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January 17, 2014

Ms. Kathleen M. McDaniel
Assistant City Attorney
City of Manitowoc
900 Quay Street
Manitowoc, WI 54220

Subject: Yindra Residence Vapor Intrusion Investigation
3518 Hecker Rd., Manitowoc, Wisconsin
AECOM Project No. 60311767

Dear Ms. McDaniel:

This letter documents AECOM Technical Services, Inc.'s (AECOM) vapor intrusion investigation conducted at the Yindra residence, 3518 Hecker Road, Manitowoc, Wisconsin on November 25-26, 2013. The investigation protocol generally followed the Wisconsin Department of Natural Resources' "Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin", PUB-RR-800, dated December 2010.

Vapor samples were collected from sub-slab, indoor air, and outdoor air locations and analyzed for volatile organic compounds (VOCs). While there were detectable VOCs present in the vapor samples, none appear to correlate with the VOC compounds observed in the potable well sample results for the residence. Therefore, it appears that contaminants found in the groundwater beneath the Yindra residence are not impacting indoor air quality at the residence

Presented below are a short project background, sampling methodology, field observations, results, and recommendations.

Background

An October 23, 2013, laboratory analysis of water obtained from the private potable well located on the Yindra property indicated the presence of the following VOCs: benzene; 1,2-dichloroethane, 1,1-dichloroethene; cis-1,2-dichloroethene, trans-1,2-dichloroethene, and vinyl chloride (See Attached Synergy Environmental Lab, Inc., Laboratory Data Report – Lab Code 5026009A) . Based upon the potable water analytical results, the Wisconsin Department of Natural Resources (WDNR) requested a vapor intrusion study. AECOM was contracted by the City of Manitowoc to investigate the potential for vapor intrusion of these VOCs into the living space of the Yindra residence.

On November 12, 2013, the Yindra private potable well was disconnected as a drinking water well for the Yindra residence. Once disconnected, the plumber doing the work (Luisier Plumbing, Manitowoc, Wisconsin) sounded the depth of the well. The plumber reported that the depth to water from the top of casing was approximately 24 feet 9½ inches and the depth to the bottom of the well was approximately 49 feet 11¾ inches. The top of the well casing was approximately one foot above the ground surface.

On November 25, 2013, AECOM staff (Mr. Jerry Retzlaff and Mr. Rick Mazurkiewicz) conducted the initial vapor intrusion investigation fieldwork at the Yindra residence. Ms. LuAnn Yindra, the residence owner, reported the house to be over 50 years old. The house has a foot print that is approximately 1,500 square feet with a below grade basement concrete floor that appeared to be in good condition with some minor cracking.

AECOM had previously received WDNR concurrence to not conduct an inventory of chemical products stored on-site. AECOM staff did observe a workshop in the basement and there appeared to be storage of small quantities of paints and solvents. Additionally, Ms. Yindra indicated that she was a regular cigarette smoker and that no recently dry-cleaned clothing was present in the house.

AECOM received agreement from Ms. Yindra to establish one sub-slab sampling port in each the southwest corner and southeast corner of the basement floor.

Methodology

The sampling protocols used in this investigation generally followed the Wisconsin Department of Natural Resources' "Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin", PUB-RR-800, dated December 2010. Site specific details are as follows:

General Indoor/Outdoor Ambient Air Parameters
AECOM staff measured some general air parameters using a TSI International, Q-Trak Indoor Air Quality Monitor (Model 8551) during the initial site visit on 11/25/13. The parameters measured included carbon dioxide (CO2), carbon monoxide (CO), temperature (F), percent relative humidity, along with approximate outdoor wind speed and direction.

Ambient Air Sampling Methodology
The collection of one indoor and one outdoor ambient air sample was also initiated on 11/25/13. The indoor sample (IAA-01) was collected in the basement near the location where sub-slab sample SSVP-01 was collected. The outdoor sample (OAA-01) was collected approximately 20 feet away from the southwest corner of the house, next to a small shed.

Each sample was collected approximately 4 to 5 feet above the floor/ground. Samples were collected in a 6-liter Summa canister fitted with a 24-hour flow regulator. The samples were collected for approximately 24 hours or until the can vacuum reached approximately 4 inches Hg. The canisters were left unattended over night at the residence.

Sampling collection parameters were:

Sample ID	Beginning/Ending Vacuum (inches Hg)	Start Time & Date	End Time & Date
IAA-01	29/3	11:45A, 11-25-2013	10:35A, 11-26-2013
OAA-01	26/3.5	11:58A, 11-25-2013	10:47A, 11-26-2013

Sub-Slab Sampling Methodology
On 11/25/13 two slab penetrations were made in the southwest corner (sample point SSVP-01) and southeast corner (sample point SSVP-02) of the basement using a power drill. The penetrations were each 5/8 inches in diameter. A 1.5 inch diameter recess hole was drilled to approximately 2 inches below the floor grade so that the temporary brass sampling "pin" would be recessed below the floor surface. A portable vacuum was used to remove dust during the drilling process and to vacuum any loose dust that remained in the hole after drilling. The basement slab was measured to be approximately 5.5 inches thick at each penetration. The drilling process created an approximately 3 inch deep penetration into the sub-slab material. No sub-slab water was noted in either penetration. The temporary sampling port pins, Cox-Colvin designed Vapor Pin™, were then recessed into the holes.

A hand pump was used to test for sub-slab air flow by checking for vacuum at each sampling location. No notable vacuum was observed and both sampling locations were found to have unrestricted sub-slab air flow to the sampling ports. Sub-slab pressure was also checked at each

sampling port location using a Magnehelic® pressure gage. Sub-slab positive pressure at either sampling port was measured as negligible.

A shut-in test was performed on the sample tubing, in-line particulate filter, and swage-lock connection to each 6-liter Summa canister. Each sampling train held a minimum vacuum of 600 millimeters of mercury (mm Hg) for at least 2 minutes. The sample tubing was then connected to the sampling pin at each location and the Summa canister valves were opened. The Summa canisters were unregulated and were expected to continuously sample for at least 30 minutes,or until the can vacuum reached 4 inches Hg. Sampling collection parameters for sub-slab sample points were:

Sample ID	Beginning/Ending Vacuum (inches Hg)	Start/End Time & Date
SSVP-01	29/4	11:08A/11:46A, 11-25-2013
SSVP-02	26/4	11:42A/12:22P, 11-25-2013

At the end of the sampling period, the can valves were closed and each can opening was capped.

On 11/26/13, at the conclusion of the indoor ambient air sampling, the sub-slab sampling pin/concrete seal was integrity tested using helium as a tracer gas. Helium was released into a plastic shroud (shroud concentration >11% He) that encased the sampling port and immediate vicinity. A tube was fitted to the sampling pin and extended through a small opening in the shroud. A helium detector was connected to the other end of the tube to detect for any helium that may enter the sampling train, thus indicating a compromise in the sub-sample sampling train. No helium was detected in either sampling train during the 2 minute leak test.

At the completion of the sub-slab sampling, each sampling pin was capped with a removable elastic cap. Each sampling penetration was capped with a removable black plastic cap making the floor penetration nearly flush with the floor surface. By capping and leaving the sample pins in-place, the pins are available for future sample collection.

On 11/26/13, the Summa canisters were sent via overnight delivery to Pace Analytical, 1700 Elm Street SE, Suite 200, Minneapolis, MN 55414. The samples were analyzed for VOC compounds, including: benzene; 1,2-dichloroethane, 1,1-dichloroethene; cis-1,2-dichloroethene, trans-1,2-dichloroethene, and vinyl chloride, using EPA Method TO-15.

Results

General Indoor/Outdoor Ambient Air Parameters

The general indoor/outdoor ambient air parameters are summarized below:

Location	CO2 (ppm)	CO (ppm)	Temperature (F)	Relative Humidity (%)
Indoors, near SSVP-01	6000	0	58.9	43.3
Indoors, near SSVP-02	6000	0	57.8	44.3
Outdoors, near OAA-01	109	0	35.0	31.0

AECOM staff observed that the wind was from the northwest at approximately 10 miles per hour.

Ambient Air Sampling Results

The ambient air sample results were compared to the WDNR's Residential Vapor Action Levels (VALs)[1]. A summary of the ambient air analytical results is provided in Table 1. The table also

[1] See "Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin", PUB-RR-800, December 2010. The ambient air VAL is based on U.S. EPA's Regional Vapor Intrusion Screening Level Tables, applying a 1×10^{-5} excess lifetime cancer risk.

shows the sub-slab analytical results as well as the analytical results for the well water sample collected on October 23, 2013. Each analyte detected in either a sub-slab, ambient air, or well water sample is shown in the table.

A review of the ambient air analytical results indicates that none of the analyzed VOCs were detected at concentrations greater than the WDNR VALs. The analytes 1,1-dichloroethene, Cis-1,2-dichloroethene, and vinyl chloride, which were detected in the well water at concentrations that either exceeded Wisconsin's groundwater Preventative Action Limit (PAL) or Enforcement Standard (ES)[2] were not detected in either ambient air sample. Benzene, which was detected in the well water at a concentration that exceeded the PAL, was detected in the indoor air sample at a concentration that is less than one-half the VAL. Benzene was not detected in the outdoor air sample.

The detection of benzene, but not 1,1-dichloroethene, cis-1,2-dichloroethene, or vinyl chloride in the indoor air sample appears to indicate that the presence of benzene in the indoor ambient is not related to the presence of benzene in the groundwater, otherwise the other groundwater analytes should have also been detected.

Benzene is a chemical found in many products (paints, solvents, gasoline) and as a constituent in cigarette smoke. It is therefore suggested that the indoor air detection of benzene may be the result of paint, solvent, or gasoline storage in the basement, or due to second hand smoke from cigarettes.

Sub-Slab Sampling Results

The sub-slab air sample results were compared to the WDNR's Sub-Slab Residential Vapor Action Level (VAL)[3]. A summary of the sub-slab analytical results is provided in Table 1.

A review of the sub-slab analytical results indicates that none of the analyzed VOCs were detected at a concentration greater than the WDNR's Sub-Slab Residential VAL. The analytes 1,1-dichloroethene, cis-1,2-dichloroethene, and vinyl chloride, which were detected in the well water at concentrations that either exceeded their respective PAL or ES limits were not detected in either sub-slab sample. Benzene, which was detected in the well water at a concentration that exceeded the PAL, was detected in both sub-slab samples at concentrations far less than the sub-slab VAL.

The detection of benzene, but not 1,1-dichloroethene, cis-1,2-dichloroethene, or vinyl chloride in the sub-slab samples appears to indicate that the presence of benzene in the sub-slab is not related to the presence of benzene in the groundwater, otherwise the other groundwater analytes should have also been detected.

As noted above, benzene is a chemical found in many products (paints, solvents, gasoline) and as a constituent in cigarette smoke. It is therefore suggested that the sub-slab detection of benzene may be the result of paint, solvent, or gasoline storage in the basement, or due to second hand smoke from cigarettes.

Recommendation

Based on field observations, general indoor/outdoor ambient air parameters, along with the ambient air and sub-slab sampling results, it appears that contaminants found in the groundwater beneath the Yindra residence are not impacting indoor air quality at the residence.

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[2] Wisconsin Administration Code NR 140 – Groundwater Quality.

[3] See "Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin", PUB-RR-800, December 2010. The sub-slab VAL is based on U.S. EPA's Regional Vapor Intrusion Screening Level Tables, applying a 1×10^{-5} excess lifetime cancer risk and a 0.1 sub-slab vapor to indoor air attenuation factor.

No additional sampling is recommend and the City of Manitowoc requests concurrence from the WDNR that removal of the sub-slab sampling ports from the basement floor of the Yindra residence is appropriate.

If you have any questions regarding this report, please David Henderson (AECOM) at 414-944-6190.

Sincerely,

AECOM Technical Services, Inc.

Gerald Retzlaff
Senior Project Scientist
jerry.retzlaff@aecom.com

Richard Mazurkiewicz
Senior Hydrologist
richard.mazurkiewicz@aecom.com

David Henderson
Senior Project Manager
dave.henderson@aecom.com

Encl. Table 1 – Sub-Slab Vapor / Ambient Air Quality Analytical Summary
Pace Analytical, Air Quality Laboratory Analytical Report, Pace Project No. 10250770.
Synergy Environmental Lab, Inc., Water Quality Laboratory Analytical Report, Lab Code 5026009A.

cc: Ms. LuAnn Yindra, 3518 Hecker Road., Manitowoc, Wisconsin

TABLE 1
Sub-Slab Vapor / Ambient Air Quality Analytical Summary
3518 Hecker Road, Manitowoc, Wisconsin
AECOM Project 60311767-1

		Ambient Air Vapor Results			Sub-Slab Vapor Results			Potable Water Results
Analyte	**CAS**	**Indoor Air IAA-01[3] 11/25/2013 (µg/m³)**	**Outdoor Air OAA-01[4] 11/25/2013 (µg/m³)**	**WDNR Residential Vapor Action Level[2] (µg/m³)**	**Sub-Slab SSVP-01 11/25/2013 (µg/m³)**	**Sub-Slab SSVP-02 11/25/2013 (µg/m³)**	**WDNR Sub-Slab Residential Vapor Action Level[1,2] (µg/m³)**	**Well Water Sample[5] 10/23/2013 (µg/L)**
VOCs								
Acetone	67-64-1	23.1	8.0	320,000	67.2	65.3	3,200,000	NA
Benzene	71-43-2	1.4	ND	3.1	1.0	1.2	31	**1.74**
2-Butanone (MEK)	78-93-3	4.4	ND	5,200	5.2	34.1	52,000	NA
Chloroform	67-66-3	ND	ND	1.1	4.9	4.7	11	ND
Chloromethane	74-87-3	2.1	1.2	94	ND	0.71	940	ND
1,3-Dichlorobenzene	541-73-1	ND	ND	NS	3.0	3.2	NS	ND
Dichlorodifluoromethane	75-71-8	3.0	2.3	100	3.1	36	1,000	ND
1,2-Dichloroethane	107-06-2	ND	ND	0.94	ND	ND	9.4	0.42 J
1,1-Dichloroethene	75-35-4	ND	ND	210	ND	ND	2,100	**1.62**
cis-1,2-Dichloroethene	156-59-2	ND	ND	NS	ND	ND	NS	**510**
trans-1,2-Dichloroethene	156-60-5	ND	ND	63	ND	ND	630	5.5
n-Hexane	110-54-3	1.5	ND	730	2.2	3.2	7,300	NA
Methylene Chloride	75-09-2	16.9	3.6	630	2.8	4.4	6,300	ND
Naphthalene	91-20-3	ND	ND	0.72	ND	5.5	7.2	ND
Toluene	108-88-3	17.2	1.5	5,200	11.7	11.4	52,000	ND
Trichloroethene	79-01-6	1.0	ND	2.1	ND	ND	21	ND
Trichlorofluoromethane	75-69-4	ND	ND	730	ND	6.3	7,300	ND
1,2,4-Trimethylbenzene	95-63-6	1.5	ND	7.3	2.0	2.2	73	ND
Vinyl Chloride	75-01-4	ND	ND	1.6	ND	ND	16	**102**
m&p-Xylene	179601-23-1	ND	ND	100	3.4	3.6	1,000	ND

Notes:

[1] From "Indoor Air Vapor Action Levels for Various VOCs - Quick Look-Up Table" and US EPA OWSER Vapor Intrusion Assessment Screening Level Calculator Ver 3.1 June 2013.

[2] Sub-slab Residential Vapor Action Level = Residential Vapor Action Level / 0.1 (Sub-slab residential vapor to indoor air attenuation factor is 0.1.)

[3] Indoor ambient air sample was collected in residential basement.

[4] Outdoor ambient air sample was collected outside of residence.

[5] Well water sample results includes all detected analytes. Bold indicates a PAL exceedance. Bold and underlining indicates an ES exceedance.

µg/L = micrograms per liter

µg/m³ = micrograms per cubic meter

VOCs = Volatile Organic Compounds

J = Compound was detected at a concentration between the limit of detection (LOD) and the limit of quantitation (LOQ).

NA = Not Analyzed.

ND = Not Detected at levels above the Method Detection Limit (MDL). See laboratory report for MDLs.

NS = No Toxilogical Standard Listed.

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

December 10, 2013

Dave Henderson
AECOM
1555 N. River Center Dr.
Ste 214
,

RE: Project: 60311767-1 Newton Gr. Pit-Rev.
Pace Project No.: 10250770

Dear Dave Henderson:
Enclosed are the analytical results for sample(s) received by the laboratory on November 27, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

This report was revised to report the complete TO15 analyte list. Initially Vinyl chloride, cis 1,2 DCE and Benzene were reported.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Carolynne Trout

carolynne.trout@pacelabs.com
Project Manager

Enclosures

cc: Ric Maz, AECOM-AIR

Pace Analytical Services, Inc.
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CERTIFICATIONS

Project: 60311767-1 Newton Gr. Pit-Rev.
Pace Project No.: 10250770

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alabama Dept of Environmental Management #40770
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 5 #WD-15J
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Hawaii Certification #Pace
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322
Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia/DCLS Certification #: 002521
Virginia/VELAP Certification #: 460163
Washington Certification #: C754
West Virginia Certification #: 382
Wisconsin Certification #: 999407970

Pace Analytical Services, Inc.
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SAMPLE SUMMARY

Project: 60311767-1 Newton Gr. Pit-Rev.
Pace Project No.: 10250770

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10250770001	**SSVP-01**	Air	11/25/13 11:46	11/27/13 09:40
10250770002	**SSVP-02**	Air	11/25/13 12:22	11/27/13 09:40
10250770003	**IAA-01**	Air	11/26/13 10:35	11/27/13 09:40
10250770004	**OAA-02**	Air	11/26/13 10:47	11/27/13 09:40

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: 60311767-1 Newton Gr. Pit-Rev.
Pace Project No.: 10250770

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10250770001	**SSVP-01**	TO-15	DR1	59
10250770002	**SSVP-02**	TO-15	DR1	59
10250770003	**IAA-01**	TO-15	DR1	59
10250770004	**OAA-02**	TO-15	DR1	59

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: 60311767-1 Newton Gr. Pit-Rev.
Pace Project No.: 10250770

Sample: SSVP-01 **Lab ID: 10250770001** Collected: 11/25/13 11:46 Received: 11/27/13 09:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**67.2**	ug/m3	0.74	1.55		12/04/13 04:07	67-64-1	
Benzene	**1.0**	ug/m3	0.50	1.55		12/04/13 04:07	71-43-2	
Bromodichloromethane	ND	ug/m3	2.1	1.55		12/04/13 04:07	75-27-4	
Bromoform	ND	ug/m3	3.3	1.55		12/04/13 04:07	75-25-2	
Bromomethane	ND	ug/m3	1.2	1.55		12/04/13 04:07	74-83-9	
1,3-Butadiene	ND	ug/m3	0.70	1.55		12/04/13 04:07	106-99-0	
2-Butanone (MEK)	**5.2**	ug/m3	0.93	1.55		12/04/13 04:07	78-93-3	
Carbon disulfide	ND	ug/m3	0.98	1.55		12/04/13 04:07	75-15-0	
Carbon tetrachloride	ND	ug/m3	0.99	1.55		12/04/13 04:07	56-23-5	
Chlorobenzene	ND	ug/m3	1.5	1.55		12/04/13 04:07	108-90-7	
Chloroethane	ND	ug/m3	0.84	1.55		12/04/13 04:07	75-00-3	
Chloroform	**4.9**	ug/m3	1.5	1.55		12/04/13 04:07	67-66-3	
Chloromethane	ND	ug/m3	0.65	1.55		12/04/13 04:07	74-87-3	
Cyclohexane	ND	ug/m3	1.1	1.55		12/04/13 04:07	110-82-7	
Dibromochloromethane	ND	ug/m3	2.7	1.55		12/04/13 04:07	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	2.4	1.55		12/04/13 04:07	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	1.9	1.55		12/04/13 04:07	95-50-1	
1,3-Dichlorobenzene	**3.0**	ug/m3	1.9	1.55		12/04/13 04:07	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	1.9	1.55		12/04/13 04:07	106-46-7	
Dichlorodifluoromethane	**3.1**	ug/m3	1.6	1.55		12/04/13 04:07	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.3	1.55		12/04/13 04:07	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.64	1.55		12/04/13 04:07	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.3	1.55		12/04/13 04:07	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.3	1.55		12/04/13 04:07	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.3	1.55		12/04/13 04:07	156-60-5	
1,2-Dichloropropane	ND	ug/m3	1.5	1.55		12/04/13 04:07	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	1.4	1.55		12/04/13 04:07	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	1.4	1.55		12/04/13 04:07	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	2.2	1.55		12/04/13 04:07	76-14-2	
Ethyl acetate	ND	ug/m3	1.1	1.55		12/04/13 04:07	141-78-6	
Ethylbenzene	ND	ug/m3	1.4	1.55		12/04/13 04:07	100-41-4	
4-Ethyltoluene	ND	ug/m3	1.6	1.55		12/04/13 04:07	622-96-8	
n-Heptane	ND	ug/m3	1.3	1.55		12/04/13 04:07	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	3.4	1.55		12/04/13 04:07	87-68-3	
n-Hexane	**2.2**	ug/m3	1.1	1.55		12/04/13 04:07	110-54-3	
2-Hexanone	ND	ug/m3	1.3	1.55		12/04/13 04:07	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/m3	3.9	1.55		12/04/13 04:07	98-82-8	
Methylene Chloride	**2.8**	ug/m3	1.1	1.55		12/04/13 04:07	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	1.3	1.55		12/04/13 04:07	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.55		12/04/13 04:07	1634-04-4	
Naphthalene	ND	ug/m3	1.7	1.55		12/04/13 04:07	91-20-3	
Propylene	ND	ug/m3	0.54	1.55		12/04/13 04:07	115-07-1	
Styrene	ND	ug/m3	1.3	1.55		12/04/13 04:07	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	1.1	1.55		12/04/13 04:07	79-34-5	
Tetrachloroethene	ND	ug/m3	1.1	1.55		12/04/13 04:07	127-18-4	
Tetrahydrofuran	ND	ug/m3	0.93	1.55		12/04/13 04:07	109-99-9	
Toluene	**11.7**	ug/m3	1.2	1.55		12/04/13 04:07	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(612)607-1700

ANALYTICAL RESULTS

Project: 60311767-1 Newton Gr. Pit-Rev.
Pace Project No.: 10250770

Sample: SSVP-01 **Lab ID: 10250770001** Collected: 11/25/13 11:46 Received: 11/27/13 09:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
1,2,4-Trichlorobenzene	ND	ug/m3	2.3	1.55		12/04/13 04:07	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.7	1.55		12/04/13 04:07	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.85	1.55		12/04/13 04:07	79-00-5	
Trichloroethene	ND	ug/m3	0.85	1.55		12/04/13 04:07	79-01-6	
Trichlorofluoromethane	ND	ug/m3	1.8	1.55		12/04/13 04:07	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	2.5	1.55		12/04/13 04:07	76-13-1	
1,2,4-Trimethylbenzene	**2.0**	ug/m3	1.5	1.55		12/04/13 04:07	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.5	1.55		12/04/13 04:07	108-67-8	
Vinyl acetate	ND	ug/m3	1.1	1.55		12/04/13 04:07	108-05-4	
Vinyl chloride	ND	ug/m3	0.40	1.55		12/04/13 04:07	75-01-4	
m&p-Xylene	**3.4**	ug/m3	2.7	1.55		12/04/13 04:07	179601-23-1	
o-Xylene	ND	ug/m3	1.4	1.55		12/04/13 04:07	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60311767-1 Newton Gr. Pit-Rev.
Pace Project No.: 10250770

Sample: SSVP-02 **Lab ID: 10250770002** Collected: 11/25/13 12:22 Received: 11/27/13 09:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**65.3**	ug/m3	0.72	1.49		12/04/13 04:37	67-64-1	
Benzene	**1.2**	ug/m3	0.48	1.49		12/04/13 04:37	71-43-2	
Bromodichloromethane	ND	ug/m3	2.0	1.49		12/04/13 04:37	75-27-4	
Bromoform	ND	ug/m3	3.1	1.49		12/04/13 04:37	75-25-2	
Bromomethane	ND	ug/m3	1.2	1.49		12/04/13 04:37	74-83-9	
1,3-Butadiene	ND	ug/m3	0.67	1.49		12/04/13 04:37	106-99-0	
2-Butanone (MEK)	**34.1**	ug/m3	0.89	1.49		12/04/13 04:37	78-93-3	
Carbon disulfide	ND	ug/m3	0.94	1.49		12/04/13 04:37	75-15-0	
Carbon tetrachloride	ND	ug/m3	0.95	1.49		12/04/13 04:37	56-23-5	
Chlorobenzene	ND	ug/m3	1.4	1.49		12/04/13 04:37	108-90-7	
Chloroethane	ND	ug/m3	0.80	1.49		12/04/13 04:37	75-00-3	
Chloroform	**4.7**	ug/m3	1.5	1.49		12/04/13 04:37	67-66-3	
Chloromethane	**0.71**	ug/m3	0.63	1.49		12/04/13 04:37	74-87-3	
Cyclohexane	ND	ug/m3	1.0	1.49		12/04/13 04:37	110-82-7	
Dibromochloromethane	ND	ug/m3	2.6	1.49		12/04/13 04:37	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	2.3	1.49		12/04/13 04:37	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	1.8	1.49		12/04/13 04:37	95-50-1	
1,3-Dichlorobenzene	**3.2**	ug/m3	1.8	1.49		12/04/13 04:37	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	1.8	1.49		12/04/13 04:37	106-46-7	
Dichlorodifluoromethane	**36.0**	ug/m3	1.5	1.49		12/04/13 04:37	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.49		12/04/13 04:37	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.61	1.49		12/04/13 04:37	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.49		12/04/13 04:37	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.49		12/04/13 04:37	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.49		12/04/13 04:37	156-60-5	
1,2-Dichloropropane	ND	ug/m3	1.4	1.49		12/04/13 04:37	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	1.4	1.49		12/04/13 04:37	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	1.4	1.49		12/04/13 04:37	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	2.1	1.49		12/04/13 04:37	76-14-2	
Ethyl acetate	ND	ug/m3	1.1	1.49		12/04/13 04:37	141-78-6	
Ethylbenzene	ND	ug/m3	1.3	1.49		12/04/13 04:37	100-41-4	
4-Ethyltoluene	ND	ug/m3	1.5	1.49		12/04/13 04:37	622-96-8	
n-Heptane	ND	ug/m3	1.2	1.49		12/04/13 04:37	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	3.3	1.49		12/04/13 04:37	87-68-3	
n-Hexane	**3.2**	ug/m3	1.1	1.49		12/04/13 04:37	110-54-3	
2-Hexanone	ND	ug/m3	1.2	1.49		12/04/13 04:37	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/m3	3.7	1.49		12/04/13 04:37	98-82-8	
Methylene Chloride	**4.4**	ug/m3	1.1	1.49		12/04/13 04:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	1.2	1.49		12/04/13 04:37	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.49		12/04/13 04:37	1634-04-4	
Naphthalene	**5.5**	ug/m3	1.6	1.49		12/04/13 04:37	91-20-3	
Propylene	ND	ug/m3	0.52	1.49		12/04/13 04:37	115-07-1	
Styrene	ND	ug/m3	1.3	1.49		12/04/13 04:37	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	1.0	1.49		12/04/13 04:37	79-34-5	
Tetrachloroethene	ND	ug/m3	1.0	1.49		12/04/13 04:37	127-18-4	
Tetrahydrofuran	ND	ug/m3	0.89	1.49		12/04/13 04:37	109-99-9	
Toluene	**11.4**	ug/m3	1.1	1.49		12/04/13 04:37	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: 60311767-1 Newton Gr. Pit-Rev.
Pace Project No.: 10250770

Sample: SSVP-02 **Lab ID: 10250770002** Collected: 11/25/13 12:22 Received: 11/27/13 09:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
1,2,4-Trichlorobenzene	ND	ug/m3	2.2	1.49		12/04/13 04:37	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.7	1.49		12/04/13 04:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.82	1.49		12/04/13 04:37	79-00-5	
Trichloroethene	ND	ug/m3	0.82	1.49		12/04/13 04:37	79-01-6	
Trichlorofluoromethane	**6.3**	ug/m3	1.7	1.49		12/04/13 04:37	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	2.4	1.49		12/04/13 04:37	76-13-1	
1,2,4-Trimethylbenzene	**2.2**	ug/m3	1.5	1.49		12/04/13 04:37	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.5	1.49		12/04/13 04:37	108-67-8	
Vinyl acetate	ND	ug/m3	1.1	1.49		12/04/13 04:37	108-05-4	
Vinyl chloride	ND	ug/m3	0.39	1.49		12/04/13 04:37	75-01-4	
m&p-Xylene	**3.6**	ug/m3	2.6	1.49		12/04/13 04:37	179601-23-1	
o-Xylene	ND	ug/m3	1.3	1.49		12/04/13 04:37	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60311767-1 Newton Gr. Pit-Rev.
Pace Project No.: 10250770

Sample: IAA-01 **Lab ID: 10250770003** Collected: 11/26/13 10:35 Received: 11/27/13 09:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**23.1**	ug/m3	0.72	1.49		12/04/13 03:06	67-64-1	
Benzene	**1.4**	ug/m3	0.48	1.49		12/04/13 03:06	71-43-2	
Bromodichloromethane	ND	ug/m3	2.0	1.49		12/04/13 03:06	75-27-4	
Bromoform	ND	ug/m3	3.1	1.49		12/04/13 03:06	75-25-2	
Bromomethane	ND	ug/m3	1.2	1.49		12/04/13 03:06	74-83-9	
1,3-Butadiene	ND	ug/m3	0.67	1.49		12/04/13 03:06	106-99-0	
2-Butanone (MEK)	**4.4**	ug/m3	0.89	1.49		12/04/13 03:06	78-93-3	
Carbon disulfide	ND	ug/m3	0.94	1.49		12/04/13 03:06	75-15-0	
Carbon tetrachloride	ND	ug/m3	0.95	1.49		12/04/13 03:06	56-23-5	
Chlorobenzene	ND	ug/m3	1.4	1.49		12/04/13 03:06	108-90-7	
Chloroethane	ND	ug/m3	0.80	1.49		12/04/13 03:06	75-00-3	
Chloroform	ND	ug/m3	1.5	1.49		12/04/13 03:06	67-66-3	
Chloromethane	**2.1**	ug/m3	0.63	1.49		12/04/13 03:06	74-87-3	
Cyclohexane	ND	ug/m3	1.0	1.49		12/04/13 03:06	110-82-7	
Dibromochloromethane	ND	ug/m3	2.6	1.49		12/04/13 03:06	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	2.3	1.49		12/04/13 03:06	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	1.8	1.49		12/04/13 03:06	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	1.8	1.49		12/04/13 03:06	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	1.8	1.49		12/04/13 03:06	106-46-7	
Dichlorodifluoromethane	**3.0**	ug/m3	1.5	1.49		12/04/13 03:06	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.49		12/04/13 03:06	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.61	1.49		12/04/13 03:06	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.49		12/04/13 03:06	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.49		12/04/13 03:06	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.49		12/04/13 03:06	156-60-5	
1,2-Dichloropropane	ND	ug/m3	1.4	1.49		12/04/13 03:06	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	1.4	1.49		12/04/13 03:06	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	1.4	1.49		12/04/13 03:06	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	2.1	1.49		12/04/13 03:06	76-14-2	
Ethyl acetate	ND	ug/m3	1.1	1.49		12/04/13 03:06	141-78-6	
Ethylbenzene	ND	ug/m3	1.3	1.49		12/04/13 03:06	100-41-4	
4-Ethyltoluene	ND	ug/m3	1.5	1.49		12/04/13 03:06	622-96-8	
n-Heptane	ND	ug/m3	1.2	1.49		12/04/13 03:06	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	3.3	1.49		12/04/13 03:06	87-68-3	
n-Hexane	**1.5**	ug/m3	1.1	1.49		12/04/13 03:06	110-54-3	
2-Hexanone	ND	ug/m3	1.2	1.49		12/04/13 03:06	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/m3	3.7	1.49		12/04/13 03:06	98-82-8	
Methylene Chloride	**16.9**	ug/m3	1.1	1.49		12/04/13 03:06	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	1.2	1.49		12/04/13 03:06	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.49		12/04/13 03:06	1634-04-4	
Naphthalene	ND	ug/m3	1.6	1.49		12/04/13 03:06	91-20-3	
Propylene	ND	ug/m3	0.52	1.49		12/04/13 03:06	115-07-1	
Styrene	ND	ug/m3	1.3	1.49		12/04/13 03:06	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	1.0	1.49		12/04/13 03:06	79-34-5	
Tetrachloroethene	ND	ug/m3	1.0	1.49		12/04/13 03:06	127-18-4	
Tetrahydrofuran	ND	ug/m3	0.89	1.49		12/04/13 03:06	109-99-9	
Toluene	**17.2**	ug/m3	1.1	1.49		12/04/13 03:06	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: 60311767-1 Newton Gr. Pit-Rev.
Pace Project No.: 10250770

Sample: IAA-01 **Lab ID: 10250770003** Collected: 11/26/13 10:35 Received: 11/27/13 09:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
1,2,4-Trichlorobenzene	ND	ug/m3	2.2	1.49		12/04/13 03:06	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.7	1.49		12/04/13 03:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.82	1.49		12/04/13 03:06	79-00-5	
Trichloroethene	**1.0**	ug/m3	0.82	1.49		12/04/13 03:06	79-01-6	
Trichlorofluoromethane	ND	ug/m3	1.7	1.49		12/04/13 03:06	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	2.4	1.49		12/04/13 03:06	76-13-1	
1,2,4-Trimethylbenzene	**1.5**	ug/m3	1.5	1.49		12/04/13 03:06	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.5	1.49		12/04/13 03:06	108-67-8	
Vinyl acetate	ND	ug/m3	1.1	1.49		12/04/13 03:06	108-05-4	
Vinyl chloride	ND	ug/m3	0.39	1.49		12/04/13 03:06	75-01-4	
m&p-Xylene	ND	ug/m3	2.6	1.49		12/04/13 03:06	179601-23-1	
o-Xylene	ND	ug/m3	1.3	1.49		12/04/13 03:06	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60311767-1 Newton Gr. Pit-Rev.
Pace Project No.: 10250770

Sample: OAA-02 **Lab ID: 10250770004** Collected: 11/26/13 10:47 Received: 11/27/13 09:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**8.0**	ug/m3	0.69	1.44		12/04/13 03:36	67-64-1	
Benzene	ND	ug/m3	0.47	1.44		12/04/13 03:36	71-43-2	
Bromodichloromethane	ND	ug/m3	2.0	1.44		12/04/13 03:36	75-27-4	
Bromoform	ND	ug/m3	3.0	1.44		12/04/13 03:36	75-25-2	
Bromomethane	ND	ug/m3	1.1	1.44		12/04/13 03:36	74-83-9	
1,3-Butadiene	ND	ug/m3	0.65	1.44		12/04/13 03:36	106-99-0	
2-Butanone (MEK)	ND	ug/m3	0.86	1.44		12/04/13 03:36	78-93-3	
Carbon disulfide	ND	ug/m3	0.91	1.44		12/04/13 03:36	75-15-0	
Carbon tetrachloride	ND	ug/m3	0.92	1.44		12/04/13 03:36	56-23-5	
Chlorobenzene	ND	ug/m3	1.4	1.44		12/04/13 03:36	108-90-7	
Chloroethane	ND	ug/m3	0.78	1.44		12/04/13 03:36	75-00-3	
Chloroform	ND	ug/m3	1.4	1.44		12/04/13 03:36	67-66-3	
Chloromethane	**1.2**	ug/m3	0.60	1.44		12/04/13 03:36	74-87-3	
Cyclohexane	ND	ug/m3	1.0	1.44		12/04/13 03:36	110-82-7	
Dibromochloromethane	ND	ug/m3	2.5	1.44		12/04/13 03:36	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	2.2	1.44		12/04/13 03:36	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	1.8	1.44		12/04/13 03:36	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	1.8	1.44		12/04/13 03:36	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	1.8	1.44		12/04/13 03:36	106-46-7	
Dichlorodifluoromethane	**2.3**	ug/m3	1.5	1.44		12/04/13 03:36	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.2	1.44		12/04/13 03:36	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.59	1.44		12/04/13 03:36	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.44		12/04/13 03:36	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		12/04/13 03:36	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		12/04/13 03:36	156-60-5	
1,2-Dichloropropane	ND	ug/m3	1.4	1.44		12/04/13 03:36	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	1.3	1.44		12/04/13 03:36	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	1.3	1.44		12/04/13 03:36	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	2.0	1.44		12/04/13 03:36	76-14-2	
Ethyl acetate	ND	ug/m3	1.1	1.44		12/04/13 03:36	141-78-6	
Ethylbenzene	ND	ug/m3	1.3	1.44		12/04/13 03:36	100-41-4	
4-Ethyltoluene	ND	ug/m3	1.4	1.44		12/04/13 03:36	622-96-8	
n-Heptane	ND	ug/m3	1.2	1.44		12/04/13 03:36	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	3.2	1.44		12/04/13 03:36	87-68-3	
n-Hexane	ND	ug/m3	1.0	1.44		12/04/13 03:36	110-54-3	
2-Hexanone	ND	ug/m3	1.2	1.44		12/04/13 03:36	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/m3	3.6	1.44		12/04/13 03:36	98-82-8	
Methylene Chloride	**3.6**	ug/m3	1.0	1.44		12/04/13 03:36	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	1.2	1.44		12/04/13 03:36	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	1.1	1.44		12/04/13 03:36	1634-04-4	
Naphthalene	ND	ug/m3	1.5	1.44		12/04/13 03:36	91-20-3	
Propylene	ND	ug/m3	0.50	1.44		12/04/13 03:36	115-07-1	
Styrene	ND	ug/m3	1.3	1.44		12/04/13 03:36	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	1.0	1.44		12/04/13 03:36	79-34-5	
Tetrachloroethene	ND	ug/m3	0.99	1.44		12/04/13 03:36	127-18-4	
Tetrahydrofuran	ND	ug/m3	0.86	1.44		12/04/13 03:36	109-99-9	
Toluene	**1.5**	ug/m3	1.1	1.44		12/04/13 03:36	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 60311767-1 Newton Gr. Pit-Rev.
Pace Project No.: 10250770

Sample: OAA-02 **Lab ID: 10250770004** Collected: 11/26/13 10:47 Received: 11/27/13 09:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
1,2,4-Trichlorobenzene	ND	ug/m3	2.2	1.44		12/04/13 03:36	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.44		12/04/13 03:36	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.79	1.44		12/04/13 03:36	79-00-5	
Trichloroethene	ND	ug/m3	0.79	1.44		12/04/13 03:36	79-01-6	
Trichlorofluoromethane	ND	ug/m3	1.6	1.44		12/04/13 03:36	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	2.3	1.44		12/04/13 03:36	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/m3	1.4	1.44		12/04/13 03:36	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.4	1.44		12/04/13 03:36	108-67-8	
Vinyl acetate	ND	ug/m3	1.0	1.44		12/04/13 03:36	108-05-4	
Vinyl chloride	ND	ug/m3	0.37	1.44		12/04/13 03:36	75-01-4	
m&p-Xylene	ND	ug/m3	2.5	1.44		12/04/13 03:36	179601-23-1	
o-Xylene	ND	ug/m3	1.3	1.44		12/04/13 03:36	95-47-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 60311767-1 Newton Gr. Pit-Rev.
Pace Project No.: 10250770

QC Batch: AIR/18849 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10250770001, 10250770002, 10250770003, 10250770004

METHOD BLANK: 1588494 Matrix: Air
Associated Lab Samples: 10250770001, 10250770002, 10250770003, 10250770004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	12/04/13 01:33	
1,1,2,2-Tetrachloroethane	ug/m3	ND	0.70	12/04/13 01:33	
1,1,2-Trichloroethane	ug/m3	ND	0.55	12/04/13 01:33	
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	1.6	12/04/13 01:33	
1,1-Dichloroethane	ug/m3	ND	0.82	12/04/13 01:33	
1,1-Dichloroethene	ug/m3	ND	0.81	12/04/13 01:33	
1,2,4-Trichlorobenzene	ug/m3	ND	1.5	12/04/13 01:33	
1,2,4-Trimethylbenzene	ug/m3	ND	1.0	12/04/13 01:33	
1,2-Dibromoethane (EDB)	ug/m3	ND	1.6	12/04/13 01:33	
1,2-Dichlorobenzene	ug/m3	ND	1.2	12/04/13 01:33	
1,2-Dichloroethane	ug/m3	ND	0.41	12/04/13 01:33	
1,2-Dichloropropane	ug/m3	ND	0.94	12/04/13 01:33	
1,3,5-Trimethylbenzene	ug/m3	ND	1.0	12/04/13 01:33	
1,3-Butadiene	ug/m3	ND	0.45	12/04/13 01:33	
1,3-Dichlorobenzene	ug/m3	ND	1.2	12/04/13 01:33	
1,4-Dichlorobenzene	ug/m3	ND	1.2	12/04/13 01:33	
2-Butanone (MEK)	ug/m3	ND	0.60	12/04/13 01:33	
2-Hexanone	ug/m3	ND	0.83	12/04/13 01:33	
4-Ethyltoluene	ug/m3	ND	1.0	12/04/13 01:33	
4-Methyl-2-pentanone (MIBK)	ug/m3	ND	0.83	12/04/13 01:33	
Acetone	ug/m3	ND	0.48	12/04/13 01:33	
Benzene	ug/m3	ND	0.32	12/04/13 01:33	
Bromodichloromethane	ug/m3	ND	1.4	12/04/13 01:33	
Bromoform	ug/m3	ND	2.1	12/04/13 01:33	
Bromomethane	ug/m3	ND	0.79	12/04/13 01:33	
Carbon disulfide	ug/m3	ND	0.63	12/04/13 01:33	
Carbon tetrachloride	ug/m3	ND	0.64	12/04/13 01:33	
Chlorobenzene	ug/m3	ND	0.94	12/04/13 01:33	
Chloroethane	ug/m3	ND	0.54	12/04/13 01:33	
Chloroform	ug/m3	ND	0.99	12/04/13 01:33	
Chloromethane	ug/m3	ND	0.42	12/04/13 01:33	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	12/04/13 01:33	
cis-1,3-Dichloropropene	ug/m3	ND	0.92	12/04/13 01:33	
Cyclohexane	ug/m3	ND	0.70	12/04/13 01:33	
Dibromochloromethane	ug/m3	ND	1.7	12/04/13 01:33	
Dichlorodifluoromethane	ug/m3	ND	1.0	12/04/13 01:33	
Dichlorotetrafluoroethane	ug/m3	ND	1.4	12/04/13 01:33	
Ethyl acetate	ug/m3	ND	0.73	12/04/13 01:33	
Ethylbenzene	ug/m3	ND	0.88	12/04/13 01:33	
Hexachloro-1,3-butadiene	ug/m3	ND	2.2	12/04/13 01:33	
m&p-Xylene	ug/m3	ND	1.8	12/04/13 01:33	
Methyl-tert-butyl ether	ug/m3	ND	0.73	12/04/13 01:33	
Methylene Chloride	ug/m3	ND	0.71	12/04/13 01:33	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 60311767-1 Newton Gr. Pit-Rev.
Pace Project No.: 10250770

METHOD BLANK: 1588494 Matrix: Air
Associated Lab Samples: 10250770001, 10250770002, 10250770003, 10250770004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
n-Heptane	ug/m3	ND	0.83	12/04/13 01:33	
n-Hexane	ug/m3	ND	0.72	12/04/13 01:33	
Naphthalene	ug/m3	ND	1.1	12/04/13 01:33	
o-Xylene	ug/m3	ND	0.88	12/04/13 01:33	
Propylene	ug/m3	ND	0.35	12/04/13 01:33	
Styrene	ug/m3	ND	0.87	12/04/13 01:33	
Tetrachloroethene	ug/m3	ND	0.69	12/04/13 01:33	
Tetrahydrofuran	ug/m3	ND	0.60	12/04/13 01:33	
Toluene	ug/m3	ND	0.77	12/04/13 01:33	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	12/04/13 01:33	
trans-1,3-Dichloropropene	ug/m3	ND	0.92	12/04/13 01:33	
Trichloroethene	ug/m3	ND	0.55	12/04/13 01:33	
Trichlorofluoromethane	ug/m3	ND	1.1	12/04/13 01:33	
Vinyl acetate	ug/m3	ND	0.72	12/04/13 01:33	
Vinyl chloride	ug/m3	ND	0.26	12/04/13 01:33	

LABORATORY CONTROL SAMPLE: 1588495

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	61.8	111	69-131	
1,1,2,2-Tetrachloroethane	ug/m3	69.8	75.1	108	66-135	
1,1,2-Trichloroethane	ug/m3	55.5	58.5	105	68-132	
1,1,2-Trichlorotrifluoroethane	ug/m3	77.9	76.5	98	65-130	
1,1-Dichloroethane	ug/m3	41.2	41.5	101	66-131	
1,1-Dichloroethene	ug/m3	40.3	40.6	101	64-136	
1,2,4-Trichlorobenzene	ug/m3	75.5	87.2	116	30-150	
1,2,4-Trimethylbenzene	ug/m3	50	57.1	114	71-135	
1,2-Dibromoethane (EDB)	ug/m3	78.1	88.9	114	72-132	
1,2-Dichlorobenzene	ug/m3	61.2	65.3	107	68-148	
1,2-Dichloroethane	ug/m3	41.2	45.8	111	66-136	
1,2-Dichloropropane	ug/m3	47	48.7	104	68-133	
1,3,5-Trimethylbenzene	ug/m3	50	59.9	120	69-136	
1,3-Butadiene	ug/m3	22.5	25.4	113	69-134	
1,3-Dichlorobenzene	ug/m3	61.2	75.0	123	70-134	
1,4-Dichlorobenzene	ug/m3	61.2	63.4	104	66-134	
2-Butanone (MEK)	ug/m3	30	33.8	113	69-141	
2-Hexanone	ug/m3	41.7	50.5	121	74-132	
4-Ethyltoluene	ug/m3	50	56.3	113	71-134	
4-Methyl-2-pentanone (MIBK)	ug/m3	41.7	46.9	113	74-131	
Acetone	ug/m3	24.2	28.1	116	62-142	
Benzene	ug/m3	32.5	35.1	108	72-136	
Bromodichloromethane	ug/m3	68.2	74.5	109	69-135	
Bromoform	ug/m3	105	131	125	72-133	
Bromomethane	ug/m3	39.5	40.2	102	65-125	
Carbon disulfide	ug/m3	31.7	35.5	112	68-127	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 60311767-1 Newton Gr. Pit-Rev.
Pace Project No.: 10250770

LABORATORY CONTROL SAMPLE: 1588495

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/m3	64	81.1	127	64-133	
Chlorobenzene	ug/m3	46.8	51.0	109	65-135	
Chloroethane	ug/m3	26.8	27.9	104	63-129	
Chloroform	ug/m3	49.7	53.7	108	66-129	
Chloromethane	ug/m3	21	23.5	112	57-135	
cis-1,2-Dichloroethene	ug/m3	40.3	47.8	119	73-135	
cis-1,3-Dichloropropene	ug/m3	46.2	49.2	107	75-137	
Cyclohexane	ug/m3	35	39.8	114	73-139	
Dibromochloromethane	ug/m3	86.6	105	121	73-130	
Dichlorodifluoromethane	ug/m3	50.3	50.6	101	64-131	
Dichlorotetrafluoroethane	ug/m3	71.1	77.7	109	64-131	
Ethyl acetate	ug/m3	36.6	45.5	124	73-136	
Ethylbenzene	ug/m3	44.2	53.4	121	74-136	
Hexachloro-1,3-butadiene	ug/m3	108	135	125	30-150	
m&p-Xylene	ug/m3	44.2	54.2	123	72-135	
Methyl-tert-butyl ether	ug/m3	36.7	41.3	113	71-134	
Methylene Chloride	ug/m3	35.3	43.6	123	59-140	
n-Heptane	ug/m3	41.7	45.7	110	73-136	
n-Hexane	ug/m3	35.8	34.7	97	67-136	
Naphthalene	ug/m3	53.3	63.8	120	30-150	
o-Xylene	ug/m3	44.2	54.8	124	74-135	
Propylene	ug/m3	17.5	16.7	95	66-138	
Styrene	ug/m3	43.3	50.8	117	73-135	
Tetrachloroethene	ug/m3	69	75.4	109	66-135	
Tetrahydrofuran	ug/m3	30	33.3	111	73-130	
Toluene	ug/m3	38.3	41.6	108	71-134	
trans-1,2-Dichloroethene	ug/m3	40.3	41.2	102	68-129	
trans-1,3-Dichloropropene	ug/m3	46.2	52.8	114	75-129	
Trichloroethene	ug/m3	54.6	58.6	107	68-134	
Trichlorofluoromethane	ug/m3	57.1	58.0	101	61-134	
Vinyl acetate	ug/m3	35.8	41.1	115	70-139	
Vinyl chloride	ug/m3	26	28.1	108	64-134	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: 60311767-1 Newton Gr. Pit-Rev.
Pace Project No.: 10250770

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

SAMPLE QUALIFIERS

Sample: 10250770001

[1] The internal standard recoveries associated with this sample exceed the lower control limit. The reported results should be considered estimated values.

Sample: 10250770003

[1] The internal standard recoveries associated with this sample exceed the lower control limit. The reported results should be considered estimated values.

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 60311767-1 Newton Gr. Pit-Rev.
Pace Project No.: 10250770

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10250770001	**SSVP-01**	TO-15	AIR/18849		
10250770002	**SSVP-02**	TO-15	AIR/18849		
10250770003	**IAA-01**	TO-15	AIR/18849		
10250770004	**OAA-02**	TO-15	AIR/18849		

Pace Analytical®
www.pacelabs.com

AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

17997

Page: 1 of 1

Section A Required Client Information:

Company: AECOM
Address: 1555 N RiverCenter Drv Ste 214 Milw, WI
Email To: Dave.Henderson@aecom.com
Phone: 414 944 6190 Fax: 414 944 6081
Requested Due Date/TAT: 3 day turn

Section B Required Project Information:

Report To: Dave Henderson
Copy To:
Purchase Order No.: in progress
Project Name: Newton Gravel Pit
Project Number: 60311767-1

Section C Invoice Information:

Attention: Richard.Muzurkiewicz@aecom.com
Company Name: AECOM
Address: 1555 N RiverCenter Drv Ste 214
Pace Quote Reference:
Pace Project Manager/Sales Rep: Carolynne Trout
Pace Profile #:

Program: ☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act ☐ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other

Location of Sampling by State: WI

Reporting Units: ug/m³ X mg/m³ PPBV PPMV Other

Report Level: II. X III. IV. Other

Section D Required Client Information

AIR SAMPLE ID
Sample IDs MUST BE UNIQUE

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	'Section D Required Client Information AIR SAMPLE ID	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START END/GRAB DATE	COLLECTED COMPOSITE START END/GRAB TIME	COLLECTED COMPOSITE - DATE	COLLECTED COMPOSITE - TIME	Canister Pressure (Initial Field - psig) inches Hg	Canister Pressure (Final Field - psig) inches Hg	Summa Can Number	Flow Control Number	Method: PM10	3C- Fixed Gas (%)	TO-3	TO-3M (Methane)	TO-4 (PCBs)	TO-13 (PAH)	TO-14	TO-15 *	TO15 Short List*	Pace Lab ID
1	SSVP-01	6LC	-	11/25/13	11:08	11/25/13	11:46	29	4	07088	18222							X			
2	SSVP-02	6LC	-	11/25/13	11:42	11/25/13	12:22	26	4	14855	27992							X			
3	IAA-01	6LC	-	11/25/13	11:45	11/26/13	10:35	29	3	20588	FC222							X			
4	OAA-01	6LC	-	11/25/13	11:58	11/26/13	10:47	26	3.5	16222	FC366							X			
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
AECOM	12.26.13	4:30 PM	UPS Courier	11/26/13	4:30 pm
			Client / Pace	11-27-13	9:40

SAMPLE CONDITIONS

	Temp in °C	Received on Ice Y/N	Custody Sealed Cooler Y/N	Samples Intact Y/N
		Y/N	Y/N	Y/N
MAB		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Richard Muzurkiewicz
SIGNATURE of SAMPLER: Richard Muzurkiewicz
DATE Signed (MM / DD / YY): 11/26/13

Comments :

TO-15* = analyze for benzene, cis-1,2-dichloroethene, & vinyl chloride only

Attn. - 3 day turn, need results 12/4/13

ORIGINAL

Pace Analytical	Document Name: Air Sample Condition Upon Receipt	Document Revised: 19Sep2013 Page 1 of 1
	Document No.: F-MN-A-106-rev.08	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: AECOM

Project #: WO# : 10250770

10250770

Courier: ☐ Fed Ex ☑ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other:

Tracking Number: 1ZA2E8130194064466

Custody Seal on Cooler/Box Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☑ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ Foam ☐ None ☐ Other:

Temp. (TO17 and TO13 samples only) (°C): _____ **Corrected Temp (°C):** _____ **Thermom. Used:** ☐ B88A912167504 ☐ B88A9132521491 ☐ 72337080 ☐ 80512447

Temp should be above freezing to 6°C **Correction Factor:** AMB **Date & Initials of Person Examining Contents:** CMJ 11.27.13

Comments:

Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No	☐ N/A	6.
Rush Turn Around Time Requested?	☑ Yes	☐ No	☐ N/A	7.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Media: Air Can				11.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	12.

Samples Received: 4 Air Can, 4 Air Flow Controllers

Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID
SSUP-01	PACE0708	FC 0630 11.27.13	0509		
SSVP-02	" 1485	" 0630			
IAA-01	" 2058	" 0222			
OAA-01	" 1622	" 0366			

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: CJM **Date:** 11/27/13

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Synergy Environmental Lab, INC.

1990 Prospect Ct., Appleton, WI 54914 *P 920-830-2455 * F 920-733-0631

LISA SMITH
AECOM
1555 N RIVER CENTER DRIVE
MILWAUKEE, WI 53212

Report Date *05-Nov-13*

Project Name FMR NEWTON GRAVEL PIT **Invoice #** E26009
Project # 60135471

Lab Code 5026009A
Sample ID PW-3518
Sample Matrix water
Sample Date 10/23/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	1.74	ug/l	0.24	0.77	1	8260B		10/31/2013	CJR	1
Bromobenzene	< 0.32	ug/l	0.32	1	1	8260B		10/31/2013	CJR	1
Bromodichloromethane	< 0.37	ug/l	0.37	1.2	1	8260B		10/31/2013	CJR	1
Bromoform	< 0.35	ug/l	0.35	1.1	1	8260B		10/31/2013	CJR	1
tert-Butylbenzene	< 0.36	ug/l	0.36	1.2	1	8260B		10/31/2013	CJR	1
sec-Butylbenzene	< 0.33	ug/l	0.33	1	1	8260B		10/31/2013	CJR	1
n-Butylbenzene	< 0.35	ug/l	0.35	1.1	1	8260B		10/31/2013	CJR	1
Carbon Tetrachloride	< 0.33	ug/l	0.33	1.1	1	8260B		10/31/2013	CJR	1
Chlorobenzene	< 0.24	ug/l	0.24	0.77	1	8260B		10/31/2013	CJR	1
Chloroethane	< 0.63	ug/l	0.63	2	1	8260B		10/31/2013	CJR	1
Chloroform	< 0.28	ug/l	0.28	0.88	1	8260B		10/31/2013	CJR	1
Chloromethane	< 0.81	ug/l	0.81	2.6	1	8260B		10/31/2013	CJR	1
2-Chlorotoluene	< 0.21	ug/l	0.21	0.66	1	8260B		10/31/2013	CJR	1
4-Chlorotoluene	< 0.21	ug/l	0.21	0.68	1	8260B		10/31/2013	CJR	1
1,2-Dibromo-3-chloropropane	< 0.88	ug/l	0.88	2.8	1	8260B		10/31/2013	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.7	1	8260B		10/31/2013	CJR	1
1,4-Dichlorobenzene	< 0.3	ug/l	0.3	0.96	1	8260B		10/31/2013	CJR	1
1,3-Dichlorobenzene	< 0.28	ug/l	0.28	0.89	1	8260B		10/31/2013	CJR	1
1,2-Dichlorobenzene	< 0.36	ug/l	0.36	1.2	1	8260B		10/31/2013	CJR	1
Dichlorodifluoromethane	< 0.44	ug/l	0.44	1.4	1	8260B		10/31/2013	CJR	1
1,2-Dichloroethane	0.42 "J"	ug/l	0.41	1.3	1	8260B		10/31/2013	CJR	1
1,1-Dichloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		10/31/2013	CJR	1
1,1-Dichloroethene	1.62	ug/l	0.4	1.3	1	8260B		10/31/2013	CJR	1
cis-1,2-Dichloroethene	510	ug/l	3.8	12	10	8260B		11/4/2013	CJR	1
trans-1,2-Dichloroethene	5.5	ug/l	0.35	1.1	1	8260B		10/31/2013	CJR	1
1,2-Dichloropropane	< 0.32	ug/l	0.32	1	1	8260B		10/31/2013	CJR	1
2,2-Dichloropropane	< 0.36	ug/l	0.36	1.2	1	8260B		10/31/2013	CJR	8
1,3-Dichloropropane	< 0.33	ug/l	0.33	1	1	8260B		10/31/2013	CJR	1
Di-isopropyl ether	< 0.23	ug/l	0.23	0.73	1	8260B		10/31/2013	CJR	1
EDB (1,2-Dibromoethane)	< 0.44	ug/l	0.44	1.4	1	8260B		10/31/2013	CJR	1
Ethylbenzene	< 0.55	ug/l	0.55	1.7	1	8260B		10/31/2013	CJR	1
Hexachlorobutadiene	< 1.5	ug/l	1.5	4.8	1	8260B		10/31/2013	CJR	1
Isopropylbenzene	< 0.3	ug/l	0.3	0.96	1	8260B		10/31/2013	CJR	1

Project Name FMR NEWTON GRAVEL PIT **Invoice #** E26009
Project # 60135471

Lab Code 5026009A
Sample ID PW-3518
Sample Matrix water
Sample Date 10/23/2013

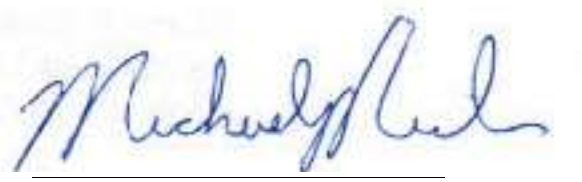
	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
p-Isopropyltoluene	< 0.31	ug/l	0.31	0.98	1	8260B		10/31/2013	CJR	1
Methylene chloride	< 0.5	ug/l	0.5	1.6	1	8260B		10/31/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.23	ug/l	0.23	0.74	1	8260B		10/31/2013	CJR	1
Naphthalene	< 1.7	ug/l	1.7	5.5	1	8260B		10/31/2013	CJR	1
n-Propylbenzene	< 0.25	ug/l	0.25	0.81	1	8260B		10/31/2013	CJR	1
1,1,2,2-Tetrachloroethane	< 0.45	ug/l	0.45	1.4	1	8260B		10/31/2013	CJR	1
1,1,1,2-Tetrachloroethane	< 0.33	ug/l	0.33	1.1	1	8260B		10/31/2013	CJR	1
Tetrachloroethene	< 0.33	ug/l	0.33	1.1	1	8260B		10/31/2013	CJR	1
Toluene	< 0.69	ug/l	0.69	2.2	1	8260B		10/31/2013	CJR	1
1,2,4-Trichlorobenzene	< 0.98	ug/l	0.98	3.1	1	8260B		10/31/2013	CJR	1
1,2,3-Trichlorobenzene	< 1.8	ug/l	1.8	5.8	1	8260B		10/31/2013	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1	1	8260B		10/31/2013	CJR	1
1,1,2-Trichloroethane	< 0.34	ug/l	0.34	1.1	1	8260B		10/31/2013	CJR	1
Trichloroethene (TCE)	< 0.33	ug/l	0.33	1	1	8260B		10/31/2013	CJR	1
Trichlorofluoromethane	< 0.71	ug/l	0.71	2.3	1	8260B		10/31/2013	CJR	1
1,2,4-Trimethylbenzene	< 2.2	ug/l	2.2	6.9	1	8260B		10/31/2013	CJR	1
1,3,5-Trimethylbenzene	< 1.4	ug/l	1.4	4.5	1	8260B		10/31/2013	CJR	1
Vinyl Chloride	102	ug/l	0.18	0.57	1	8260B		10/31/2013	CJR	1
m&p-Xylene	< 0.69	ug/l	0.69	2.2	1	8260B		10/31/2013	CJR	1
o-Xylene	< 0.63	ug/l	0.63	2	1	8260B		10/31/2013	CJR	1
SUR - Toluene-d8	97	REC %			1	8260B		10/31/2013	CJR	1
SUR - 1,2-Dichloroethane-d4	92	REC %			1	8260B		10/31/2013	CJR	1
SUR - 4-Bromofluorobenzene	95	REC %			1	8260B		10/31/2013	CJR	1
SUR - Dibromofluoromethane	89	REC %			1	8260B		10/31/2013	CJR	1

"J" Flag: Analyte detected between LOD and LOQ LOD Limit of Detection LOQ Limit of Quantitation

Code	*Comment*
1	Laboratory QC within limits.
8	Closing calibration standard not within established limits.

All solid sample results reported on a dry weight basis unless otherwise indicated. All LOD's and LOQ's are adjusted for dilutions but not dry weight. Subcontracted results are denoted by SUB in the analyst field.

Authorized Signature



STS | AECOM

Chain of Custody Record

№ 4025

Special Handling Request
- ☐ Rush
- ☐ Verbal
- ☐ Other

Record Number 1 Through 1

Contact Person Dave Henderson
Phone No. 414.944.6058 Office
Project No. 60135471 PO No.
Project Name Former Newton Gravel Pit

Laboratory
Contact Person
Phone No.
Results Due

Sample I.D.	Date	Time	Grab	Composite	No. of Containers	Sample Type (Water, soil, air, sludge, etc.)	Preservation Y	Preservation N	Field Data PID/FID Ambient	Field Data PID/FID Sample	Field Data PH	Field Data Special Cond.	Analysis Request	Comments on Sample (Include Major Contaminants)
0026009 A														
PW-3518	10/23/13	0850	X		3	GW	X						VOCs	Analysis for Contract
														GW = groundwater

Collected by: Lyle M. Wilson	Date 10/23/13	Time 0850	Delivery by:	Date	Time
Received by:	Date	Time	Relinquished by: Lyle M. Wilson	Date 10/25/13	Time 0930
Received by:	Date	Time	Relinquished by:	Date	Time
Received by:	Date	Time	Relinquished by:	Date	Time
Received for lab by:	Date 10/26/13	Time 1010	Relinquished by:	Date	Time

Laboratory Comments Only: Seals Intact Upon Receipt? ☒ Yes ☐ No ☐ N/A

Final Disposition:	Comments (Weather Conditions, Precautions, Hazards):

Distribution: Original and Canary - Laboratory Pink - STS Project File Instructions to Laboratory: Forward completed original to STS with analytical results.