FORMER DURASPEC ELECTROPLATING FACILITY
QUEENS, NEW YORK

OFF-SITE VAPOR INTRUSION INVESTIGATION REPORT

NYSDEC Site No. 241204

Prepared for:

HASTINGS CAPITAL, LLC
100 FIELD STREET
WEST BABYLON, NY 11704

Prepared by:

AMEC E&E, PC
214-25 42nd Avenue
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May 2018

May 8, 2018

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New York State Department of Environmental Conservation
Region 2
Division of Environmental Remediation
47-40 21st Street
Long Island City, NY 11101-5401

Attn: Wendi Zheng

Re**:** **Off-Site Vapor Intrusion Investigation Completion Report**
Former Duraspec Electroplating
87-83 139th Street
Jamaica, NY 11435
Site No.: 241204

Dear Ms. Zheng

This Off-Site Vapor Intrusion Investigation Report for the above-referenced facility is attached.

If you have any questions, please do not hesitate to call our Office.

Respectfully,

Amec E&E, PC

Jazmin Logan
Project Scientist

Eric A. Weinstock, P.G.
Principal Scientist

cc: Jane O'Connell
Miriam Villani, Esq.
Robert Birnbaum, Hastings Capital, LLC

CERTIFICATIONS

I, Eric Weinstock, certify that I am currently a Qualified Environmental Professional and that this Off-Site Vapor Intrusion Investigation Report was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

229	5/7/2018	Eric Weinstock
NYS Professional Geologist #	Date	Signature

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LIST OF ACRONYMS AND ABBREVIATIONS

AMEC	AMEC E&E, PC
EPA	US Environmental Protection Agency
ft^2	square feet
IRM	Interim Remedial Measure
mil	millimeter
MSL	Mean Sea Level
NYCRR	New York Code of Rule and Regulations
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PCE	Tetrachloroethene
RCRA	Resource Conservation and Recovery Act
TCE	Trichloroethene
TOGS	Technical & Operational Guidance Series
ug/m3	microgram per cubic meter

1.0 INTRODUCTION

Amec E&E, PC (Amec) was retained by Hastings Capital, LLC to prepare this Off-Site Vapor Intrusion Investigation Report for the Former Duraspec Electroplating Facility located at 87-83 139th Street, Jamaica, NY (Site). The Site location is shown on Figure 1. This report presents the field procedures and analytical data associated with the March 2018 vapor intrusion sampling event.

1.1 Background

Duraspec operated an electroplating facility at the Site since the 1960s. Furthermore, the facility was listed as a hazardous waste generator under EPA ID number NYD012379798. It is understood that prior to closing, metal parts were electroplated with cadmium, copper, and zinc. It is further understood that in previous years, Duraspec also plated parts with chromium, gold, nickel and silver. For further details regarding the processes during the active operation of the Former Duraspec facility, please refer to the Interim Remedial Measure Work Plan dated November 6, 2017 (Ref. 1).

In the summer of 2015, Duraspec ceased operations when the property was sold to the current owner, Hastings Capital LLC (Hastings, or Owner). Upon acquisition of the subject property, Hastings enrolled in a RCRA Closure performed under the oversight of the NYSDEC (Ref. 2). As new site data was obtained during the Closure process, this Site was transitioned into the State Superfund Program with a “P” listing. A remedial effort for the subject property is currently being completed in accordance with the NYSDEC-approved Interim Remedial Measures Work Plan.

In March 2018, an off-site investigation was conducted to evaluate whether the Site is a potential source of vapor intrusion. This work was completed in accordance with the NYSDEC-approved Off-Site Vapor Intrusion Work Plan (Work Plan) dated February 21, 2018 (Ref. 3). This document details the field procedures and analytical data associated this work.

1.2 Site Description and Physical Setting

The Site is located in a mixed residential / commercial setting. The underlying soils consist of Upper Glacial Sand and Gravel (Ref. 4). The buildings north of the property are commercial businesses, most primarily operate as auto sales and repair facilities. Structures to the south and west of the property are primarily private homes. As such, the off-site investigation will focus on areas south and west of the site.

2.0 ACCESS AGREEMENTS IN RESIDENCES

As documented in the Work Plan, the proposed sampling locations for the off-site vapor intrusion investigation included the four residences directly south of the Site. The residences consisted of 139-01, 139-03, 139-05, and 139-07 88th Street. Prior to the conducting the off-site vapor intrusion sampling event, Amec attempted contact with all four residences for purposes of access agreements. A letter requesting access for the purposes of the vapor intrusion sampling was prepared to present to the homeowners and is included as Appendix A. The table below summarizes the outcomes of each attempt:

Date and Time:	Address:	
3/2/2018 at 0830	139-01	The home was surrounded in a locked gate. Further, a doorbell was not present. No one was observed in the vicinity of the home. The letter was left in the mailbox.
	139-03	Amec spoke to a resident who agreed to forward the letter to the homeowner.
	139-05	Amec spoke to a resident who agreed to forward the letter to the homeowner.
	139-07	After ringing the doorbell and knocking on the door, contact with the homeowner or a resident was not attained. The letter was left in the mailbox.
3/6/2018 at 1810	139-01	The home was surrounded in a locked gate. Further, a doorbell was not present. No one was observed in the vicinity of the home. The letter was left in the mailbox.
	139-03	**Amec spoke to the homeowner who agreed to provide access for the purpose of our investigation.**
	139-05	Amec spoke to a resident who agreed to forward the letter to the homeowner.

	139-07	Amec spoke to the homeowner who expressed reservations about the sampling. After assuring him that the drilling point would be minimal and restored, he mentioned he would think it over. The homeowner provided his home phone number.
3/12/2018	139-01	Amec mailed the letter with a return receipt request. A few days later the post office notified us that the mail was successfully delivered.
3/20/2018 at 1645	139-01	Amec attempted to call the homeowner from a phone number obtained via a web search. The person who answered indicated that it was the wrong number.
	139-07	Amec called the phone number that the homeowner provided and did not get a response.

After the attempts in obtaining access agreements with the residences, Amec was able to obtain an access agreement only for the residence located at 139-03 88th Avenue.

3.0 VAPOR INTRUSION SAMPLING PROCEDURES

3.1 139TH STREET SAMPLING

Aarco Environmental Services Corp. (Aarco) was retained to install the soil vapor point across the road from the former Duraspec facility as shown on Figure 2. Prior to the sampling event, a sidewalk opening permit was obtained for this work. A copy of the permit is included as Appendix B. On March 30, 2018, Amec met with the Aarco crew to complete this work. Upon arrival, Aarco completed a geophysical survey to clear the soil vapor point of potential utility lines.

Once the installation point for soil vapor sample identified as SV-01 was cleared, a masonry saw was used to cut a rough square through approximately six inches of concrete slab. Subsequently, a hand auger was used to remove the sediment below the concrete slab. The sediment consisted of a brown silty clay with trace of sand. A pre-cleaned ¼-inch diameter stainless steel tubing with a sampling probe at the bottom end was then inserted into the hole. The soil vapor point was set at a depth of five feet below side walk grade. The point was then backfilled with approximately four feet of sand and one feet of bentonite. Prior to collecting the samples, the point was purged three tubing volumes. A laboratory-issued, pre-cleaned summa canister was then connected to the sample point using new plastic tubing. The sample, SV-01 was collected over an approximate two-hour period.

Once the sample collection was complete, the opening was backfilled with the native soil and the square was patched with concrete to original surface grade.

3.2 RESIDENTIAL SAMPLING

As discussed in Section 2.0, the only access agreement successfully obtained for this sampling event was for the residence at 139-03 88th Avenue. The field work for the residential sampling was started on March 30, 2018, the same date of the soil vapor sampling in Section 3.1 and within the winter heating season.

Indoor Air Sampling:

Upon arriving at the 139-03 88th Avenue residence for the sampling event, Amec inspected the vicinity to identify potential background sources which may impact the indoor air quality. A fill-port labeled “fuel oil” for an underground bulk storage tank was noted in the driveway of the residences. A number of pencil-sized punctures were observed on the concrete basement floor. Amec was told the punctures were due to a flooring renovation project that was never completed. Prior to initiating sampling activities, the punctures on the concrete floor were plugged with concrete and allowed to dry. Several household oil-based products including cutting oil and 5-gallon gasoline containers were noted in the boiler/laundry room. Laundry detergent and household cleaning products were also observed in the boiler/laundry room. The completed Indoor Air Quality and Building Inventory form is included as Appendix C.

The canister for the indoor air sample identified as IA-01 was placed at a height within the breathing zone and placed in the basement hallway. A canister for a duplicate indoor air sample, identified as DUP-01, was placed immediately adjacent to IA-01. Furthermore, both sample canisters were opened and closed simultaneously to ensure sample replication. A laboratory-issued, pre-cleaned summa canister was used to collect each sample. The samples, IA-01 and DUP-01, were collected over an approximate 24-hour period.

Sub-Slab Vapor Sampling:

Aarco completed a geophysical survey to clear the sub-slab vapor sampling of potential utility lines. A sub-slab vapor point identified as SV-01 was installed in the vicinity of the corresponding indoor air sample. A hammer drill was used to drill a 1/4-inch diameter hole through the concrete slab. The concrete slab was approximately three inches thick. A new, pre-cleaned section of stainless steel tubing was then inserted into the hole with the bottom of the steel tube placed just below the concrete floor. A bentonite seal was placed around the interface of the tubing and the surface of the concrete floor.

A leak test was performed prior to the collecting the sample. This was completed by setting up a helium shroud around the sampling point. A clean sheet of plastic was placed around the sampling point and sealed with bentonite around the edges. An inverted plastic pail with two pre-drilled holes was placed on top and sealed with bentonite to the plastic sheeting. The tubing from the sample point was extended through the top and tubing connected to a helium cylinder was placed in through the bottom hole. The shroud was enriched with helium. The sampling point was then purged and the discharge was directed into a new tedlar™ bag. The discharge was measured for helium using an MGD-2002 helium detector. The reading measured was 200 ppm, which is acceptable in accordance with the NYSDOH October Guidance Document.

A laboratory issued, negatively pressurized SUMMA canister was connected to the sample point using a new section of tubing. The work plan originally indicated that this sample would be collected over a 24-hour period. The order confirmation from the laboratory indicated that the regulator would be calibrated for the requested 24-hour duration. However, as the field technician monitored the vacuum gauge, the canister was noted to fill up at a much faster rate. The union from the canister to the regulator was checked to confirm that it was a tight connection had been achieved. The sub-slab vapor sample regulator was closed after 71 minutes to ensure that vacuum remained in the SUMMA canister. The final vacuum reading of the canister at the time of collection was -5.3 psi. According to the NYSDOH October Guidance Document, the maximum allowable flow rate for a soil vapor sample is 0.2 liters per minute. The calculated flow rate for the collection of SS-01 was 0.0845 liters per minute, which is considered acceptable.

Ambient Outdoor Air Sampling:

An ambient outdoor air sample identified as AA-01 was collected to characterize background outdoor air quality conditions. The ambient air sample was placed outdoors in the rear yard of the 139-03 88th Avenue residence. A laboratory-issued, pre-cleaned summa canister was used to collect the ambient air sample. Sample AA-01 was collected over an approximate 24-hour period.

At the start of the sampling event, on March 30, 2018, the temperature was approximately 45°F and the barometric pressure was 29.78 inches. Light rainfall occurred later that evening. The following day, at the time the 24-hour samples were being closed, the temperature was approximately 50°F and the barometric pressure was 30.18 inches. The wind maintained a northwesterly direction throughout the sampling event.

4.0 LABORATORY ANALYTICAL RESULTS

All samples collected as part of this Off-site Vapor Intrusion Investigation were submitted to NYS ELAP-certified Alpha Analytical Laboratory of Westborough, MA. The samples were analyzed using EPA method TO-15. The laboratory report is included as Appendix D.

4.1 139TH STREET SAMPLING RESULTS

The laboratory results for SV-01 (the soil vapor point installed across the road from the former Duraspec facility) are tabulated and presented on Table 1. Of the compounds presented in the New York State Department of Health (NYSDOH) Matrix Tables A, B, and C, only PCE was detected at 3.82 microgram per cubic meter (ug/m3). Detections of BTEX compounds and other VOCs were recorded at relatively low levels. With the exception of acetone a common laboratory cleaning agent, there we no detections above 50 ug/m^3.

4.2 RESIDENTIAL SAMPLING RESULTS

Indoor Air Sampling:

The laboratory results for IA-01 are tabulated and presented on Table 1. Of the compounds presented in the New York State Department of Health (NYSDOH) Matrix Tables A, B, and C,

Carbon Tetrachloride was detected at 0.497 ug/m^3, PCE was detected at 3.29 ug/m^3, and 1,1,1-TCA was detected at 0.142 ug/m^3. Other VOCs detections were recorded at relatively low levels. There were no detections above 30 ug/m^3. Furthermore, none of the detections exceeded the NYSDOH Indoor Air Guideline.

The duplicate sample, DUP-01 displayed similar results to that of IA-01. However, in DUP-01, methylene chloride was detected at a concentration of 1.83 ug/m^3, which is very close to the detection minimum. This compound was non-detect in IA-01.

Sub-Slab Vapor Sampling:

The laboratory results for SS-01 are tabulated and presented on Table 1. Of the compounds presented in the New York State Department of Health (NYSDOH) Matrix Tables A, B, and C, PCE was detected at 1.79 ug/m^3 and Methylene Chloride was detected at 7.09 ug/m^3. Other VOCs detections were recorded at relatively low levels. There were no detections above 20 ug/m^3.

Ambient Outdoor Air Sampling:

The laboratory results for AA-01 are tabulated and presented on Table 1. As stated in Section 3.2, the ambient outdoor air sample was collected to characterize background outdoor air quality conditions. The detections in the background sample were comparable to the indoor air sample (and duplicate sample) collected as part of this investigation. Furthermore, carbon tetrachloride, PCE, and methylene chloride (for the duplicate sample) which were found in the indoor air sample (and duplicate sample) were also detected in the background sample.

5.0 DISCUSSION AND CONCLUSIONS

5.1 DISCUSSION

According to the New York State Department of Health (NYSDOH) Matrix Tables A, B, and C, none of the compounds were detected in excess of the "No Further Action" recommendation. The indoor air sample identified as IA-01 displayed detections of Carbon Tetrachloride, PCE, and 1,1,1-TCA, but coupled with the detections in the corresponding sub-slab sample, SS-01, they do not warrant further action. Furthermore, the ambient outdoor air sample, AA-01, indicates there may be a background source contributing to the low level detections in the indoor air. The soil vapor sample identified as SV-01, recorded detections of PCE and several BTEX compounds at relatively low levels.

5.2 CONCLUSION

The findings of the off-site investigation conducted for the Former Duraspec Electroplating Facility indicates that the subject property is not a potential source of vapor intrusion.

REFERENCES

1. Amec, November 2017, IRM Work Plan, Duraspec Electroplating, 87-83 139th Street, Jamaica, NY 11435.

2. Amec, June 2016, RCRA Closure Plan, Duraspec Electroplating, 87-83 139th Street, Jamaica, NY 11435.

3. Amec, February 2018, Off-site Vapor Intrusion Investigation Work Plan, Duraspec Electroplating, 87-83 139th Street, Jamaica, NY 11435.

4. Buxton and Shernoff, 1999, Ground-Water Resources of Kings and Queens Counties, Long Island, New York, USGS Water Supply Paper 2498.

5. New York State Department of Health, Guidance for Evaluating Soil Vapor Intrusion in the State of New York, Final NYSDOH CEH BEEI Soil Vapor Intrusion Guidance, October 2006

FIGURES

N

0 100 200 400
Miles

Figure 1
Site Location Map

Former DureSpec Electroplating, Inc.
87-83 139th Street
Jamaica, NY 11435

Prepared/Date: JCL 06/09/16 | Checked/Date: EAW 06/09/16

Document: P:\Projects\ABBWIN\GIS-Av8\MapDocuments\Remedial Action Plan\AOC18_SiteLocation_8x11P.mxd PDF: P:\Projects\abbwin\GIS-Av8\Figures\Remedial Action Plan\General Permit App - AOC 18 - 2016\Attachement A Figure 1.pdf 03/28/2016 8:46 AM brian.peters

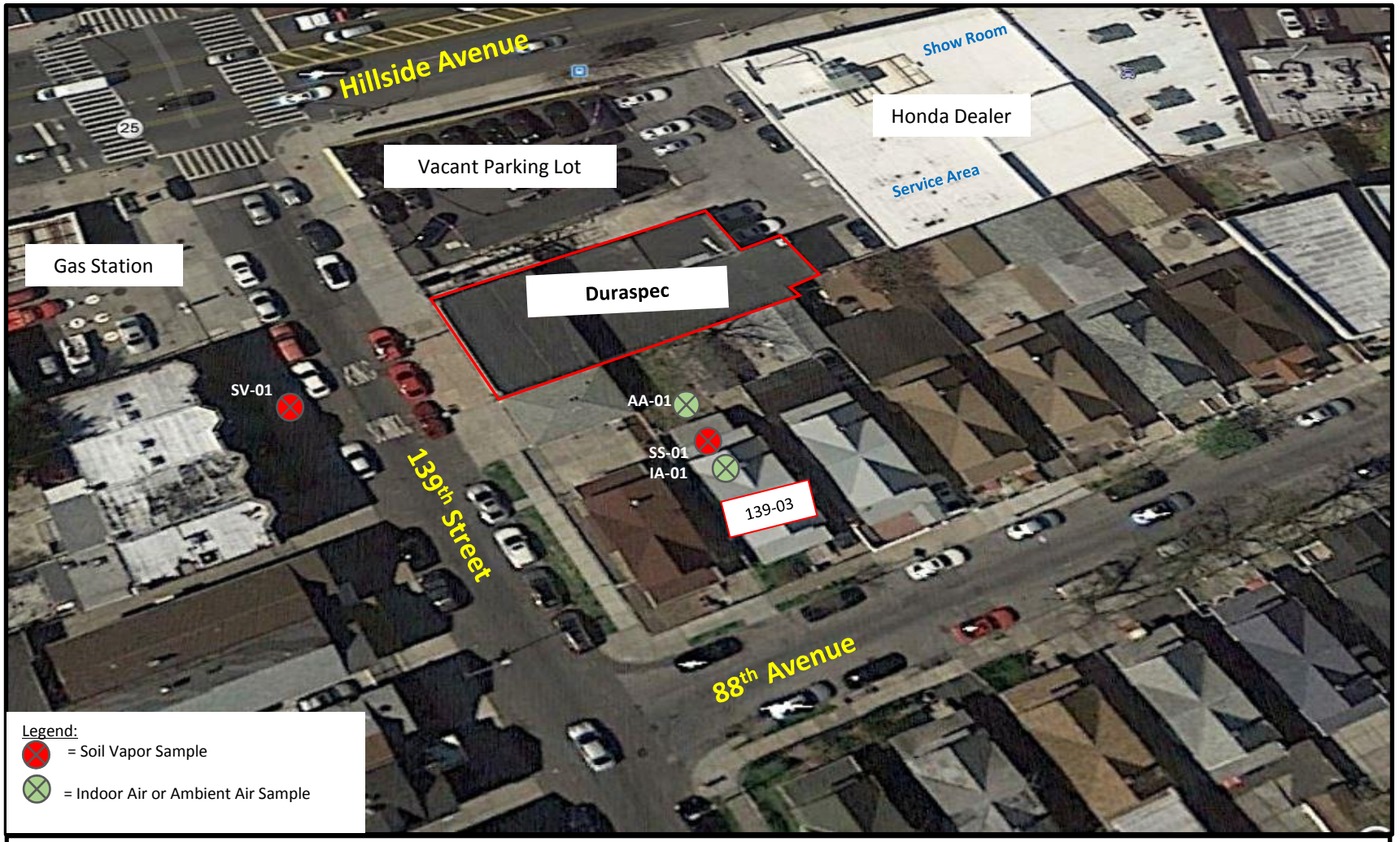


Figure 2: Sample Location Map

Former Duraspec Electroplating
Jamaica, Queens, New York

N

Prepared/Date: JCL 04/20/18	Checked/Date: EAW 04/20/18

TABLES

TABLE 1: FORMER DURASPEC ELECTROPLATING
VAPOR INTRUSION SAMPLING
87-83 139TH STREET, JAMAICA, NY

SAMPLE ID:		SV-01		SS-01				IAQ-1		DUP-01		AA-01	
COLLECTION DATE:		3/30/2018		3/30/2018				3/30/2018		3/30/2018		3/30/2018	
SAMPLE LOCATION		SIDEWALK		RESIDENTIAL BASEMENT				RESIDENTIAL BASEMENT		RESIDENTIAL BASEMENT		RESIDENTIAL YARD	
SAMPLE MATRIX:		SSV		SSV				IAQ		IAQ		AA	
ANALYTE (ug/m3)	**MON./MIT. for SSV**	Conc	Qual	Conc	Qual	**MON./MIT. for IAQ & AA**	**IAQ Guideline for IAQ & AA**	Conc	Qual	Conc	Qual	Conc	Qual
Volatile Organics in Air													
Dichlorodifluoromethane	-	**2.28**		**2.2**		-	-	**2.31**		**2.12**		**2.29**	
Chloromethane	-	**1.22**		0.413	U	-	-	**1.03**		**0.913**		**1.06**	
Freon-114	-	1.4	U	1.4	U	-	-	1.4	U	1.4	U	1.4	U
1,3-Butadiene	-	**7.59**		0.442	U	-	-	0.442	U	0.442	U	0.442	U
Bromomethane	-	0.777	U	0.777	U	-	-	0.777	U	0.777	U	0.777	U
Chloroethane	-	0.528	U	0.528	U	-	-	0.528	U	0.528	U	0.528	U
Ethanol	-	**20.2**		**13.7**		-	-	**26.9**		**25.6**		9.42	U
Vinyl bromide	-	0.874	U	0.874	U	-	-	0.874	U	0.874	U	0.874	U
Acetone	-	**51.8**		**12.1**		-	-	**9.69**		**9.29**		**10.1**	
Trichlorofluoromethane	-	**1.21**		**1.21**		-	-	**1.29**		**1.14**		**1.16**	
Isopropanol	-	**2.12**		**2.61**		-	-	**9.59**		**9.71**		**1.33**	
Tertiary butyl Alcohol	-	**4.49**		1.52	U	-	-	1.52	U	1.52	U	1.52	U
3-Chloropropene	-	0.626	U	0.626	U	-	-	0.626	U	0.626	U	0.626	U
Carbon disulfide	-	**0.95**		0.623	U	-	-	0.623	U	0.623	U	0.623	U
Freon-113	-	1.53	U	1.53	U	-	-	1.53	U	1.53	U	1.53	U
trans-1,2-Dichloroethene	-	0.793	U	0.793	U	-	-	0.793	U	0.793	U	0.793	U
1,1-Dichloroethane	-	0.809	U	0.809	U	-	-	0.809	U	0.809	U	0.809	U
Methyl tert butyl ether	-	0.721	U	0.721	U	-	-	0.721	U	0.721	U	0.721	U
2-Butanone	-	**9.76**		1.47	U	-	-	1.47	U	1.47	U	1.47	U
Ethyl Acetate	-	1.8	U	1.8	U	-	-	1.8	U	1.8	U	1.8	U
Chloroform	-	0.977	U	0.977	U	-	-	0.977	U	0.977	U	0.977	U
Tetrahydrofuran	-	1.47	U	1.47	U	-	-	1.47	U	1.47	U	1.47	U
1,2-Dichloroethane	-	0.809	U	0.809	U	-	-	0.809	U	0.809	U	0.809	U
n-Hexane	-	**4.3**		**1.29**		-	-	**2.23**		**2.15**		**3.74**	
Benzene	-	**8.37**		0.639	U	-	-	**0.853**		**0.748**		**0.728**	
Cyclohexane	-	0.688	U	0.688	U	-	-	**0.73**		0.688	U	0.688	U
1,2-Dichloropropane	-	0.924	U	0.924	U	-	-	0.924	U	0.924	U	0.924	U
Bromodichloromethane	-	1.34	U	1.34	U	-	-	1.34	U	1.34	U	1.34	U
1,4-Dioxane	-	0.721	U	0.721	U	-	-	0.721	U	0.721	U	0.721	U
2,2,4-Trimethylpentane	-	**3.34**		0.934	U	-	-	**1.09**		**0.958**		0.934	U
Heptane	-	**2.21**		0.82	U	-	-	**1.35**		**1.15**		0.82	U
cis-1,3-Dichloropropene	-	0.908	U	0.908	U	-	-	0.908	U	0.908	U	0.908	U
4-Methyl-2-pentanone	-	2.05	U	2.05	U	-	-	2.05	U	2.05	U	2.05	U
trans-1,3-Dichloropropene	-	0.908	U	0.908	U	-	-	0.908	U	0.908	U	0.908	U
1,1,2-Trichloroethane	-	1.09	U	1.09	U	-	-	1.09	U	1.09	U	1.09	U
Toluene	-	**6.1**		**1.67**		-	-	**2.77**		**2.81**		**1.8**	
2-Hexanone	-	0.82	U	0.82	U	-	-	0.82	U	0.82	U	0.82	U
Dibromochloromethane	-	1.7	U	1.7	U	-	-	1.7	U	1.7	U	1.7	U
1,2-Dibromoethane	-	1.54	U	1.54	U	-	-	1.54	U	1.54	U	1.54	U
Chlorobenzene	-	0.921	U	0.921	U	-	-	0.921	U	0.921	U	0.921	U
Ethylbenzene	-	**2.3**		**0.986**		-	-	0.869	U	0.869	U	0.869	U
p/m-Xylene	-	**8.38**		**4.09**		-	-	**1.96**		**2.06**		1.74	U
Bromoform	-	2.07	U	2.07	U	-	-	2.07	U	2.07	U	2.07	U
Styrene	-	0.852	U	0.852	U	-	-	0.852	U	0.852	U	0.852	U
1,1,2,2-Tetrachloroethane	-	1.37	U	1.37	U	-	-	1.37	U	1.37	U	1.37	U
o-Xylene	-	**2.64**		**1.68**		-	-	0.869	U	**0.882**		0.869	U
4-Ethyltoluene	-	0.983	U	0.983	U	-	-	0.983	U	0.983	U	0.983	U
1,3,5-Trimethylbenzene	-	0.983	U	0.983	U	-	-	0.983	U	0.983	U	0.983	U
1,2,4-Trimethylbenzene	-	**1.01**		0.983	U	-	-	0.983	U	**1.08**		0.983	U
Benzyl chloride	-	1.04	U	1.04	U	-	-	1.04	U	1.04	U	1.04	U
1,3-Dichlorobenzene	-	1.2	U	1.2	U	-	-	1.2	U	1.2	U	1.2	U
1,4-Dichlorobenzene	-	1.2	U	1.2	U	-	-	1.2	U	1.2	U	1.2	U
1,2-Dichlorobenzene	-	1.2	U	1.2	U	-	-	1.2	U	1.2	U	1.2	U
1,2,4-Trichlorobenzene	-	1.48	U	1.48	U	-	-	1.48	U	1.48	U	1.48	U
Hexachlorobutadiene	-	2.13	U	2.13	U	-	-	2.13	U	2.13	U	2.13	U
Methylene chloride	>100	1.74	U	**7.09**		>3	≥60	1.74	U	**1.83**		**7.82**	
Vinyl chloride	>6	0.511	U	0.511	U	>0.2	-	0.051	U	0.051	U	0.051	U
1,1-Dichloroethene	>6	0.793	U	0.793	U	>0.2	-	0.079	U	0.079	U	0.079	U
cis-1,2-Dichloroethene	>6	0.793	U	0.793	U	>0.2	-	0.079	U	0.079	U	0.079	U
1,1,1-Trichloroethane	>100	1.09	U	1.09	U	>3	-	**0.142**		**0.131**		0.109	U
Carbon tetrachloride	>6	1.26	U	1.26	U	>0.2	-	**0.497**		**0.365**		**0.465**	
Trichloroethene	>6	1.07	U	1.07	U	>0.2	≥2	0.107	U	0.107	U	0.107	U
Tetrachloroethene	>100	**3.82**		**1.79**		>3	≥30	**3.29**		**3.68**		**4.27**	

Notes:

ug/m3	micrograms/cubic meter
Bold	Analyte detected for sample
U	Not detected at the reported detection limit for the sample
	DUP-01 is a duplicate of IAQ-01
MON./MIT. for SSV	New York State Department of Health Soil Vapor Intrusion Guidance No Further Action criteria for Soil Vapor Samples
MON./MIT. for IAQ & AA	New York State Department of Health Soil Vapor Intrusion Guidance No Further Action criteria for Indoor Air Samples
NYSDOH IAQ Guideline	New York State Department of Health Indoor Air Guideline

APPENDIX A

Hand Delivered

March 6, 2018

Mr. Carlos Diaz
139-03 88th Avenue
Jamaica, NY 11435

RE: Environmental Sampling
Former Duraspec Electroplating Facility
87-83 139th Street
Jamaica, Queens, New York

Dear Mr. Diaz,

On behalf of Hastings Capital, LLC, AMEC E&E, PC (AMEC) is assisting the New York State Departments of Environmental Conversation (NYSDEC) and Health (NYSDOH) with investigating the Former Duraspec Electroplating Facility ("site") located at 87-83 139th Street. Soil vapor and groundwater samples previously collected at the site have indicated volatile organic compounds (VOCs) are present in the environment. Hasting Capital, LLC was not the owner of the property when it was previously operated as an electroplating facility but is working diligently to restore the property.

As part of the continuing investigation, we are requesting your permission to collect air samples at your home to assess the potential for soil vapor intrusion to occur. Soil vapor intrusion refers to the process by which VOCs move from a subsurface source into the indoor air of overlying buildings (see enclosed NYSDOH information sheet).
The sampling that would be conducted at your property would involve accessing the building to collect an indoor air sample as well as to collect a sample from below the basement floor (referred to as a sub-slab vapor sample). To obtain the sub-slab vapor sample, a small-diameter hole (about the width of a pencil) would be drilled through the basement floor. Upon collecting the sample, the finished condition of the floor would be restored. During the sampling event, a sampling team would also perform a building inventory/assessment in order to gather pertinent information about your building (e.g., construction, general layout and use, chemicals and household products used and/or stored, etc.) to be used to evaluate the results of the air sampling. You will be provided with the results of this sampling. **At no time will you be responsible for any costs associated with the sampling that would be performed.**
At this time, we are requesting authorization to access your property and building. Please review, sign, and return the attached consent form in the enclosed, stamped, and pre-addressed envelope. Also, please note that authorization to collect the sub-slab vapor sample and indoor air sample will only be acknowledged by receipt of the consent form signed by the property owner or the property owner's authorized representative. Please provide a time when you can be reached so that the specific activities to be conducted at your property may be discussed with you.

Should you have any questions or concerns, please feel free to contact me at (347) 836-4445 or at eric.weinstock@amecfw.com. You may also contact Ioana Munteanu-Ramnic of NYSDEC at (718) 482-4065 or ioana.munteanu-ramnic@dec.ny.gov or Mark Sergott of the NYSDOH at (518) 402-7860 or beei@health.ny.gov.

Sincerely,

AMEC E&E, PC
214-25 42nd Avenue, Suite 3R
Tel (347-836-4445)
amecfw.com

Eric Weinstock, PG
Project Manager

Attachment

cc: Ioana Munteanu-Ramnic, NYSDEC
Mark Sergott, NYSDOH
Jane O'Connell, NYSDEC

AMEC E&E, PC
214-25 42nd Avenue, Suite 3R
Tel (347-836-4445)
amecfw.com

CONSENT FOR ACCESS TO PROPERTY

NAME:

ADDRESS OF PROPERTY:

I (We) consent to allowing AMEC E&E, PC (AMEC) (working on behalf Hastings Capital, LLC) and its authorized representatives and contractors to enter and have continued access to the above-referenced property to at all times in a safe and workman-like manner: (i) to collect sub-slab vapor, indoor air and outdoor air samples; and (ii) conduct any other related activities deemed necessary by the New York State Department of Environmental Conservation (NYSDEC) or the New York State Department of Health (NYSDOH) to address the potential migration of volatile organic compounds from the former Duraspec Electroplating facility into the property building through the basement floor.

I (We) understand that upon obtaining the sub-slab soil vapor sample, the finished condition of the basement floor will be restored to its commercially reasonable current condition.

I (We) understand that AMEC will notify us at least seven days prior to initially accessing my (our) property. This written permission is given by me (us) voluntarily with knowledge of our right to refuse and without threats or promises of any kind.

_____ _____

Date Signature of Property Owner or Owner's Authorized Representative

Owner Name: _____

Address: _____

Phone _____

Preferred Meeting Date and Time: _____

I (We) do not authorize AMEC and/or its authorized contractors to enter and have access to my property to collect soil vapor, indoor air and outdoor air samples.

_____ _____

Date Signature of Property Owner or Owner's Authorized Representative

Owner Name: _____

Address: _____

Phone _____

AMEC E&E, PC
214-25 42nd Avenue, Suite 3R
Tel (347-836-4445)
amecfw.com

APPENDIX B

NYC Department of Transportation

Office of Permit Management

PROTECTED STREET OPENING PERMIT

PERMIT#: Q01-2018088-B26

ISSUED DATE:	3/29/2018	**PERMIT VALID FROM:**	3/30/2018	**TO:**	4/28/2018
BOROUGH:	QUEENS	**PERMIT TYPE:**	0126P - TEST PITS, CORES OR BORING - PROTECTED		
FEES (NON-REFUNDABLE):		**ROADWAY TYPE:**	ASPHALT		
		SIDEWALK TYPE:	CONCRETE		

PERMISSION HEREBY GRANTED TO:

NAME:	AARCO ENVIRONMENTAL SERVICES CORP.	**LICENSE #:**	None
CONTACT NAME:	SPADALIK, RICHARD	**CONTRACT #:**	None
PHONE:	6315865900	**SPONSORING AGENCY:**	None
ADDRESS:	50 - GEAR AVE LINDENHURST NY 11757		

TO OPEN THE ROADWAY AND/OR SIDEWALK AT:

HOUSE#:			
ON STREET:	139 STREET		
FROM STREET:	88 AVENUE		
TO STREET:	HILLSIDE AVENUE		
LOCATION DETAILS:	Both sides of the street and sidewalk		
FOR PURPOSE OF:			
RELATED AGENCY #:			
FOR MAX. LENGTH OF:	1 FT		
INSPECT DIST:	56	**COMM. BOARD:**	12
RECORDED:	None	**SEQUENCE #:**	0001
TRACKING #:	2018032601128193		

Note: If House Number is not provided Permittee shall use "Location Details" box to indicate a specific location of the work area within a block (for all non-Contract work, i.e. Contract #: None).

PERMITTEE SHALL COMPLY WITH ALL APPLICABLE LAWS, RULES AND SPECIFICATIONS OF THE NEW YORK CITY DEPARTMENT OF TRANSPORTATION AND WITH THE TERMS AND CONDITIONS OF THE PERMIT. FAILURE TO COMPLY MAY RESULT IN REVOCATION OF THE PERMIT BY THE COMMISSIONER.

TAMPERING WITH OR KNOWINGLY MAKING A FALSE ENTRY IN OR FALSELY ALTERING THIS PERMIT MAY RESULT IN A RESTRICTION IN OBTAINING FUTURE NYCDOT PERMITS.

NYS LAW

NYC Department of Transportation

Office of Permit Management

PROTECTED STREET OPENING PERMIT

PERMIT#: Q01-2018088-B26

CALL NEW YORK 811, INC. AT 1-800-272-4480 OR 811 BEFORE STREET OPENING EXCAVATIONS. NEW YORK STATE INDUSTRIAL CODE RULE 753 MANDATES 2-10 BUSINESS DAYS NOTICE PRIOR TO DIGGING.

PERMITTEE SHALL COMPLY WITH ALL OF THE FOLLOWING STIPULATIONS

SPECIFIC STIPULATION	CJ
013	MAINTAIN A MINIMUM 5 FOOT CLEAR PEDESTRIAN WALK ON THE SIDEWALK
016	FULL WIDTH OF SIDEWALK SHALL BE OPENED TO PEDESTRIANS WHEN SITE IS UNATTENDED EXCEPT FOR CONCRETE CURING WHEN THAT PORTION OF THE SIDEWALK MAY REMAIN CLOSED PROVIDED ALL OTHER STIPULATIONS ON THIS PERMIT ARE COMPLIED WITH. THIS EXCEPTION DOES NOT APPLY IF STIPULATION 014 IS ALSO APPLIED TO THIS PERMIT.
038	ALL TEMPORARY TRAFFIC CONTROL DEVICES, INCLUDING BUT NOT LIMITED TO SIGNS, CHANNELIZING DEVICES, FENCING AND MARKINGS SHALL BE PROVIDED, INSTALLED, MAINTAINED AND REMOVED BY THE PERMITTEE IN ACCORDANCE WITH THE MOST RECENT VERSION OF PART 6 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (MUTCD). OBTAIN THE MUTCD AT HTTP://MUTCD.FHWA.DOT.GOV .
072	WORK 9AM-4PM, MONDAY TO FRIDAY
078	FULL WIDTH OF ROADWAY, INCLUDING PARKING LANES, SHALL BE OPENED TO TRAFFIC WHEN SITE IS UNATTENDED."
091	THIS PERMIT ACTIVITY MAY NOT START UNTIL THE PERMITTEE COORDINATES ALL WORK WITH ANY ONGOING CONSTRUCTION AND WITH THE PROJECT/RESIDENT ENGINEER FOR ANY ONGOING CAPITAL PROJECTS.
103	PARKING OF NON-COMMERCIAL VEHICLES ON THE STREET (ROADWAY AND SIDEWALK) WITHIN WORK ZONES IS PROHIBITED.
107	LOADING AND UNLOADING, STANDING OR PARKING IN A LANE ADJACENT TO THE WORK ZONE IN THE ROADWAY IS PROHIBITED. THIS APPLIES TO PERMITTEES AND ALL OF THEIR SUBCONTRACTORS.
112	MAINTAIN 1-11 FOOT LANE ON ONE-WAY STREETS AND 2-11 FOOT LANES ON TWO-WAY STREETS.
NOISE1	BY SUBMITTING THIS APPLICATION AND/OR RENEWAL REQUEST, THE PERMITTEE CERTIFIES ITS COMPLIANCE WITH ALL APPLICABLE CITYWIDE CONSTRUCTION NOISE MITIGATION REQUIREMENTS INCLUDING, BUT NOT LIMITED TO THE DEVELOPMENT OF A COMPLIANT NOISE MITIGATION OR ALTERNATIVE NOISE MITIGATION PLAN. PLEASE CONTACT THE NYC DEPARTMENT OF ENVIRONMENTAL PROTECTION (WWW.NYC.GOV/DEP)FOR FURTHER INFORMATION.
SCHOOL	NO WORK TO BE PERFORMED WITHIN BLOCK FRONTING SCHOOL INCLUDING INTERSECTIONS FOR ONE HOUR PRIOR TO SCHOOL START TIME THROUGH ONE HOUR AFTER END OF SCHOOL TIME. PERMITTEE MUST NOTIFY SCHOOL PRINCIPAL IN WRITING 48 HOURS PRIOR TO BEGINNING ANY WORK. THIS STIP VOIDS ANY ALL OTHER CONFLICTING STIPS ON THIS PERMIT UNLESS ACCOMPANIED WITH VARIANCE STIP-VAR001.
SKT002	CRBRES-RESTORE AS PER SKETCH #2 OF DOT'S PROTECTED STREET RESTORATION REQ'MENTS. THIS STIP IS USED FOR MULTIPLE CUTS IN A CURB/PARKING LANE AND FOR SINGLE CUTS IN CURB LANES THAT CONVERT TO TRAVEL LANES DURING SPECIFIC HOURS. FULL CURB LANE RESTORATION WOULD BE REQUIRED FOR 8' WIDTH OF CURB LANE AND THE LENGTH OF ALL CUTS PLUS ANY LL14 CUTBACKS.
SKT003	STLRES-RESTORE AS PER SKETCH #3 OF DOT'S PROTECTED STREET RESTORATION REQ'MENTS. THIS STIP IS USED FOR WORK IN A TRAVEL LANE. FULL TRAVEL LANE RESTORATION WOULD BE REQUIRED FOR 11' WIDTH OF TRAVEL LANE AND THE LENGTH OF THE WORK PLUS ANY LL14 CUTBACKS.

NYC Department of Transportation

Office of Permit Management

PROTECTED STREET OPENING PERMIT

PERMIT#: Q01-2018088-B26

TMC001	CONTRACTORS WHO AT ANY TIME DURING THEIR PERMITTED WORK ENCOUNTER TRAFFIC SURVEILLANCE CAMERAS, DETECTION EQUIP OR ANY TYPE OF COMMUNICATION EQUIPMENT (WIRELESS OR HARD-WIRED) ON ANY NYCDOT FACILITY, THAT IS NOT INCLUDED ON THE DESIGN/BUILD DWGS, SHALL IMMEDIATELY NOTIFY NYCDOT TRAFFIC MANAGEMENT AT TMC@DOT.NYC.GOV & 718-433-3390/40 AND AWAIT DIRECTION PRIOR TO CONTINUING WORK
WAGE01	NYC ADMINISTRATIVE CODE, 19-142, WORKERS ON EXCAVATIONS: A PERSON TO WHOM A PERMIT MAY BE ISSUED, TO USE OR OPEN A STREET, SHALL BE REQUIRED, BEFORE SUCH PERMIT MAY BE ISSUED, TO AGREE THAT NONE BUT COMPETENT WORKERS, SKILLED IN THE WORK REQUIRED OF THEM, SHALL BE EMPLOYED THEREON, (CONT. ON STIP WAGE02)
WAGE02	...AND THAT THE PREVAILING SCALE OF UNION WAGES SHALL BE THE PREVAILING WAGE FOR SIMILAR TITLES AS ESTABLISHED BY THE FISCAL OFFICER PURSUANT TO SEC. TWO HUNDRED TWENTY OF THE LABOR LAW, PAID TO THOSE SO EMPLOYED.

APPENDIX C

NEW YORK STATE DEPARTMENT OF HEALTH
INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY
CENTER FOR ENVIRONMENTAL HEALTH

This form must be completed for each residence involved in indoor air testing.

Preparer's Name Jazmin Logan Date/Time Prepared 3/30/18 1000

Preparer's Affiliation Consultant Phone No._____

Purpose of Investigation off-site vapor intrusion investigation for former Duraspec Electroplating

1. OCCUPANT:

Interviewed: Y / N

Last Name: Diaz First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

Number of Occupants/persons at this location _____ Age of Occupants _____

2. OWNER OR LANDLORD: (Check if same as occupant ✓)

Interviewed: Y / N

Last Name: _____ First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

(Residential)	School	Commercial/Multi-use
Industrial	Church	Other: _____

If the property is residential, type? (Circle appropriate response)

1 family home

Ranch	2-Family	3-Family
Raised Ranch	Split Level	Colonial
Cape Cod	Contemporary	Mobile Home
Duplex	Apartment House	Townhouses/Condos
Modular	Log Home	Other:_____

If multiple units, how many? NA

If the property is commercial, type? NA

Business Type(s) _____

Does it include residences (i.e., multi-use)? Y / N If yes, how many? _____

Other characteristics:

Number of floors 2 Building age_____

Is the building insulated? (Y) / N How air tight? Tight / (Average) / Not Tight

4. AIRFLOW

Use air current tubes or tracer smoke to evaluate airflow patterns and qualitatively describe:

Airflow between floors

_____

_____

_____

Airflow near source

_____

_____

_____

Outdoor air infiltration

_____

_____

_____

Infiltration into air ducts

_____

_____

_____

5. BASEMENT AND CONSTRUCTION CHARACTERISTICS (Circle all that apply)

a. Above grade construction:	wood frame	concrete	stone	brick
b. Basement type:	full	crawlspace	slab	other _____
c. Basement floor:	concrete	dirt	stone	other _____
d. Basement floor:	uncovered	covered	covered with concrete	
e. Concrete floor:	unsealed	sealed	sealed with _____	
f. Foundation walls:	poured	block	stone	other _____
g. Foundation walls:	unsealed	sealed	sealed with _____	
h. The basement is:	wet	damp	dry	moldy
i. The basement is:	finished	unfinished	partially finished – finished bathroom	
j. Sump present?	Y / N			
k. Water in sump?	Y / N / not applicable			

Basement/Lowest level depth below grade: 4 (feet)

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)

Various penal-size holes in ground that were sealed before sampling

6. HEATING, VENTING and AIR CONDITIONING (Circle all that apply)

Type of heating system(s) used in this building: (circle all that apply – note primary)

Hot air circulation	Heat pump	Hot water baseboard	
Space Heaters	Stream radiation	Radiant floor	
Electric baseboard	Wood stove	Outdoor wood boiler	Other _____

The primary type of fuel used is:

Natural Gas	Fuel Oil	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank fueled by: _____

Boiler/furnace located in:	Basement	Outdoors	Main Floor	Other_____
Air conditioning:	Central Air	Window units	Open Windows	None

Are there air distribution ducts present? Y / (N)

Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.

_____

_____

_____

_____

7. OCCUPANCY

Is basement/lowest level occupied? Full-time Occasionally (Seldom) Almost Never

Level	**General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)**
Basement	storage, spare bathroom, laundry
1st Floor	kitchen, living room
2nd Floor	bedrooms
3rd Floor	–
4th Floor	–

8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

a. Is there an attached garage? Y / (N)

b. Does the garage have a separate heating unit? Y / N / (NA)

c. Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, atv, car) Y / N / (NA) Please specify_____

d. Has the building ever had a fire? Y / N When?_____

e. Is a kerosene or unvented gas space heater present? Y / (N) Where?_____

f. Is there a workshop or hobby/craft area? Y / N Where & Type?_____

g. Is there smoking in the building? Y / N How frequently?_____

h. Have cleaning products been used recently? Y / (N) When & Type?_____

i. Have cosmetic products been used recently? Y / (N) When & Type?_____

j. Has painting/staining been done in the last 6 months? Y / N Where & When? _____

k. Is there new carpet, drapes or other textiles? Y / N Where & When? _____

l. Have air fresheners been used recently? Y / N When & Type? _____

m. Is there a kitchen exhaust fan? Y / N If yes, where vented? no kitchen in basement

n. Is there a bathroom exhaust fan? Y / N If yes, where vented? _____

o. Is there a clothes dryer? Y / N If yes, is it vented outside? Y / N

p. Has there been a pesticide application? Y / N When & Type? _____

Are there odors in the building? Y / N
If yes, please describe: _____

Do any of the building occupants use solvents at work? Y / N
(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? Y / N

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry-cleaning regularly (weekly) No
Yes, use dry-cleaning infrequently (monthly or less) Unknown
Yes, work at a dry-cleaning service

Is there a radon mitigation system for the building/structure? Y / N Date of Installation: _____
Is the system active or passive? Active/Passive

9. WATER AND SEWAGE

Water Supply: Public Water Drilled Well Driven Well Dug Well Other: _____

Sewage Disposal: Public Sewer Septic Tank Leach Field Dry Well Other: _____

10. RELOCATION INFORMATION (for oil spill residential emergency)

a. Provide reasons why relocation is recommended: _____

b. Residents choose to: remain in home relocate to friends/family relocate to hotel/motel

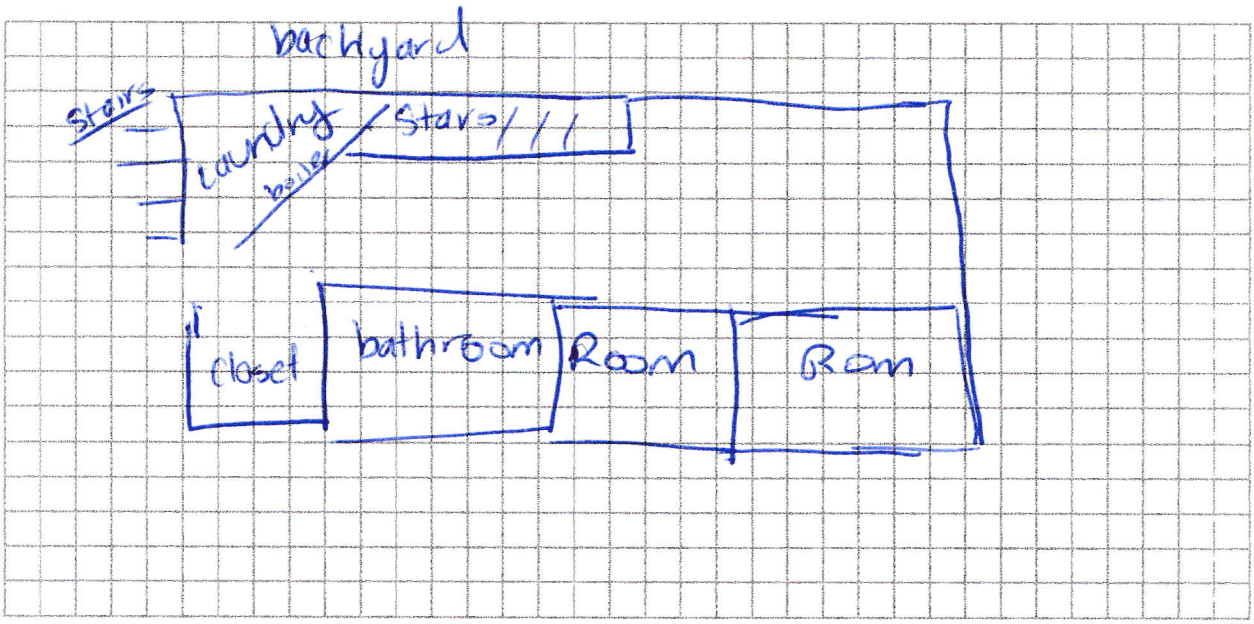
c. Responsibility for costs associated with reimbursement explained? Y / N

d. Relocation package provided and explained to residents? Y / N

11. FLOOR PLANS

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.

Basement:

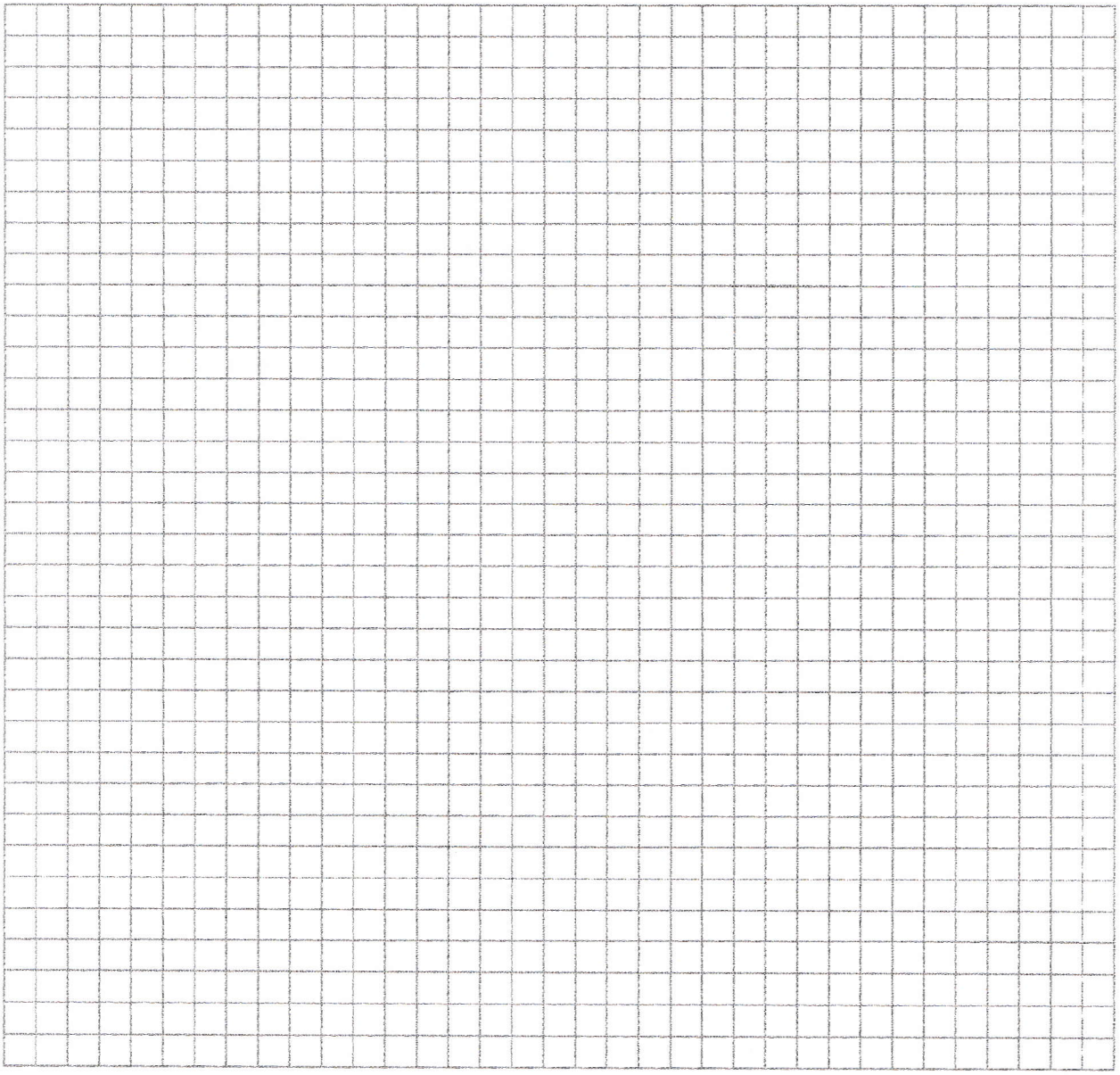


First Floor:

12. OUTDOOR PLOT See Sample location map

Draw a sketch of the area surrounding the building being sampled. If applicable, provide information on spill locations, potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.



13. PRODUCT INVENTORY FORM

Make & Model of field instrument used: _____

List specific products found in the residence that have the potential to affect indoor air quality.

Location	Product Description	Size (units)	Condition*	Chemical Ingredients	Field Instrument Reading (units)	Photo** Y / N
basement	lysol wipes					
	gasoline can	4lg				
	laundry detergent					
	gasoline can	5g				
	bleach					
	kitty litter					
	oxi clean					
	fabric softner					
	cutting oil					

* Describe the condition of the product containers as **Unopened (UO), Used (U),** or **Deteriorated (D)**
** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

APPENDIX D

DATA USABILITY SUMMARY REPORT
MARCH 2018 AIR SAMPLING EVENT
HASTINGS CAPITAL – DURASPEC SITE
JAMAICA, QUEENS, NEW YORK

1.0 INTRODUCTION

Air samples were collected at the Hastings Capital - Duraspec site in March 2018 and submitted to Alpha Analytical Laboratories, located in Mansfield, Massachusetts, for analysis. Analyses for all parameters were performed by Alpha Analytical. Samples were analyzed by the following method:

- Volatile Organic Compounds (VOCs) by EPA Method TO-15 and
- VOCs by TO-15 Selected Ion Monitoring (SIM) [indoor air samples]

Results were reported in the following sample delivery group (SDG):

- L1811240

A Data Usability Summary Report (DUSR) review was completed based on the New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation guidance (NYSDEC, 2010). Sample event information included in this DUSR is presented in the following tables:

- Table 1 – Summary of Samples and Analytical Methods
- Table 2 – Summary of Analytical Results
- Table 3 – Summary of Field Duplicate Results

Laboratory deliverables included:

- Category B deliverables as defined in the NYSDEC Analytical Services Protocols (NYSDEC, 2005).

The DUSR review included the checks listed below. A table of the project control limits used for QC evaluations is presented in Attachment A.

- Lab Report Narrative Review
- Data Package Completeness and COC records (Table 1 verification)
- Sample Preservation and Holding Times
- Instrument Calibration (report narrative/lab-qualifier evaluation)
- QC Blanks
- Laboratory Control Samples (LCS)
- Surrogate Spikes (if applicable)
- Field Duplicates
- Target Analyte Identification and Quantitation
- Raw Data (chromatograms), Calculation Checks and Transcription Verifications
- Reporting Limits
- Electronic Data Qualification and Verification

Data qualification actions are applied when necessary based on general procedures in USEPA validation guidelines (USEPA, 2016) and the judgment of the project chemist. The following laboratory or data review qualifiers are used in the final data presentation:

U = target analyte is not detected above the reported detection limit

Results are interpreted to be usable as reported by the laboratory or as qualified in the following sections.

2.0 POTENTIAL DATA LIMITATIONS

The laboratory reported target compounds detections if detected above the reporting limits (RLs) presented on Table 2. Detections between the RLs and method detection limits (MDLs) were not included in the sample results summaries.

Based on the DUSR review the data can be used as reported by the laboratory in the hardcopy report. An incorrect CAS number was assigned by the laboratory to the electronic data deliverable (EDD) results for m,p-xylenes, causing the EDD to report o&p-xylenes for this parameter. The laboratory was contacted and confirmed the EDD reporting error. The CAS number was corrected in the AmecFW data base during data validation.

A field duplicate was collected at sample location IAQ-01 and analyzed for VOCs. Relative percent differences (RPDs) less than the goal of 50 were observed for all target compound results demonstrating good precision. Field duplicate results are summarized in Table 3. A subset of target compounds (cyclohexane, 1,2,4-trimethylbenzene, methylene chloride, and o-xylene) were detected in one of the duplicate pair samples, and not the other, at concentrations slightly greater than the RLs. Based on observed agreement between all results for compounds at higher concentrations and the fact that detected results between the MDL and RLs were not reported by the laboratory for this data set, professional judgment was used to accept the results for cyclohexane, 1,2,4-trimethylbenzene, methylene chloride, and o-xylene and no validation qualifiers were applied to results.

3.0 ADDITIONAL QC EXCEEDANCES AND OBSERVATIONS

There were no additional observations or quality control exceedances not specifically addressed above (Section 2.0). Sample results are interpreted to be usable as reported by the laboratory.

Reference:

New York State Department of Environmental Conservation (NYSDEC), 2005. "Analytical Services Protocols"; July 2005.

New York State Department of Environmental Conservation (NYSDEC), 2010. "Technical Guidance for Site Investigation and Remediation-Appendix 2B"; DER-10; Division of Environmental Remediation; May 2010.

USEPA Region 2, 2016. "Analysis of Volatile Organic Compounds in Air Contained in Canisters by Method TO-I5"; SOP # HW-31, Revision 6, Hazardous Waste Support Branch; September, 2016.

Data Validator: Julie Ricardi

Julie Ricardi

April 26, 2018

Reviewed by Chris Ricardi, NRCC-EAC

Chris Ricardi

May 4, 2018

TABLE 1 - SUMMARY OF SAMPLES AND ANALYTICAL METHODS
DATA USABILITY SUMMARY REPORT
MARCH 2018 AIR SAMPLING EVENT
HASTINGS CAPITAL – DURASPEC SITE
JAMAICA, QUEENS, NEW YORK

SDG	Location	Sample ID	Sample Date	Media	Lab Sample ID	Analytical Method / Class / QC Code	TO-15 VOC Count	TO15 SIM VOC Count
L1811240	AA-01	AA-01	3/31/2018	AIR	L1811240-04	FS	56	7
L1811240	IAQ-01	DUP-01	3/31/2018	AIR	L1811240-03	FD	56	7
L1811240	IAQ-01	IAQ-01	3/31/2018	AIR	L1811240-02	FS	56	7
L1811240	SS-01	SS-01	3/30/2018	SV	L1811240-05	FS	63	
L1811240	SV-01	SV-01	3/30/2018	SV	L1811240-01	FS	63	

SV = soil vapor
FS = field sample
FD = field duplicate
Count = number of target analytes reported

Prepared by: WCG 4/18/18
Checked by: JAR 4/25/18

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
MARCH 2018 AIR SAMPLING EVENT
HASTINGS CAPITAL – DURASPEC SITE
JAMAICA, QUEENS, NEW YORK

	Sample Delivery Group		L1811240		L1811240		L1811240	
	Sample Location		AA-01		IAQ-01		IAQ-01	
	Sample Date		03/31/18		03/31/18		03/31/18	
	Field Sample ID		AA-01		DUP-01		IAQ-01	
	QC Code		FS		FD		FS	
Method	**Parameter**	**Units**	Final Result	Final Qualifier	Final Result	Final Qualifier	Final Result	Final Qualifier
TO-15	1,1,1-Trichloroethane	UG/M3						
TO-15	1,1,2,2-Tetrachloroethane	UG/M3	1.37	U	1.37	U	1.37	U
TO-15	1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/M3	1.53	U	1.53	U	1.53	U
TO-15	1,1,2-Trichloroethane	UG/M3	1.09	U	1.09	U	1.09	U
TO-15	1,1-Dichloroethane	UG/M3	0.809	U	0.809	U	0.809	U
TO-15	1,1-Dichloroethene	UG/M3						
TO-15	1,2,4-Trichlorobenzene	UG/M3	1.48	U	1.48	U	1.48	U
TO-15	1,2,4-Trimethylbenzene	UG/M3	0.983	U	1.08		0.983	U
TO-15	1,2-Dibromoethane	UG/M3	1.54	U	1.54	U	1.54	U
TO-15	1,2-Dichloro-1,1,2,2-tetrafluoroethane	UG/M3	1.4	U	1.4	U	1.4	U
TO-15	1,2-Dichlorobenzene	UG/M3	1.2	U	1.2	U	1.2	U
TO-15	1,2-Dichloroethane	UG/M3	0.809	U	0.809	U	0.809	U
TO-15	1,2-Dichloropropane	UG/M3	0.924	U	0.924	U	0.924	U
TO-15	1,3,5-Trimethylbenzene	UG/M3	0.983	U	0.983	U	0.983	U
TO-15	1,3-Butadiene	UG/M3	0.442	U	0.442	U	0.442	U
TO-15	1,3-Dichlorobenzene	UG/M3	1.2	U	1.2	U	1.2	U
TO-15	1,4-Dichlorobenzene	UG/M3	1.2	U	1.2	U	1.2	U
TO-15	1,4-Dioxane	UG/M3	0.721	U	0.721	U	0.721	U
TO-15	2-Butanone	UG/M3	1.47	U	1.47	U	1.47	U
TO-15	2-Hexanone	UG/M3	0.82	U	0.82	U	0.82	U
TO-15	2-Propanol	UG/M3	1.33		9.71		9.59	
TO-15	4-Ethyltoluene	UG/M3	0.983	U	0.983	U	0.983	U
TO-15	4-Methyl-2-pentanone	UG/M3	2.05	U	2.05	U	2.05	U
TO-15	Acetone	UG/M3	10.1		9.29		9.69	
TO-15	Allyl chloride	UG/M3	0.626	U	0.626	U	0.626	U
TO-15	Benzene	UG/M3	0.728		0.748		0.853	
TO-15	Benzyl chloride	UG/M3	1.04	U	1.04	U	1.04	U
TO-15	Bromodichloromethane	UG/M3	1.34	U	1.34	U	1.34	U
TO-15	Bromoform	UG/M3	2.07	U	2.07	U	2.07	U
TO-15	Bromomethane	UG/M3	0.777	U	0.777	U	0.777	U
TO-15	Carbon disulfide	UG/M3	0.623	U	0.623	U	0.623	U
TO-15	Carbon tetrachloride	UG/M3						
TO-15	Chlorobenzene	UG/M3	0.921	U	0.921	U	0.921	U

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
MARCH 2018 AIR SAMPLING EVENT
HASTINGS CAPITAL – DURASPEC SITE
JAMAICA, QUEENS, NEW YORK

		Sample Delivery Group	L1811240		L1811240		L1811240	
		Sample Location	AA-01		IAQ-01		IAQ-01	
		Sample Date	03/31/18		03/31/18		03/31/18	
		Field Sample ID	AA-01		DUP-01		IAQ-01	
		QC Code	FS		FD		FS	
Method	**Parameter**	**Units**	Final Result	Final Qualifier	Final Result	Final Qualifier	Final Result	Final Qualifier
TO-15	Chloroethane	UG/M3	0.528	U	0.528	U	0.528	U
TO-15	Chloroform	UG/M3	0.977	U	0.977	U	0.977	U
TO-15	Chloromethane	UG/M3	1.06		0.913		1.03	
TO-15	Cis-1,2-Dichloroethene	UG/M3						
TO-15	Cis-1,3-Dichloropropene	UG/M3	0.908	U	0.908	U	0.908	U
TO-15	Cyclohexane	UG/M3	0.688	U	0.688	U	0.73	
TO-15	Dibromochloromethane	UG/M3	1.7	U	1.7	U	1.7	U
TO-15	Dichlorodifluoromethane	UG/M3	2.29		2.12		2.31	
TO-15	Ethanol	UG/M3	9.42	U	25.6		26.9	
TO-15	Ethyl acetate	UG/M3	1.8	U	1.8	U	1.8	U
TO-15	Ethylbenzene	UG/M3	0.869	U	0.869	U	0.869	U
TO-15	Heptane	UG/M3	0.82	U	1.15		1.35	
TO-15	Hexachlorobutadiene	UG/M3	2.13	U	2.13	U	2.13	U
TO-15	Hexane	UG/M3	3.74		2.15		2.23	
TO-15	Isooctane	UG/M3	0.934	U	0.958		1.09	
TO-15	Methyl Tertbutyl Ether	UG/M3	0.721	U	0.721	U	0.721	U
TO-15	Methylene chloride	UG/M3	7.82		1.83		1.74	U
TO-15	Styrene	UG/M3	0.852	U	0.852	U	0.852	U
TO-15	t-Butyl alcohol	UG/M3	1.52	U	1.52	U	1.52	U
TO-15	Tetrachloroethene	UG/M3						
TO-15	Tetrahydrofuran	UG/M3	1.47	U	1.47	U	1.47	U
TO-15	Toluene	UG/M3	1.8		2.81		2.77	
TO-15	trans-1,2-Dichloroethene	UG/M3	0.793	U	0.793	U	0.793	U
TO-15	trans-1,3-Dichloropropene	UG/M3	0.908	U	0.908	U	0.908	U
TO-15	Trichloroethene	UG/M3						
TO-15	Trichlorofluoromethane	UG/M3	1.16		1.14		1.29	
TO-15	Vinyl bromide	UG/M3	0.874	U	0.874	U	0.874	U
TO-15	Vinyl chloride	UG/M3						
TO-15	Xylene, o	UG/M3	0.869	U	0.882		0.869	U
TO-15	Xylenes (m&p)	UG/M3	1.74	U	2.06		1.96	
TO15 SIM	1,1,1-Trichloroethane	UG/M3	0.109	U	0.131		0.142	
TO15 SIM	1,1-Dichloroethene	UG/M3	0.079	U	0.079	U	0.079	U
TO15 SIM	Carbon tetrachloride	UG/M3	0.465		0.365		0.497	

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
MARCH 2018 AIR SAMPLING EVENT
HASTINGS CAPITAL – DURASPEC SITE
JAMAICA, QUEENS, NEW YORK

		Sample Delivery Group	L1811240		L1811240		L1811240	
		Sample Location	AA-01		IAQ-01		IAQ-01	
		Sample Date	03/31/18		03/31/18		03/31/18	
		Field Sample ID	AA-01		DUP-01		IAQ-01	
		QC Code	FS		FD		FS	
Method	**Parameter**	**Units**	Final Result	Final Qualifier	Final Result	Final Qualifier	Final Result	Final Qualifier
TO15 SIM	Cis-1,2-Dichloroethene	UG/M3	0.079	U	0.079	U	0.079	U
TO15 SIM	Tetrachloroethene	UG/M3	4.27		3.68		3.29	
TO15 SIM	Trichloroethene	UG/M3	0.107	U	0.107	U	0.107	U
TO15 SIM	Vinyl chloride	UG/M3	0.051	U	0.051	U	0.051	U

Notes:
FS = field sample
FD = field duplicate
UG/M3 = microgram per cubic meter
U = undetected

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
MARCH 2018 AIR SAMPLING EVENT
HASTINGS CAPITAL – DURASPEC SITE
JAMAICA, QUEENS, NEW YORK

	Sample Deliv	L1811240		L1811240	
	Sampl	SS-01		SV-01	
	Sa	03/30/18		03/30/18	
	Field	SS-01		SV-01	
		FS		FS	
Method	**Parameter**	Final Result	Final Qualifier	Final Result	Final Qualifier
TO-15	1,1,1-Trichloroethane	1.09	U	1.09	U
TO-15	1,1,2,2-Tetrachloroethane	1.37	U	1.37	U
TO-15	1,1,2-Trichloro-1,2,2-Trifluoroethane	1.53	U	1.53	U
TO-15	1,1,2-Trichloroethane	1.09	U	1.09	U
TO-15	1,1-Dichloroethane	0.809	U	0.809	U
TO-15	1,1-Dichloroethene	0.793	U	0.793	U
TO-15	1,2,4-Trichlorobenzene	1.48	U	1.48	U
TO-15	1,2,4-Trimethylbenzene	0.983	U	1.01	
TO-15	1,2-Dibromoethane	1.54	U	1.54	U
TO-15	1,2-Dichloro-1,1,2,2-tetrafluoroethane	1.4	U	1.4	U
TO-15	1,2-Dichlorobenzene	1.2	U	1.2	U
TO-15	1,2-Dichloroethane	0.809	U	0.809	U
TO-15	1,2-Dichloropropane	0.924	U	0.924	U
TO-15	1,3,5-Trimethylbenzene	0.983	U	0.983	U
TO-15	1,3-Butadiene	0.442	U	7.59	
TO-15	1,3-Dichlorobenzene	1.2	U	1.2	U
TO-15	1,4-Dichlorobenzene	1.2	U	1.2	U
TO-15	1,4-Dioxane	0.721	U	0.721	U
TO-15	2-Butanone	1.47	U	9.76	
TO-15	2-Hexanone	0.82	U	0.82	U
TO-15	2-Propanol	2.61		2.12	
TO-15	4-Ethyltoluene	0.983	U	0.983	U
TO-15	4-Methyl-2-pentanone	2.05	U	2.05	U
TO-15	Acetone	12.1		51.8	
TO-15	Allyl chloride	0.626	U	0.626	U
TO-15	Benzene	0.639	U	8.37	
TO-15	Benzyl chloride	1.04	U	1.04	U
TO-15	Bromodichloromethane	1.34	U	1.34	U
TO-15	Bromoform	2.07	U	2.07	U
TO-15	Bromomethane	0.777	U	0.777	U
TO-15	Carbon disulfide	0.623	U	0.95	
TO-15	Carbon tetrachloride	1.26	U	1.26	U
TO-15	Chlorobenzene	0.921	U	0.921	U

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
MARCH 2018 AIR SAMPLING EVENT
HASTINGS CAPITAL – DURASPEC SITE
JAMAICA, QUEENS, NEW YORK

	Sample Deliv	L1811240		L1811240	
	Sampl	SS-01		SV-01	
	Sa	03/30/18		03/30/18	
	Field	SS-01		SV-01	
		FS		FS	
Method	**Parameter**	Final Result	Final Qualifier	Final Result	Final Qualifier
TO-15	Chloroethane	0.528	U	0.528	U
TO-15	Chloroform	0.977	U	0.977	U
TO-15	Chloromethane	0.413	U	1.22	
TO-15	Cis-1,2-Dichloroethene	0.793	U	0.793	U
TO-15	Cis-1,3-Dichloropropene	0.908	U	0.908	U
TO-15	Cyclohexane	0.688	U	0.688	U
TO-15	Dibromochloromethane	1.7	U	1.7	U
TO-15	Dichlorodifluoromethane	2.2		2.28	
TO-15	Ethanol	13.7		20.2	
TO-15	Ethyl acetate	1.8	U	1.8	U
TO-15	Ethylbenzene	0.986		2.3	
TO-15	Heptane	0.82	U	2.21	
TO-15	Hexachlorobutadiene	2.13	U	2.13	U
TO-15	Hexane	1.29		4.3	
TO-15	Isooctane	0.934	U	3.34	
TO-15	Methyl Tertbutyl Ether	0.721	U	0.721	U
TO-15	Methylene chloride	7.09		1.74	U
TO-15	Styrene	0.852	U	0.852	U
TO-15	t-Butyl alcohol	1.52	U	4.49	
TO-15	Tetrachloroethene	1.79		3.82	
TO-15	Tetrahydrofuran	1.47	U	1.47	U
TO-15	Toluene	1.67		6.1	
TO-15	trans-1,2-Dichloroethene	0.793	U	0.793	U
TO-15	trans-1,3-Dichloropropene	0.908	U	0.908	U
TO-15	Trichloroethene	1.07	U	1.07	U
TO-15	Trichlorofluoromethane	1.21		1.21	
TO-15	Vinyl bromide	0.874	U	0.874	U
TO-15	Vinyl chloride	0.511	U	0.511	U
TO-15	Xylene, o	1.68		2.64	
TO-15	Xylenes (m&p)	4.09		8.38	
TO15 SIM	1,1,1-Trichloroethane				
TO15 SIM	1,1-Dichloroethene				
TO15 SIM	Carbon tetrachloride				

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
MARCH 2018 AIR SAMPLING EVENT
HASTINGS CAPITAL – DURASPEC SITE
JAMAICA, QUEENS, NEW YORK

	Sample Deliv	L1811240		L1811240	
	Sampl	SS-01		SV-01	
	Sa	03/30/18		03/30/18	
	Field	SS-01		SV-01	
		FS		FS	
Method	**Parameter**	Final Result	Final Qualifier	Final Result	Final Qualifier
TO15 SIM	Cis-1,2-Dichloroethene				
TO15 SIM	Tetrachloroethene				
TO15 SIM	Trichloroethene				
TO15 SIM	Vinyl chloride				

Notes:
FS = field sample
FD = field duplicate
UG/M3 = microgram per cubic meter
U = undetected

TABLE 3 - SUMMARY OF FIELD DUPLICATE RESULTS
DATA USABILITY SUMMARY REPORT
MARCH 2018 AIR SAMPLING EVENT
HASTINGS CAPITAL – DURASPEC SITE
JAMAICA, QUEENS, NEW YORK

	Sample Delivery Group		L1811240		L1811240		
	Sample Location		IAQ-01		IAQ-01		
	Sample Date		03/21/18		03/21/18		
	Field Sample ID		IAQ-01		DUP-01		
	QC Code		FS		FD		
Method	**Parameter Name**	**Units**	Final Result	Final Qualifier	Final Result	Final Qualifier	RPD
TO-15	1,1,1-Trichloroethane	UG/M3	0.142		0.131		8.1
TO-15	1,1,2,2-Tetrachloroethane	UG/M3	1.37	U	1.37	U	
TO-15	1,1,2-Trichloro-1,2,2-Trifluoroeth	UG/M3	1.53	U	1.53	U	
TO-15	1,1,2-Trichloroethane	UG/M3	1.09	U	1.09	U	
TO-15	1,1-Dichloroethane	UG/M3	0.809	U	0.809	U	
TO-15	1,1-Dichloroethene	UG/M3	0.079	U	0.079	U	
TO-15	1,2,4-Trichlorobenzene	UG/M3	1.48	U	1.48	U	
TO-15	1,2,4-Trimethylbenzene	UG/M3	0.983	U	1.08		9.4
TO-15	1,2-Dibromoethane	UG/M3	1.54	U	1.54	U	
TO-15	1,2-Dichloro-1,1,2,2-tetrafluoroet	UG/M3	1.40	U	1.40	U	
TO-15	1,2-Dichlorobenzene	UG/M3	1.20	U	1.20	U	
TO-15	1,2-Dichloroethane	UG/M3	0.809	U	0.809	U	
TO-15	1,2-Dichloropropane	UG/M3	0.924	U	0.924	U	
TO-15	1,3,5-Trimethylbenzene	UG/M3	0.983	U	0.983	U	
TO-15	1,3-Butadiene	UG/M3	0.442	U	0.442	U	
TO-15	1,3-Dichlorobenzene	UG/M3	1.20	U	1.20	U	
TO-15	1,4-Dichlorobenzene	UG/M3	1.20	U	1.20	U	
TO-15	1,4-Dioxane	UG/M3	0.721	U	0.721	U	
TO-15	2-Butanone	UG/M3	1.47	U	1.47	U	
TO-15	2-Hexanone	UG/M3	0.820	U	0.820	U	
TO-15	2-Propanol	UG/M3	9.59		9.71		1.2
TO-15	4-Ethyltoluene	UG/M3	0.983	U	0.983	U	
TO-15	4-Methyl-2-pentanone	UG/M3	2.05	U	2.05	U	
TO-15	Acetone	UG/M3	9.69		9.29		4.2
TO-15	Allyl chloride	UG/M3	0.626	U	0.626	U	
TO-15	Benzene	UG/M3	0.853		0.748		13.1
TO-15	Benzyl chloride	UG/M3	1.04	U	1.04	U	
TO-15	Bromodichloromethane	UG/M3	1.34	U	1.34	U	
TO-15	Bromoform	UG/M3	2.07	U	2.07	U	
TO-15	Bromomethane	UG/M3	0.777	U	0.777	U	
TO-15	Carbon disulfide	UG/M3	0.623	U	0.623	U	
TO-15	Carbon tetrachloride	UG/M3	0.497		0.365		30.6
TO-15	Chlorobenzene	UG/M3	0.921	U	0.921	U	
TO-15	Chloroethane	UG/M3	0.528	U	0.528	U	
TO-15	Chloroform	UG/M3	0.977	U	0.977	U	
TO-15	Chloromethane	UG/M3	1.03		0.913		12.0
TO-15	Cis-1,2-Dichloroethene	UG/M3	0.079	U	0.079	U	
TO-15	Cis-1,3-Dichloropropene	UG/M3	0.908	U	0.908	U	
TO-15	Cyclohexane	UG/M3	0.730		0.688	U	5.9
TO-15	Dibromochloromethane	UG/M3	1.70	U	1.70	U	
TO-15	Dichlorodifluoromethane	UG/M3	2.31		2.12		8.6
TO-15	Ethanol	UG/M3	26.9		25.6		5.0
TO-15	Ethyl acetate	UG/M3	1.80	U	1.80	U	

TABLE 3 - SUMMARY OF FIELD DUPLICATE RESULTS
DATA USABILITY SUMMARY REPORT
MARCH 2018 AIR SAMPLING EVENT
HASTINGS CAPITAL – DURASPEC SITE
JAMAICA, QUEENS, NEW YORK

		Sample Delivery Group	L1811240		L1811240		
		Sample Location	IAQ-01		IAQ-01		
		Sample Date	03/21/18		03/21/18		
		Field Sample ID	IAQ-01		DUP-01		
		QC Code	FS		FD		
Method	**Parameter Name**	**Units**	Final Result	Final Qualifier	Final Result	Final Qualifier	RPD
TO-15	Ethylbenzene	UG/M3	0.869	U	0.869	U	
TO-15	Heptane	UG/M3	1.35		1.15		16.0
TO-15	Hexachlorobutadiene	UG/M3	2.13	U	2.13	U	
TO-15	Hexane	UG/M3	2.23		2.15		3.7
TO-15	Isooctane	UG/M3	1.09		0.958		12.9
TO-15	Methyl Tertbutyl Ether	UG/M3	0.721	U	0.721	U	
TO-15	Methylene chloride	UG/M3	1.74	U	1.83		5.0
TO-15	Styrene	UG/M3	0.852	U	0.852	U	
TO-15	t-Butyl alcohol	UG/M3	1.52	U	1.52	U	
TO-15	Tetrachloroethene	UG/M3	3.29		3.68		11.2
TO-15	Tetrahydrofuran	UG/M3	1.47	U	1.47	U	
TO-15	Toluene	UG/M3	2.77		2.81		1.4
TO-15	trans-1,2-Dichloroethene	UG/M3	0.793	U	0.793	U	
TO-15	trans-1,3-Dichloropropene	UG/M3	0.908	U	0.908	U	
TO-15	Trichloroethene	UG/M3	0.107	U	0.107	U	
TO-15	Trichlorofluoromethane	UG/M3	1.29		1.14		12.3
TO-15	Vinyl bromide	UG/M3	0.874	U	0.874	U	
TO-15	Vinyl chloride	UG/M3	0.051	U	0.051	U	
TO-15	Xylene, o	UG/M3	0.869	U	0.882		1.5
TO-15	Xylenes, (m&p)	UG/M3	1.96		2.06		5.0

Notes:
U = undetected
J = estimated value
* = difference in detect/non-detect
<RL = results less than reporting limit

ATTACHMENT A
SUMMARY OF VALIDATION QC LIMITS FOR SURROGATES, SPIKES, AND DUPLICATES
BASED ON THE REGION 2 VALIDATION GUIDELINES

PARAMETER	QC TEST	ANALYTE	Air (%R)	Air (RPD)
Volatiles TO-15	Surrogate	All Surrogate Compounds	Lab Limits	
	LCS	All Target Compounds	70 - 130	
	Field Duplicate	All Target Compounds		50

Notes:
LCS - Laboratory Control Sample
RPD = Relative percent difference
%R = percent recovery
QC Limits are based on USEPA Region II Data Validation Guidelines and Project QA/QC Objectives

ANALYTICAL REPORT

Lab Number:	L1811240
Client:	AMEC Foster Wheeler E & I, Inc. 214-25 42nd Avenue Suite 3R Bayside, NY 11361
ATTN:	Eric Weinstock
Phone:	(347) 836-4445
Project Name:	FORMER DURASPEC
Project Number:	3612162326
Report Date:	04/09/18

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-13-00067), USFWS (Permit #LE2069641).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: FORMER DURASPEC
Project Number: 3612162326

Lab Number: L1811240
Report Date: 04/09/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1811240-01	SV-01	SOIL_VAPOR	JAMAICA, NY	03/30/18 10:12	04/02/18
L1811240-02	IAQ-01	AIR	JAMAICA, NY	03/31/18 08:28	04/02/18
L1811240-03	DUP-01	AIR	JAMAICA, NY	03/31/18 08:27	04/02/18
L1811240-04	AA-01	AIR	JAMAICA, NY	03/31/18 08:29	04/02/18
L1811240-05	SS-01	SOIL_VAPOR	JAMAICA, NY	03/30/18 12:28	04/02/18

Project Name: FORMER DURASPEC
Project Number: 3612162326

Lab Number: L1811240
Report Date: 04/09/18

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: FORMER DURASPEC
Project Number: 3612162326
Lab Number: L1811240
Report Date: 04/09/18

Case Narrative (continued)

Volatile Organics in Air

Canisters were released from the laboratory on March 30, 2018. The canister certification results are provided as an addendum.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kara Soroko

Title: Technical Director/Representative Date: 04/09/18

AIR

Project Name: FORMER DURASPEC
Project Number: 3612162326
Lab Number: L1811240
Report Date: 04/09/18

SAMPLE RESULTS

Lab ID: L1811240-01
Client ID: SV-01
Sample Location: JAMAICA, NY

Date Collected: 03/30/18 10:12
Date Received: 04/02/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 04/07/18 00:30
Analyst: AR

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.462	0.200	--	2.28	0.989	--		1
Chloromethane	0.592	0.200	--	1.22	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	3.43	0.200	--	7.59	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	10.7	5.00	--	20.2	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	21.8	1.00	--	51.8	2.38	--		1
Trichlorofluoromethane	0.215	0.200	--	1.21	1.12	--		1
Isopropanol	0.862	0.500	--	2.12	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	1.48	0.500	--	4.49	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	0.305	0.200	--	0.950	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	3.31	0.500	--	9.76	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: FORMER DURASPEC
Project Number: 3612162326
Lab Number: L1811240
Report Date: 04/09/18

SAMPLE RESULTS

Lab ID: L1811240-01
Client ID: SV-01
Sample Location: JAMAICA, NY

Date Collected: 03/30/18 10:12
Date Received: 04/02/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	1.22	0.200	--	4.30	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	2.62	0.200	--	8.37	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	0.716	0.200	--	3.34	0.934	--		1
Heptane	0.540	0.200	--	2.21	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	1.62	0.200	--	6.10	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	0.563	0.200	--	3.82	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	0.530	0.200	--	2.30	0.869	--		1

Project Name: FORMER DURASPEC
Project Number: 3612162326
Lab Number: L1811240
Report Date: 04/09/18

SAMPLE RESULTS

Lab ID: L1811240-01
Client ID: SV-01
Sample Location: JAMAICA, NY

Date Collected: 03/30/18 10:12
Date Received: 04/02/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
p/m-Xylene	1.93	0.400	--	8.38	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	0.607	0.200	--	2.64	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	0.206	0.200	--	1.01	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	77		60-140
Bromochloromethane	83		60-140
chlorobenzene-d5	76		60-140

Project Name: FORMER DURASPEC
Project Number: 3612162326
Lab Number: L1811240
Report Date: 04/09/18

SAMPLE RESULTS

Lab ID: L1811240-02
Client ID: IAQ-01
Sample Location: JAMAICA, NY

Date Collected: 03/31/18 08:28
Date Received: 04/02/18
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 04/06/18 20:50
Analyst: AR

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.468	0.200	--	2.31	0.989	--		1
Chloromethane	0.498	0.200	--	1.03	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	14.3	5.00	--	26.9	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	4.08	1.00	--	9.69	2.38	--		1
Trichlorofluoromethane	0.230	0.200	--	1.29	1.12	--		1
Isopropanol	3.90	0.500	--	9.59	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1

Project Name: FORMER DURASPEC
Project Number: 3612162326
Lab Number: L1811240
Report Date: 04/09/18

SAMPLE RESULTS

Lab ID: L1811240-02
Client ID: IAQ-01
Sample Location: JAMAICA, NY

Date Collected: 03/31/18 08:28
Date Received: 04/02/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	0.633	0.200	--	2.23	0.705	--		1
Benzene	0.267	0.200	--	0.853	0.639	--		1
Cyclohexane	0.212	0.200	--	0.730	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
2,2,4-Trimethylpentane	0.234	0.200	--	1.09	0.934	--		1
Heptane	0.329	0.200	--	1.35	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	0.735	0.200	--	2.77	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	0.451	0.400	--	1.96	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1

Project Name: FORMER DURASPEC
Project Number: 3612162326
Lab Number: L1811240
Report Date: 04/09/18

SAMPLE RESULTS

Lab ID: L1811240-02
Client ID: IAQ-01
Sample Location: JAMAICA, NY

Date Collected: 03/31/18 08:28
Date Received: 04/02/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	76		60-140
Bromochloromethane	83		60-140
chlorobenzene-d5	87		60-140

Project Name: FORMER DURASPEC
Project Number: 3612162326
Lab Number: L1811240
Report Date: 04/09/18

SAMPLE RESULTS

Lab ID: L1811240-02
Client ID: IAQ-01
Sample Location: JAMAICA, NY

Date Collected: 03/31/18 08:28
Date Received: 04/02/18
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 04/06/18 20:50
Analyst: AR

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	0.026	0.020	--	0.142	0.109	--		1
Carbon tetrachloride	0.079	0.020	--	0.497	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Tetrachloroethene	0.485	0.020	--	3.29	0.136	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	76		60-140
bromochloromethane	84		60-140
chlorobenzene-d5	89		60-140

Project Name: FORMER DURASPEC
Project Number: 3612162326
Lab Number: L1811240
Report Date: 04/09/18

SAMPLE RESULTS

Lab ID: L1811240-03
Client ID: DUP-01
Sample Location: JAMAICA, NY

Date Collected: 03/31/18 08:27
Date Received: 04/02/18
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 04/06/18 21:26
Analyst: AR

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.429	0.200	--	2.12	0.989	--		1
Chloromethane	0.442	0.200	--	0.913	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	13.6	5.00	--	25.6	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	3.91	1.00	--	9.29	2.38	--		1
Trichlorofluoromethane	0.203	0.200	--	1.14	1.12	--		1
Isopropanol	3.95	0.500	--	9.71	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	0.527	0.500	--	1.83	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1

Project Name: FORMER DURASPEC
Project Number: 3612162326
Lab Number: L1811240
Report Date: 04/09/18

SAMPLE RESULTS

Lab ID: L1811240-03
Client ID: DUP-01
Sample Location: JAMAICA, NY

Date Collected: 03/31/18 08:27
Date Received: 04/02/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	0.610	0.200	--	2.15	0.705	--		1
Benzene	0.234	0.200	--	0.748	0.639	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
2,2,4-Trimethylpentane	0.205	0.200	--	0.958	0.934	--		1
Heptane	0.280	0.200	--	1.15	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	0.746	0.200	--	2.81	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	0.474	0.400	--	2.06	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	0.203	0.200	--	0.882	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1

Project Name: FORMER DURASPEC
Project Number: 3612162326
Lab Number: L1811240
Report Date: 04/09/18

SAMPLE RESULTS

Lab ID: L1811240-03
Client ID: DUP-01
Sample Location: JAMAICA, NY

Date Collected: 03/31/18 08:27
Date Received: 04/02/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2,4-Trimethylbenzene	0.220	0.200	--	1.08	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	90		60-140
Bromochloromethane	92		60-140
chlorobenzene-d5	91		60-140

Project Name: FORMER DURASPEC
Project Number: 3612162326
Lab Number: L1811240
Report Date: 04/09/18

SAMPLE RESULTS

Lab ID: L1811240-03
Client ID: DUP-01
Sample Location: JAMAICA, NY

Date Collected: 03/31/18 08:27
Date Received: 04/02/18
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 04/06/18 21:26
Analyst: AR

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	0.024	0.020	--	0.131	0.109	--		1
Carbon tetrachloride	0.058	0.020	--	0.365	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Tetrachloroethene	0.542	0.020	--	3.68	0.136	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	92		60-140
bromochloromethane	92		60-140
chlorobenzene-d5	92		60-140

Project Name: FORMER DURASPEC
Project Number: 3612162326
Lab Number: L1811240
Report Date: 04/09/18

SAMPLE RESULTS

Lab ID: L1811240-04
Client ID: AA-01
Sample Location: JAMAICA, NY

Date Collected: 03/31/18 08:29
Date Received: 04/02/18
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 04/06/18 20:13
Analyst: AR

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.463	0.200	--	2.29	0.989	--		1
Chloromethane	0.511	0.200	--	1.06	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	4.24	1.00	--	10.1	2.38	--		1
Trichlorofluoromethane	0.207	0.200	--	1.16	1.12	--		1
Isopropanol	0.542	0.500	--	1.33	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	2.25	0.500	--	7.82	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1

Project Name: FORMER DURASPEC
Project Number: 3612162326
Lab Number: L1811240
Report Date: 04/09/18

SAMPLE RESULTS

Lab ID: L1811240-04
Client ID: AA-01
Sample Location: JAMAICA, NY

Date Collected: 03/31/18 08:29
Date Received: 04/02/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	1.06	0.200	--	3.74	0.705	--		1
Benzene	0.228	0.200	--	0.728	0.639	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	0.478	0.200	--	1.80	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1

Project Name: FORMER DURASPEC
Project Number: 3612162326
Lab Number: L1811240
Report Date: 04/09/18

SAMPLE RESULTS

Lab ID: L1811240-04
Client ID: AA-01
Sample Location: JAMAICA, NY

Date Collected: 03/31/18 08:29
Date Received: 04/02/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	74		60-140
Bromochloromethane	84		60-140
chlorobenzene-d5	83		60-140

Project Name: FORMER DURASPEC
Project Number: 3612162326
Lab Number: L1811240
Report Date: 04/09/18

SAMPLE RESULTS

Lab ID: L1811240-04
Client ID: AA-01
Sample Location: JAMAICA, NY

Date Collected: 03/31/18 08:29
Date Received: 04/02/18
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 04/06/18 20:13
Analyst: AR

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.074	0.020	--	0.465	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Tetrachloroethene	0.630	0.020	--	4.27	0.136	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	74		60-140
bromochloromethane	85		60-140
chlorobenzene-d5	84		60-140

Project Name: FORMER DURASPEC
Project Number: 3612162326
Lab Number: L1811240
Report Date: 04/09/18

SAMPLE RESULTS

Lab ID: L1811240-05
Client ID: SS-01
Sample Location: JAMAICA, NY

Date Collected: 03/30/18 12:28
Date Received: 04/02/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 04/07/18 01:07
Analyst: AR

	ppbV			ug/m3				
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.445	0.200	--	2.20	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	7.26	5.00	--	13.7	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	5.10	1.00	--	12.1	2.38	--		1
Trichlorofluoromethane	0.216	0.200	--	1.21	1.12	--		1
Isopropanol	1.06	0.500	--	2.61	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	2.04	0.500	--	7.09	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: FORMER DURASPEC
Project Number: 3612162326
Lab Number: L1811240
Report Date: 04/09/18

SAMPLE RESULTS

Lab ID: L1811240-05
Client ID: SS-01
Sample Location: JAMAICA, NY

Date Collected: 03/30/18 12:28
Date Received: 04/02/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	0.366	0.200	--	1.29	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	0.442	0.200	--	1.67	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	0.264	0.200	--	1.79	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	0.227	0.200	--	0.986	0.869	--		1

Project Name: FORMER DURASPEC
Project Number: 3612162326
Lab Number: L1811240
Report Date: 04/09/18

SAMPLE RESULTS

Lab ID: L1811240-05
Client ID: SS-01
Sample Location: JAMAICA, NY

Date Collected: 03/30/18 12:28
Date Received: 04/02/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
p/m-Xylene	0.941	0.400	--	4.09	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	0.386	0.200	--	1.68	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	77		60-140
Bromochloromethane	84		60-140
chlorobenzene-d5	80		60-140

Project Name: FORMER DURASPEC
Project Number: 3612162326
Lab Number: L1811240
Report Date: 04/09/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 04/06/18 17:22

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01-05 Batch: WG1104251-4								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: FORMER DURASPEC
Project Number: 3612162326
Lab Number: L1811240
Report Date: 04/09/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 04/06/18 17:22

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01-05 Batch: WG1104251-4								
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1

Project Name: FORMER DURASPEC
Project Number: 3612162326
Lab Number: L1811240
Report Date: 04/09/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 04/06/18 17:22

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01-05 Batch: WG1104251-4								
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: FORMER DURASPEC
Project Number: 3612162326
Lab Number: L1811240
Report Date: 04/09/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 04/06/18 17:22

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 02-04 Batch: WG1104344-4								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER DURASPEC

Project Number: 3612162326

Lab Number: L1811240

Report Date: 04/09/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-05 Batch: WG1104251-3								
Chlorodifluoromethane	93		-		70-130	-		
Propylene	115		-		70-130	-		
Propane	94		-		70-130	-		
Dichlorodifluoromethane	98		-		70-130	-		
Chloromethane	105		-		70-130	-		
1,2-Dichloro-1,1,2,2-tetrafluoroethane	105		-		70-130	-		
Methanol	96		-		70-130	-		
Vinyl chloride	99		-		70-130	-		
1,3-Butadiene	115		-		70-130	-		
Butane	93		-		70-130	-		
Bromomethane	96		-		70-130	-		
Chloroethane	124		-		70-130	-		
Ethyl Alcohol	99		-		70-130	-		
Dichlorofluoromethane	88		-		70-130	-		
Vinyl bromide	102		-		70-130	-		
Acrolein	91		-		70-130	-		
Acetone	106		-		70-130	-		
Acetonitrile	92		-		70-130	-		
Trichlorofluoromethane	91		-		70-130	-		
iso-Propyl Alcohol	97		-		70-130	-		
Acrylonitrile	93		-		70-130	-		
Pentane	93		-		70-130	-		
Ethyl ether	91		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER DURASPEC

Project Number: 3612162326

Lab Number: L1811240

Report Date: 04/09/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-05 Batch: WG1104251-3								
1,1-Dichloroethene	95		-		70-130	-		
tert-Butyl Alcohol	92		-		70-130	-		
Methylene chloride	99		-		70-130	-		
3-Chloropropene	113		-		70-130	-		
Carbon disulfide	99		-		70-130	-		
1,1,2-Trichloro-1,2,2-Trifluoroethane	96		-		70-130	-		
trans-1,2-Dichloroethene	99		-		70-130	-		
1,1-Dichloroethane	94		-		70-130	-		
Methyl tert butyl ether	105		-		70-130	-		
Vinyl acetate	109		-		70-130	-		
2-Butanone	106		-		70-130	-		
cis-1,2-Dichloroethene	99		-		70-130	-		
Ethyl Acetate	106		-		70-130	-		
Chloroform	95		-		70-130	-		
Tetrahydrofuran	104		-		70-130	-		
2,2-Dichloropropane	92		-		70-130	-		
1,2-Dichloroethane	96		-		70-130	-		
n-Hexane	105		-		70-130	-		
Isopropyl Ether	90		-		70-130	-		
Ethyl-Tert-Butyl-Ether	92		-		70-130	-		
1,1,1-Trichloroethane	119		-		70-130	-		
1,1-Dichloropropene	96		-		70-130	-		
Benzene	93		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER DURASPEC

Project Number: 3612162326

Lab Number: L1811240

Report Date: 04/09/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-05 Batch: WG1104251-3								
Carbon tetrachloride	99		-		70-130	-		
Cyclohexane	105		-		70-130	-		
Tertiary-Amyl Methyl Ether	95		-		70-130	-		
Dibromomethane	92		-		70-130	-		
1,2-Dichloropropane	99		-		70-130	-		
Bromodichloromethane	108		-		70-130	-		
1,4-Dioxane	100		-		70-130	-		
Trichloroethene	95		-		70-130	-		
2,2,4-Trimethylpentane	106		-		70-130	-		
Methyl Methacrylate	124		-		70-130	-		
Heptane	107		-		70-130	-		
cis-1,3-Dichloropropene	106		-		70-130	-		
4-Methyl-2-pentanone	113		-		70-130	-		
trans-1,3-Dichloropropene	93		-		70-130	-		
1,1,2-Trichloroethane	98		-		70-130	-		
Toluene	92		-		70-130	-		
1,3-Dichloropropane	87		-		70-130	-		
2-Hexanone	109		-		70-130	-		
Dibromochloromethane	108		-		70-130	-		
1,2-Dibromoethane	93		-		70-130	-		
Butyl Acetate	96		-		70-130	-		
Octane	88		-		70-130	-		
Tetrachloroethene	89		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER DURASPEC

Project Number: 3612162326

Lab Number: L1811240

Report Date: 04/09/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-05 Batch: WG1104251-3								
1,1,1,2-Tetrachloroethane	92		-		70-130	-		
Chlorobenzene	93		-		70-130	-		
Ethylbenzene	99		-		70-130	-		
p/m-Xylene	96		-		70-130	-		
Bromoform	108		-		70-130	-		
Styrene	97		-		70-130	-		
1,1,2,2-Tetrachloroethane	98		-		70-130	-		
o-Xylene	100		-		70-130	-		
1,2,3-Trichloropropane	91		-		70-130	-		
Nonane (C9)	96		-		70-130	-		
Isopropylbenzene	95		-		70-130	-		
Bromobenzene	94		-		70-130	-		
o-Chlorotoluene	91		-		70-130	-		
n-Propylbenzene	91		-		70-130	-		
p-Chlorotoluene	90		-		70-130	-		
4-Ethyltoluene	102		-		70-130	-		
1,3,5-Trimethylbenzene	94		-		70-130	-		
tert-Butylbenzene	96		-		70-130	-		
1,2,4-Trimethylbenzene	102		-		70-130	-		
Decane (C10)	96		-		70-130	-		
Benzyl chloride	109		-		70-130	-		
1,3-Dichlorobenzene	96		-		70-130	-		
1,4-Dichlorobenzene	96		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER DURASPEC

Project Number: 3612162326

Lab Number: L1811240

Report Date: 04/09/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-05 Batch: WG1104251-3								
sec-Butylbenzene	96		-		70-130	-		
p-Isopropyltoluene	91		-		70-130	-		
1,2-Dichlorobenzene	99		-		70-130	-		
n-Butylbenzene	100		-		70-130	-		
1,2-Dibromo-3-chloropropane	102		-		70-130	-		
Undecane	103		-		70-130	-		
Dodecane (C12)	107		-		70-130	-		
1,2,4-Trichlorobenzene	103		-		70-130	-		
Naphthalene	98		-		70-130	-		
1,2,3-Trichlorobenzene	98		-		70-130	-		
Hexachlorobutadiene	103		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER DURASPEC

Project Number: 3612162326

Lab Number: L1811240

Report Date: 04/09/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 02-04 Batch: WG1104344-3								
Vinyl chloride	96		-		70-130	-		25
1,1-Dichloroethene	92		-		70-130	-		25
cis-1,2-Dichloroethene	95		-		70-130	-		25
1,1,1-Trichloroethane	113		-		70-130	-		25
Carbon tetrachloride	95		-		70-130	-		25
Trichloroethene	90		-		70-130	-		25
Tetrachloroethene	89		-		70-130	-		25

Lab Duplicate Analysis
Batch Quality Control

Project Name: FORMER DURASPEC
Project Number: 3612162326

Lab Number: L1811240
Report Date: 04/09/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG1104251-5 QC Sample: L1811240-03 Client ID: DUP-01						
Dichlorodifluoromethane	0.429	0.426	ppbV	1		25
Chloromethane	0.442	0.462	ppbV	4		25
Freon-114	ND	ND	ppbV	NC		25
1,3-Butadiene	ND	ND	ppbV	NC		25
Bromomethane	ND	ND	ppbV	NC		25
Chloroethane	ND	ND	ppbV	NC		25
Ethanol	13.6	13.9	ppbV	2		25
Vinyl bromide	ND	ND	ppbV	NC		25
Acetone	3.91	4.26	ppbV	9		25
Trichlorofluoromethane	0.203	0.207	ppbV	2		25
Isopropanol	3.95	3.98	ppbV	1		25
Tertiary butyl Alcohol	ND	ND	ppbV	NC		25
Methylene chloride	0.527	0.538	ppbV	2		25
3-Chloropropene	ND	ND	ppbV	NC		25
Carbon disulfide	ND	ND	ppbV	NC		25
Freon-113	ND	ND	ppbV	NC		25
trans-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1-Dichloroethane	ND	ND	ppbV	NC		25
Methyl tert butyl ether	ND	ND	ppbV	NC		25
2-Butanone	ND	ND	ppbV	NC		25
Ethyl Acetate	ND	ND	ppbV	NC		25

Lab Duplicate Analysis
Batch Quality Control

Project Name: FORMER DURASPEC
Project Number: 3612162326

Lab Number: L1811240
Report Date: 04/09/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG1104251-5 QC Sample: L1811240-03 Client ID: DUP-01						
Chloroform	ND	ND	ppbV	NC		25
Tetrahydrofuran	ND	ND	ppbV	NC		25
1,2-Dichloroethane	ND	ND	ppbV	NC		25
n-Hexane	0.610	0.610	ppbV	0		25
Benzene	0.234	0.232	ppbV	1		25
Cyclohexane	ND	ND	ppbV	NC		25
1,2-Dichloropropane	ND	ND	ppbV	NC		25
Bromodichloromethane	ND	ND	ppbV	NC		25
1,4-Dioxane	ND	ND	ppbV	NC		25
2,2,4-Trimethylpentane	0.205	0.205	ppbV	0		25
Heptane	0.280	0.285	ppbV	2		25
cis-1,3-Dichloropropene	ND	ND	ppbV	NC		25
4-Methyl-2-pentanone	ND	ND	ppbV	NC		25
trans-1,3-Dichloropropene	ND	ND	ppbV	NC		25
1,1,2-Trichloroethane	ND	ND	ppbV	NC		25
Toluene	0.746	0.770	ppbV	3		25
2-Hexanone	ND	ND	ppbV	NC		25
Dibromochloromethane	ND	ND	ppbV	NC		25
1,2-Dibromoethane	ND	ND	ppbV	NC		25
Chlorobenzene	ND	ND	ppbV	NC		25
Ethylbenzene	ND	ND	ppbV	NC		25

Lab Duplicate Analysis
Batch Quality Control

Project Name: FORMER DURASPEC
Project Number: 3612162326

Lab Number: L1811240
Report Date: 04/09/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG1104251-5 QC Sample: L1811240-03 Client ID: DUP-01						
p/m-Xylene	0.474	0.479	ppbV	1		25
Bromoform	ND	ND	ppbV	NC		25
Styrene	ND	ND	ppbV	NC		25
1,1,2,2-Tetrachloroethane	ND	ND	ppbV	NC		25
o-Xylene	0.203	0.208	ppbV	2		25
4-Ethyltoluene	ND	ND	ppbV	NC		25
1,3,5-Trimethylbenzene	ND	ND	ppbV	NC		25
1,2,4-Trimethylbenzene	0.220	0.236	ppbV	7		25
Benzyl chloride	ND	ND	ppbV	NC		25
1,3-Dichlorobenzene	ND	ND	ppbV	NC		25
1,4-Dichlorobenzene	ND	ND	ppbV	NC		25
1,2-Dichlorobenzene	ND	ND	ppbV	NC		25
1,2,4-Trichlorobenzene	ND	ND	ppbV	NC		25
Hexachlorobutadiene	ND	ND	ppbV	NC		25
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 02-04 QC Batch ID: WG1104344-5 QC Sample: L1811240-03 Client ID: DUP-01						
Vinyl chloride	ND	ND	ppbV	NC		25
1,1-Dichloroethene	ND	ND	ppbV	NC		25
cis-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1,1-Trichloroethane	0.024	0.024	ppbV	0		25
Carbon tetrachloride	0.058	0.062	ppbV	7		25
Trichloroethene	ND	ND	ppbV	NC		25
Tetrachloroethene	0.542	0.543	ppbV	0		25

Project Name: FORMER DURASPEC

Lab Number: L1811240

Project Number: 3612162326

Report Date: 04/09/18

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1811240-01	SV-01	0949	Flow 4	03/30/18	262147		-	-	-	Pass	18.0	14.6	21
L1811240-01	SV-01	148	2.7L Can	03/30/18	262147	L1810305-01	Pass	-29.8	-8.1	-	-	-	-
L1811240-02	IAQ-01	0129	Flow 5	03/30/18	262147		-	-	-	Pass	3.3	4.0	19
L1811240-02	IAQ-01	1851	6.0L Can	03/30/18	262147	L1810633-03	Pass	-29.9	-6.6	-	-	-	-
L1811240-03	DUP-01	01021	Flow 5	03/30/18	262147		-	-	-	Pass	3.3	5.8	55
L1811240-03	DUP-01	607	6.0L Can	03/30/18	262147	L1810633-03	Pass	-30.0	0.6	-	-	-	-
L1811240-04	AA-01	0400	Flow 5	03/30/18	262147		-	-	-	Pass	3.3	3.6	9
L1811240-04	AA-01	619	6.0L Can	03/30/18	262147	L1810633-03	Pass	-29.9	-6.1	-	-	-	-
L1811240-05	SS-01	0747	Flow 5	03/30/18	262147		-	-	-	Pass	3.2	57.7	179
L1811240-05	SS-01	1972	6.0L Can	03/30/18	262147	L1810633-03	Pass	-29.8	-5.3	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1810305
Report Date: 04/09/18

Air Canister Certification Results

Lab ID: L1810305-01
Client ID: CAN 1748 SHELF 8
Sample Location:

Date Collected: 03/26/18 16:00
Date Received: 03/27/18
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/27/18 10:32
Analyst: MB

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1810305
Report Date: 04/09/18

Air Canister Certification Results

Lab ID: L1810305-01
Client ID: CAN 1748 SHELF 8
Sample Location:

Date Collected: 03/26/18 16:00
Date Received: 03/27/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1810305
Report Date: 04/09/18

Air Canister Certification Results

Lab ID: L1810305-01
Client ID: CAN 1748 SHELF 8
Sample Location:

Date Collected: 03/26/18 16:00
Date Received: 03/27/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1810305
Report Date: 04/09/18

Air Canister Certification Results

Lab ID: L1810305-01
Client ID: CAN 1748 SHELF 8
Sample Location:

Date Collected: 03/26/18 16:00
Date Received: 03/27/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1810305
Report Date: 04/09/18

Air Canister Certification Results

Lab ID: L1810305-01
Client ID: CAN 1748 SHELF 8
Sample Location:

Date Collected: 03/26/18 16:00
Date Received: 03/27/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	92		60-140
Bromochloromethane	95		60-140
chlorobenzene-d5	88		60-140

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1810305

Project Number: CANISTER QC BAT **Report Date:** 04/09/18

Air Canister Certification Results

Lab ID: L1810305-01
Client ID: CAN 1748 SHELF 8
Sample Location:

Date Collected: 03/26/18 16:00
Date Received: 03/27/18
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/27/18 10:32
Analyst: MB

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1810305
Report Date: 04/09/18

Air Canister Certification Results

Lab ID: L1810305-01
Client ID: CAN 1748 SHELF 8
Sample Location:

Date Collected: 03/26/18 16:00
Date Received: 03/27/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1810305
Report Date: 04/09/18

Air Canister Certification Results

Lab ID: L1810305-01
Client ID: CAN 1748 SHELF 8
Sample Location:

Date Collected: 03/26/18 16:00
Date Received: 03/27/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	0.040	0.020	--	0.240	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	91		60-140
bromochloromethane	94		60-140
chlorobenzene-d5	88		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1810633
Report Date: 04/09/18

Air Canister Certification Results

Lab ID: L1810633-03
Client ID: CAN 1777 SHELF 58
Sample Location:

Date Collected: 03/28/18 09:00
Date Received: 03/28/18
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/28/18 21:14
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1810633
Report Date: 04/09/18

Air Canister Certification Results

Lab ID: L1810633-03
Client ID: CAN 1777 SHELF 58
Sample Location:

Date Collected: 03/28/18 09:00
Date Received: 03/28/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1810633
Report Date: 04/09/18

Air Canister Certification Results

Lab ID: L1810633-03
Client ID: CAN 1777 SHELF 58
Sample Location:

Date Collected: 03/28/18 09:00
Date Received: 03/28/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1810633
Report Date: 04/09/18

Air Canister Certification Results

Lab ID: L1810633-03
Client ID: CAN 1777 SHELF 58
Sample Location:

Date Collected: 03/28/18 09:00
Date Received: 03/28/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1810633
Report Date: 04/09/18

Air Canister Certification Results

Lab ID: L1810633-03
Client ID: CAN 1777 SHELF 58
Sample Location:

Date Collected: 03/28/18 09:00
Date Received: 03/28/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	87		60-140
Bromochloromethane	97		60-140
chlorobenzene-d5	91		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1810633
Report Date: 04/09/18

Air Canister Certification Results

Lab ID: L1810633-03
Client ID: CAN 1777 SHELF 58
Sample Location:

Date Collected: 03/28/18 09:00
Date Received: 03/28/18
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/28/18 21:14
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1810633
Report Date: 04/09/18

Air Canister Certification Results

Lab ID: L1810633-03
Client ID: CAN 1777 SHELF 58
Sample Location:

Date Collected: 03/28/18 09:00
Date Received: 03/28/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1810633

Project Number: CANISTER QC BAT **Report Date:** 04/09/18

Air Canister Certification Results

Lab ID: L1810633-03
Client ID: CAN 1777 SHELF 58
Sample Location:

Date Collected: 03/28/18 09:00
Date Received: 03/28/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	91		60-140
bromochloromethane	95		60-140
chlorobenzene-d5	91		60-140

Project Name: FORMER DURASPEC
Project Number: 3612162326

Lab Number: L1811240
Report Date: 04/09/18

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
N/A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1811240-01A	Canister - 2.7 Liter	N/A	NA			Y	Absent		TO15-LL(30)
L1811240-02A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L1811240-03A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L1811240-04A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L1811240-05A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-LL(30)

*Values in parentheses indicate holding time in days

Project Name:	FORMER DURASPEC	**Lab Number:**	L1811240
Project Number:	3612162326	**Report Date:**	04/09/18

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

Report Format: Data Usability Report

Project Name:	FORMER DURASPEC	**Lab Number:**	L1811240
Project Number:	3612162326	**Report Date:**	04/09/18

Data Qualifiers

projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

REFERENCES

48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Be, Cd, Cr, Cu, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

AIR ANALYSIS

PAGE 1 OF 1

CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 4/3/18

ALPHA Job #: L8 11240

Client Information

Client: Amec foster wheeler
Address: 214-25 42nd Ave, Ste 3R
Bayside, NY 11361
Phone: 917 347-836-4425
Fax:
Email: eric.weinstock@amecfw.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: former Rraspec
Project Location: Jamaica, NY
Project #: 3612162326
Project Manager: Eric Weinstock
ALPHA Quote #:

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☑ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☐ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☐

ANALYSIS

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	ID Can	ID - Flow Controller	TO-15	TO-15 SIM	APH (Subset) Non-petroleum HCs ☐	Fixed Gases	Sulfides & Mercaptans by TO-15	Sample Comments (i.e. PID)
11240.01	SV-01	3/30/18	0822	1012	-30.06	-8.42	SV	JL	2.7L	1148	0949	X					
.02	IAQ-01	3/31/18	1118	0825	-30.08	-8.32	AA	JL	6L	1851	0129	X					
.03	DUP-01	3/31/18	1118	0827	-29.62	+0.09	AA	JL	6L	607	01021	X					
.04	AA-01	3/31/18	1119	0829	-29.56	-8.45	AA	JL	6L	619	0400	X					
.05	SS-01	3/30/18	1117	1225	-27.37	-5.30	SV	JL	6L	1972	0747	X					

*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:	Date/Time	Received By:	Date/Time:
Jazmin Logan	4/2/2018 1150	Ramek Jackson	4/2 1150
	4/2 1714		2240
4/3 0130	0410311803 45		0410311801 30
			4/3/18 0345

APPENDIX E

Photo 1

Preparation of soil vapor point on the sidewalk with the subject property shown toward the right.

Photo 2

Fuel port in driveway of residences.

Photo 3

Patched concrete of punctured points on basement floor

Photo 4

Gasoline container and other household items in boiler/laundry room

Photo 5

Additional household item in the boiler/laundry room.

Photo 6

Sampling setup in residential basement