
cis-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
4-Methyl-2-pentanone	0.10	Not Detected	0.41	Not Detected
trans-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
2-Hexanone	0.50	Not Detected	2.0	Not Detected
Dibromochloromethane	0.10	Not Detected	0.85	Not Detected
Chlorobenzene	0.10	Not Detected	0.46	Not Detected
Styrene	0.10	Not Detected	0.42	Not Detected
Bromoform	0.10	Not Detected	1.0	Not Detected
Cumene	0.10	Not Detected	0.49	Not Detected
Propylbenzene	0.10	Not Detected	0.49	Not Detected
4-Ethyltoluene	0.10	Not Detected	0.49	Not Detected
1,3,5-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,2,4-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,3-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
alpha-Chlorotoluene	0.10	Not Detected	0.52	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2,4-Trichlorobenzene	0.50	Not Detected	3.7	Not Detected
Hexachlorobutadiene	0.50	Not Detected	5.3	Not Detected

UJ = Analyte associated with low bias in the CCV.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits

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Client Sample ID: Lab Blank

Lab ID#: 1907637A-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22073106**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/31/19 12:32 PM**	

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1907637A-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22073106sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/31/19 12:32 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.020	Not Detected	0.099	Not Detected
Freon 114	0.020	Not Detected	0.14	Not Detected
Chloromethane	0.50	Not Detected UJ	1.0	Not Detected UJ
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
Chloroethane	0.050	Not Detected	0.13	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Methyl tert-butyl ether	0.10	Not Detected	0.36	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
Chloroform	0.020	Not Detected	0.098	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Carbon Tetrachloride	0.020	Not Detected	0.12	Not Detected
Benzene	0.050	Not Detected	0.16	Not Detected
1,2-Dichloroethane	0.020	Not Detected	0.081	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Toluene	0.050	Not Detected	0.19	Not Detected
1,1,2-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
1,2-Dibromoethane (EDB)	0.020	Not Detected	0.15	Not Detected
Ethyl Benzene	0.020	Not Detected	0.087	Not Detected
m,p-Xylene	0.040	Not Detected	0.17	Not Detected
o-Xylene	0.020	Not Detected	0.087	Not Detected
1,1,2,2-Tetrachloroethane	0.020	Not Detected	0.14	Not Detected
1,4-Dichlorobenzene	0.020	Not Detected	0.12	Not Detected
Naphthalene	0.050	Not Detected	0.26	Not Detected

UJ = Analyte associated with low bias in the CCV.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: CCV

Lab ID#: 1907637A-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22073102**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/31/19 09:10 AM**	

Compound	%Recovery
1,3-Butadiene	90
Bromomethane	103
Freon 11	96
Ethanol	73
Freon 113	94
Acetone	86
2-Propanol	68 Q
Carbon Disulfide	98
3-Chloropropene	90
Methylene Chloride	91
Hexane	90
2-Butanone (Methyl Ethyl Ketone)	82
Tetrahydrofuran	80
Cyclohexane	91
2,2,4-Trimethylpentane	91
Heptane	111
1,2-Dichloropropane	110
1,4-Dioxane	94
Bromodichloromethane	97
cis-1,3-Dichloropropene	98
4-Methyl-2-pentanone	88
trans-1,3-Dichloropropene	92
2-Hexanone	72
Dibromochloromethane	93
Chlorobenzene	102
Styrene	88
Bromoform	95
Cumene	96
Propylbenzene	96
4-Ethyltoluene	100
1,3,5-Trimethylbenzene	98
1,2,4-Trimethylbenzene	90
1,3-Dichlorobenzene	123
alpha-Chlorotoluene	76
1,2-Dichlorobenzene	76
1,2,4-Trichlorobenzene	100
Hexachlorobutadiene	123

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits

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Client Sample ID: CCV

Lab ID#: 1907637A-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22073102**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/31/19 09:10 AM**	

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	111	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: CCV

Lab ID#: 1907637A-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22073102sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/31/19 09:10 AM**	

Compound	%Recovery
Freon 12	80
Freon 114	70
Chloromethane	65 Q
Vinyl Chloride	82
Chloroethane	114
1,1-Dichloroethene	83
trans-1,2-Dichloroethene	91
Methyl tert-butyl ether	74
1,1-Dichloroethane	84
cis-1,2-Dichloroethene	85
Chloroform	97
1,1,1-Trichloroethane	87
Carbon Tetrachloride	104
Benzene	91
1,2-Dichloroethane	102
Trichloroethene	105
Toluene	96
1,1,2-Trichloroethane	97
Tetrachloroethene	95
1,2-Dibromoethane (EDB)	95
Ethyl Benzene	93
m,p-Xylene	88
o-Xylene	86
1,1,2,2-Tetrachloroethane	91
1,4-Dichlorobenzene	98
Naphthalene	80

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: LCS

Lab ID#: 1907637A-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22073103**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/31/19 09:56 AM**	

Compound	%Recovery	Method Limits
1,3-Butadiene	94	70-130
Bromomethane	109	70-130
Freon 11	101	70-130
Ethanol	91	70-130
Freon 113	97	70-130
Acetone	90	70-130
2-Propanol	80	70-130
Carbon Disulfide	88	70-130
3-Chloropropene	86	70-130
Methylene Chloride	92	70-130
Hexane	93	70-130
2-Butanone (Methyl Ethyl Ketone)	87	70-130
Tetrahydrofuran	84	70-130
Cyclohexane	94	70-130
2,2,4-Trimethylpentane	97	70-130
Heptane	112	70-130
1,2-Dichloropropane	109	70-130
1,4-Dioxane	98	70-130
Bromodichloromethane	101	70-130
cis-1,3-Dichloropropene	94	70-130
4-Methyl-2-pentanone	94	70-130
trans-1,3-Dichloropropene	98	70-130
2-Hexanone	88	70-130
Dibromochloromethane	96	70-130
Chlorobenzene	107	70-130
Styrene	92	70-130
Bromoform	98	70-130
Cumene	100	70-130
Propylbenzene	101	70-130
4-Ethyltoluene	105	70-130
1,3,5-Trimethylbenzene	105	70-130
1,2,4-Trimethylbenzene	97	70-130
1,3-Dichlorobenzene	130	70-130
alpha-Chlorotoluene	93	70-130
1,2-Dichlorobenzene	83	70-130
1,2,4-Trichlorobenzene	105	70-130
Hexachlorobutadiene	127	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130

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Client Sample ID: LCS

Lab ID#: 1907637A-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22073103**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/31/19 09:56 AM**	

Surrogates	%Recovery	Method Limits
Toluene-d8	108	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: LCSD

Lab ID#: 1907637A-07AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22073104**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/31/19 10:32 AM**	

Compound	%Recovery	Method Limits
1,3-Butadiene	94	70-130
Bromomethane	108	70-130
Freon 11	101	70-130
Ethanol	94	70-130
Freon 113	95	70-130
Acetone	89	70-130
2-Propanol	82	70-130
Carbon Disulfide	87	70-130
3-Chloropropene	87	70-130
Methylene Chloride	91	70-130
Hexane	93	70-130
2-Butanone (Methyl Ethyl Ketone)	87	70-130
Tetrahydrofuran	85	70-130
Cyclohexane	95	70-130
2,2,4-Trimethylpentane	96	70-130
Heptane	111	70-130
1,2-Dichloropropane	108	70-130
1,4-Dioxane	99	70-130
Bromodichloromethane	101	70-130
cis-1,3-Dichloropropene	94	70-130
4-Methyl-2-pentanone	95	70-130
trans-1,3-Dichloropropene	97	70-130
2-Hexanone	89	70-130
Dibromochloromethane	95	70-130
Chlorobenzene	106	70-130
Styrene	92	70-130
Bromoform	98	70-130
Cumene	99	70-130
Propylbenzene	98	70-130
4-Ethyltoluene	103	70-130
1,3,5-Trimethylbenzene	102	70-130
1,2,4-Trimethylbenzene	96	70-130
1,3-Dichlorobenzene	126	70-130
alpha-Chlorotoluene	95	70-130
1,2-Dichlorobenzene	85	70-130
1,2,4-Trichlorobenzene	105	70-130
Hexachlorobutadiene	128	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130

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Client Sample ID: LCSD

Lab ID#: 1907637A-07AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22073104**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/31/19 10:32 AM**	

Surrogates	%Recovery	Method Limits
Toluene-d8	108	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: LCS

Lab ID#: 1907637A-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22073103sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/31/19 09:56 AM**	

Compound	%Recovery	Method Limits
Freon 12	83	70-130
Freon 114	76	70-130
Chloromethane	69 Q	70-130
Vinyl Chloride	87	70-130
Chloroethane	120	70-130
1,1-Dichloroethene	84	70-130
trans-1,2-Dichloroethene	80	70-130
Methyl tert-butyl ether	78	70-130
1,1-Dichloroethane	86	70-130
cis-1,2-Dichloroethene	95	70-130
Chloroform	98	70-130
1,1,1-Trichloroethane	89	70-130
Carbon Tetrachloride	58 Q	70-130
Benzene	91	70-130
1,2-Dichloroethane	103	70-130
Trichloroethene	106	70-130
Toluene	97	70-130
1,1,2-Trichloroethane	101	70-130
Tetrachloroethene	98	70-130
1,2-Dibromoethane (EDB)	101	70-130
Ethyl Benzene	96	70-130
m,p-Xylene	90	70-130
o-Xylene	90	70-130
1,1,2,2-Tetrachloroethane	98	70-130
1,4-Dichlorobenzene	103	70-130
Naphthalene	76	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	107	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: LCSD

Lab ID#: 1907637A-07BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22073104sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/31/19 10:32 AM**	

Compound	%Recovery	Method Limits
Freon 12	83	70-130
Freon 114	76	70-130
Chloromethane	68 Q	70-130
Vinyl Chloride	87	70-130
Chloroethane	119	70-130
1,1-Dichloroethene	84	70-130
trans-1,2-Dichloroethene	79	70-130
Methyl tert-butyl ether	78	70-130
1,1-Dichloroethane	86	70-130
cis-1,2-Dichloroethene	95	70-130
Chloroform	98	70-130
1,1,1-Trichloroethane	89	70-130
Carbon Tetrachloride	58 Q	70-130
Benzene	91	70-130
1,2-Dichloroethane	103	70-130
Trichloroethene	106	70-130
Toluene	97	70-130
1,1,2-Trichloroethane	101	70-130
Tetrachloroethene	98	70-130
1,2-Dibromoethane (EDB)	102	70-130
Ethyl Benzene	95	70-130
m,p-Xylene	89	70-130
o-Xylene	89	70-130
1,1,2,2-Tetrachloroethane	98	70-130
1,4-Dichlorobenzene	102	70-130
Naphthalene	77	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	107	70-130
4-Bromofluorobenzene	103	70-130

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8/5/2019
Mr. Bill Beck
Stericycle Environmental Solutions, Inc.
18000 72nd Ave. S
Suite 217
Kent WA 98032

Project Name: Tacoma Mod Building
Project #:
Workorder #: 1907637B

Dear Mr. Bill Beck

The following report includes the data for the above referenced project for sample(s) received on 7/29/2019 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 APH are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Allyson Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Allyson Scott

Project Manager

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WORK ORDER #: 1907637B

Work Order Summary

CLIENT:	Mr. Bill Beck Stericycle Environmental Solutions, Inc. 18000 72nd Ave. S Suite 217 Kent, WA 98032	**BILL TO:**	Mr. Bill Beck Stericycle Environmental Solutions, Inc. 18000 72nd Ave. S Suite 217 Kent, WA 98032
PHONE:	425-227-6149	**P.O. #**	
FAX:		**PROJECT #**	Tacoma Mod Building
DATE RECEIVED:	07/29/2019	**CONTACT:**	Allyson Scott
DATE COMPLETED:	08/05/2019		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	MOD BLD-NE-20190725	Modified TO-15 APH	4.0 "Hg	5 psi
01B	MOD BLD-NE-20190725	Modified TO-15 APH	4.0 "Hg	5 psi
02A	MOD BLD-SW1-20190725	Modified TO-15 APH	4.5 "Hg	5 psi
02B	MOD BLD-SW1-20190725	Modified TO-15 APH	4.5 "Hg	5 psi
03A	MOD BLD-SW2-20190725	Modified TO-15 APH	4.0 "Hg	5 psi
03B	MOD BLD-SW2-20190725	Modified TO-15 APH	4.0 "Hg	5 psi
04A	MOD BLD-AMB1-20190725	Modified TO-15 APH	7.0 "Hg	5 psi
04B	MOD BLD-AMB1-20190725	Modified TO-15 APH	7.0 "Hg	5 psi
05A	Lab Blank	Modified TO-15 APH	NA	NA
05B	Lab Blank	Modified TO-15 APH	NA	NA
06A	CCV	Modified TO-15 APH	NA	NA
06B	CCV	Modified TO-15 APH	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 08/05/19

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209218, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-18-13, UT NELAP – CA009332019-11, VA NELAP - 460197, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005-011, Effective date: 10/18/2018, Expiration date: 10/17/2019.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 & VPH Fractions
Stericycle Environmental Solutions, Inc.
Workorder# 1907637B

Four 6 Liter Summa Canister (SIM Certified) samples were received on July 29, 2019. The laboratory performed analysis via EPA Method TO-15 and Air Toxics VPH (Volatile Petroleum Hydrocarbon) methods for the Determination of VPH Fractions using GC/MS in the full scan mode. The method involves concentrating up to 0.5 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis. This method is designed to measure gaseous phase aliphatic and aromatic compounds in ambient air and soil gas collected in stainless steel Summa canisters. Air Toxics VPH method is a hybrid of EPA TO-15, MADEP APH and WSDE VPH methods. Chromatographic peaks were identified via mass spectrum as either aliphatic or aromatic petroleum hydrocarbons and included in the appropriate range as defined by the method. The volatile Aliphatic hydrocarbons are collectively quantified within the C5 to C6 range, C6 to C8 range, C8 to C10 range and the C10 to C12 range. Additionally, the volatile Aromatic hydrocarbons are collectively quantified within the C8 to C10 range and the C10 to C12 range. The Aromatic ranges refer to the equivalent carbon (EC) ranges. (Please note that benzene constitutes the >C5-C7 aromatic range and toluene constitutes the >C7-C8 aromatic range. Benzene and toluene concentrations are reported on the TO-15 workorder fraction.)

Aliphatic data is calculated from the Total Ion chromatogram which has been reprocessed in a duplicate file differentiated from the original by the addition of an alphanumeric extension. The Aromatic calculation also uses the information contained in the associated Extracted Ion file.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the reporting limit.
UJ- Non-detected compound associated with low bias in the CCV
N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: MOD BLD-NE-20190725

Lab ID#: 1907637B-01A

No Detections Were Found.

Client Sample ID: MOD BLD-NE-20190725

Lab ID#: 1907637B-01B

No Detections Were Found.

Client Sample ID: MOD BLD-SW1-20190725

Lab ID#: 1907637B-02A

No Detections Were Found.

Client Sample ID: MOD BLD-SW1-20190725

Lab ID#: 1907637B-02B

No Detections Were Found.

Client Sample ID: MOD BLD-SW2-20190725

Lab ID#: 1907637B-03A

No Detections Were Found.

Client Sample ID: MOD BLD-SW2-20190725

Lab ID#: 1907637B-03B

No Detections Were Found.

Client Sample ID: MOD BLD-AMB1-20190725

Lab ID#: 1907637B-04A

No Detections Were Found.

Client Sample ID: MOD BLD-AMB1-20190725

Lab ID#: 1907637B-04B

No Detections Were Found.

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Client Sample ID: MOD BLD-NE-20190725

Lab ID#: 1907637B-01A

MODIFIED METHOD TO-15 GC/MS FULL SCAN

File Name:	**p080112a**	**Date of Collection: 7/25/19 2:54:00 PM**	
Dil. Factor:	**1.55**	**Date of Analysis: 8/1/19 06:17 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
C5-C6 Aliphatic Hydrocarbons (ref. to Pentane + Hexane)	16	Not Detected	50	Not Detected
>C6-C8 Aliphatic Hydrocarbons (ref. to Heptane)	16	Not Detected	64	Not Detected
>C8-C10 Aliphatic Hydrocarbons (ref. to Decane)	16	Not Detected	90	Not Detected
>C10-C12 Aliphatic Hydrocarbons (ref. to Dodecane)	16	Not Detected	110	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

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Client Sample ID: MOD BLD-NE-20190725

Lab ID#: 1907637B-01B

MODIFIED METHOD TO-15 GC/MS FULL SCAN

File Name:	**p080112c**	**Date of Collection: 7/25/19 2:54:00 PM**	
Dil. Factor:	**1.55**	**Date of Analysis: 8/1/19 06:17 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
>C8-C10 Aromatic Hydrocarbons	16	Not Detected	76	Not Detected
>C10-C12 Aromatic Hydrocarbons	16	Not Detected	85	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

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Client Sample ID: MOD BLD-SW1-20190725

Lab ID#: 1907637B-02A

MODIFIED METHOD TO-15 GC/MS FULL SCAN

File Name:	**p080113a**	**Date of Collection: 7/25/19 2:30:00 PM**	
Dil. Factor:	**1.58**	**Date of Analysis: 8/1/19 06:43 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
C5-C6 Aliphatic Hydrocarbons (ref. to Pentane + Hexane)	16	Not Detected	51	Not Detected
>C6-C8 Aliphatic Hydrocarbons (ref. to Heptane)	16	Not Detected	65	Not Detected
>C8-C10 Aliphatic Hydrocarbons (ref. to Decane)	16	Not Detected	92	Not Detected
>C10-C12 Aliphatic Hydrocarbons (ref. to Dodecane)	16	Not Detected	110	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

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Client Sample ID: MOD BLD-SW1-20190725

Lab ID#: 1907637B-02B

MODIFIED METHOD TO-15 GC/MS FULL SCAN

File Name:	**p080113c**	**Date of Collection: 7/25/19 2:30:00 PM**	
Dil. Factor:	**1.58**	**Date of Analysis: 8/1/19 06:43 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
>C8-C10 Aromatic Hydrocarbons	16	Not Detected	78	Not Detected
>C10-C12 Aromatic Hydrocarbons	16	Not Detected	87	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

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Client Sample ID: MOD BLD-SW2-20190725

Lab ID#: 1907637B-03A

MODIFIED METHOD TO-15 GC/MS FULL SCAN

File Name:	**p080114a**	**Date of Collection: 7/25/19 2:30:00 PM**	
Dil. Factor:	**1.55**	**Date of Analysis: 8/1/19 07:09 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
C5-C6 Aliphatic Hydrocarbons (ref. to Pentane + Hexane)	16	Not Detected	50	Not Detected
>C6-C8 Aliphatic Hydrocarbons (ref. to Heptane)	16	Not Detected	64	Not Detected
>C8-C10 Aliphatic Hydrocarbons (ref. to Decane)	16	Not Detected	90	Not Detected
>C10-C12 Aliphatic Hydrocarbons (ref. to Dodecane)	16	Not Detected	110	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

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Client Sample ID: MOD BLD-SW2-20190725

Lab ID#: 1907637B-03B

MODIFIED METHOD TO-15 GC/MS FULL SCAN

File Name:	**p080114c**	**Date of Collection: 7/25/19 2:30:00 PM**	
Dil. Factor:	**1.55**	**Date of Analysis: 8/1/19 07:09 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
>C8-C10 Aromatic Hydrocarbons	16	Not Detected	76	Not Detected
>C10-C12 Aromatic Hydrocarbons	16	Not Detected	85	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

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Client Sample ID: MOD BLD-AMB1-20190725

Lab ID#: 1907637B-04A

MODIFIED METHOD TO-15 GC/MS FULL SCAN

File Name:	**p080115a**	**Date of Collection: 7/25/19 3:08:00 PM**	
Dil. Factor:	**1.75**	**Date of Analysis: 8/1/19 07:36 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
C5-C6 Aliphatic Hydrocarbons (ref. to Pentane + Hexane)	18	Not Detected	57	Not Detected
>C6-C8 Aliphatic Hydrocarbons (ref. to Heptane)	18	Not Detected	72	Not Detected
>C8-C10 Aliphatic Hydrocarbons (ref. to Decane)	18	Not Detected	100	Not Detected
>C10-C12 Aliphatic Hydrocarbons (ref. to Dodecane)	18	Not Detected	120	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

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Client Sample ID: MOD BLD-AMB1-20190725

Lab ID#: 1907637B-04B

MODIFIED METHOD TO-15 GC/MS FULL SCAN

File Name:	**p080115c**	**Date of Collection: 7/25/19 3:08:00 PM**	
Dil. Factor:	**1.75**	**Date of Analysis: 8/1/19 07:36 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
>C8-C10 Aromatic Hydrocarbons	18	Not Detected	86	Not Detected
>C10-C12 Aromatic Hydrocarbons	18	Not Detected	96	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

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Client Sample ID: Lab Blank

Lab ID#: 1907637B-05A

MODIFIED METHOD TO-15 GC/MS FULL SCAN

File Name:	**p080111a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/1/19 05:10 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
C5-C6 Aliphatic Hydrocarbons (ref. to Pentane + Hexane)	10	Not Detected	32	Not Detected
>C6-C8 Aliphatic Hydrocarbons (ref. to Heptane)	10	Not Detected	41	Not Detected
>C8-C10 Aliphatic Hydrocarbons (ref. to Decane)	10	Not Detected	58	Not Detected
>C10-C12 Aliphatic Hydrocarbons (ref. to Dodecane)	10	Not Detected	70	Not Detected

Container Type: NA - Not Applicable

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Client Sample ID: Lab Blank

Lab ID#: 1907637B-05B

MODIFIED METHOD TO-15 GC/MS FULL SCAN

File Name:	**p080111c**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/1/19 05:10 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
>C8-C10 Aromatic Hydrocarbons	10	Not Detected	49	Not Detected
>C10-C12 Aromatic Hydrocarbons	10	Not Detected	55	Not Detected

Container Type: NA - Not Applicable

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Client Sample ID: CCV

Lab ID#: 1907637B-06A

MODIFIED METHOD TO-15 GC/MS FULL SCAN

File Name:	**p080110a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/1/19 04:42 PM**	

Compound	%Recovery
C5-C6 Aliphatic Hydrocarbons (ref. to Pentane + Hexane)	97
>C6-C8 Aliphatic Hydrocarbons (ref. to Heptane)	102
>C8-C10 Aliphatic Hydrocarbons (ref. to Decane)	103
>C10-C12 Aliphatic Hydrocarbons (ref. to Dodecane)	96

Container Type: NA - Not Applicable

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Client Sample ID: CCV

Lab ID#: 1907637B-06B

MODIFIED METHOD TO-15 GC/MS FULL SCAN

File Name:	**p080110c**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/1/19 04:42 PM**	

Compound	%Recovery
>C8-C10 Aromatic Hydrocarbons	100
>C10-C12 Aromatic Hydrocarbons	98

Container Type: NA - Not Applicable