



architects + engineers

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June 27, 2019

Ms. Heather Bishop
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway, 12th Floor
Albany, NY 12233

**Re: Soil Vapor Extraction Blower Vapor Sampling and Laboratory Analyses Summary Report
 American Regent, Inc.
 5 Ramsey Road
 Shirley, New York
 H2M Project No. LUIT 1901**

Dear Ms. Bishop:

On behalf of American Regent, Inc (American Regent), formerly known as Luitpold Pharmaceuticals, H2M architects + engineers (H2M) provides herein the results of the soil vapor extraction (SVE) blower vapor sampling for the above-referenced site.

Background

H2M was retained by American Regent to install a SSDS to address sub-slab soil vapor contamination, including 1,1,1-trichloroethane (TCA), Tetrachloroethene (PCE) and 1,1-dichloroethene (DCE), at 26 Precision Drive in Shirley, NY.

Implementation of a sub-slab depressurization system was selected as the mitigation remedy following a pilot test conducted at the site in May 2014. Due to low soil permeability, as confirmed during the pilot test, the SSDS required a soil vapor extraction blower. A remediation system was designed by H2M and approved by the New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health (NYSDOH) on February 4, 2016. The Town of Brookhaven Planning Department approved the SSDS project on August 10, 2017. A Town of Brookhaven Building Permit 17B119335 was issued on October 17, 2017. Construction of the SSDS began on December 7, 2017 and was completed December 21, 2017. System startup and inspection was performed by the Town of Brookhaven Building Department on January 10, 2018.

Sampling Activity

The air sampling was conducted on June 14, 2019. Samples were collected at an influent, intermediate, and effluent sample point located on the soil vapor extraction blower. All air samples were collected over a two-hour period utilizing vacuum canisters.

Summary and Conclusions

Each of the air samples were analyzed for volatile organic compounds (VOCs) by EPA Method TO-15. Laboratory analyses were performed by York Analytical Laboratories in Stratford, Connecticut. Results of the laboratory analyses are summarized in Table 1. Two analytes (Carbon Tetrachloride and Trichloroethylene) exceeded their respective Annual Guideline Concentrations (AGC).

Carbon tetrachloride was detected at a concentration of 0.44 ug/m³ in the influent, and 0.53 ug/m³ in the effluent. Trichloroethylene was detected at a concentration of 0.45 ug/m³ in the influent, and 2.00 ug/m³ in the effluent sample.

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However, utilizing a flow rate of 180 scfm, H2M calculated the total discharge in pounds per year for each analyte. Mass calculations were compared to guidance values established in 6 NYCRR 212. Based on flow rate and analyte concentrations, all annual discharges were less than 1 lb/year. Emission limits are 100 lbs/year for carbon tetrachloride and trichloroethylene. The carbon filtration system is operating in accordance with NYSDEC and NYSDOH guidelines.

If you should have any questions or require additional information, please feel free to contact the undersigned at (631) 756-8000 x1628.

Very truly yours,

H2M architects + engineers

A handwritten signature in blue ink that reads "Joseph Loesch".

Joseph Loesch
Project Engineer

Attachments:
Table 1 – Vapor Sampling SVE System
Appendix A – Analytical Laboratory Report

TABLE 1 – Vapor Sampling SVE System

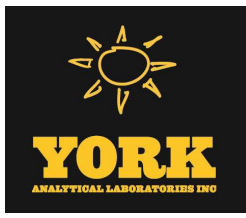
Table 1. Vapor Sampling SVE System
 American Regent, Inc. Site - 26 Precision Drive, Shirley, NY



Sample ID:	AGC Limit	Influent	Int.	Effluent	6 NYCRR 212	Effluent Mass Calculations
Sample Date:		6/14/2019	6/14/2019	6/14/2019	Annual Limit	
Units:	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	lbs/year	lbs/year
Volatile Organic Compounds (VOCs)						
1,1,1,2-Tetrachloroethane	-	ND	ND	ND		0
1,1,1-Trichloroethane	-	4.300	2.100	2.400		0.014
1,1,2,2-Tetrachloroethane	-	ND	ND	ND	1,000	0.000
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	-	ND	ND	ND		0.000
1,1,2-Trichloroethane	-	ND	ND	ND	100	0.000
1,1-Dichloroethane	-	ND	ND	ND		0.000
1,1-Dichloroethylene	-	ND	ND	ND		0.000
1,2,4-Trichlorobenzene	-	ND	ND	ND		0.000
1,2,4-Trimethylbenzene	6	1.200	ND	ND		0.000
1,2-Dibromoethane	-	ND	ND	ND	5	0.000
1,2-Dichlorobenzene	-	ND	ND	ND		0.000
1,2-Dichloroethane	-	ND	ND	ND	100	0.000
1,2-Dichloropropane	-	ND	ND	ND		0.000
1,2-Dichlorotetrafluoroethane	-	ND	ND	ND		0.000
1,3,5-Trimethylbenzene	-	ND	ND	ND		0.000
1,3-Butadiene	-	ND	ND	ND	25	0.000
1,3-Dichlorobenzene	-	ND	ND	ND		0.000
1,3-Dichloropropane	-	ND	ND	ND		0.000
1,4-Dichlorobenzene	-	ND	ND	ND		0.000
1,4-Dioxane	30000	ND	ND	ND		0.000
2-Butanone	-	2.400	0.710	4.700		0.028
2-Hexanone	-	ND	ND	ND		0.000
3-Chloropropene	-	ND	ND	ND		0.000
4-Methyl-2-pentanone	-	ND	ND	ND		0.000
Acetone	30000	19	7.700	13		0.077
Acrylonitrile	-	ND	ND	ND	25	0.000
Benzene	0.13	0.440	0.580	ND	100	0.000
Benzyl chloride	-	ND	ND	ND	25	0.000
Bromodichloromethane	-	ND	ND	ND		0.000
Bromoform	-	ND	ND	ND		0.000
Bromomethane	-	ND	ND	ND		0.000
Carbon disulfide	-	ND	ND	ND		0.000
Carbon tetrachloride	0.17	0.440	0.280	0.530	100	0.003
Chlorobenzene	-	ND	ND	ND		0.000
Chloroethane	-	ND	ND	ND		0.000
Chloroform	14.7	ND	ND	ND	100	0.000
Chloromethane	90	1.300	0.840	1.300		0.008
cis-1,2-Dichloroethylene	63	2.600	4.500	4.800		0.028
cis-1,3-Dichloropropylene	-	ND	ND	ND		0.000
Cyclohexane	6000	ND	ND	ND		0.000
Dibromochloromethane	-	ND	ND	ND		0.000
Dichlorodifluoromethane	12000	2.300	2.600	3.500		0.021
Ethyl acetate	3400	ND	ND	ND		0.000
Ethyl Benzene	1000	0.720	ND	ND		0.000
Hexachlorobutadiene	-	ND	ND	ND		0.000
Isopropanol	-	2.900	4.800	5.600		0.033
Methyl Methacrylate	-	ND	ND	ND		0.000
Methyl tert-butyl ether (MTBE)	3.8	ND	ND	ND		0.000
Methylene chloride	-	ND	1.200	ND		0.000
n-Heptane	-	0.620	ND	ND		0.000
n-Hexane	700	ND	ND	ND		0.000
o-Xylene	100	1	ND	ND		0.000
p- & m- Xylenes	100	3.600	ND	ND		0.000
p-Ethyltoluene	-	1.100	ND	ND		0.000
Propylene	3000	ND	ND	ND		0.000
Styrene	1000	ND	ND	ND		0.000
Tetrachloroethylene	4	2.900	72	ND	1,000	0.000
Tetrahydrofuran	350	ND	ND	ND		0.000
Toluene	5000	4	ND	ND		0.000
trans-1,2-Dichloroethylene	-	ND	ND	ND		0.000
trans-1,3-Dichloropropylene	-	ND	ND	ND		0.000
Trichloroethylene	0.2	0.450	1.100	2	100	0.012
Trichlorofluoromethane (Freon 11)	5000	2.600	7.400	7.500		0.044
Vinyl acetate	-	ND	ND	ND		0.000
Vinyl bromide	-	ND	ND	ND	500	0.000
Vinyl Chloride	-	ND	ND	ND	100	0.000

APPENDIX A

ANALYTICAL LABORATORY REPORT



Technical Report

prepared for:

H2M architects + engineers

290 Broad Hollow Rd

Melville NY, 11747

Attention: Joe Loesch

Report Date: 06/24/2019

Client Project ID: LUIT1901

York Project (SDG) No.: 19F0644

CT Cert. No. PH-0723

New Jersey Cert. No. CT005 and NY037



New York Cert. Nos. 10854 and 12058

PA Cert. No. 68-04440

120 RESEARCH DRIVE
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132-02 89th AVENUE
FAX (203) 357-0166

RICHMOND HILL, NY 11418
ClientServices@yorklab.com

Report Date: 06/24/2019
Client Project ID: LUIT1901
York Project (SDG) No.: 19F0644

H2M architects + engineers
290 Broad Hollow Rd
Melville NY, 11747
Attention: Joe Loesch

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on June 18, 2019 with a temperature of C. The project was identified as your project: **LUIT1901**.

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables.

All samples were received in proper condition meeting the customary acceptance requirements for environmental samples except those indicated under the Sample and Analysis Qualifiers section of this report.

All analyses met the method and laboratory standard operating procedure requirements except as indicated by any data flags, the meaning of which are explained in the Sample and Data Qualifiers Relating to This Work Order section of this report and case narrative if applicable.

The results of the analyses, which are all reported on dry weight basis (soils) unless otherwise noted, are detailed in the following pages.

Please contact Client Services at 203.325.1371 with any questions regarding this report.

<u>York Sample ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Received</u>
19F0644-01	Influent	Vapor Extraction	06/14/2019	06/18/2019
19F0644-02	Intermediate	Vapor Extraction	06/14/2019	06/18/2019
19F0644-03	Effluent	Vapor Extraction	06/14/2019	06/18/2019

General Notes for York Project (SDG) No.: 19F0644

1. The RLs and MDLs (Reporting Limit and Method Detection Limit respectively) reported are adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. The RL(REPORTING LIMIT) is based upon the lowest standard utilized for the calibration where applicable.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All analyses conducted met method or Laboratory SOP requirements. See the Sample and Data Qualifiers Section for further information.
6. It is noted that no analyses reported herein were subcontracted to another laboratory, unless noted in the report.
7. This report reflects results that relate only to the samples submitted on the attached chain-of-custody form(s) received by York.
8. Analyses conducted at York Analytical Laboratories, Inc. Stratford, CT are indicated by NY Cert. No. 10854; those conducted at York Analytical Laboratories, Inc., Richmond Hill, NY are indicated by NY Cert. No. 12058.

Approved By:



Benjamin Gulizia
Laboratory Director

Date: 06/24/2019





Sample Information

Client Sample ID: Influent

York Sample ID: 19F0644-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19F0644	LUIT1901	Vapor Extraction	June 14, 2019 9:27 am	06/18/2019

Volatile Organics, EPA TO15 Full List

Log-in Notes:

Sample Notes: TO-VAC

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	* 1,1,1,2-Tetrachloroethane	ND		ug/m ³	0.95	1.386	EPA TO-15 Certifications:	06/20/2019 18:00	06/21/2019 16:59	AS
71-55-6	1,1,1-Trichloroethane	4.3		ug/m ³	0.76	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/m ³	0.95	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/m ³	1.1	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
79-00-5	1,1,2-Trichloroethane	ND		ug/m ³	0.76	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
75-34-3	1,1-Dichloroethane	ND		ug/m ³	0.56	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
75-35-4	1,1-Dichloroethylene	ND		ug/m ³	0.14	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/m ³	1.0	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
95-63-6	1,2,4-Trimethylbenzene	1.2		ug/m ³	0.68	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
106-93-4	1,2-Dibromoethane	ND		ug/m ³	1.1	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
95-50-1	1,2-Dichlorobenzene	ND		ug/m ³	0.83	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
107-06-2	1,2-Dichloroethane	ND		ug/m ³	0.56	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
78-87-5	1,2-Dichloropropane	ND		ug/m ³	0.64	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
76-14-2	1,2-Dichlorotetrafluoroethane	ND		ug/m ³	0.97	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
108-67-8	1,3,5-Trimethylbenzene	ND		ug/m ³	0.68	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
106-99-0	1,3-Butadiene	ND		ug/m ³	0.92	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
541-73-1	1,3-Dichlorobenzene	ND		ug/m ³	0.83	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
142-28-9	* 1,3-Dichloropropane	ND		ug/m ³	0.64	1.386	EPA TO-15 Certifications:	06/20/2019 18:00	06/21/2019 16:59	AS
106-46-7	1,4-Dichlorobenzene	ND		ug/m ³	0.83	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
123-91-1	1,4-Dioxane	ND		ug/m ³	1.0	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
78-93-3	2-Butanone	2.4		ug/m ³	0.41	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS



Sample Information

Client Sample ID: Influent

York Sample ID: 19F0644-01

York Project (SDG) No.

Client Project ID

Matrix

Collection Date/Time

Date Received

19F0644

LUIT1901

Vapor Extraction

June 14, 2019 9:27 am

06/18/2019

Volatile Organics, EPA TO15 Full List

Log-in Notes:

Sample Notes: TO-VAC

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
591-78-6	* 2-Hexanone	ND		ug/m ³	1.1	1.386	EPA TO-15 Certifications:	06/20/2019 18:00	06/21/2019 16:59	AS
107-05-1	3-Chloropropene	ND		ug/m ³	2.2	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
108-10-1	4-Methyl-2-pentanone	ND		ug/m ³	0.57	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
67-64-1	Acetone	19		ug/m ³	0.66	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
107-13-1	Acrylonitrile	ND		ug/m ³	0.30	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
71-43-2	Benzene	0.44		ug/m ³	0.44	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
100-44-7	Benzyl chloride	ND		ug/m ³	0.72	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
75-27-4	Bromodichloromethane	ND		ug/m ³	0.93	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
75-25-2	Bromoform	ND		ug/m ³	1.4	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
74-83-9	Bromomethane	ND		ug/m ³	0.54	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
75-15-0	Carbon disulfide	ND		ug/m ³	0.43	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
56-23-5	Carbon tetrachloride	0.44		ug/m ³	0.22	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
108-90-7	Chlorobenzene	ND		ug/m ³	0.64	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
75-00-3	Chloroethane	ND		ug/m ³	0.37	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
67-66-3	Chloroform	ND		ug/m ³	0.68	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
74-87-3	Chloromethane	1.3		ug/m ³	0.29	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
156-59-2	cis-1,2-Dichloroethylene	2.6		ug/m ³	0.14	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/m ³	0.63	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
110-82-7	Cyclohexane	ND		ug/m ³	0.48	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
124-48-1	Dibromochloromethane	ND		ug/m ³	1.2	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
75-71-8	Dichlorodifluoromethane	2.3		ug/m ³	0.69	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
141-78-6	* Ethyl acetate	ND		ug/m ³	1.0	1.386	EPA TO-15 Certifications:	06/20/2019 18:00	06/21/2019 16:59	AS



Sample Information

Client Sample ID: Influent

York Sample ID: 19F0644-01

York Project (SDG) No.

Client Project ID

Matrix

Collection Date/Time

Date Received

19F0644

LUIT1901

Vapor Extraction

June 14, 2019 9:27 am

06/18/2019

Volatile Organics, EPA TO15 Full List

Log-in Notes:

Sample Notes: TO-VAC

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
100-41-4	Ethyl Benzene	0.72		ug/m ³	0.60	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
87-68-3	Hexachlorobutadiene	ND		ug/m ³	1.5	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
67-63-0	Isopropanol	2.9		ug/m ³	0.68	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
80-62-6	Methyl Methacrylate	ND		ug/m ³	0.57	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/m ³	0.50	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
75-09-2	Methylene chloride	ND		ug/m ³	0.96	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
142-82-5	n-Heptane	0.62		ug/m ³	0.57	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
110-54-3	n-Hexane	ND		ug/m ³	0.49	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
95-47-6	o-Xylene	1.0		ug/m ³	0.60	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
179601-23-1	p- & m- Xylenes	3.6		ug/m ³	1.2	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
622-96-8	* p-Ethyltoluene	1.1		ug/m ³	0.68	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
115-07-1	* Propylene	ND		ug/m ³	0.24	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
100-42-5	Styrene	ND		ug/m ³	0.59	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
127-18-4	Tetrachloroethylene	2.9		ug/m ³	0.24	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
109-99-9	* Tetrahydrofuran	ND		ug/m ³	0.82	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
108-88-3	Toluene	4.0		ug/m ³	0.52	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/m ³	0.55	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/m ³	0.63	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
79-01-6	Trichloroethylene	0.45		ug/m ³	0.19	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
75-69-4	Trichlorofluoromethane (Freon 11)	2.6		ug/m ³	0.78	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
108-05-4	Vinyl acetate	ND		ug/m ³	0.49	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS
593-60-2	Vinyl bromide	ND		ug/m ³	0.61	1.386	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 16:59	AS



Sample Information

Client Sample ID: Intermediate

York Sample ID: 19F0644-02

York Project (SDG) No.

Client Project ID

Matrix

Collection Date/Time

Date Received

19F0644

LUIT1901

Vapor Extraction

June 14, 2019 10:18 am

06/18/2019

Volatile Organics, EPA TO15 Full List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
78-87-5	1,2-Dichloropropane	ND		ug/m ³	0.70	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
76-14-2	1,2-Dichlorotetrafluoroethane	ND		ug/m ³	1.1	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
108-67-8	1,3,5-Trimethylbenzene	ND		ug/m ³	0.74	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
106-99-0	1,3-Butadiene	ND		ug/m ³	1.0	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
541-73-1	1,3-Dichlorobenzene	ND		ug/m ³	0.91	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
142-28-9	* 1,3-Dichloropropane	ND		ug/m ³	0.70	1.506	EPA TO-15 Certifications:	06/20/2019 18:00	06/21/2019 18:49	AS
106-46-7	1,4-Dichlorobenzene	ND		ug/m ³	0.91	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
123-91-1	1,4-Dioxane	ND		ug/m ³	1.1	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
78-93-3	2-Butanone	0.71		ug/m ³	0.44	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
591-78-6	* 2-Hexanone	ND		ug/m ³	1.2	1.506	EPA TO-15 Certifications:	06/20/2019 18:00	06/21/2019 18:49	AS
107-05-1	3-Chloropropene	ND		ug/m ³	2.4	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
108-10-1	4-Methyl-2-pentanone	ND		ug/m ³	0.62	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
67-64-1	Acetone	7.7		ug/m ³	0.72	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
107-13-1	Acrylonitrile	ND		ug/m ³	0.33	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
71-43-2	Benzene	0.58		ug/m ³	0.48	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
100-44-7	Benzyl chloride	ND		ug/m ³	0.78	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
75-27-4	Bromodichloromethane	ND		ug/m ³	1.0	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
75-25-2	Bromoform	ND		ug/m ³	1.6	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
74-83-9	Bromomethane	ND		ug/m ³	0.58	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
75-15-0	Carbon disulfide	ND		ug/m ³	0.47	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
56-23-5	Carbon tetrachloride	0.28		ug/m ³	0.24	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
108-90-7	Chlorobenzene	ND		ug/m ³	0.69	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS



Sample Information

Client Sample ID: Intermediate

York Sample ID: 19F0644-02

York Project (SDG) No.

Client Project ID

Matrix

Collection Date/Time

Date Received

19F0644

LUIT1901

Vapor Extraction

June 14, 2019 10:18 am

06/18/2019

Volatile Organics, EPA TO15 Full List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
75-00-3	Chloroethane	ND		ug/m ³	0.40	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
67-66-3	Chloroform	ND		ug/m ³	0.74	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
74-87-3	Chloromethane	0.84		ug/m ³	0.31	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
156-59-2	cis-1,2-Dichloroethylene	4.5		ug/m ³	0.15	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/m ³	0.68	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
110-82-7	Cyclohexane	ND		ug/m ³	0.52	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
124-48-1	Dibromochloromethane	ND		ug/m ³	1.3	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
75-71-8	Dichlorodifluoromethane	2.6		ug/m ³	0.74	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
141-78-6	* Ethyl acetate	ND		ug/m ³	1.1	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
100-41-4	Ethyl Benzene	ND		ug/m ³	0.65	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
87-68-3	Hexachlorobutadiene	ND		ug/m ³	1.6	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
67-63-0	Isopropanol	4.8		ug/m ³	0.74	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
80-62-6	Methyl Methacrylate	ND		ug/m ³	0.62	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/m ³	0.54	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
75-09-2	Methylene chloride	1.2		ug/m ³	1.0	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
142-82-5	n-Heptane	ND		ug/m ³	0.62	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
110-54-3	n-Hexane	ND		ug/m ³	0.53	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
95-47-6	o-Xylene	ND		ug/m ³	0.65	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
179601-23-1	p- & m- Xylenes	ND		ug/m ³	1.3	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
622-96-8	* p-Ethyltoluene	ND		ug/m ³	0.74	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
115-07-1	* Propylene	ND		ug/m ³	0.26	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
100-42-5	Styrene	ND		ug/m ³	0.64	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS



Sample Information

Client Sample ID: Intermediate

York Sample ID: 19F0644-02

<u>York Project (SDG) No.</u> 19F0644	<u>Client Project ID</u> LUIT1901	<u>Matrix</u> Vapor Extraction	<u>Collection Date/Time</u> June 14, 2019 10:18 am	<u>Date Received</u> 06/18/2019
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Volatile Organics, EPA TO15 Full List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
127-18-4	Tetrachloroethylene	72		ug/m ³	0.26	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
109-99-9	* Tetrahydrofuran	ND		ug/m ³	0.89	1.506	EPA TO-15 Certifications:	06/20/2019 18:00	06/21/2019 18:49	AS
108-88-3	Toluene	ND		ug/m ³	0.57	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/m ³	0.60	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/m ³	0.68	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
79-01-6	Trichloroethylene	1.1		ug/m ³	0.20	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
75-69-4	Trichlorofluoromethane (Freon 11)	7.4		ug/m ³	0.85	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
108-05-4	Vinyl acetate	ND		ug/m ³	0.53	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
593-60-2	Vinyl bromide	ND		ug/m ³	0.66	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
75-01-4	Vinyl Chloride	ND		ug/m ³	0.096	1.506	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 18:49	AS
Surrogate Recoveries		Result	Acceptance Range							
460-00-4	Surrogate: SURR: p-Bromofluorobenzene	96.1 %	70-130							

Sample Information

Client Sample ID: Effluent

York Sample ID: 19F0644-03

<u>York Project (SDG) No.</u> 19F0644	<u>Client Project ID</u> LUIT1901	<u>Matrix</u> Vapor Extraction	<u>Collection Date/Time</u> June 14, 2019 10:59 am	<u>Date Received</u> 06/18/2019
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Volatile Organics, EPA TO15 Full List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	* 1,1,1,2-Tetrachloroethane	ND		ug/m ³	1.2	1.679	EPA TO-15 Certifications:	06/20/2019 18:00	06/21/2019 19:44	AS
71-55-6	1,1,1-Trichloroethane	2.4		ug/m ³	0.92	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/m ³	1.2	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/m ³	1.3	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS



Sample Information

Client Sample ID: Effluent

York Sample ID: 19F0644-03

York Project (SDG) No.

Client Project ID

Matrix

Collection Date/Time

Date Received

19F0644

LUIT1901

Vapor Extraction

June 14, 2019 10:59 am

06/18/2019

Volatile Organics, EPA TO15 Full List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
79-00-5	1,1,2-Trichloroethane	ND		ug/m ³	0.92	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
75-34-3	1,1-Dichloroethane	ND		ug/m ³	0.68	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
75-35-4	1,1-Dichloroethylene	ND		ug/m ³	0.17	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/m ³	1.2	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
95-63-6	1,2,4-Trimethylbenzene	ND		ug/m ³	0.83	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
106-93-4	1,2-Dibromoethane	ND		ug/m ³	1.3	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
95-50-1	1,2-Dichlorobenzene	ND		ug/m ³	1.0	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
107-06-2	1,2-Dichloroethane	ND		ug/m ³	0.68	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
78-87-5	1,2-Dichloropropane	ND		ug/m ³	0.78	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
76-14-2	1,2-Dichlorotetrafluoroethane	ND		ug/m ³	1.2	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
108-67-8	1,3,5-Trimethylbenzene	ND		ug/m ³	0.83	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
106-99-0	1,3-Butadiene	ND		ug/m ³	1.1	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
541-73-1	1,3-Dichlorobenzene	ND		ug/m ³	1.0	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
142-28-9	* 1,3-Dichloropropane	ND		ug/m ³	0.78	1.679	EPA TO-15 Certifications:	06/20/2019 18:00	06/21/2019 19:44	AS
106-46-7	1,4-Dichlorobenzene	ND		ug/m ³	1.0	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
123-91-1	1,4-Dioxane	ND		ug/m ³	1.2	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
78-93-3	2-Butanone	4.7		ug/m ³	0.50	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
591-78-6	* 2-Hexanone	ND		ug/m ³	1.4	1.679	EPA TO-15 Certifications:	06/20/2019 18:00	06/21/2019 19:44	AS
107-05-1	3-Chloropropene	ND		ug/m ³	2.6	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
108-10-1	4-Methyl-2-pentanone	ND		ug/m ³	0.69	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
67-64-1	Acetone	13		ug/m ³	0.80	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
107-13-1	Acrylonitrile	ND		ug/m ³	0.36	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS



Sample Information

Client Sample ID: Effluent

York Sample ID: 19F0644-03

York Project (SDG) No.

Client Project ID

Matrix

Collection Date/Time

Date Received

19F0644

LUIT1901

Vapor Extraction

June 14, 2019 10:59 am

06/18/2019

Volatile Organics, EPA TO15 Full List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
71-43-2	Benzene	ND		ug/m ³	0.54	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
100-44-7	Benzyl chloride	ND		ug/m ³	0.87	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
75-27-4	Bromodichloromethane	ND		ug/m ³	1.1	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
75-25-2	Bromoform	ND		ug/m ³	1.7	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
74-83-9	Bromomethane	ND		ug/m ³	0.65	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
75-15-0	Carbon disulfide	ND		ug/m ³	0.52	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
56-23-5	Carbon tetrachloride	0.53		ug/m ³	0.26	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
108-90-7	Chlorobenzene	ND		ug/m ³	0.77	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
75-00-3	Chloroethane	ND		ug/m ³	0.44	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
67-66-3	Chloroform	ND		ug/m ³	0.82	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
74-87-3	Chloromethane	1.3		ug/m ³	0.35	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
156-59-2	cis-1,2-Dichloroethylene	4.8		ug/m ³	0.17	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/m ³	0.76	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
110-82-7	Cyclohexane	ND		ug/m ³	0.58	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
124-48-1	Dibromochloromethane	ND		ug/m ³	1.4	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
75-71-8	Dichlorodifluoromethane	3.5		ug/m ³	0.83	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
141-78-6	* Ethyl acetate	ND		ug/m ³	1.2	1.679	EPA TO-15 Certifications:	06/20/2019 18:00	06/21/2019 19:44	AS
100-41-4	Ethyl Benzene	ND		ug/m ³	0.73	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
87-68-3	Hexachlorobutadiene	ND		ug/m ³	1.8	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
67-63-0	Isopropanol	5.6		ug/m ³	0.83	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
80-62-6	Methyl Methacrylate	ND		ug/m ³	0.69	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/m ³	0.61	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS



Sample Information

Client Sample ID: Effluent

York Sample ID: 19F0644-03

York Project (SDG) No.

Client Project ID

Matrix

Collection Date/Time

Date Received

19F0644

LUIT1901

Vapor Extraction

June 14, 2019 10:59 am

06/18/2019

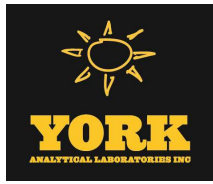
Volatile Organics, EPA TO15 Full List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
75-09-2	Methylene chloride	ND		ug/m ³	1.2	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
142-82-5	n-Heptane	ND		ug/m ³	0.69	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
110-54-3	n-Hexane	ND		ug/m ³	0.59	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
95-47-6	o-Xylene	ND		ug/m ³	0.73	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
179601-23-1	p- & m- Xylenes	ND		ug/m ³	1.5	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
622-96-8	* p-Ethyltoluene	ND		ug/m ³	0.83	1.679	EPA TO-15 Certifications:	06/20/2019 18:00	06/21/2019 19:44	AS
115-07-1	* Propylene	ND		ug/m ³	0.29	1.679	EPA TO-15 Certifications:	06/20/2019 18:00	06/21/2019 19:44	AS
100-42-5	Styrene	ND		ug/m ³	0.72	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
127-18-4	Tetrachloroethylene	ND		ug/m ³	0.28	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
109-99-9	* Tetrahydrofuran	ND		ug/m ³	0.99	1.679	EPA TO-15 Certifications:	06/20/2019 18:00	06/21/2019 19:44	AS
108-88-3	Toluene	ND		ug/m ³	0.63	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/m ³	0.67	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/m ³	0.76	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
79-01-6	Trichloroethylene	2.0		ug/m ³	0.23	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
75-69-4	Trichlorofluoromethane (Freon 11)	7.5		ug/m ³	0.94	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
108-05-4	Vinyl acetate	ND		ug/m ³	0.59	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
593-60-2	Vinyl bromide	ND		ug/m ³	0.73	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
75-01-4	Vinyl Chloride	ND		ug/m ³	0.11	1.679	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	06/20/2019 18:00	06/21/2019 19:44	AS
	Surrogate Recoveries	Result		Acceptance Range						
460-00-4	Surrogate: SURRE: p-Bromofluorobenzene	93.1 %		70-130						





Sample and Data Qualifiers Relating to This Work Order

- TO-VAC The final vacuum in the canister was less than -2 inches Hg vacuum. The time integrated sampling may be affected and not reflect proper sampling over the time period. The data user should take note.
- TO-LCS-H The result reported for this compound may be biased high due to its behavior in the analysis batch LCS where it recovered greater than 130% of the expected value.

Definitions and Other Explanations

- * Analyte is not certified or the state of the samples origination does not offer certification for the Analyte.
- ND NOT DETECTED - the analyte is not detected at the Reported to level (LOQ/RL or LOD/MDL)
- RL REPORTING LIMIT - the minimum reportable value based upon the lowest point in the analyte calibration curve.
- LOQ LIMIT OF QUANTITATION - the minimum concentration of a target analyte that can be reported within a specified degree of confidence. This is the lowest point in an analyte calibration curve that has been subjected to all steps of the processing/analysis and verified to meet defined criteria. This is based upon NELAC 2009 Standards and applies to all analyses.
- LOD LIMIT OF DETECTION - a verified estimate of the minimum concentration of a substance in a given matrix that an analytical process can reliably detect. This is based upon NELAC 2009 Standards and applies to all analyses conducted under the auspices of EPA SW-846.
- MDL METHOD DETECTION LIMIT - a statistically derived estimate of the minimum amount of a substance an analytical system can reliably detect with a 99% confidence that the concentration of the substance is greater than zero. This is based upon 40 CFR Part 136 Appendix B and applies only to EPA 600 and 200 series methods.
- Reported to This indicates that the data for a particular analysis is reported to either the LOD/MDL, or the LOQ/RL. In cases where the "Reported to" is located above the LOD/MDL, any value between this and the LOQ represents an estimated value which is "J" flagged accordingly. This applies to volatile and semi-volatile target compounds only.
- NR Not reported
- RPD Relative Percent Difference
- Wet The data has been reported on an as-received (wet weight) basis
- Low Bias Low Bias flag indicates that the recovery of the flagged analyte is below the laboratory or regulatory lower control limit. The data user should take note that this analyte may be biased low but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
- High Bias High Bias flag indicates that the recovery of the flagged analyte is above the laboratory or regulatory upper control limit. The data user should take note that this analyte may be biased high but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
- Non-Dir. Non-dir. flag (Non-Directional Bias) indicates that the Relative Percent Difference (RPD) (a measure of precision) among the MS and MSD data is outside the laboratory or regulatory control limit. This alerts the data user where the MS and MSD are from site-specific samples that the RPD is high due to either non-homogeneous distribution of target analyte between the MS/MSD or indicates poor reproducibility for other reasons.

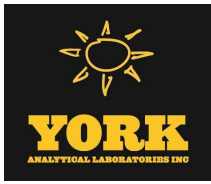
If EPA SW-846 method 8270 is included herein it is noted that the target compound N-nitrosodiphenylamine (NDPA) decomposes in the gas chromatographic inlet and cannot be separated from diphenylamine (DPA). These results could actually represent 100% DPA, 100% NDPA or some combination of the two. For this reason, York reports the combined result for n-nitrosodiphenylamine and diphenylamine for either of these compounds as a combined concentration as Diphenylamine.

If Total PCBs are detected and the target aroclors reported are "Not detected", the Total PCB value is reported due to the presence of either or both Aroclors 1262 and 1268 which are non-target aroclors for some regulatory lists.

2-chloroethylvinyl ether readily breaks down under acidic conditions. Samples that are acid preserved, including standards will exhibit breakdown. The data user should take note.

Certification for pH is no longer offered by NYDOH ELAP.

Semi-Volatile and Volatile analyses are reported down to the LOD/MDL, with values between the LOD/MDL and the LOQ being "J" flagged as estimated results.



For analyses by EPA SW-846-8270D, the Limit of Quantitation (LOQ) reported for benzidine is based upon the lowest standard used for calibration and is not a verified LOQ due to this compound's propensity for oxidative losses during extraction/concentration procedures and non-reproducible chromatographic performance.



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www.yorklab.com

Field Chain-of-Custody Record - AIR

YORK Project No.
19F0644

Page **1** of **1**

Your signature binds you to YORK's Standard Terms & Conditions.

Report To: Company: _____ Address: _____ Phone: _____ Contact: _____ E-mail: _____		Report / EDD Type (circle selections) <input checked="" type="checkbox"/> Summary Report <input type="checkbox"/> QA Report <input type="checkbox"/> NY ASP A Package <input type="checkbox"/> NY ASP B Package <input type="checkbox"/> Other: _____	
Report To: Company: _____ Address: _____ Phone: _____ Contact: _____ E-mail: _____		Report / EDD Type (circle selections) <input checked="" type="checkbox"/> Standard Excel EDD <input type="checkbox"/> EQUIS (Standard) <input checked="" type="checkbox"/> NYSDEC EQUIS <input type="checkbox"/> NUDEP SRP HazSite	

YOUR Information Company: HAM Architects + Engineers Address: 200 Broadhollow Road Phone: (631) 756-8000 Contact: Joe Loesch E-mail: JoeLoesch@HAM.com		YOUR Project Name LUIT 1901	
Invoice To: Company: _____ Address: _____ Phone: _____ Contact: _____ E-mail: _____		YOUR Project Number LUIT 1901	

Sample Identification	Date/Time Sampled	Air Matrix	Canister Vacuum		Flow Cont. ID	Analysis Requested
			Before Sampling (in Hg)	After Sampling (in Hg)		
Influent	6/14/19 850-987	AE	-27	-2	Y27	TO-15
Intermediate	6/14/19 852-1018	AE	-29	-7	561	TO-15
Effluent	6/14/19 854-1059	AE	-29	-4	6867	TO-15

Reporting Units: ug/m³ ppbv ppmv

YORK Reg. Comp. Compared to the following Regulation(s): (please fill in)

Turn-Around Time
 RUSH - Next Day
 RUSH - Two Day
 RUSH - Three Day
 RUSH - Four Day
 Standard (5-7 Day)

Comments:

Company	Date/Time	Signature
YORK	6/14/19 9:15 AM	KB Bahrwald
YORK	6-17-19/1835	J. Stahl
YORK	6-17-19/1942	Tom A / Gomb
YORK	6/18/19 7:47 am	Tom A / Gomb