



October 30, 2017

Mr. Stephen J. Brennan, MBA, CPA
 Business Administrator/Board Secretary
 Pinelands Regional Board of Education
 520 Nugentown Road
 Little Egg Harbor, NJ 08087

Re: TTI Project 17-1224
 Pinelands Regional High School
 Indoor Air Quality Testing

Dear Mr. Brennan,

TTI Environmental, Inc. is pleased to present this report containing results of indoor air monitoring performed at Pinelands Regional High School on 10.19.2017. A list of compounds detected inside the building is summarized below.

10.19.2017 results 10.05.2017 results

Results	CAS	ug/m3	ppm	ug/m3	ppm	OSHA PEL ppm	OSHA PEL mg/m ³	NIOSH REL ppm	ACGIH TLV ppm
Ethanol	64175	19.0	0.0099	90.0	0.0480	1000	1900	1000	1000
Isopropyl alcohol(2-Propanol)	67630	12.0	0.0048	17.0	0.0070	400	980	400	200
Acetone	67641	180.0	0.0770	24.0	0.0099	1000	2400	250	250
Benzene	71432	ND	ND	8.9	0.0028	1	-	0.1	10
Chloromethane	74873	1.9	0.0009	3.6	0.0017	25	-	-	50
Freon 11(Trichlorofluoromethane)	75694	4.8	0.0009	24.0	0.0042	1000	5600	1000	1000
Freon 12(Dichlorodifluoromethane)	75718	13.0	0.0250	2.5	0.0005	1000	4950	1000	1000
Naphthalene	91203	ND	ND	11.0	0.0021	10	50	10	10
Xylene (Ortho)	95476	7.7	0.0018	53.0	0.0120	100	435	100	100
1,2,4-Trimethylbenzene	95636	38.0	0.0078	180.0	0.0370	-	-	25	25
Isopropylbenzene (cumene)	98828	2.7	0.0005	19.0	0.0039	50	245	50	50
Ethylbenzene	100414	5.7	0.0013	37.0	0.0084	-	-	-	-
Styrene	100425	8.0	0.0019	ND	ND	100	420	50	20
n-Butane	106978	37.0	0.0150	70.0	0.0290	-	-	1000	800
1,3,5-Trimethylbenzene	108678	13.0	0.0026	85.0	0.0170	-	-	25	25
Toluene	108883	6.0	0.0016	58.0	0.0150	200	750	100	20
n-Hexane	110543	11.0	0.0031	28.0	0.0081	500	1800	50	50
Cyclohexane	110827	4.9	0.0014	10.0	0.0029	300	1015	300	300
Propylene	115071	ND	ND	3.5	0.0020	-	-	-	-
n-Heptane	142825	25.0	0.0061	35.0	0.0087	500	2000	85	400
Ethyl acetate	141786	9.0	0.0025	ND	ND	400	1400	400	400
2,2,4-Trimethylpentane(Isooctane)	540841	ND	ND	31.0	0.0067	300	-	75	300
4-Ethyltoluene	622968	28.0	0.0056	150.0	0.0310	-	-	-	-
Xylene (p,m)	1330207	17.0	0.0040	110.0	0.0250	-	-	150	150

OSHA PEL Occupational Health & Safety Administration Permissible Exposure Limit
 NIOSH REL National Institute of Occupational Safety & Health Recommended Exposure Limit
 ACGIH TLV American Conference of Governmental Industrial Hygienists Threshold Limit Values
 NJ-IRRAL NJDEP RESIDENTIAL VAPOR INTRUSION SCREENING LEVELS, March 2013
 NJ-INRAL NJDEP NON-RESIDENTIAL VAPOR INTRUSION SCREENING LEVELS, March 2013



The table includes the previous results (10.05.2017) for the High School along with current detectable levels for comparison. TTI has evaluated the results and can confirm that none of the detected compounds exceeded limits set by OSHA, NIOSH or ACGIH for health considerations.

We appreciate the opportunity to assist with your IAQ concerns. If you should have any questions or require additional information, please feel free to contact me directly.

Sincerely,

TTI ENVIRONMENTAL, INC.

A handwritten signature in black ink, appearing to read "Patricia B Stock". The signature is written in a cursive, flowing style.

Patricia B Stock
Senior EHS Consultant

**EMSL Analytical**

200 Route 130 North, Cinnaminson, NJ 08077

Phone/Fax: (856)858-4800 / (856)858-4571

<http://www.EMSL.com> to15lab@EMSL.comEMSL Order #: **491701061**Customer ID: **TTIE54**Customer PO: **23770**

Attn: **J. Cimino**
TTI Environmental Inc.
1253 North Church Street
Moorestown, NJ 08057

Phone: **856-840-8800**Fax: **856-840-8815**Project: **17-1224 / Pinelands Regional HS**Date Collected: **10/19/2017**Date Received: **10/20/2017****Laboratory Report- Sample Summary**

EMSL Sample ID.	Client Sample ID.	Start Sampling Date	Start Sampling Time
491701061-0001	Media	10/19/2017	10:47 AM
491701061-0002	164	10/19/2017	10:42 AM
491701061-0003	Annex - 40	10/19/2017	10:33 AM

If "Preliminary Report" is displayed in the signature box; this indicates that there are samples that have not yet been analyzed, that are in a preliminary state, or that analysis is in progress but not completed at the time of report issue.

Report Date:
10/25/2017

Report Revision
 R0

Revision Comments
 Initial Report

Marjorie Howley, Laboratory Manager
or other approved signatory

Test results meet all NELAP requirements unless otherwise specified.

**EMSL Analytical**

200 Route 130 North, Cinnaminson, NJ 08077
 Phone/Fax: (856)858-4800 / (856)858-4571
<http://www.EMSL.com> to15lab@EMSL.com

EMSL Order #: **491701061**
 EMSL Sample #: **491701061-1**
 Customer ID: **TTIE54**
 Customer PO: **23770**

Attn: **J. Cimino**
TTI Environmental Inc.
1253 North Church Street
Moorestown, NJ 08057

Phone: **856-840-8800**
 Fax: **856-840-8815**
 Date Collected: **10/19/2017**
 Date Received: **10/20/2017**

Project: **17-1224 / Pinelands Regional HS**

Sample ID: **Media**

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	10/24/2017	TP	J2408.D	E0314	312.5 cc	1

Target Compound Results Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
Propylene	115-07-1	42.08	ND	1.0		ND	1.7	
Freon 12(Dichlorodifluoromethane)	75-71-8	120.9	2.5	0.50		13	2.5	
Freon 114(1,2-Dichlorotetrafluoroethan	76-14-2	170.9	ND	0.50		ND	3.5	
Chloromethane	74-87-3	50.49	0.83	0.50		1.7	1.0	
n-Butane	106-97-8	58.12	2.0	0.50		4.7	1.2	
Vinyl chloride	75-01-4	62.50	ND	0.50		ND	1.3	
1,3-Butadiene	106-99-0	54.09	ND	0.50		ND	1.1	
Bromomethane	74-83-9	94.94	ND	0.50		ND	1.9	
Chloroethane	75-00-3	64.52	ND	0.50		ND	1.3	
Ethanol	64-17-5	46.07	17	0.50		32	0.94	
Bromoethene(Vinyl bromide)	593-60-2	106.9	ND	0.50		ND	2.2	
Freon 11(Trichlorofluoromethane)	75-69-4	137.4	0.85	0.50		4.8	2.8	
Isopropyl alcohol(2-Propanol)	67-63-0	60.10	4.8	0.50		12	1.2	
Freon 113(1,1,2-Trichlorotrifluoroethan	76-13-1	187.4	ND	0.50		ND	3.8	
Acetone	67-64-1	58.08	4.7	0.50		11	1.2	
1,1-Dichloroethene	75-35-4	96.94	ND	0.50		ND	2.0	
Acetonitrile	75-05-8	41.00	ND	0.50		ND	0.84	
Tertiary butyl alcohol(TBA)	75-65-0	74.12	ND	0.50		ND	1.5	
Bromoethane(Ethyl bromide)	74-96-4	108.0	ND	0.50		ND	2.2	
3-Chloropropene(Allyl chloride)	107-05-1	76.53	ND	0.50		ND	1.6	
Carbon disulfide	75-15-0	76.14	ND	0.50		ND	1.6	
Methylene chloride	75-09-2	84.94	ND	0.50		ND	1.7	
Acrylonitrile	107-13-1	53.00	ND	0.50		ND	1.1	
Methyl-tert-butyl ether(MTBE)	1634-04-4	88.15	ND	0.50		ND	1.8	
trans-1,2-Dichloroethene	156-60-5	96.94	ND	0.50		ND	2.0	
n-Hexane	110-54-3	86.17	2.0	0.50		7.1	1.8	
1,1-Dichloroethane	75-34-3	98.96	ND	0.50		ND	2.0	
Vinyl acetate	108-05-4	86.00	ND	0.50		ND	1.8	
2-Butanone(MEK)	78-93-3	72.10	ND	0.50		ND	1.5	
cis-1,2-Dichloroethene	156-59-2	96.94	ND	0.50		ND	2.0	
Ethyl acetate	141-78-6	88.10	2.5	0.50		9.0	1.8	
Chloroform	67-66-3	119.4	ND	0.50		ND	2.4	
Tetrahydrofuran	109-99-9	72.11	ND	0.50		ND	1.5	
1,1,1-Trichloroethane	71-55-6	133.4	ND	0.50		ND	2.7	
Cyclohexane	110-82-7	84.16	1.4	0.50		4.9	1.7	
2,2,4-Trimethylpentane(Isooctane)	540-84-1	114.2	ND	0.50		ND	2.3	
Carbon tetrachloride	56-23-5	153.8	ND	0.50		ND	3.1	
n-Heptane	142-82-5	100.2	ND	0.50		ND	2.0	
1,2-Dichloroethane	107-06-2	98.96	ND	0.50		ND	2.0	
Benzene	71-43-2	78.11	ND	0.50		ND	1.6	
Trichloroethene	79-01-6	131.4	ND	0.50		ND	2.7	
1,2-Dichloropropane	78-87-5	113.0	ND	0.50		ND	2.3	
Methyl Methacrylate	80-62-6	100.12	ND	0.50		ND	2.0	
Bromodichloromethane	75-27-4	163.8	ND	0.50		ND	3.3	
1,4-Dioxane	123-91-1	88.12	ND	0.50		ND	1.8	
4-Methyl-2-pentanone(MIBK)	108-10-1	100.2	ND	0.50		ND	2.0	

**EMSL Analytical**

200 Route 130 North, Cinnaminson, NJ 08077
 Phone/Fax: (856)858-4800 / (856)858-4571
<http://www.EMSL.com> to15lab@EMSL.com

EMSL Order #: **491701061**
 EMSL Sample #: **491701061-1**
 Customer ID: **TTIE54**
 Customer PO: **23770**

Attn: **J. Cimino**
TTI Environmental Inc.
1253 North Church Street
Moorestown, NJ 08057

Phone: **856-840-8800**
 Fax: **856-840-8815**
 Date Collected: **10/19/2017**
 Date Received: **10/20/2017**

Project: **17-1224 / Pinelands Regional HS**

Sample ID: **Media**

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	10/24/2017	TP	J2408.D	E0314	312.5 cc	1

Target Compound Results Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
cis-1,3-Dichloropropene	10061-01-5	111.0	ND	0.50		ND	2.3	
Toluene	108-88-3	92.14	1.1	0.50		4.3	1.9	
trans-1,3-Dichloropropene	10061-02-6	111.0	ND	0.50		ND	2.3	
1,1,2-Trichloroethane	79-00-5	133.4	ND	0.50		ND	2.7	
2-Hexanone(MBK)	591-78-6	100.1	ND	0.50		ND	2.0	
Tetrachloroethene	127-18-4	165.8	ND	0.50		ND	3.4	
Dibromochloromethane	124-48-1	208.3	ND	0.50		ND	4.3	
1,2-Dibromoethane	106-93-4	187.8	ND	0.50		ND	3.8	
Chlorobenzene	108-90-7	112.6	ND	0.50		ND	2.3	
Ethylbenzene	100-41-4	106.2	0.95	0.50		4.1	2.2	
Xylene (p,m)	1330-20-7	106.2	3.1	1.0		14	4.3	
Xylene (Ortho)	95-47-6	106.2	1.1	0.50		5.0	2.2	
Styrene	100-42-5	104.1	ND	0.50		ND	2.1	
Isopropylbenzene (cumene)	98-82-8	120.19	ND	0.50		ND	2.5	
Bromoform	75-25-2	252.8	ND	0.50		ND	5.2	
1,1,2,2-Tetrachloroethane	79-34-5	167.9	ND	0.50		ND	3.4	
4-Ethyltoluene	622-96-8	120.2	1.8	0.50		8.7	2.5	
1,3,5-Trimethylbenzene	108-67-8	120.2	0.79	0.50		3.9	2.5	
2-Chlorotoluene	95-49-8	126.6	ND	0.50		ND	2.6	
1,2,4-Trimethylbenzene	95-63-6	120.2	2.7	0.50		13	2.5	
1,3-Dichlorobenzene	541-73-1	147.0	ND	0.50		ND	3.0	
1,4-Dichlorobenzene	106-46-7	147.0	ND	0.50		ND	3.0	
Benzyl chloride	100-44-7	126.0	ND	0.50		ND	2.6	
1,2-Dichlorobenzene	95-50-1	147.0	ND	0.50		ND	3.0	
1,2,4-Trichlorobenzene	120-82-1	181.5	ND	0.50		ND	3.7	
Hexachloro-1,3-butadiene	87-68-3	260.8	ND	0.50		ND	5.3	
Naphthalene	91-20-3	128.17	ND	0.50		ND	2.6	
Total Target Compound Concentrations:			50	ppbv		150	ug/m3	

Surrogate

4-Bromofluorobenzene

Result

11

Spike

10

Recovery

110%

Qualifier Definitions

ND = Non Detect

B = Compound also found in method blank.

E= Estimated concentration exceeding upper calibration range.

D= Result reported from diluted analysis.

Method Reference

USEPA: Compendium Method TO-15, "Determination of Volatile Organic Compounds (VOCs) in Air..." Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS), January 1999, (EPA/625/R-96/010b).



NJDEP Certification #: 03036

**EMSL Analytical**

200 Route 130 North, Cinnaminson, NJ 08077

Phone/Fax: (856)858-4800 / (856)858-4571

<http://www.EMSL.com> to15lab@EMSL.com

EMSL Order #: **491701061**
 EMSL Sample #: **491701061-2**
 Customer ID: **TTIE54**
 Customer PO: **23770**

Attn: **J. Cimino**
TTI Environmental Inc.
1253 North Church Street
Moorestown, NJ 08057

Phone: **856-840-8800**
 Fax: **856-840-8815**
 Date Collected: **10/19/2017**
 Date Received: **10/20/2017**

Project: **17-1224 / Pinelands Regional HS**Sample ID: **164**

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	10/24/2017	TP	J2410.D	E0450	312.5 cc	1

Target Compound Results Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
Propylene	115-07-1	42.08	ND	1.0		ND	1.7	
Freon 12(Dichlorodifluoromethane)	75-71-8	120.9	ND	0.50		ND	2.5	
Freon 114(1,2-Dichlorotetrafluoroethan	76-14-2	170.9	ND	0.50		ND	3.5	
Chloromethane	74-87-3	50.49	0.92	0.50		1.9	1.0	
n-Butane	106-97-8	58.12	ND	0.50		ND	1.2	
Vinyl chloride	75-01-4	62.50	ND	0.50		ND	1.3	
1,3-Butadiene	106-99-0	54.09	ND	0.50		ND	1.1	
Bromomethane	74-83-9	94.94	ND	0.50		ND	1.9	
Chloroethane	75-00-3	64.52	ND	0.50		ND	1.3	
Ethanol	64-17-5	46.07	6.3	0.50		12	0.94	
Bromoethene(Vinyl bromide)	593-60-2	106.9	ND	0.50		ND	2.2	
Freon 11(Trichlorofluoromethane)	75-69-4	137.4	ND	0.50		ND	2.8	
Isopropyl alcohol(2-Propanol)	67-63-0	60.10	4.0	0.50		10	1.2	
Freon 113(1,1,2-Trichlorotrifluoroethan	76-13-1	187.4	ND	0.50		ND	3.8	
Acetone	67-64-1	58.08	4.4	0.50		11	1.2	
1,1-Dichloroethene	75-35-4	96.94	ND	0.50		ND	2.0	
Acetonitrile	75-05-8	41.00	ND	0.50		ND	0.84	
Tertiary butyl alcohol(TBA)	75-65-0	74.12	ND	0.50		ND	1.5	
Bromoethane(Ethyl bromide)	74-96-4	108.0	ND	0.50		ND	2.2	
3-Chloropropene(Allyl chloride)	107-05-1	76.53	ND	0.50		ND	1.6	
Carbon disulfide	75-15-0	76.14	ND	0.50		ND	1.6	
Methylene chloride	75-09-2	84.94	ND	0.50		ND	1.7	
Acrylonitrile	107-13-1	53.00	ND	0.50		ND	1.1	
Methyl-tert-butyl ether(MTBE)	1634-04-4	88.15	ND	0.50		ND	1.8	
trans-1,2-Dichloroethene	156-60-5	96.94	ND	0.50		ND	2.0	
n-Hexane	110-54-3	86.17	3.1	0.50		11	1.8	
1,1-Dichloroethane	75-34-3	98.96	ND	0.50		ND	2.0	
Vinyl acetate	108-05-4	86.00	ND	0.50		ND	1.8	
2-Butanone(MEK)	78-93-3	72.10	ND	0.50		ND	1.5	
cis-1,2-Dichloroethene	156-59-2	96.94	ND	0.50		ND	2.0	
Ethyl acetate	141-78-6	88.10	1.5	0.50		5.3	1.8	
Chloroform	67-66-3	119.4	ND	0.50		ND	2.4	
Tetrahydrofuran	109-99-9	72.11	ND	0.50		ND	1.5	
1,1,1-Trichloroethane	71-55-6	133.4	ND	0.50		ND	2.7	
Cyclohexane	110-82-7	84.16	1.4	0.50		4.8	1.7	
2,2,4-Trimethylpentane(Isooctane)	540-84-1	114.2	ND	0.50		ND	2.3	
Carbon tetrachloride	56-23-5	153.8	ND	0.50		ND	3.1	
n-Heptane	142-82-5	100.2	0.80	0.50		3.3	2.0	
1,2-Dichloroethane	107-06-2	98.96	ND	0.50		ND	2.0	
Benzene	71-43-2	78.11	ND	0.50		ND	1.6	
Trichloroethene	79-01-6	131.4	ND	0.50		ND	2.7	
1,2-Dichloropropane	78-87-5	113.0	ND	0.50		ND	2.3	
Methyl Methacrylate	80-62-6	100.12	ND	0.50		ND	2.0	
Bromodichloromethane	75-27-4	163.8	ND	0.50		ND	3.3	
1,4-Dioxane	123-91-1	88.12	ND	0.50		ND	1.8	
4-Methyl-2-pentanone(MIBK)	108-10-1	100.2	ND	0.50		ND	2.0	

**EMSL Analytical**

200 Route 130 North, Cinnaminson, NJ 08077
 Phone/Fax: (856)858-4800 / (856)858-4571
<http://www.EMSL.com> to15lab@EMSL.com

EMSL Order #: **491701061**
 EMSL Sample #: **491701061-2**
 Customer ID: **TTIE54**
 Customer PO: **23770**

Attn: **J. Cimino**
TTI Environmental Inc.
1253 North Church Street
Moorestown, NJ 08057

Phone: **856-840-8800**
 Fax: **856-840-8815**
 Date Collected: **10/19/2017**
 Date Received: **10/20/2017**

Project: **17-1224 / Pinelands Regional HS**

Sample ID: **164**

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	10/24/2017	TP	J2410.D	E0450	312.5 cc	1

Target Compound Results Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
cis-1,3-Dichloropropene	10061-01-5	111.0	ND	0.50		ND	2.3	
Toluene	108-88-3	92.14	1.6	0.50		6.0	1.9	
trans-1,3-Dichloropropene	10061-02-6	111.0	ND	0.50		ND	2.3	
1,1,2-Trichloroethane	79-00-5	133.4	ND	0.50		ND	2.7	
2-Hexanone(MBK)	591-78-6	100.1	ND	0.50		ND	2.0	
Tetrachloroethene	127-18-4	165.8	ND	0.50		ND	3.4	
Dibromochloromethane	124-48-1	208.3	ND	0.50		ND	4.3	
1,2-Dibromoethane	106-93-4	187.8	ND	0.50		ND	3.8	
Chlorobenzene	108-90-7	112.6	ND	0.50		ND	2.3	
Ethylbenzene	100-41-4	106.2	1.3	0.50		5.7	2.2	
Xylene (p,m)	1330-20-7	106.2	4.0	1.0		17	4.3	
Xylene (Ortho)	95-47-6	106.2	1.8	0.50		7.7	2.2	
Styrene	100-42-5	104.1	1.9	0.50		8.0	2.1	
Isopropylbenzene (cumene)	98-82-8	120.19	0.54	0.50		2.7	2.5	
Bromoform	75-25-2	252.8	ND	0.50		ND	5.2	
1,1,2,2-Tetrachloroethane	79-34-5	167.9	ND	0.50		ND	3.4	
4-Ethyltoluene	622-96-8	120.2	5.6	0.50		28	2.5	
1,3,5-Trimethylbenzene	108-67-8	120.2	2.6	0.50		13	2.5	
2-Chlorotoluene	95-49-8	126.6	ND	0.50		ND	2.6	
1,2,4-Trimethylbenzene	95-63-6	120.2	7.8	0.50		38	2.5	
1,3-Dichlorobenzene	541-73-1	147.0	ND	0.50		ND	3.0	
1,4-Dichlorobenzene	106-46-7	147.0	ND	0.50		ND	3.0	
Benzyl chloride	100-44-7	126.0	ND	0.50		ND	2.6	
1,2-Dichlorobenzene	95-50-1	147.0	ND	0.50		ND	3.0	
1,2,4-Trichlorobenzene	120-82-1	181.5	ND	0.50		ND	3.7	
Hexachloro-1,3-butadiene	87-68-3	260.8	ND	0.50		ND	5.3	
Naphthalene	91-20-3	128.17	ND	0.50		ND	2.6	
Total Target Compound Concentrations:			50	ppbv		190	ug/m3	

Surrogate

4-Bromofluorobenzene

Result

11

Spike

10

Recovery

110%

Qualifier Definitions

ND = Non Detect

B = Compound also found in method blank.

E= Estimated concentration exceeding upper calibration range.

D= Result reported from diluted analysis.

Method Reference

USEPA: Compendium Method TO-15, "Determination of Volatile Organic Compounds (VOCs) in Air..." Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS), January 1999, (EPA/625/R-96/010b).



NJDEP Certification #: 03036

**EMSL Analytical**

200 Route 130 North, Cinnaminson, NJ 08077
 Phone/Fax: (856)858-4800 / (856)858-4571
<http://www.EMSL.com> to15lab@EMSL.com

EMSL Order #: **491701061**
 EMSL Sample #: **491701061-3**
 Customer ID: **TTIE54**
 Customer PO: **23770**

Attn: **J. Cimino**
TTI Environmental Inc.
1253 North Church Street
Moorestown, NJ 08057

Phone: **856-840-8800**
 Fax: **856-840-8815**
 Date Collected: **10/19/2017**
 Date Received: **10/20/2017**

Project: **17-1224 / Pinelands Regional HS**

Sample ID: **Annex - 40**

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	10/24/2017	TP	J2416.D	E15548	250 cc	1
Dilution1	10/25/2017	TP	J2426.D	E15548	25 cc	10

Target Compound Results Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
Propylene	115-07-1	42.08	ND	1.0		ND	1.7	
Freon 12(Dichlorodifluoromethane)	75-71-8	120.9	ND	0.50		ND	2.5	
Freon 114(1,2-Dichlorotetrafluoroethan	76-14-2	170.9	ND	0.50		ND	3.5	
Chloromethane	74-87-3	50.49	0.70	0.50		1.4	1.0	
n-Butane	106-97-8	58.12	15	0.50		37	1.2	
Vinyl chloride	75-01-4	62.50	ND	0.50		ND	1.3	
1,3-Butadiene	106-99-0	54.09	ND	0.50		ND	1.1	
Bromomethane	74-83-9	94.94	ND	0.50		ND	1.9	
Chloroethane	75-00-3	64.52	ND	0.50		ND	1.3	
Ethanol	64-17-5	46.07	9.9	0.50		19	0.94	
Bromoethene(Vinyl bromide)	593-60-2	106.9	ND	0.50		ND	2.2	
Freon 11(Trichlorofluoromethane)	75-69-4	137.4	ND	0.50		ND	2.8	
Isopropyl alcohol(2-Propanol)	67-63-0	60.10	3.0	0.50		7.3	1.2	
Freon 113(1,1,2-Trichlorotrifluoroethan	76-13-1	187.4	ND	0.50		ND	3.8	
Acetone	67-64-1	58.08	77	5.0	D	180	12	Reported Dilution #1
1,1-Dichloroethene	75-35-4	96.94	ND	0.50		ND	2.0	
Acetonitrile	75-05-8	41.00	ND	0.50		ND	0.84	
Tertiary butyl alcohol(TBA)	75-65-0	74.12	ND	0.50		ND	1.5	
Bromoethane(Ethyl bromide)	74-96-4	108.0	ND	0.50		ND	2.2	
3-Chloropropene(Allyl chloride)	107-05-1	76.53	ND	0.50		ND	1.6	
Carbon disulfide	75-15-0	76.14	ND	0.50		ND	1.6	
Methylene chloride	75-09-2	84.94	ND	0.50		ND	1.7	
Acrylonitrile	107-13-1	53.00	ND	0.50		ND	1.1	
Methyl-tert-butyl ether(MTBE)	1634-04-4	88.15	ND	0.50		ND	1.8	
trans-1,2-Dichloroethene	156-60-5	96.94	ND	0.50		ND	2.0	
n-Hexane	110-54-3	86.17	ND	0.50		ND	1.8	
1,1-Dichloroethane	75-34-3	98.96	ND	0.50		ND	2.0	
Vinyl acetate	108-05-4	86.00	ND	0.50		ND	1.8	
2-Butanone(MEK)	78-93-3	72.10	ND	0.50		ND	1.5	
cis-1,2-Dichloroethene	156-59-2	96.94	ND	0.50		ND	2.0	
Ethyl acetate	141-78-6	88.10	1.4	0.50		4.9	1.8	
Chloroform	67-66-3	119.4	ND	0.50		ND	2.4	
Tetrahydrofuran	109-99-9	72.11	ND	0.50		ND	1.5	
1,1,1-Trichloroethane	71-55-6	133.4	ND	0.50		ND	2.7	
Cyclohexane	110-82-7	84.16	ND	0.50		ND	1.7	
2,2,4-Trimethylpentane(Isooctane)	540-84-1	114.2	ND	0.50		ND	2.3	
Carbon tetrachloride	56-23-5	153.8	ND	0.50		ND	3.1	
n-Heptane	142-82-5	100.2	6.1	0.50		25	2.0	
1,2-Dichloroethane	107-06-2	98.96	ND	0.50		ND	2.0	
Benzene	71-43-2	78.11	ND	0.50		ND	1.6	
Trichloroethene	79-01-6	131.4	ND	0.50		ND	2.7	
1,2-Dichloropropane	78-87-5	113.0	ND	0.50		ND	2.3	
Methyl Methacrylate	80-62-6	100.12	ND	0.50		ND	2.0	
Bromodichloromethane	75-27-4	163.8	ND	0.50		ND	3.3	
1,4-Dioxane	123-91-1	88.12	ND	0.50		ND	1.8	
4-Methyl-2-pentanone(MIBK)	108-10-1	100.2	ND	0.50		ND	2.0	

**EMSL Analytical**

200 Route 130 North, Cinnaminson, NJ 08077
 Phone/Fax: (856)858-4800 / (856)858-4571
<http://www.EMSL.com> to15lab@EMSL.com

EMSL Order #: **491701061**
 EMSL Sample #: **491701061-3**
 Customer ID: **TTIE54**
 Customer PO: **23770**

Attn: **J. Cimino**
TTI Environmental Inc.
1253 North Church Street
Moorestown, NJ 08057

Phone: **856-840-8800**
 Fax: **856-840-8815**
 Date Collected: **10/19/2017**
 Date Received: **10/20/2017**

Project: **17-1224 / Pinelands Regional HS**

Sample ID: **Annex - 40**

<u>Analysis</u>	<u>Analysis Date</u>	<u>Analyst Init.</u>	<u>Lab File ID</u>	<u>Canister ID</u>	<u>Sample Vol.</u>	<u>Dil. Factor</u>
Initial	10/24/2017	TP	J2416.D	E15548	250 cc	1
Dilution1	10/25/2017	TP	J2426.D	E15548	25 cc	10

Target Compound Results Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
cis-1,3-Dichloropropene	10061-01-5	111.0	ND	0.50		ND	2.3	
Toluene	108-88-3	92.14	ND	0.50		ND	1.9	
trans-1,3-Dichloropropene	10061-02-6	111.0	ND	0.50		ND	2.3	
1,1,2-Trichloroethane	79-00-5	133.4	ND	0.50		ND	2.7	
2-Hexanone(MBK)	591-78-6	100.1	ND	0.50		ND	2.0	
Tetrachloroethene	127-18-4	165.8	ND	0.50		ND	3.4	
Dibromochloromethane	124-48-1	208.3	ND	0.50		ND	4.3	
1,2-Dibromoethane	106-93-4	187.8	ND	0.50		ND	3.8	
Chlorobenzene	108-90-7	112.6	ND	0.50		ND	2.3	
Ethylbenzene	100-41-4	106.2	ND	0.50		ND	2.2	
Xylene (p,m)	1330-20-7	106.2	ND	1.0		ND	4.3	
Xylene (Ortho)	95-47-6	106.2	ND	0.50		ND	2.2	
Styrene	100-42-5	104.1	ND	0.50		ND	2.1	
Isopropylbenzene (cumene)	98-82-8	120.19	ND	0.50		ND	2.5	
Bromoform	75-25-2	252.8	ND	0.50		ND	5.2	
1,1,2,2-Tetrachloroethane	79-34-5	167.9	ND	0.50		ND	3.4	
4-Ethyltoluene	622-96-8	120.2	ND	0.50		ND	2.5	
1,3,5-Trimethylbenzene	108-67-8	120.2	ND	0.50		ND	2.5	
2-Chlorotoluene	95-49-8	126.6	ND	0.50		ND	2.6	
1,2,4-Trimethylbenzene	95-63-6	120.2	ND	0.50		ND	2.5	
1,3-Dichlorobenzene	541-73-1	147.0	ND	0.50		ND	3.0	
1,4-Dichlorobenzene	106-46-7	147.0	ND	0.50		ND	3.0	
Benzyl chloride	100-44-7	126.0	ND	0.50		ND	2.6	
1,2-Dichlorobenzene	95-50-1	147.0	ND	0.50		ND	3.0	
1,2,4-Trichlorobenzene	120-82-1	181.5	ND	0.50		ND	3.7	
Hexachloro-1,3-butadiene	87-68-3	260.8	ND	0.50		ND	5.3	
Naphthalene	91-20-3	128.17	ND	0.50		ND	2.6	
Total Target Compound Concentrations:			110	ppbv		270	ug/m3	

Surrogate

4-Bromofluorobenzene

Result

9.6

Spike

10

Recovery

96%

Qualifier Definitions

ND = Non Detect

B = Compound also found in method blank.

E= Estimated concentration exceeding upper calibration range.

D= Result reported from diluted analysis.

Method Reference

USEPA: Compendium Method TO-15, "Determination of Volatile Organic Compounds (VOCs) in Air..." Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS), January 1999, (EPA/625/R-96/010b).



NJDEP Certification #: 03036



EMSL ANALYTICAL, INC.
LABORATORY PRODUCTS DIVISION

EMSL Order Number (Lab Use Only):

USEPA TO-15

External Chain of Custody/ Field Test Data Sheet

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
Ph. (800) 220-3675
Fax (856) 786-0327

491701061

Report To Contact Name: <i>J. M. Guadagni</i>	Bill To Company: <i>same</i>	Sampled By (Sign): <i>[Signature]</i>
Company Name: <i>TTI Environmental, Inc.</i>	Attention To: <i>[Blank]</i>	Sampled By (Name): <i>A. Cellitton</i>
Address 1: <i>1253 N. Church St.</i>	Address 1:	Total # of Samples:
Address 2: <i>Mooresboro, NJ 08057</i>	Address 2:	Date Shipped:
Phone No.: <i>856-840-8400</i> Fax:	Phone No.: <i>[Blank]</i> Fax:	Sample Collection Zip Code: <i>08057</i>

Email Results To: <i>Jim G @ TTI ENV.com</i>	Project Name: <i>17-1224 / Pinelands Regional HS</i>	Purchase Order: <i>023770</i>
----------------------------------------------	------------------------------------------------------	-------------------------------

Turnaround Time (in Business Days): <input type="checkbox"/> 5 Day <input type="checkbox"/> 2 Day <input type="checkbox"/> 4 Day <input type="checkbox"/> 1 Day <input checked="" type="checkbox"/> 3 Day <input type="checkbox"/> Other	Reporting Format: <input type="checkbox"/> Results Only (Standard Lab Report) <input type="checkbox"/> Full Deliverables (Surcharge may apply) <input type="checkbox"/> Other	Analysis	Matrix
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------	--------

EMSL Sample Identifier

Client Field Sample Identification	Field Use - All Information Required!								Lab Use Only								EMSL TO-15	NJDEP LLTO-15	LIBRARY SEARCH	Other (Specify)	Indoor/ Ambient Air	Soil Gas	Landfill/ Vent						
	Sampling Start Information				Sampling Stop Information				Canister Information				Flow Controller																
	Start Date	Time (24 hr clock)	Canister Pressure ("Hg)	Interior Temp. (F)	Stop Date	Time (24 hr clock)	Canister Pressure ("Hg)	Interior Temp. (F)	Canister ID	Size (L)	Can Cert Batch ID	Outgoing Pressure ("Hg)	Incoming Pressure ("Hg)	Reg. ID	Cal Flow (ml/min)														
1 <i>Medway</i>	10-18-17	10:47	-30	68	10-19-17	11:28	-6.0	68	E031Y	1.4	C3505	-29.8	-6.4	7967	3.5	X													
2 <i>104</i>	10-18-17	10:42	-31	67	10-19-17	11:21	-6.0	66	1095U				-6.4	8058		X													
3 <i>ANNEX 40</i>	10-18-17	10:33	-32	65	10-19-17	8:20	0	58	15578				+0.2	8072		X													

Comments:	Lab Canister Certification Analyst Signature (TO-15):
-----------	-------------------------------------------------------

Relinquished by:	Date/ Time	Received by:	Date/ Time	Seal #/Intact	Reason for Exchange (circle appropriate)
<i>[Signature]</i>	10/12/17 10:55	<i>[Signature]</i>	10-17-17 12:45		Shipping Courier Receiving Sampling <u>Other</u> <i>PCU</i>
<i>[Signature]</i>	10-2-17 15:05	<i>[Signature]</i>	10-10-17 3pm		Shipping Courier Receiving Sampling Other:
<i>[Signature]</i>	10-20-17 3pm	<i>[Signature]</i>	10/23/17/0806		Shipping Courier Receiving Sampling <u>Other</u> <i>AN</i>
					Shipping Courier Receiving Sampling Other:
					Shipping Courier Receiving Sampling Other:

491701061

2017
CC

TO-15 Sample Information

Please fill out this worksheet in addition to the Chain of Custody form. This information helps us to best analyze your samples, achieve requested TAT and provide you with helpful interpretation information.

Company: TTI Environmental, Inc.

Contact Person: _____

Name: Jim Ciurlo

E-mail: Jim.Ci@TTIENV.com

Additional E-mails: _____

Telephone #: 856-840-2883

Library Search requested: YES NO

A library search (aka Tentatively Identified Compounds) will identify up to 20 of the largest, non-target peaks that are not part of the standard TO-15 list of 74 compounds. If you are performing an Indoor Air Quality or odor investigation, the library search is recommended to provide you with all available information for your sample.

Sample Type:

- Indoor Air Quality (Home/Office) Soil Gas/Sub Slab
- IAQ (Industrial)
- Other:

Sample Description: ① Media ② 164 ③ ANNEX-40

PLEASE NOTE: The result forms that we provide will not indicate whether your results have exceeded any Exposure Limit criteria established by any regulatory agency. If you would like that information, please check off below which regulatory comparison forms you would like to receive.

- OSHA PELs/NIOSH RELS combined form Potential Sources of Compounds found in your IAQ sample
- EPA RSLs - 5/2016 Blended for THQ=1.0 and THQ=0.1 TVOC (Library Search Required for this format)
- NJ DEP 1/2013 - Circle one: Indoor Air Soil Gas Ohio 4/2013 - Circle one: Residential Commercial
- NC DENR 4/2014 - Circle one: Residential Non-residential Indiana Dept Env Mgmt Screening Levels 3/2016
- PA DEP - 11/2016 Indoor Air Vermont DEP IROCP 4/2012 (soil gas only)
- PA DEP- 11/2016: Sub Slab Soil Gas OR Near Source Soil Gas California OEHHA 2/2012
- CA HHSL 11/2004 - Circle on Indoor Air Soil Gas Other, These are the compounds I want reported:

Additional analyses that can be performed from your canister. Please note: there is an additional charge for any of the tests below.

- US EPA TO-3 via GC/FID (choose one below): ASTM-D5504 via GC/SCD (choose one below): *
- C₁-C₆ hydrocarbons Sulfur Scan (H₂S, COS, MeSH, EtSH, DMS)
- Methane only H₂S only

***Note:** Hold time for sulfur gases is 1 day from collection. Please schedule your sample collection so that samples are received in the lab prior to noon on Friday. Analysis performed out of hold time will have a notation in the report.

We can provide the following CMS tests from your canisters. Please note that these tests are to be used for IAQ/Screening purposes ONLY. EMSL recommends alternate field sampling techniques for these parameters (with the exception of water vapor); please contact your sales rep for the proper media. Please note: there is an additional charge for any of the tests

- Draeger CMS Analyzer:
- CO CO₂ NH₃ O₂ Water Vapor

Sample Retention Policy: All canisters are guaranteed to be retained for one day after results are reported. Please review your results promptly to ensure that your project scope is fully addressed. Cans may be retained for a longer period of time but arrangements to hold your cans must be made through your customer account representative quickly. Thank you.