

Hazardous Waste / Contaminated Materials Detailed Site Investigation Report

Dewey and Driving Park Realignment Project

P.I.N. 4755.55
Intersection of Dewey Avenue and Driving Park
City of Rochester
Monroe County, New York

Prepared For:

Bergmann Associates
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Rochester, New York 14614

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March 2016

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- Attachment B: Boring Logs
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EXECUTIVE SUMMARY

Ravi Engineering & Land Surveying, P.C. (RE&LS), as a sub-consultant to Bergmann Associates, has been retained by the City of Rochester to perform a Hazardous Waste / Contaminated Materials, Detailed Site Investigation (DSI) for the Dewey and Driving Park Realignment Project in the City of Rochester, Monroe County, New York. This DSI included subsurface sampling and groundwater well installation at locations of concern identified by the Hazardous Waste / Contaminated Materials Screening, completed in June 2014.

Based on the findings of this DSI the following is recommended:

1. The results of this DSI should be given to the NYSDEC for their review and consideration.
2. A specification should be added to the construction documents for the removal and disposal of underground storage tanks (USTs) at Site 8 & 12 (320 Driving Park Avenue and 854 Dewey Avenue). Payment for the UST removal should be a line item per tank fee based on an assumed size, to be utilized only if UST(s) are encountered.
3. A specification should be added to the construction documents for screening, segregating, sampling, and disposal of petroleum contaminated soil at Site 4 & 5. A special note should be added to the plans identifying the area where the petroleum contamination may be encountered (Figure 3). A soil management plan should be developed that includes onsite monitoring during construction in accordance with NYSDOT Standard Specification Section 205, Contaminated Soil.
4. If the store at Site 4 & 5 will be removed, the soil beneath the structure should be either assumed to be petroleum contaminated and handled in accordance with recommendation 3, or sampled to determine if contamination is present.

1.0 INTRODUCTION:

Ravi Engineering & Land Surveying, P.C. (RE&LS), as a sub-consultant to Bergmann Associates, has been retained by the City of Rochester to perform a Hazardous Waste / Contaminated Materials, Detailed Site Investigation (DSI) for the Dewey Driving Park Realignment Project in the City of Rochester, Monroe County, New York (Attachment A, Figure 1). This DSI included subsurface sampling and groundwater well installation at locations of concern identified by the Hazardous Waste / Contaminated Materials Screening, completed in June 2014.

2.0 PROJECT OVERVIEW:

The proposed project includes full depth reconstruction of the intersection of Dewey Avenue and Driving Park. The portion of Dewey Avenue to the north of the intersection will be horizontally realigned to the west in an attempt to improve traffic flow patterns and reduce vehicle accidents at the intersection. The property at the North West corner of the intersection will be acquired to facilitate the realignment of Dewey Avenue.

A Hazardous Waste / Contaminated Materials Screening completed in June 2014 identified several properties and locations of concern. It was determined that some of the sites identified by this screening were not of concern to the proposed project based on project limits, or a more definitive understanding of project components. Eight of the sites of concern identified could pose a potential negative impact on the proposed project; therefore this DSI was recommended. The locations of the eight sites are presented in Figure 2: Boring Locations & Location of Sites Map included in Attachment A.

The following provides a summary of the sites from the June 2014 Hazardous Waste / Contaminated Materials Screening that pose a concern to the proposed project:

Site 2:

Price Rite Grocery Store
375 Driving Park Avenue and 835 Dewey Avenue

The NYSDEC Spill Report Database included an incident at this site in October 2001 when a gas tank fell off a vehicle in the parking lot. This spill was cleaned up by a responsible party and closed in October 2001. The site is also reported as being a historic drycleaner on the US Historic Cleaners List. Based on the potential for contaminated soils due to the past use as a drycleaner and a reported spill, a subsurface investigation along the right of way (ROW) adjacent to this property was recommended.

Site 3:

Historic Auto Service Facility
374 Driving Park Avenue

This site is listed on the US Historic Auto Station list as an automobile repair and service facility in 2000. Automotive shops house hazardous materials and potentially generate hazardous waste. Based on the historic use as an automotive shop, a subsurface investigation along the ROW adjacent to this property was recommended.

Site 4 & 5:

Family Dollar Parking Lot
340 and 342 Driving Park Avenue

This site is currently occupied by the parking lot for the Family Dollar. Both sites are listed as historic dry cleaners on the US Historic Cleaners list. Site 4 is listed as being a cleaner in the years 1940, 1945, and 1950. Site 5 is listed as being a cleaner in the years 1960, 1965, 1970, 1975, 1982, and 1985. In addition, it is understood that the previous structures were demolished on site when the Family Dollar parking lot was constructed. It was recommended that a subsurface investigation along the ROW adjacent to this property and within the property boundaries be conducted to determine if contaminated soils are present. A subsurface investigation was recommended within the property boundaries due to additional contamination concerns and the understanding that the City will be acquiring these sites.

Site 7:

329 Driving Park Avenue

This site is listed on the US Historic Cleaners list as a wash and dry self-service laundry in the years 1945, 1970, 1975, 1982, and 1985. Based on the potential for contaminated soils due to the past use as a cleaner, a subsurface investigation along the ROW adjacent to this property was recommended.

Site 8 & 12:

Clinton & Ralston Auto Repair
320 Driving Park Avenue and 854 Dewey Avenue

These sites are currently Clinton and Ralston Auto Repair and the associated parking lot. Site 8 is reported on the US Historic Auto Station list as a gasoline station and automobile repair and service station from 1926 to present. Site 12 is reported on the US Historic Auto Station list as a filling station (Gulf Service Station) in 1965 and 1970. Additionally, Sanborn® maps from 1971 and 1950 indicate that the site was a historic filling station. Based on the potential for soil contamination due to historical and current use of the property as an automotive

repair shop and filling station, a subsurface investigation along the ROW adjacent to this property was recommended. Additionally, USTs associated with the past filling station and current automotive shop may be present, therefore it is recommended that a specification be added to the construction documents for the removal and disposal of USTs. Payment for the UST removal should be a line item per tank fee based on an assumed size, to be utilized only if UST(s) are encountered.

Site 9:

Ronnie's Barber Shop
308 Driving Park Avenue

This site is reported on the US Historic Auto Station list as an automobile garage in 1930, 1935, 1940, 1945, 1950, 1955, 1960, 1965, 1970 and 1975. Due to the past use as an automobile garage, a subsurface investigation along the ROW adjacent to this property was recommended.

3.0 METHODOLOGY:

3.1 SUBSURFACE SOIL INVESTIGATION

TREC Environmental, Inc. (TREC) was subcontracted to perform the soil borings for the subsurface soil investigation. This portion of the investigation included the installation of soil borings at Sites 2 through 5, Sites 7 through 9, and Site 12. A total of 18 soil borings were installed. The location of the test borings is shown on Figure 2 included in Attachment A. Soils from five of the test borings were retained for laboratory analysis.

All proposed soil borings were installed, however, due to the presence of underground utilities some borings were moved a minimal distance (less than 10 feet) from the original proposed location.

3.1.1 Soil Boring Installation Procedures

The soil borings were installed utilizing a Geoprobe® Direct-Push Technology sampling system. The Geoprobe® equipment utilizes a 4-foot long macro-core sampler, with disposable polyethylene sleeves. Soil cores are retrieved in four-foot sections. The polyethylene sleeves were cut for observation and sampling.

Generally it is expected that activities associated with the realignment will result in excavations up to approximately 4 feet in depth. Therefore, soil borings were installed to 4 feet. Borings at site 4 and 5 were advanced to a depth of 12 feet below ground surface (bgs) or equipment refusal due to additional contamination concerns, the potential for increased soil disturbance depth, and the understanding that the City will be acquiring

this property. Soil characteristics were described in the field and recorded on boring logs (Attachment B).

Soil borings were backfilled with bentonite, native material, and sand to approximately 12 inches bgs, and finished with concrete or soil to the ground surface.

3.1.2 Soil Screening

Soil screening was conducted in conjunction with the installation of the soil borings. The entire soil column obtained from each 4-foot macro-core sleeve was screened for visual, olfactory, and soil vapor indications of contamination.

A photoionization detector (PID) equipped with a 10.6 eV lamp was utilized to screen the soil for volatile organics. The results of the soil screening were recorded in the field and are provided on the soil boring logs included in Attachment B and summarized in Table 2.

3.1.3 Soil Sampling and Analysis

Based on the results of the soil screening five soil samples (from five separate borings) were retained for laboratory analysis as summarized in Table 1. The samples were placed in jars and transferred under chain of custody protocols to Paradigm Environmental Services (Paradigm) for the following analysis:

- Volatile Organic Compounds (VOCs), USEPA Method 8260, for either CP-51 / Spill Technology and Remediation Series #1 (STARS) List; or Target Compound List (TCL)
- Semi-Volatile Organic Compounds (SVOCs), USEPA Method 8270, CP-51 STARS List; and

A copy of the analytical results is provided as Attachment C.

Table 1: Soil Sample Summary

Site	Boring No.	Sample No.	Depth of Sample (feet)	Analysis
Site 2 – 375 Driving Park Avenue and 835 Dewey Avenue	BN-1	BN-1-5	2.5	TCL VOCs
Site 3 – 374 Driving Park Avenue	BN-2	BN-2-2	1.5	STARS/CP-51 Volatiles
				STARS/CP-51 Semivolatiles

Table 1: Soil Sample Summary

Site	Boring No.	Sample No.	Depth of Sample (feet)	Analysis
Site 4 & 5 – 304 & 342 Driving Park Avenue	BN-13	BN-13-1	10	TCL VOCs
	BN-16	BN-16-3	2.5	STARS/CP-51 Volatiles
				STARS/CP-51 Semivolatiles
	BN-17	BN-17-4	2.5	STARS/CP-51 Volatiles
				STARS/CP-51 Semi- volatiles

3.2 SUBSURFACE GROUNDWATER INVESTIGATION

3.2.1 Installation of Groundwater Monitoring Wells

Groundwater was encountered during the boring installation process at Site 4 & 5 therefore, a 1-inch groundwater monitoring well was installed in order to investigate potential groundwater contamination.

The well within Site 4 & 5 was installed using a Geoprobe® Direct Push rig. The well installed by this unit consisted of 1-inch Schedule 40 PVC pipe with 10-foot screen sections (0.020 inch slot) and sand packing. A 4-inch flush mount roadway box set in concrete was installed over the well head.

3.2.2 Well Development and Sampling

After installation of the monitoring well, the well was left to stabilize. The well was then developed and sampled in accordance with NYSDEC protocol. The Groundwater sample was analyzed for the following parameters:

- Volatile Organic Compounds (VOCs), USEPA Method 8260, TCL; and
- Semi-Volatile Organic Compounds (SVOCs), USEPA Method 8270, CP-51 STARS List.

4.0 FINDINGS:

The following provides a summary of the findings of this Detailed Site Investigation.

4.1 Subsurface Soil Investigation

4.1.1 Soil Boring Installation and Screening:

As shown on the boring logs, soil encountered during this investigation consisted primarily of silts and clays with varying amounts of sand and clay. Fill material was present in some of the borings. The fill often included an ash like material. Groundwater was encountered in soil borings BN-14, BN-16, and BN-18.

Volatile organic vapors were detected in borings BN-1, BN-13, BN-16, and BN-17 at levels ranging from 0.5 to 19 part per million (ppm). In addition to the elevated PID readings, the soils from boring BN-16, and BN-17 had a petroleum-like odor. Odors from BN-13 and BN-15 were faint and did not exhibit characteristics such as “petroleum”, “gasoline” or “#2 fuel oil”. No volatile organic vapors above 0.2 ppm were detected in the other soil borings. Black and gray soil staining was observed in borings BN-1, BN-13, BN-14, BN-15, BN-16 and BN-17. As noted on the boring logs, the staining appeared to be at a depth of greater than 2 feet.

Based on the organic vapors detected in borings BN-13, BN-16, and BN-17 soil samples were retained for laboratory analysis. Based on the presence of soil staining, organic vapors detected, and ashy fill material, a sample from boring BN-1 was also retained for laboratory analysis. An additional soil sample was obtained from BN-2 in an attempt to characterize the ash like fill material.

Table 2 provides a summary of the data collected during the installation of the soil borings.

Table 2: Soil Boring Summary

Soil Boring No.	Site number	Total Depth (feet)	Sample Depth ¹ (feet)	Range of PID Readings (ppm)
BN-1	2	4	2	0 – 0.5
BN-2	3	4	1.5	0
BN-3	2	4	Not Sampled	0
BN-4		4	Not Sampled	0
BN-5		4	Not Sampled	0
BN-6	7	4	Not Sampled	0
BN-7		4	Not Sampled	0
BN-8	9	4	Not Sampled	0
BN-9	8 & 12	4	Not Sampled	0
BN-10		4	Not Sampled	0

Table 2: Soil Boring Summary

Soil Boring No.	Site number	Total Depth (feet)	Sample Depth ¹ (feet)	Range of PID Readings (ppm)
BN-11		4	Not Sampled	0
BN-12	4 & 5	11.9	Not Sampled	0
BN-13		10.8	10	0 – 1.0
BN-14		9.7	Not Sampled	0
BN-15		10	Not Sampled	0
BN-16		11	2.5	0 – 0.5
BN-17		11	2.5	0 – 19.0 ²
BN-18		10.8	Not Sampled	0

¹ Sample depth refers to the depth at which a sample was retained for laboratory analysis.

² Denotes a maximum PID reading.

4.1.2 Analytical Results

The laboratory results of the analysis conducted on the soils is provided in Attachment C. A summary is provided below.

Semi-Volatile Organic Compounds (SVOCs)

As presented in Table 3, the SVOCs anthracene, benzo (a) anthracene, benzo (a) pyrene, benzo (b) fluoranthene, benzo (g,h,i) perylene, benzo (k) fluoranthene, chrysene, fluoranthene, indeno (1,2,3-cd) pyrene, phenanthrene, and pyrene were detected in the soil sample obtained from boring BN-16. These SVOCs were also detected in the soil sample obtained from boring BN-17, in addition to acenaphthene and fluorene. SVOCs were not detected in the soil sample obtained from soil boring BN-2. As shown in Table 3, many of the SVOCs detected in BN-16 and BN-17 did exceed the soil cleanup objectives. These SVOCs are common constituents of many petroleum products including gasoline.

Table 3: Summary of SVOC Sampling Results

Sample Location	BN-16 (site 4 & 5)	BN-17 (site 4 & 5)	Unrestricted Use Soil Cleanup Objectives from 6 NYCRR part 675 - Table 375-6.8(a):	Restricted Use Commercial Soil Cleanup Objectives from 6 NYCRR part 675 - Table 375-6.8(b):
Compound	Results ¹	Results ¹		
Acenaphthene	ND ³	0.463	20	500
Anthracene	0.695	0.625	100	500
Benzo (a) anthracene	1.770²	1.130	1	5.6
Benzo (a) pyrene	1.440	0.892	1	1

Table 3: Summary of SVOC Sampling Results

Sample Location	BN-16 (site 4 & 5)	BN-17 (site 4 & 5)	Unrestricted Use Soil Cleanup Objectives from 6 NYCRR part 675 - Table 375-6.8(a):	Restricted Use Commercial Soil Cleanup Objectives from 6 NYCRR part 675 - Table 375-6.8(b):
Compound	Results ¹	Results ¹		
Benzo (b) fluoranthene	<u>1.270</u>	0.838	1	5.6
Benzo (g,h,i) perylene	0.752	0.530	100	500
Benzo (k) fluoranthene	<u>0.870</u>	0.610	0.8	56
Chrysene	<u>1.890</u>	<u>1.200</u>	1	56
Fluoranthene	3.160	2.420	100	500
Fluorene	ND	0.678	30	500
Indeno (1,2,3-cd) pyrene	<u>1.180</u>	<u>0.876</u>	0.5	5.6
Phenanthrene	1.410	3.140	100	500
Pyrene	3.440	2.370	100	500

¹All laboratory data are presented in parts per million (mg/kg)

²Bold and underlined results exceed the soil cleanup objectives.

³ND denotes a non-detect based on laboratory analysis.

Volatile Organic Compounds (VOCs)

As presented in Table 4, VOCs were detected in the soil sample obtained from boring BN-17. VOCs were not detected in soils samples obtained from borings BN-2 and BN-16. As shown below, the 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, ethylbenzene, isopropylbenzene, naphthalene, n-butylbenzene, n-propylbenzene, p-isopropyltoluene, and sec-butylbenzene in the soil sample taken from BN-17 do not exceed the unrestricted soil cleanup objectives.

Table 4: Summary of VOC Sampling Results

Sample Location	BN-17 (site 4 & 5)	Unrestricted Use Soil Cleanup Objectives ³ from 6 NYCRR part 675 - Table 375-6.8(a):	Restricted Use Commercial Soil Cleanup Objectives ³ from 6 NYCRR part 675 - Table 375-6.8(b):
Compound	Results ¹		
1,2,4 - Trimethylbenzene	0.037	3.6	190
1,3,5 - Trimethylbenzene	0.022	8.4	190
Ethylbenzene	0.009	1	390
Isopropylbenzene	0.016	2.3 ²	N/A ³
Naphthalene	0.081	12	500
n-Butylbenzene	0.060	12	500
n - Propylbenzene	0.039	3.9	500

Table 4: Summary of VOC Sampling Results

Sample Location	BN-17 (site 4 & 5)	Unrestricted Use Soil Cleanup Objectives ³ from 6 NYCRR part 675 - Table 375-6.8(a):	Restricted Use Commercial Soil Cleanup Objectives ³ from 6 NYCRR part 675 - Table 375-6.8(b):
Compound	Results ¹		
p-Isopropyltoluene	0.012	10 ²	N/A
sec-Butylbenzene	0.081	11	500

¹ All laboratory data are presented in parts per million (mg/kg)

² Includes NYSDEC CP-51 soil cleanup levels for gasoline contaminated soils.

³ N/A denotes not applicable/guidance level not provided by NYSDEC.

Total (Halogenated) VOCs

As presented in Table 5, Halogenated VOCs were detected in the soil samples obtained from borings BN-13 and BN-1. Acetone and tetrachloroethene levels in the samples from BN-13 and BN-1 do not exceed soil cleanup objectives.

Table 5: Summary of TCL VOCs Sampling Results

Sample Location	BN-13 (site 4&5)	BN-1 (site 2)	Unrestricted Use Soil Cleanup Objectives from 6 NYCRR part 675 - Table 375-6.8(b):	Restricted Use Commercial Soil Cleanup Objectives from 6 NYCRR part 675 - Table 375-6.8(b):
Analyte	Results ¹			
Acetone	0.070	0.064	100	500
Tetrachloroethene	0.012	ND	5.5	150

¹ All laboratory data are presented in parts per million (mg/kg)

4.2 Groundwater Monitoring Well

4.2.1 Groundwater Monitoring Results:

One groundwater monitoring well (MW-1) was installed at BN-16 within Site 4 & 5. One sample was collected from MW-1 and submitted to Paradigm for Semi Volatile Organics analysis (EPA method 8270) and Volatile Organics Analysis (EPA method 8260) and Target Compound List Volatile Organic Compounds (EPA method 8260) . Results from Paradigm indicate that no VOCs or SVOCs were detected in the groundwater sampled from MW-1.

5.0 Summary and Conclusions:

5.1 Subsurface Soil Investigation

VOCs

The subsurface soil investigation identified petroleum contamination within Site 4 & 5, the parking lot for the *Family Dollar*. However, volatile organic compounds detected in the soils from BN-17 do not exceed the NYSDEC Unrestricted Use Soil Cleanup Objectives. Although the recommended cleanup values for residential properties are not exceeded, soil excavated from the site would require disposal because of “nuisance conditions” due to the presence of petroleum like odors as outlined in NYSDEC guidance’s.

SVOCs

SVOCs were detected in soil samples submitted for laboratory analysis taken from BN-16 and BN-17 within Site 4&5, the parking lot for the *Family Dollar*. Indeno (1,2,3-cd) pyrene, benzo (k) fluoranthene, chrysene, benzo (a) anthracene, benzo (a) pyrene, and benzo (b) fluoranthene exceeded the NYSDEC Unrestricted Use Soil Cleanup Objectives. The source of contamination could not be determined from this investigation. However, the SVOC contamination is likely associated with the previous structures located at site 4&5. Soil staining and odors similar to the soils sampled from BN-16 and BN-17 were exhibited in soil borings BN-13, BN-14 and BN-15 at similar depths. These odors were faint in nature, and did not exhibit characteristics similar to “gasoline” or #2 fuel oil. Therefore, the assumed extent of SVOC contamination is shown on Figure 3.

Total (Halogenated) VOCs

The subsurface investigation identified Halogenated VOC contamination in BN-13 and BN-1 within Site 4 & 5 and within the right of way of site 2. However, none of the halogenated VOC results exceeded the NYSDEC Unrestricted Use Soil Cleanup Objectives.

5.2 Groundwater Investigation

VOCs

The groundwater sampled from MW-1 did not contain any VOCs per laboratory results.

SVOCs

The groundwater sampled from MW-1 did not contain any SVOCs per laboratory results.

6.0 Recommendations:

Based on the findings of this DSI the following is recommended:

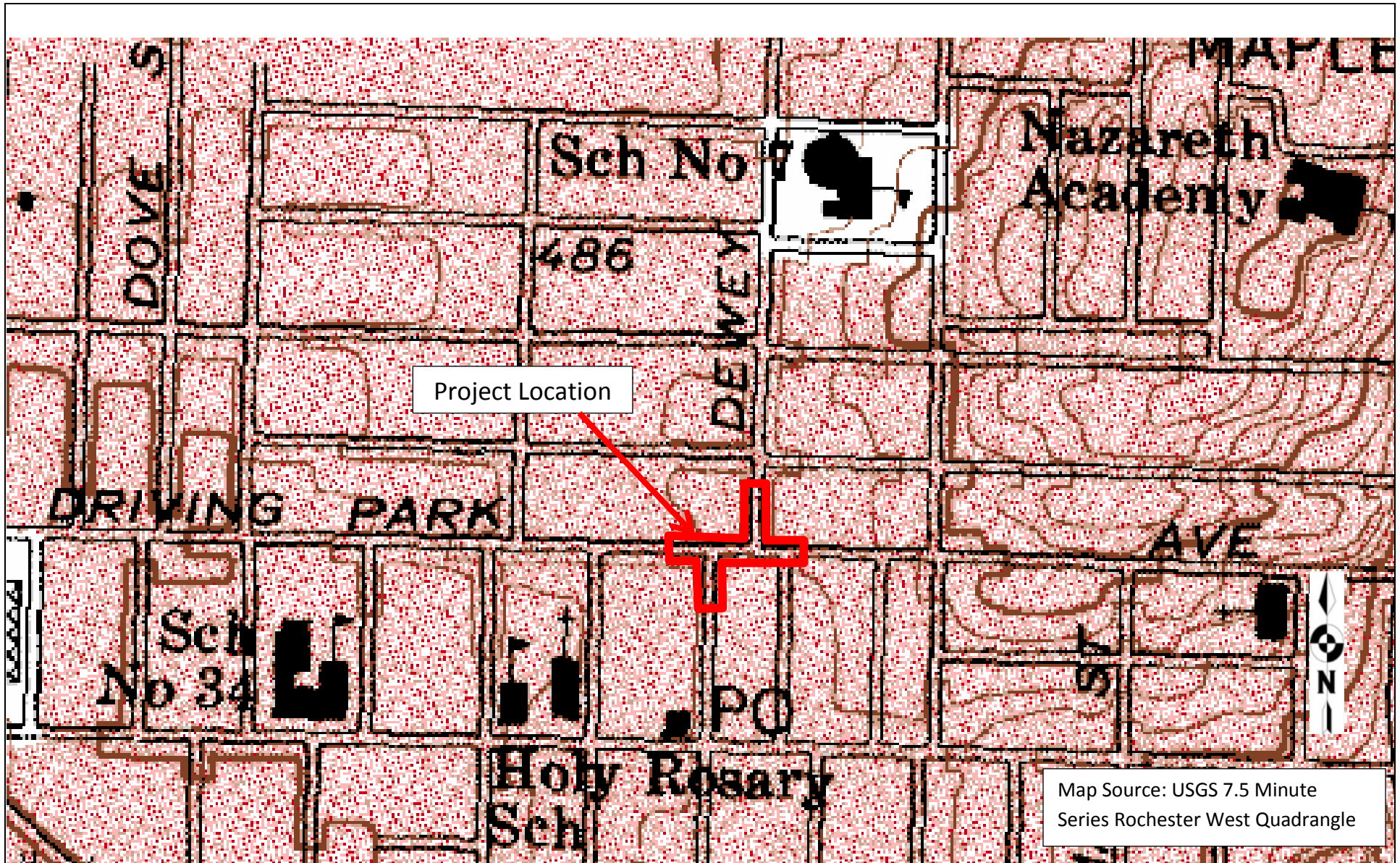
1. The results of this DSI should be given to the NYSDEC for their review and consideration.
2. A specification should be added to the construction documents for the removal and disposal of underground storage tanks (USTs) at Site 8 & 12 (320 Driving Park Avenue and 854 Dewey Avenue). Payment for the UST removal should be a line item per tank fee based on an assumed size, to be utilized only if UST(s) are encountered.
3. A specification should be added to the construction documents for screening, segregating, sampling, and disposal of petroleum contaminated soil. A special note should be added to the plans identifying the area where the petroleum contamination may be encountered (see Figure 3). A soil management plan should be developed that includes onsite monitoring during construction in accordance with NYSDOT Standard Specification Section 205, Contaminated Soil.
4. If the store at Site 4 & 5 will be removed, the soil beneath the structure should be either assumed to be petroleum contaminated and handled in accordance with recommendation 3, or sampled to determine if contamination is present.


Attachments

Attachment A

Figures

- Figure 1: Project Location Map
- Figure 2: Boring Locations & Location of Sites
- Figure 3: Areas of Concern



 2110 SOUTH CLINTON AVENUE, SUITE 1 ROCHESTER, NEW YORK 14618 TL: (585) 223-3660 FX (585) 223-4250	DEWEY AND DRIVING PARK RELIGNMENT PROJECT, CITY OF ROCHESTER, MONROE COUNTY, NEW YORK PIN 4755.55		PROJECT NO. 40-14-035	DATE: MARCH 2016
	FIGURE 1: PROJECT LOCATION MAP		SCALE: N.T.S.	DRAWING NO: 1



DEWEY AND DRIVING PARK RELIGNMENT PROJECT, CITY OF ROCHESTER,
MONROE COUNTY, NEW YORK PIN 4755.55

PROJECT NO.
40-14-035

DATE:
MARCH 2016


FIGURE 2: BORING LOCATIONS & LOCATION OF SITES


SCALE:
N.T.S.


DRAWING NO:
2


Attachment B


Boring Logs

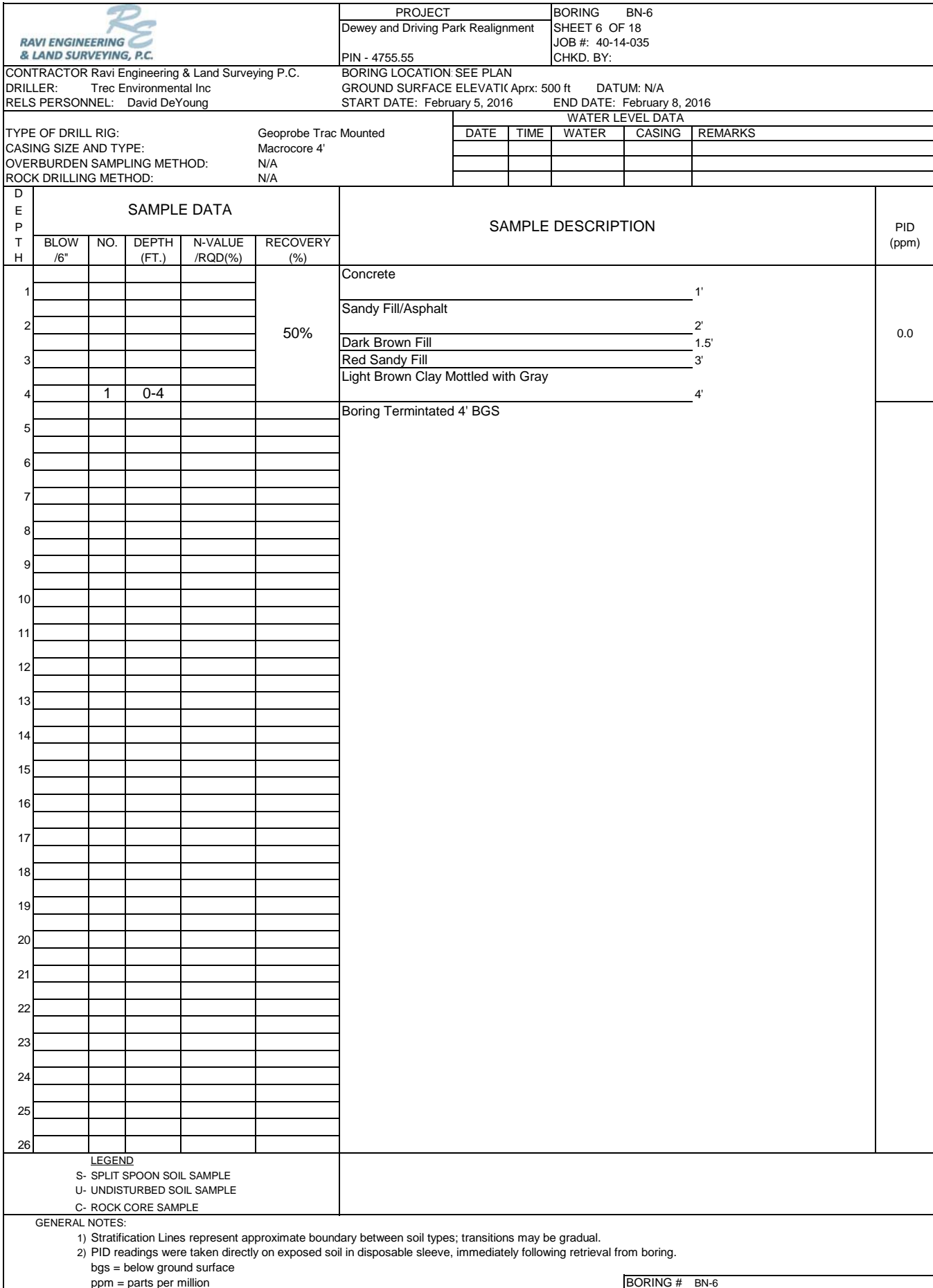
		PROJECT		BORING BN-1			
		Dewey and Driving Park Realignment		SHEET 1 OF 18			
		PIN - 4755.55		JOB #: 40-14-035			
				CHKD. BY:			
CONTRACTOR Ravi Engineering & Land Surveying P.C.		BORING LOCATION: SEE PLAN					
DRILLER: Trec Environmental Inc		GROUND SURFACE ELEVATION: 500 ft DATUM: N/A					
RELS PERSONNEL: David DeYoung		START DATE: February 5, 2016 END DATE: February 8, 2016					
TYPE OF DRILL RIG: Geoprobe Trac Mounted		WATER LEVEL DATA					
CASING SIZE AND TYPE: Macrocore 4'		DATE	TIME	WATER	CASING		
OVERBURDEN SAMPLING METHOD: N/A					REMARKS		
ROCK DRILLING METHOD: N/N							
DEPTH	SAMPLE DATA					SAMPLE DESCRIPTION	PID (ppm)
	BLOW /6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (%)		
1					50%	Asphalt	0.0
2						Dark Sandy Fill Material	
3						Dark Stained Clay Sample # BN-1-5	0.5
4	1	0-4				Light Brown Silty Clay mottled with Gray	0.0
5						Boring Terminated at 4' BGS	
6							
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LEGEND S- SPLIT SPOON SOIL SAMPLE U- UNDISTURBED SOIL SAMPLE C- ROCK CORE SAMPLE							
GENERAL NOTES: 1) Stratification Lines represent approximate boundary between soil types; transitions may be gradual. 2) PID readings were taken directly on exposed soil in disposable sleeve, immediately following retrieval from boring. bgs = below ground surface ppm = parts per million							
BORING # BN-1							


		PROJECT		BORING BN-2			
		Dewey and Driving Park Realignment		SHEET 2 OF 18			
		PIN - 4755.55		JOB #: 40-14-035			
				CHKD. BY:			
CONTRACTOR Ravi Engineering & Land Surveying P.C.		BORING LOCATION: SEE PLAN					
DRILLER: Trec Environmental Inc		GROUND SURFACE ELEVATION: Aprx: 500 ft DATUM: N/A					
RELS PERSONNEL: David DeYoung		START DATE: February 5, 2016 END DATE: February 8, 2016					
TYPE OF DRILL RIG: Geoprobe Trac Mounted		WATER LEVEL DATA					
CASING SIZE AND TYPE: Macrocore 4'		DATE	TIME	WATER	CASING		
OVERBURDEN SAMPLING METHOD: N/A					REMARKS		
ROCK DRILLING METHOD: N/A							
DEPTH	SAMPLE DATA					SAMPLE DESCRIPTION	PID (ppm)
	BLOW /6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (%)		
1						Organic Loam	0.0
2						Ash Fill Material Sample # BN-2-2	
3						Light Brown Clay mottled with Gray	
4	1	0-4					
5						Boring Terminated 4' BGS	
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
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21							
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23							
24							
25							
26							
LEGEND S- SPLIT SPOON SOIL SAMPLE U- UNDISTURBED SOIL SAMPLE C- ROCK CORE SAMPLE							
GENERAL NOTES: 1) Stratification Lines represent approximate boundary between soil types; transitions may be gradual. 2) PID readings were taken directly on exposed soil in disposable sleeve, immediately following retrieval from boring. bgs = below ground surface ppm = parts per million							
BORING # BN-2							


		PROJECT		BORING BN-3			
		Dewey and Driving Park Realignment		SHEET 3 OF 18			
		PIN - 4755.55		JOB #: 40-14-035			
CONTRACTOR Ravi Engineering & Land Surveying P.C.		BORING LOCATION: SEE PLAN					
DRILLER: Trec Environmental Inc		GROUND SURFACE ELEVATION: Aprx: 500 ft		DATUM: N/A			
RELS PERSONNEL: David DeYoung		START DATE: February 5, 2016		END DATE: February 8, 2016			
TYPE OF DRILL RIG:		Geoprobe Trac Mounted		WATER LEVEL DATA			
CASING SIZE AND TYPE:		Macrocore 4'		DATE	TIME		
OVERBURDEN SAMPLING METHOD:		N/A		WATER	CASING		
ROCK DRILLING METHOD:		N/A		REMARKS			
DEPTH	SAMPLE DATA					SAMPLE DESCRIPTION	PID (ppm)
	BLOW /6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (%)		
1					70%	Asphalt/Concrete	0.0
						Yellowish Light Colored Fill	
2						Dark Brown Sandy Fill	
						Light Colored Clayey Fill	
3						Rock	
4	1		0-4			Boring terminated 4' BGS	
5							
6							
7							
8							
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LEGEND S- SPLIT SPOON SOIL SAMPLE U- UNDISTURBED SOIL SAMPLE C- ROCK CORE SAMPLE							
GENERAL NOTES: 1) Stratification Lines represent approximate boundary between soil types; transitions may be gradual. 2) PID readings were taken directly on exposed soil in disposable sleeve, immediately following retrieval from boring. bgs = below ground surface ppm = parts per million							
						BORING # BN-3	


		PROJECT		BORING BN-4			
		Dewey and Driving Park Realignment		SHEET 4 OF 18			
		PIN - 4755.55		JOB #: 40-14-035			
				CHKD. BY:			
CONTRACTOR Ravi Engineering & Land Surveying P.C.		BORING LOCATION: SEE PLAN					
DRILLER: Trec Environmental Inc		GROUND SURFACE ELEVATION: Aprx: 500 ft DATUM: N/A					
RELS PERSONNEL: David DeYoung		START DATE: February 5, 2016 END DATE: February 8, 2016					
TYPE OF DRILL RIG:		Geoprobe Trac Mounted		WATER LEVEL DATA			
CASING SIZE AND TYPE:		Macrocore 4'		DATE	TIME		
OVERBURDEN SAMPLING METHOD:		N/A		WATER	CASING		
ROCK DRILLING METHOD:		N/A		REMARKS			
DEPTH	SAMPLE DATA					SAMPLE DESCRIPTION	PID (ppm)
	BLOW /6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (%)		
1						Concrete and Subbase	0.0
2					70%	Dark Brown Sandy Clay	
3						Light Brown Clay Mottled with Gray	
4		1	0-4			Boring Terminated at 4' BGS	
5							
6							
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LEGEND S- SPLIT SPOON SOIL SAMPLE U- UNDISTURBED SOIL SAMPLE C- ROCK CORE SAMPLE							
GENERAL NOTES: 1) Stratification Lines represent approximate boundary between soil types; transitions may be gradual. 2) PID readings were taken directly on exposed soil in disposable sleeve, immediately following retrieval from boring. bgs = below ground surface ppm = parts per million							
BORING # BN-4							


		PROJECT		BORING BN-5		
		Dewey and Driving Park Realignment		SHEET 5 OF 18		
		PIN - 4755.55		JOB #: 40-14-035		
				CHKD. BY:		
CONTRACTOR Ravi Engineering & Land Surveying P.C.		BORING LOCATION: SEE PLAN				
DRILLER: Trec Environmental Inc		GROUND SURFACE ELEVATION: Aprx: 500 ft DATUM: N/A				
RELS PERSONNEL: David DeYoung		START DATE: February 5, 2016 END DATE: February 8, 2016				
TYPE OF DRILL RIG:		Geoprobe Trac Mounted		WATER LEVEL DATA		
CASING SIZE AND TYPE:		Macrocore 4'		DATE	TIME	
OVERBURDEN SAMPLING METHOD:		N/A		WATER	CASING	
ROCK DRILLING METHOD:		N/A		REMARKS		
DEPTH	SAMPLE DATA					PID (ppm)
	BLOW /6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (%)	
1					Concrete and Subbase	0.0
2				60%	Gray/Brown Fill material and crusher run	
3					Light Brown Clay Mottled with Gray	
4	1	0-4			Boring Terminated 4' BGS	
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LEGEND S- SPLIT SPOON SOIL SAMPLE U- UNDISTURBED SOIL SAMPLE C- ROCK CORE SAMPLE						
GENERAL NOTES: 1) Stratification Lines represent approximate boundary between soil types; transitions may be gradual. 2) PID readings were taken directly on exposed soil in disposable sleeve, immediately following retrieval from boring. bgs = below ground surface ppm = parts per million						
BORING # BN-5						





		PROJECT		BORING BN-7			
		Dewey and Driving Park Realignment		SHEET 7 OF 18			
		PIN - 4755.55		JOB #: 40-14-035			
				CHKD. BY:			
CONTRACTOR Ravi Engineering & Land Surveying P.C.		BORING LOCATION: SEE PLAN					
DRILLER: Trec Environmental Inc		GROUND SURFACE ELEVATION: Aprx: 500 ft DATUM: N/A					
RELS PERSONNEL: David DeYoung		START DATE: February 5, 2016 END DATE: February 8, 2016					
TYPE OF DRILL RIG: Geoprobe Trac Mounted		WATER LEVEL DATA					
CASING SIZE AND TYPE: Macrocore 4'		DATE	TIME	WATER	CASING		
OVERBURDEN SAMPLING METHOD: N/A					REMARKS		
ROCK DRILLING METHOD: N/A							
DEPTH	SAMPLE DATA					SAMPLE DESCRIPTION	PID (ppm)
	BLOW /6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (%)		
1					80%	Asphalt	0.0
2						Brick	
3						Subbase/Concrete	
4		1	0-4			Light Brown Clay Mottled with Gray	
5						Boring Terminated 4' BGS	
6							
7							
8							
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LEGEND S- SPLIT SPOON SOIL SAMPLE U- UNDISTURBED SOIL SAMPLE C- ROCK CORE SAMPLE							
GENERAL NOTES: 1) Stratification Lines represent approximate boundary between soil types; transitions may be gradual. 2) PID readings were taken directly on exposed soil in disposable sleeve, immediately following retrieval from boring. bgs = below ground surface ppm = parts per million							
BORING # BN-7							


		PROJECT		BORING BN-8			
		Dewey and Driving Park Realignment		SHEET 8 OF 18			
		PIN - 4755.55		JOB #: 40-14-035			
				CHKD. BY:			
CONTRACTOR Ravi Engineering & Land Surveying P.C.		BORING LOCATION: SEE PLAN					
DRILLER: Trec Environmental Inc		GROUND SURFACE ELEVATION: Aprx: 500 ft DATUM: N/A					
RELS PERSONNEL: David DeYoung		START DATE: February 5, 2016 END DATE: February 8, 2016					
TYPE OF DRILL RIG:		Geoprobe Trac Mounted		WATER LEVEL DATA			
CASING SIZE AND TYPE:		Macrocore 4'		DATE TIME WATER CASING REMARKS			
OVERBURDEN SAMPLING METHOD:		N/A					
ROCK DRILLING METHOD:		N/A					
DEPTH	SAMPLE DATA					SAMPLE DESCRIPTION	PID (ppm)
	BLOW /6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (%)		
1						Asphalt/Concrete	0.0
2					50%	Dark Brown Moist Sandy Clay	
3							
4		1	0-4				
5						Boring Terminated 4' BGS	
6							
7							
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LEGEND S- SPLIT SPOON SOIL SAMPLE U- UNDISTURBED SOIL SAMPLE C- ROCK CORE SAMPLE							
GENERAL NOTES: 1) Stratification Lines represent approximate boundary between soil types; transitions may be gradual. 2) PID readings were taken directly on exposed soil in disposable sleeve, immediately following retrieval from boring. bgs = below ground surface ppm = parts per million							
BORING # BN-8							


		PROJECT		BORING BN-9			
		Dewey and Driving Park Realignment		SHEET 9 OF 18			
		PIN - 4755.55		JOB #: 40-14-035			
				CHKD. BY:			
CONTRACTOR Ravi Engineering & Land Surveying P.C.		BORING LOCATION: SEE PLAN					
DRILLER: Trec Environmental Inc		GROUND SURFACE ELEVATION: Aprx: 500 ft DATUM: N/A					
RELS PERSONNEL: David DeYoung		START DATE: February 5, 2016 END DATE: February 8, 2016					
TYPE OF DRILL RIG:		Geoprobe Trac Mounted		WATER LEVEL DATA			
CASING SIZE AND TYPE:		Macrocore 4'		DATE	TIME		
OVERBURDEN SAMPLING METHOD:		N/A		WATER	CASING		
ROCK DRILLING METHOD:		N/A		REMARKS			
DEPTH	SAMPLE DATA					SAMPLE DESCRIPTION	PID (ppm)
	BLOW /6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (%)		
1						Dark Brown Organic Loam	0.0
2					50%	1.5'	
3						Reddish Brown Silty Sand	
4	1	0-4				3'	
5						4'	
6							
7							
8							
9							
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LEGEND S- SPLIT SPOON SOIL SAMPLE U- UNDISTURBED SOIL SAMPLE C- ROCK CORE SAMPLE							
GENERAL NOTES: 1) Stratification Lines represent approximate boundary between soil types; transitions may be gradual. 2) PID readings were taken directly on exposed soil in disposable sleeve, immediately following retrieval from boring. bgs = below ground surface ppm = parts per million							
BORING # BN-9							


		PROJECT		BORING BN-10			
		Dewey and Driving Park Realignment		SHEET 10 OF 18			
		PIN - 4755.55		JOB #: 40-14-035			
				CHKD. BY:			
CONTRACTOR Ravi Engineering & Land Surveying P.C.		BORING LOCATION: SEE PLAN					
DRILLER: Trec Environmental Inc		GROUND SURFACE ELEVATION: Aprx: 500 ft DATUM: N/A					
RELS PERSONNEL: David DeYoung		START DATE: February 5, 2016 END DATE: February 8, 2016					
TYPE OF DRILL RIG:		Geoprobe Trac Mounted		WATER LEVEL DATA			
CASING SIZE AND TYPE:		Macrocore 4'		DATE	TIME		
OVERBURDEN SAMPLING METHOD:		N/A		WATER	CASING		
ROCK DRILLING METHOD:		N/A		REMARKS			
DEPTH	SAMPLE DATA					SAMPLE DESCRIPTION	PID (ppm)
	BLOW /6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (%)		
1						Dark Brown Organic Loam	0.0
2						1.5'	
3						Reddish Silty Sand	
4	1	0-4				4'	
5						Boring terminated 4' BGS	
6							
7							
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LEGEND S- SPLIT SPOON SOIL SAMPLE U- UNDISTURBED SOIL SAMPLE C- ROCK CORE SAMPLE							
GENERAL NOTES: 1) Stratification Lines represent approximate boundary between soil types; transitions may be gradual. 2) PID readings were taken directly on exposed soil in disposable sleeve, immediately following retrieval from boring. bgs = below ground surface ppm = parts per million							
BORING # BN-10							

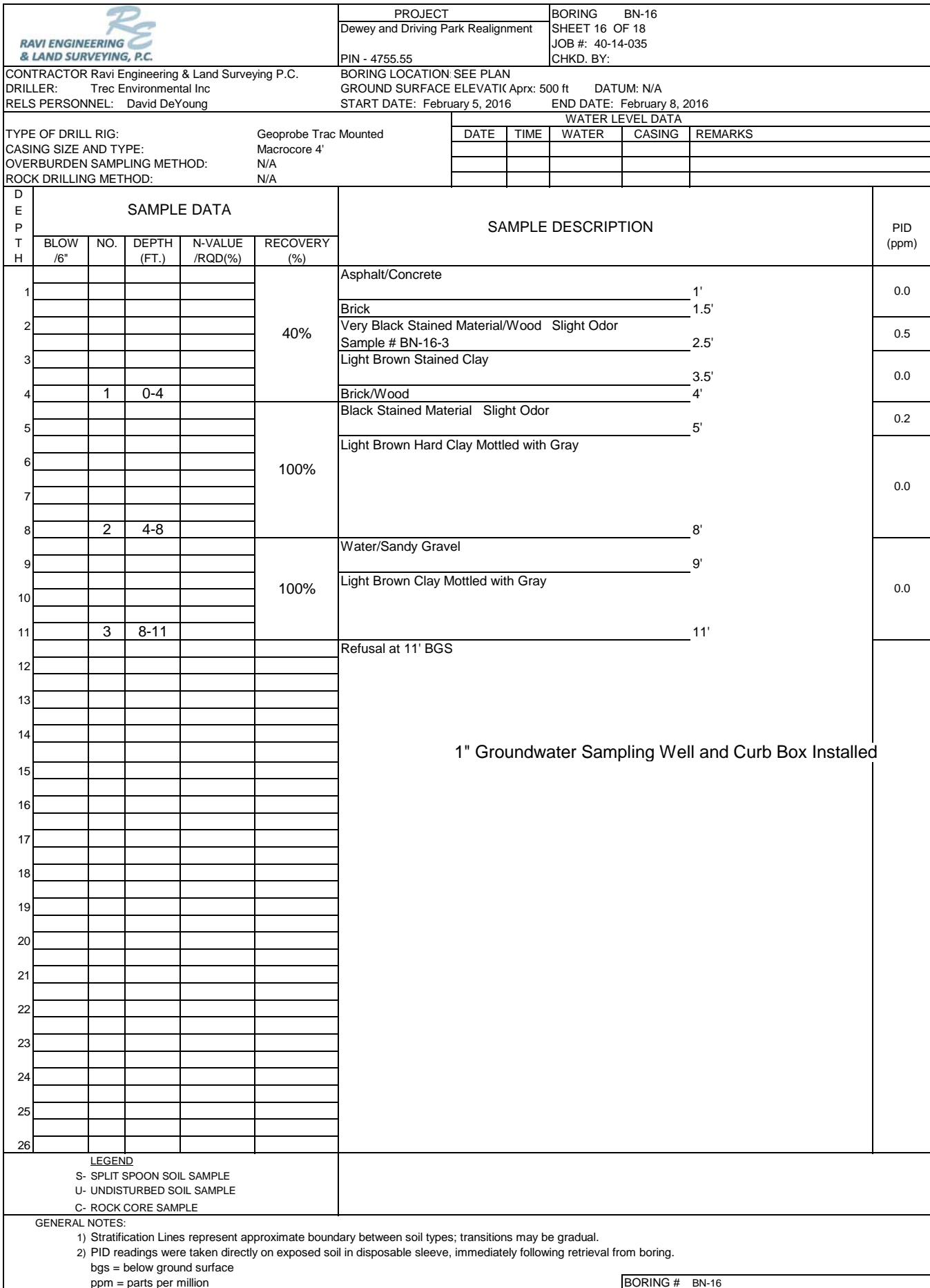
		PROJECT		BORING BN-11		
		Dewey and Driving Park Realignment		SHEET 11 OF 18		
		PIN - 4755.55		JOB #: 40-14-035		
				CHKD. BY:		
CONTRACTOR Ravi Engineering & Land Surveying P.C.		BORING LOCATION: SEE PLAN				
DRILLER: Trec Environmental Inc		GROUND SURFACE ELEVATION: Aprx: 500 ft DATUM: N/A				
RELS PERSONNEL: David DeYoung		START DATE: February 5, 2016 END DATE: February 8, 2016				
TYPE OF DRILL RIG: Geoprobe Trac Mounted		WATER LEVEL DATA				
CASING SIZE AND TYPE: Macrocore 4'		DATE	TIME	WATER	CASING	
OVERBURDEN SAMPLING METHOD: N/A					REMARKS	
ROCK DRILLING METHOD: N/A						
DEPTH	SAMPLE DATA					PID (ppm)
	BLOW /6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (%)	
1					Concrete and Subbase	0.0
2				50%	Dark Brown Silty Sand 1.5'	
3					Light Reddish Brown Silty Sand 3'	
4	1	0-4			Boring Terminated 4' BGS 4'	
5						
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LEGEND S- SPLIT SPOON SOIL SAMPLE U- UNDISTURBED SOIL SAMPLE C- ROCK CORE SAMPLE						
GENERAL NOTES: 1) Stratification Lines represent approximate boundary between soil types; transitions may be gradual. 2) PID readings were taken directly on exposed soil in disposable sleeve, immediately following retrieval from boring. bgs = below ground surface ppm = parts per million						
BORING # BN-11						


		PROJECT		BORING BN-12			
		Dewey and Driving Park Realignment		SHEET 12 OF 18			
		PIN - 4755.55		JOB #: 40-14-035			
CONTRACTOR Ravi Engineering & Land Surveying P.C.		BORING LOCATION: SEE PLAN					
DRILLER: Trec Environmental Inc		GROUND SURFACE ELEVATION: Aprx: 500 ft		DATUM: N/A			
RELS PERSONNEL: David DeYoung		START DATE: February 5, 2016		END DATE: February 8, 2016			
TYPE OF DRILL RIG:		Geoprobe Trac Mounted		WATER LEVEL DATA			
CASING SIZE AND TYPE:		Macrocore 4'		DATE	TIME		
OVERBURDEN SAMPLING METHOD:		N/A		WATER	CASING		
ROCK DRILLING METHOD:		N/A		REMARKS			
DEPTH	SAMPLE DATA					PID (ppm)	
	BLOW /6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (%)		
1					50%	Organic Loamy Gravel 1.5' Reddish Sandy Clay Fill 2.5' Dark Brown Clay with Oxidized Capsules 4'	0.0
2							
3							
4		1	0-4				
5					100%	Reddish Sticky Clay 5.5' Light Brown Clay Mottled With Gray	0.0
6							
7							
8		2	4-8				
9					100%	Refusal at 11.9' BGS	0.0
10							
11							
12		3	8-11.9				
13							
14							
15							
16							
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26							
LEGEND S- SPLIT SPOON SOIL SAMPLE U- UNDISTURBED SOIL SAMPLE C- ROCK CORE SAMPLE							
GENERAL NOTES: 1) Stratification Lines represent approximate boundary between soil types; transitions may be gradual. 2) PID readings were taken directly on exposed soil in disposable sleeve, immediately following retrieval from boring. bgs = below ground surface ppm = parts per million							
BORING # BN-12							


 RAVI ENGINEERING & LAND SURVEYING, P.C.		PROJECT		BORING BN-13			
		Dewey and Driving Park Realignment		SHEET 13 OF 18			
		PIN - 4755.55		JOB #: 40-14-035			
CONTRACTOR Ravi Engineering & Land Surveying P.C.		BORING LOCATION: SEE PLAN					
DRILLER: Trec Environmental Inc		GROUND SURFACE ELEVATION: Aprx: 500 ft DATUM: N/A					
RELS PERSONNEL: David DeYoung		START DATE: February 5, 2016 END DATE: February 8, 2016					
TYPE OF DRILL RIG:		Geoprobe Trac Mounted		WATER LEVEL DATA			
CASING SIZE AND TYPE:		Macrocore 4'		DATE	TIME	REMARKS	
OVERBURDEN SAMPLING METHOD:		N/A					
ROCK DRILLING METHOD:		N/A					
DEPTH	SAMPLE DATA					SAMPLE DESCRIPTION	PID (ppm)
	BLOW /6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (%)		
1					60%	Organic Loam 0.5'	0.0
2						Fill Material - Mixed Sand 1.5'	
3						Light Brown Clay Mottled with Gray 2.5'	
4		1	0-4			Gray Stained Clay - Slight Petroleum Odor 4'	
5						Chunk of Brick 4.5'	0.0
6						Gray Stained Clay - No Odor 5'	
7						Light Brown Clay Mottled with Gray 5.5'	
8		2	4-8			Light Brown Clay Mottled with Gray 6.5'	
9						Dark Brown Moist Sand 7.5'	0.0
10						Light Brown Hard Packed Clay 9.5'	
11		3	8-10.8			Stained Light Gray Hard Packed Clay 10.8'	
12						Sample # BN-13-1 10.8'	
13						Refusal at 10.8' BGS	
14							
15							
16							
17							
18							
19							
20							
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22							
23							
24							
25							
26							
LEGEND S- SPLIT SPOON SOIL SAMPLE U- UNDISTURBED SOIL SAMPLE C- ROCK CORE SAMPLE							
GENERAL NOTES: 1) Stratification Lines represent approximate boundary between soil types; transitions may be gradual. 2) PID readings were taken directly on exposed soil in disposable sleeve, immediately following retrieval from boring. bgs = below ground surface ppm = parts per million							
BORING # BN-13							

		PROJECT		BORING BN-14						
		Dewey and Driving Park Realignment		SHEET 14 OF 18						
		PIN - 4755.55		JOB #: 40-14-035						
CONTRACTOR Ravi Engineering & Land Surveying P.C.		BORING LOCATION: SEE PLAN								
DRILLER: Trec Environmental Inc		GROUND SURFACE ELEVATION: Aprx: 500 ft			DATUM: N/A					
RELS PERSONNEL: David DeYoung		START DATE: February 5, 2016			END DATE: February 8, 2016					
TYPE OF DRILL RIG: Geoprobe Trac Mounted CASING SIZE AND TYPE: Macrocore 4" OVERBURDEN SAMPLING METHOD: N/A ROCK DRILLING METHOD: N/A		WATER LEVEL DATA								
		DATE	TIME	WATER	CASING	REMARKS				
D E P T H	SAMPLE DATA					SAMPLE DESCRIPTION	PID (ppm)			
	BLOW /6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (%)					
	1				50%			Asphalt/Concrete Fill	0.0	
	2							2'		
	3							Light Brown Clay Mottled with Clay		
	4	1	0-4					Stained Clay - Slight Odor		
	5				100%			Light Brown Clay Mottled with Gray	0.0	
	6							4'		
	7							Blown In Asphalt		
	8	2	4-8					5'		
	9				100%			Light Brown Clay Mottled with Gray	0.0	
	10	3	8-9.7					8'		
	11							9'		
	12							Wet Sand mixed with Water		
	13							9.7'		
	14							Refusal at 9.7' BGS		
	15									
	16									
	17									
	18									
	19									
	20									
	21									
	22									
	23									
	24									
	25									
	26									
	LEGEND S- SPLIT SPOON SOIL SAMPLE U- UNDISTURBED SOIL SAMPLE C- ROCK CORE SAMPLE									
	GENERAL NOTES: 1) Stratification Lines represent approximate boundary between soil types; transitions may be gradual. 2) PID readings were taken directly on exposed soil in disposable sleeve, immediately following retrieval from boring. bgs = below ground surface ppm = parts per million									
	BORING # BN-14									

		PROJECT		BORING BN-15			
		Dewey and Driving Park Realignment		SHEET 15 OF 18			
		PIN - 4755.55		JOB #: 40-14-035			
CONTRACTOR Ravi Engineering & Land Surveying P.C.		BORING LOCATION: SEE PLAN		CHKD. BY:			
DRILLER: Trec Environmental Inc		GROUND SURFACE ELEVATION: Aprx: 500 ft		DATUM: N/A			
RELS PERSONNEL: David DeYoung		START DATE: February 5, 2016		END DATE: February 8, 2016			
TYPE OF DRILL RIG:		Geoprobe Trac Mounted		WATER LEVEL DATA			
CASING SIZE AND TYPE:		Macrocore 4'		DATE	TIME		
OVERBURDEN SAMPLING METHOD:		N/A		WATER	CASING		
ROCK DRILLING METHOD:		N/A		REMARKS			
DEPTH	SAMPLE DATA					SAMPLE DESCRIPTION	PID (ppm)
	BLOW /6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (%)		
1						Asphalt/Concrete/Brick	0.0
						1'	
2					80%	Light Brown Silty Clay	
						2'	
3						Dark Stained Clay - Light Odor	0.0
						3'	
4	1	0-4				Light Brown Silty Clay	
						4'	
5						Gray Stained clay	0.0
						5'	
6					100%	Light Brown Clay Mottled with Gray	
7							0.0
8	2	4-8					
9					100%	9'	
						Wet Sandy Clay	
10	3	8-10				10'	
						Refusal at 10' BGS	
11							
12							
13							
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LEGEND S- SPLIT SPOON SOIL SAMPLE U- UNDISTURBED SOIL SAMPLE C- ROCK CORE SAMPLE							
GENERAL NOTES: 1) Stratification Lines represent approximate boundary between soil types; transitions may be gradual. 2) PID readings were taken directly on exposed soil in disposable sleeve, immediately following retrieval from boring. bgs = below ground surface ppm = parts per million							
						BORING # BN-15	



		PROJECT		BORING BN-17		
		Dewey and Driving Park Realignment		SHEET 17 OF 18		
		PIN - 4755.55		JOB #: 40-14-035		
				CHKD. BY:		
CONTRACTOR Ravi Engineering & Land Surveying P.C.		BORING LOCATION: SEE PLAN				
DRILLER: Trec Environmental Inc		GROUND SURFACE ELEVATION: Aprx: 500 ft DATUM: N/A				
RELS PERSONNEL: David DeYoung		START DATE: February 5, 2016 END DATE: February 8, 2016				
TYPE OF DRILL RIG: Geoprobe Trac Mounted		WATER LEVEL DATA				
CASING SIZE AND TYPE: Macrocore 4'		DATE	TIME	WATER	CASING	
OVERBURDEN SAMPLING METHOD: N/A					REMARKS	
ROCK DRILLING METHOD: N/A						
DEPTH	SAMPLE DATA					PID (ppm)
	BLOW /6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (%)	
1					70%	Asphalt/Concrete 1'
2						Clay/Sandy fill 2'
3						Black Staining - Strong Gasoline Odor
4		1	0-4			Sample # BN-17-4 3.5'
5						Light Brown Clay Mottled With Gray 4'
6					100%	Black Staining - Gasoline Odor 4.5'
7						Light Brown Clay Mottled with Gray
8		2	4-8			
9						
10					100%	
11		3	8-11			11'
12						Refusal at 11' BGS
13						
14						
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LEGEND S- SPLIT SPOON SOIL SAMPLE U- UNDISTURBED SOIL SAMPLE C- ROCK CORE SAMPLE						
GENERAL NOTES: 1) Stratification Lines represent approximate boundary between soil types; transitions may be gradual. 2) PID readings were taken directly on exposed soil in disposable sleeve, immediately following retrieval from boring. bgs = below ground surface ppm = parts per million						
						BORING # BN-17

		PROJECT		BORING BN-18			
		Dewey and Driving Park Realignment		SHEET 18 OF 18			
		PIN - 4755.55		JOB #: 40-14-035			
CONTRACTOR Ravi Engineering & Land Surveying P.C.		BORING LOCATION: SEE PLAN					
DRILLER: Trec Environmental Inc		GROUND SURFACE ELEVATION: Aprx: 500 ft		DATUM: N/A			
RELS PERSONNEL: David DeYoung		START DATE: February 5, 2016		END DATE: February 8, 2016			
TYPE OF DRILL RIG:		Geoprobe Trac Mounted		WATER LEVEL DATA			
CASING SIZE AND TYPE:		Macrocore 4'		DATE	TIME		
OVERBURDEN SAMPLING METHOD:		N/A		WATER	CASING		
ROCK DRILLING METHOD:		N/A		REMARKS			
DEPTH	SAMPLE DATA					SAMPLE DESCRIPTION	PID (ppm)
	BLOW /6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (%)		
1					90%	Organic Loam 0.5'	0.0
2						Dark Brown Loamy Sand	
3						Reddish Brown Loamy Sand/Rock 2'	
4		1	0-4				0.0
5					100%	Light Brown Clay Mottled with Gray 4.5'	
6							
7							0.0
8							
9					100%	Gravelly Sand/Water 9'	
10						Light Brown Clay Mottled with gray 10'	0.0
11							
12						Refusal at 10.8' BGS	
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
LEGEND S- SPLIT SPOON SOIL SAMPLE U- UNDISTURBED SOIL SAMPLE C- ROCK CORE SAMPLE							
GENERAL NOTES: 1) Stratification Lines represent approximate boundary between soil types; transitions may be gradual. 2) PID readings were taken directly on exposed soil in disposable sleeve, immediately following retrieval from boring. bgs = below ground surface ppm = parts per million							
						BORING # BN-18	

Attachment C

Paradigm Analytical Report



PARADIGM
ENVIRONMENTAL SERVICES, INC.

Analytical Report For
Ravi Engineering & Land Surveying, P.C.

For Lab Project ID

160536

Referencing

Dewey & Driving Park 40-14-035

Prepared

Friday, February 12, 2016

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

A handwritten signature in black ink, appearing to read "K. Hansen", is written over a horizontal line. The signature is fluid and cursive.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

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Report Prepared Friday, February 12, 2016

Page 1 of 14

Lab Project ID: 160536
Client: **Ravi Engineering & Land Surveying, P.C.**
Project Reference: Dewey & Driving Park 40-14-035

Sample Identifier: BN-13-1

Lab Sample ID: 160536-01

Date Sampled: 2/5/2016

Matrix: Soil

Date Received: 2/5/2016

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 9.07	ug/Kg		2/8/2016 22:19
1,1,2,2-Tetrachloroethane	< 9.07	ug/Kg		2/8/2016 22:19
1,1,2-Trichloroethane	< 9.07	ug/Kg		2/8/2016 22:19
1,1-Dichloroethane	< 9.07	ug/Kg		2/8/2016 22:19
1,1-Dichloroethene	< 9.07	ug/Kg		2/8/2016 22:19
1,2,3-Trichlorobenzene	< 22.7	ug/Kg		2/8/2016 22:19
1,2,4-Trichlorobenzene	< 22.7	ug/Kg		2/8/2016 22:19
1,2-Dibromo-3-Chloropropane	< 45.3	ug/Kg		2/8/2016 22:19
1,2-Dibromoethane	< 9.07	ug/Kg		2/8/2016 22:19
1,2-Dichlorobenzene	< 9.07	ug/Kg		2/8/2016 22:19
1,2-Dichloroethane	< 9.07	ug/Kg		2/8/2016 22:19
1,2-Dichloropropane	< 9.07	ug/Kg		2/8/2016 22:19
1,3-Dichlorobenzene	< 9.07	ug/Kg		2/8/2016 22:19
1,4-Dichlorobenzene	< 9.07	ug/Kg		2/8/2016 22:19
1,4-dioxane	< 90.7	ug/Kg		2/8/2016 22:19
2-Butanone	< 45.3	ug/Kg		2/8/2016 22:19
2-Hexanone	< 22.7	ug/Kg		2/8/2016 22:19
4-Methyl-2-pentanone	< 22.7	ug/Kg		2/8/2016 22:19
Acetone	70.1	ug/Kg		2/8/2016 22:19
Benzene	< 9.07	ug/Kg		2/8/2016 22:19
Bromochloromethane	< 22.7	ug/Kg		2/8/2016 22:19
Bromodichloromethane	< 9.07	ug/Kg		2/8/2016 22:19
Bromoform	< 22.7	ug/Kg		2/8/2016 22:19
Bromomethane	< 9.07	ug/Kg		2/8/2016 22:19
Carbon disulfide	< 9.07	ug/Kg		2/8/2016 22:19
Carbon Tetrachloride	< 9.07	ug/Kg		2/8/2016 22:19
Chlorobenzene	< 9.07	ug/Kg		2/8/2016 22:19
Chloroethane	< 9.07	ug/Kg		2/8/2016 22:19
Chloroform	< 9.07	ug/Kg		2/8/2016 22:19

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.



Lab Project ID: 160536

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: Dewey & Driving Park 40-14-035

Sample Identifier:	BN-13-1		
Lab Sample ID:	160536-01	Date Sampled:	2/5/2016
Matrix:	Soil	Date Received:	2/5/2016
Chloromethane	< 9.07	ug/Kg	2/8/2016 22:19
cis-1,2-Dichloroethene	< 9.07	ug/Kg	2/8/2016 22:19
cis-1,3-Dichloropropene	< 9.07	ug/Kg	2/8/2016 22:19
Cyclohexane	< 45.3	ug/Kg	2/8/2016 22:19
Dibromochloromethane	< 9.07	ug/Kg	2/8/2016 22:19
Dichlorodifluoromethane	< 9.07	ug/Kg	2/8/2016 22:19
Ethylbenzene	< 9.07	ug/Kg	2/8/2016 22:19
Freon 113	< 9.07	ug/Kg	2/8/2016 22:19
Isopropylbenzene	< 9.07	ug/Kg	2/8/2016 22:19
m,p-Xylene	< 9.07	ug/Kg	2/8/2016 22:19
Methyl acetate	< 9.07	ug/Kg	2/8/2016 22:19
Methyl tert-butyl Ether	< 9.07	ug/Kg	2/8/2016 22:19
Methylcyclohexane	< 9.07	ug/Kg	2/8/2016 22:19
Methylene chloride	< 22.7	ug/Kg	2/8/2016 22:19
o-Xylene	< 9.07	ug/Kg	2/8/2016 22:19
Styrene	< 22.7	ug/Kg	2/8/2016 22:19
Tetrachloroethene	12.5	ug/Kg	2/8/2016 22:19
Toluene	< 9.07	ug/Kg	2/8/2016 22:19
trans-1,2-Dichloroethene	< 9.07	ug/Kg	2/8/2016 22:19
trans-1,3-Dichloropropene	< 9.07	ug/Kg	2/8/2016 22:19
Trichloroethene	< 9.07	ug/Kg	2/8/2016 22:19
Trichlorofluoromethane	< 9.07	ug/Kg	2/8/2016 22:19
Vinyl chloride	< 9.07	ug/Kg	2/8/2016 22:19



Lab Project ID: 160536

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: Dewey & Driving Park 40-14-035

Sample Identifier: BN-13-1

Lab Sample ID: 160536-01

Date Sampled: 2/5/2016

Matrix: Soil

Date Received: 2/5/2016

<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Limits</u>	<u>Outliers</u>	<u>Date Analyzed</u>	
1,2-Dichloroethane-d4	109	83 - 126		2/8/2016	22:19
4-Bromofluorobenzene	93.3	80.8 - 115		2/8/2016	22:19
Pentafluorobenzene	90.8	90.6 - 111		2/8/2016	22:19
Toluene-D8	102	89.2 - 109		2/8/2016	22:19

Method Reference(s): EPA 8260C

EPA 5035A

Data File: x29497.D

This sample was not collected following SW846 5035A specifications. Accordingly, any Volatiles soil results that are less than 200 ug/Kg, including Non Detects, may be biased low, per ELAP method 5035 guidance document from 11/15/2012.



Lab Project ID: 160536

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: Dewey & Driving Park 40-14-035

Sample Identifier: BN-2-2

Lab Sample ID: 160536-02

Date Sampled: 2/5/2016

Matrix: Soil

Date Received: 2/5/2016

Semi-Volatile Organics (PAHs)

Analyte	Result	Units	Qualifier	Date Analyzed
Acenaphthene	< 340	ug/Kg		2/11/2016 23:47
Acenaphthylene	< 340	ug/Kg		2/11/2016 23:47
Anthracene	< 340	ug/Kg		2/11/2016 23:47
Benzo (a) anthracene	< 340	ug/Kg		2/11/2016 23:47
Benzo (a) pyrene	< 340	ug/Kg		2/11/2016 23:47
Benzo (b) fluoranthene	< 340	ug/Kg		2/11/2016 23:47
Benzo (g,h,i) perylene	< 340	ug/Kg		2/11/2016 23:47
Benzo (k) fluoranthene	< 340	ug/Kg		2/11/2016 23:47
Chrysene	< 340	ug/Kg		2/11/2016 23:47
Dibenz (a,h) anthracene	< 340	ug/Kg		2/11/2016 23:47
Fluoranthene	< 340	ug/Kg		2/11/2016 23:47
Fluorene	< 340	ug/Kg		2/11/2016 23:47
Indeno (1,2,3-cd) pyrene	< 340	ug/Kg		2/11/2016 23:47
Naphthalene	< 340	ug/Kg		2/11/2016 23:47
Phenanthrene	< 340	ug/Kg		2/11/2016 23:47
Pyrene	< 340	ug/Kg		2/11/2016 23:47

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2-Fluorobiphenyl	67.3	22 - 96.1		2/11/2016 23:47
Nitrobenzene-d5	64.7	11.6 - 83.3		2/11/2016 23:47
Terphenyl-d14	83.4	60.4 - 114		2/11/2016 23:47

Method Reference(s): EPA 8270D

EPA 3550C

Preparation Date: 2/11/2016

Data File: B10145.D

Volatile Organics (Petroleum)

Analyte	Result	Units	Qualifier	Date Analyzed
1,2,4-Trimethylbenzene	< 8.66	ug/Kg		2/8/2016 22:43
1,3,5-Trimethylbenzene	< 8.66	ug/Kg		2/8/2016 22:43
Benzene	< 8.66	ug/Kg		2/8/2016 22:43

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Report Prepared Friday, February 12, 2016



Lab Project ID: 160536

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: Dewey & Driving Park 40-14-035

Sample Identifier: BN-2-2

Lab Sample ID: 160536-02

Date Sampled: 2/5/2016

Matrix: Soil

Date Received: 2/5/2016

Ethylbenzene	< 8.66	ug/Kg	2/8/2016 22:43
Isopropylbenzene	< 8.66	ug/Kg	2/8/2016 22:43
m,p-Xylene	< 8.66	ug/Kg	2/8/2016 22:43
Methyl tert-butyl Ether	< 8.66	ug/Kg	2/8/2016 22:43
Naphthalene	< 21.6	ug/Kg	2/8/2016 22:43
n-Butylbenzene	< 8.66	ug/Kg	2/8/2016 22:43
n-Propylbenzene	< 8.66	ug/Kg	2/8/2016 22:43
o-Xylene	< 8.66	ug/Kg	2/8/2016 22:43
p-Isopropyltoluene	< 8.66	ug/Kg	2/8/2016 22:43
sec-Butylbenzene	< 8.66	ug/Kg	2/8/2016 22:43
tert-Butylbenzene	< 8.66	ug/Kg	2/8/2016 22:43
Toluene	< 8.66	ug/Kg	2/8/2016 22:43

<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Limits</u>	<u>Outliers</u>	<u>Date Analyzed</u>
1,2-Dichloroethane-d4	109	83 - 126		2/8/2016 22:43
4-Bromofluorobenzene	87.4	80.8 - 115		2/8/2016 22:43
Pentafluorobenzene	94.3	90.6 - 111		2/8/2016 22:43
Toluene-D8	97.1	89.2 - 109		2/8/2016 22:43

Method Reference(s): EPA 8260C

EPA 5035A

Data File: x29498.D

This sample was not collected following SW846 5035A specifications. Accordingly, any Volatiles soil results that are less than 200 ug/Kg, including Non Detects, may be biased low, per ELAP method 5035 guidance document from 11/15/2012.



Lab Project ID: 160536

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: Dewey & Driving Park 40-14-035

Sample Identifier: BN-16-3

Lab Sample ID: 160536-03

Date Sampled: 2/5/2016

Matrix: Soil

Date Received: 2/5/2016

Semi-Volatile Organics (PAHs)

Analyte	Result	Units	Qualifier	Date Analyzed
Acenaphthene	< 341	ug/Kg		2/12/2016 00:15
Acenaphthylene	< 341	ug/Kg		2/12/2016 00:15
Anthracene	695	ug/Kg		2/12/2016 00:15
Benzo (a) anthracene	1770	ug/Kg		2/12/2016 00:15
Benzo (a) pyrene	1440	ug/Kg		2/12/2016 00:15
Benzo (b) fluoranthene	1270	ug/Kg		2/12/2016 00:15
Benzo (g,h,i) perylene	752	ug/Kg		2/12/2016 00:15
Benzo (k) fluoranthene	870	ug/Kg		2/12/2016 00:15
Chrysene	1890	ug/Kg		2/12/2016 00:15
Dibenz (a,h) anthracene	< 341	ug/Kg		2/12/2016 00:15
Fluoranthene	3160	ug/Kg		2/12/2016 00:15
Fluorene	< 341	ug/Kg		2/12/2016 00:15
Indeno (1,2,3-cd) pyrene	1180	ug/Kg		2/12/2016 00:15
Naphthalene	< 341	ug/Kg		2/12/2016 00:15
Phenanthrene	1410	ug/Kg		2/12/2016 00:15
Pyrene	3440	ug/Kg		2/12/2016 00:15

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2-Fluorobiphenyl	65.6	22 - 96.1		2/12/2016 00:15
Nitrobenzene-d5	62.8	11.6 - 83.3		2/12/2016 00:15
Terphenyl-d14	65.6	60.4 - 114		2/12/2016 00:15

Method Reference(s): EPA 8270D

EPA 3550C

Preparation Date: 2/11/2016

Data File: B10146.D

Volatile Organics (Petroleum)

Analyte	Result	Units	Qualifier	Date Analyzed
1,2,4-Trimethylbenzene	< 7.55	ug/Kg		2/8/2016 23:07
1,3,5-Trimethylbenzene	< 7.55	ug/Kg		2/8/2016 23:07
Benzene	< 7.55	ug/Kg		2/8/2016 23:07

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Report Prepared Friday, February 12, 2016



Lab Project ID: 160536

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: Dewey & Driving Park 40-14-035

Sample Identifier: BN-16-3

Lab Sample ID: 160536-03

Date Sampled: 2/5/2016

Matrix: Soil

Date Received: 2/5/2016

Ethylbenzene	< 7.55	ug/Kg	2/8/2016	23:07
Isopropylbenzene	< 7.55	ug/Kg	2/8/2016	23:07
m,p-Xylene	< 7.55	ug/Kg	2/8/2016	23:07
Methyl tert-butyl Ether	< 7.55	ug/Kg	2/8/2016	23:07
Naphthalene	< 18.9	ug/Kg	2/8/2016	23:07
n-Butylbenzene	< 7.55	ug/Kg	2/8/2016	23:07
n-Propylbenzene	< 7.55	ug/Kg	2/8/2016	23:07
o-Xylene	< 7.55	ug/Kg	2/8/2016	23:07
p-Isopropyltoluene	< 7.55	ug/Kg	2/8/2016	23:07
sec-Butylbenzene	< 7.55	ug/Kg	2/8/2016	23:07
tert-Butylbenzene	< 7.55	ug/Kg	2/8/2016	23:07
Toluene	< 7.55	ug/Kg	2/8/2016	23:07

<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Limits</u>	<u>Outliers</u>	<u>Date Analyzed</u>
1,2-Dichloroethane-d4	112	83 - 126		2/8/2016 23:07
4-Bromofluorobenzene	97.0	80.8 - 115		2/8/2016 23:07
Pentafluorobenzene	93.1	90.6 - 111		2/8/2016 23:07
Toluene-D8	103	89.2 - 109		2/8/2016 23:07

Method Reference(s): EPA 8260C

EPA 5035A

Data File: x29499.D

This sample was not collected following SW846 5035A specifications. Accordingly, any Volatiles soil results that are less than 200 ug/Kg, including Non Detects, may be biased low, per ELAP method 5035 guidance document from 11/15/2012.



Lab Project ID: 160536

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: Dewey & Driving Park 40-14-035

Sample Identifier: BN-17-4

Lab Sample ID: 160536-04

Date Sampled: 2/5/2016

Matrix: Soil

Date Received: 2/5/2016

Semi-Volatile Organics (PAHs)

Analyte	Result	Units	Qualifier	Date Analyzed
Acenaphthene	463	ug/Kg		2/12/2016 00:44
Acenaphthylene	< 341	ug/Kg		2/12/2016 00:44
Anthracene	625	ug/Kg		2/12/2016 00:44
Benzo (a) anthracene	1130	ug/Kg		2/12/2016 00:44
Benzo (a) pyrene	892	ug/Kg		2/12/2016 00:44
Benzo (b) fluoranthene	838	ug/Kg		2/12/2016 00:44
Benzo (g,h,i) perylene	530	ug/Kg		2/12/2016 00:44
Benzo (k) fluoranthene	610	ug/Kg		2/12/2016 00:44
Chrysene	1200	ug/Kg		2/12/2016 00:44
Dibenz (a,h) anthracene	< 341	ug/Kg		2/12/2016 00:44
Fluoranthene	2420	ug/Kg		2/12/2016 00:44
Fluorene	678	ug/Kg		2/12/2016 00:44
Indeno (1,2,3-cd) pyrene	876	ug/Kg		2/12/2016 00:44
Naphthalene	< 341	ug/Kg		2/12/2016 00:44
Phenanthrene	3140	ug/Kg		2/12/2016 00:44
Pyrene	2370	ug/Kg		2/12/2016 00:44

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2-Fluorobiphenyl	71.4	22 - 96.1		2/12/2016 00:44
Nitrobenzene-d5	56.1	11.6 - 83.3		2/12/2016 00:44
Terphenyl-d14	75.9	60.4 - 114		2/12/2016 00:44

Method Reference(s): EPA 8270D

EPA 3550C

Preparation Date: 2/11/2016

Data File: B10147.D

Volatile Organics (Petroleum)

Analyte	Result	Units	Qualifier	Date Analyzed
1,2,4-Trimethylbenzene	37.1	ug/Kg		2/8/2016 23:31
1,3,5-Trimethylbenzene	22.3	ug/Kg		2/8/2016 23:31
Benzene	< 7.49	ug/Kg		2/8/2016 23:31

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Report Prepared Friday, February 12, 2016



Lab Project ID: 160536

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: Dewey & Driving Park 40-14-035

Sample Identifier:	BN-17-4			
Lab Sample ID:	160536-04		Date Sampled:	2/5/2016
Matrix:	Soil		Date Received:	2/5/2016
Ethylbenzene	9.11	ug/Kg	2/8/2016	23:31
Isopropylbenzene	16.6	ug/Kg	2/8/2016	23:31
m,p-Xylene	< 7.49	ug/Kg	2/8/2016	23:31
Methyl tert-butyl Ether	< 7.49	ug/Kg	2/8/2016	23:31
Naphthalene	81.8	ug/Kg	2/8/2016	23:31
n-Butylbenzene	60.2	ug/Kg	2/8/2016	23:31
n-Propylbenzene	39.3	ug/Kg	2/8/2016	23:31
o-Xylene	< 7.49	ug/Kg	2/8/2016	23:31
p-Isopropyltoluene	12.6	ug/Kg	2/8/2016	23:31
sec-Butylbenzene	81.1	ug/Kg	2/8/2016	23:31
tert-Butylbenzene	< 7.49	ug/Kg	2/8/2016	23:31
Toluene	< 7.49	ug/Kg	2/8/2016	23:31
Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	106	83 - 126	2/8/2016	23:31
4-Bromofluorobenzene	109	80.8 - 115	2/8/2016	23:31
Pentafluorobenzene	96.7	90.6 - 111	2/8/2016	23:31
Toluene-D8	103	89.2 - 109	2/8/2016	23:31

Method Reference(s): EPA 8260C
EPA 5035A
Data File: x29500.D

This sample was not collected following SW846 5035A specifications. Accordingly, any Volatiles soil results that are less than 200 ug/Kg, including Non Detects, may be biased low, per ELAP method 5035 guidance document from 11/15/2012.



Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

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All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

"<" = Analyzed for but not detected at or above the quantitation limit.

"E" = Result has been estimated, calibration limit exceeded.

"Z" = See case narrative.

"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.

"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.

"B" = Method blank contained trace levels of analyte. Refer to included method blank report.

"J" = Result estimated between the quantitation limit and half the quantitation limit.

"L" = Laboratory Control Sample recovery outside accepted QC limits.

"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.

"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.

"" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*

"(1)" = Indicates data from primary column used for QC calculation.

"A" = denotes a parameter for which ELAP does not offer approval as part of their laboratory certification program.

"F" = denotes a parameter for which Paradigm does not carry certification, the results for which should therefore only be used where ELAP certification is not required, such as personal exposure assessment.

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GENERAL TERMS AND CONDITIONS

LABORATORY SERVICES

These Terms and Conditions embody the whole agreement of the parties in the absence of a signed and executed contract between the Laboratory (LAB) and Client. They shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties. The LAB specifically rejects all additional, inconsistent, or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Client to the LAB. The invalidity or unenforceability in whole or in part of any provision, term or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions. No waiver by LAB of any provision, term, or condition hereof or of any breach by or obligation of the Client hereunder shall constitute a waiver of such provision, term, or condition on any other occasion or a waiver of any other breach by or obligation of the Client. This agreement shall be administered and interpreted under the laws of the state which services are procured.

Warranty.

Recognizing that the nature of many samples is unknown and that some may contain potentially hazardous components, LAB warrants only that it will perform testing services, obtain findings, and prepare reports in accordance with generally accepted analytical laboratory principles and practices at the time of performance of services. LAB makes no other warranty, express or implied.

Scope and Compensation.

LAB agrees to perform the services described in the chain of custody to which these terms and conditions are attached. Unless the parties agree in writing to the contrary, the duties of LAB shall not be construed to exceed the services specifically described. LAB will use LAB default method for all tests unless specified otherwise on the Work Order.

Payment terms are net 30 days from the date of invoice. All overdue payments are subject to an interest charge of one and one-half percent (1-1/2%) per month or a portion thereof. Client shall also be responsible for costs of collection, including payment of reasonable attorney fees if such expense is incurred. The prices, unless stated, do not include any sale, use or other taxes. Such taxes will be added to invoice prices when required.

Prices.

Compensation for services performed will be based on the current Lab Analytical Fee Schedule or on quotations agreed to in writing by the parties. Turnaround time based charges are determined from the time of resolution of all work order questions. Testimony, court appearances or data compilation for legal action will be charged separately. Evaluation and reporting of initial screening runs may incur additional fees.

Limitations of Liability.

In the event of any error, omission, or other professional negligence, the sole and exclusive responsibility of LAB shall be to re-perform the deficient work at its own expense and LAB shall have no other liability whatsoever. All claims shall be deemed waived unless made in writing and received by LAB within ninety (90) days following completion of services.

LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results.

All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.

Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

Hazard Disclosure.

Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance that is to be delivered to LAB will be packaged, labeled, transported, and delivered properly and in accordance with applicable laws.

Sample Handling.

Prior to LAB's acceptance of any sample (or after any revocation of acceptance), the entire risk of loss or of damage to such sample remains with Client. Samples are accepted when receipt is acknowledged on chain of custody documentation. In no event will LAB have any responsibility for the action or inaction of any carrier shipping or delivering any sample to or from LAB premises.

Client authorizes LAB to proceed with the analysis of samples as received by the laboratory, recognizing that any samples not in compliance with all current DOH-ELAP-NELAP requirements for containers, preservation or holding time will be noted as such on the final report.

Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis unless modified by applicable state or federal laws. Client will be required to give the LAB written instructions concerning disposal of these samples.

LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample, which, in the sole judgment of LAB (a) is of unsuitable volume, (b) may be or become unsuitable for or may pose a risk in handling, transport, or processing for any health, safety, environmental or other reason whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) if the condition or sample date make the sample unsuitable for analysis.

Legal Responsibility.

LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort including negligence.

Assignment.

LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.

Force Majeure.

LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.

Law.

This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.



Page 13 of 14

PROJECT REFERENCE
DENEY + DRIVING FARM
40-14-035

Turnaround Time	Report Supplements		
Availability contingent upon lab approval; additional fees may apply.			
Standard 5 day	<input checked="" type="checkbox"/>	Batch QC	Basic EDD
Rush 3 day	<input type="checkbox"/>	Category A	NYSDEC EDD
Rush 2 day	<input type="checkbox"/>	Category B	
Rush 1 day	<input type="checkbox"/>		
Other	<input type="checkbox"/>	Other	Other EDD
please indicate:		please indicate:	

DAVID S. LONG	2/5/16	Date/Time
Sampled By		
RELINQUISHED BY	2/5/16	Date/Time
RELINQUISHED BY		
1350		
2/5/16		
Date/Time		
14:07		
2/5/16		
Date/Time		
Received @ Lab By		

12°C 2/5/16 14:03



Chain of Custody Supplement

Client: Ravi Engineering
 Lab Project ID: 160536

Completed by: Glenn Pezzulo
 Date: 2/5/16

Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

Condition	NELAC compliance with the sample condition requirements upon receipt		
	Yes	No	N/A
Container Type	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> 5035	<input type="checkbox"/>
Comments	<hr/>		
Transferred to method-compliant container	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Headspace (<1 mL)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comments	<hr/>		
Preservation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comments	<hr/>		
Chlorine Absent (<0.10 ppm per test strip)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comments	<hr/>		
Holding Time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments	<hr/>		
Temperature	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comments	<u>12°C</u> <hr/>		
Sufficient Sample Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments	<hr/>		



PARADIGM
ENVIRONMENTAL SERVICES, INC.

Analytical Report For
Ravi Engineering & Land Surveying, P.C.

For Lab Project ID

160551

Referencing

Dewey / Driving Park

Prepared

Thursday, February 11, 2016

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

A handwritten signature in black ink, consisting of several overlapping, slanted strokes, positioned above a horizontal line.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.

Page 1 of 8

Report Prepared Thursday, February 11, 2016

Lab Project ID: 160551

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: Dewey / Driving Park

Sample Identifier: BN-1-5

Lab Sample ID: 160551-01

Date Sampled: 2/8/2016

Matrix: Soil

Date Received: 2/8/2016

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 8.56	ug/Kg		2/10/2016 20:43
1,1,2,2-Tetrachloroethane	< 8.56	ug/Kg		2/10/2016 20:43
1,1,2-Trichloroethane	< 8.56	ug/Kg		2/10/2016 20:43
1,1-Dichloroethane	< 8.56	ug/Kg		2/10/2016 20:43
1,1-Dichloroethene	< 8.56	ug/Kg		2/10/2016 20:43
1,2,3-Trichlorobenzene	< 21.4	ug/Kg		2/10/2016 20:43
1,2,4-Trichlorobenzene	< 21.4	ug/Kg		2/10/2016 20:43
1,2-Dibromo-3-Chloropropane	< 42.8	ug/Kg		2/10/2016 20:43
1,2-Dibromoethane	< 8.56	ug/Kg		2/10/2016 20:43
1,2-Dichlorobenzene	< 8.56	ug/Kg		2/10/2016 20:43
1,2-Dichloroethane	< 8.56	ug/Kg		2/10/2016 20:43
1,2-Dichloropropane	< 8.56	ug/Kg		2/10/2016 20:43
1,3-Dichlorobenzene	< 8.56	ug/Kg		2/10/2016 20:43
1,4-Dichlorobenzene	< 8.56	ug/Kg		2/10/2016 20:43
1,4-dioxane	< 85.6	ug/Kg		2/10/2016 20:43
2-Butanone	< 42.8	ug/Kg		2/10/2016 20:43
2-Hexanone	< 21.4	ug/Kg		2/10/2016 20:43
4-Methyl-2-pentanone	< 21.4	ug/Kg		2/10/2016 20:43
Acetone	64.9	ug/Kg		2/10/2016 20:43
Benzene	< 8.56	ug/Kg		2/10/2016 20:43
Bromochloromethane	< 21.4	ug/Kg		2/10/2016 20:43
Bromodichloromethane	< 8.56	ug/Kg		2/10/2016 20:43
Bromoform	< 21.4	ug/Kg		2/10/2016 20:43
Bromomethane	< 8.56	ug/Kg		2/10/2016 20:43
Carbon disulfide	< 8.56	ug/Kg		2/10/2016 20:43
Carbon Tetrachloride	< 8.56	ug/Kg		2/10/2016 20:43
Chlorobenzene	< 8.56	ug/Kg		2/10/2016 20:43
Chloroethane	< 8.56	ug/Kg		2/10/2016 20:43
Chloroform	< 8.56	ug/Kg		2/10/2016 20:43

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Page 2 of 8

Report Prepared Thursday, February 11, 2016



Lab Project ID: 160551

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: Dewey / Driving Park

Sample Identifier:	BN-1-5		
Lab Sample ID:	160551-01	Date Sampled:	2/8/2016
Matrix:	Soil	Date Received:	2/8/2016
Chloromethane	< 8.56	ug/Kg	2/10/2016 20:43
cis-1,2-Dichloroethene	< 8.56	ug/Kg	2/10/2016 20:43
cis-1,3-Dichloropropene	< 8.56	ug/Kg	2/10/2016 20:43
Cyclohexane	< 42.8	ug/Kg	2/10/2016 20:43
Dibromochloromethane	< 8.56	ug/Kg	2/10/2016 20:43
Dichlorodifluoromethane	< 8.56	ug/Kg	2/10/2016 20:43
Ethylbenzene	< 8.56	ug/Kg	2/10/2016 20:43
Freon 113	< 8.56	ug/Kg	2/10/2016 20:43
Isopropylbenzene	< 8.56	ug/Kg	2/10/2016 20:43
m,p-Xylene	< 8.56	ug/Kg	2/10/2016 20:43
Methyl acetate	< 8.56	ug/Kg	2/10/2016 20:43
Methyl tert-butyl Ether	< 8.56	ug/Kg	2/10/2016 20:43
Methylcyclohexane	< 8.56	ug/Kg	2/10/2016 20:43
Methylene chloride	< 21.4	ug/Kg	2/10/2016 20:43
o-Xylene	< 8.56	ug/Kg	2/10/2016 20:43
Styrene	< 21.4	ug/Kg	2/10/2016 20:43
Tetrachloroethene	< 8.56	ug/Kg	2/10/2016 20:43
Toluene	< 8.56	ug/Kg	2/10/2016 20:43
trans-1,2-Dichloroethene	< 8.56	ug/Kg	2/10/2016 20:43
trans-1,3-Dichloropropene	< 8.56	ug/Kg	2/10/2016 20:43
Trichloroethene	< 8.56	ug/Kg	2/10/2016 20:43
Trichlorofluoromethane	< 8.56	ug/Kg	2/10/2016 20:43
Vinyl chloride	< 8.56	ug/Kg	2/10/2016 20:43



Lab Project ID: 160551

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: Dewey / Driving Park

Sample Identifier: BN-1-5

Lab Sample ID: 160551-01

Date Sampled: 2/8/2016

Matrix: Soil

Date Received: 2/8/2016

<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Limits</u>	<u>Outliers</u>	<u>Date Analyzed</u>	
1,2-Dichloroethane-d4	104	83 - 126		2/10/2016	20:43
4-Bromofluorobenzene	99.0	80.8 - 115		2/10/2016	20:43
Pentafluorobenzene	102	90.6 - 111		2/10/2016	20:43
Toluene-D8	104	89.2 - 109		2/10/2016	20:43

Method Reference(s): EPA 8260C

EPA 5035A

Data File: x29561.D

This sample was not collected following SW846 5035A specifications. Accordingly, any Volatiles soil results that are less than 200 ug/Kg, including Non Detects, may be biased low, per ELAP method 5035 guidance document from 11/15/2012.



Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

Each page of this document is part of a multipage report. This document may not be reproduced except in its entirety, without the prior consent of Paradigm Environmental Services, Inc.

All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

"<" = Analyzed for but not detected at or above the quantitation limit.

"E" = Result has been estimated, calibration limit exceeded.

"Z" = See case narrative.

"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.

"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.

"B" = Method blank contained trace levels of analyte. Refer to included method blank report.

"J" = Result estimated between the quantitation limit and half the quantitation limit.

"L" = Laboratory Control Sample recovery outside accepted QC limits.

"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.

"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.

"" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*

"(1)" = Indicates data from primary column used for QC calculation.

"A" = denotes a parameter for which ELAP does not offer approval as part of their laboratory certification program.

"F" = denotes a parameter for which Paradigm does not carry certification, the results for which should therefore only be used where ELAP certification is not required, such as personal exposure assessment.

GENERAL TERMS AND CONDITIONS

LABORATORY SERVICES

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All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.

Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

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Law.

This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

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Page 6 of 8

Report Prepared Thursday, February 11, 2016

CHAIN OF CUSTODY

PARADIGM
ENVIRONMENTAL SERVICES, INC.

REPORT TO:

INVOICE TO:

CLIENT: DAVE ENGINEERING	CLIENT: SAWE	LAB PROJECT ID
ADDRESS:	ADDRESS:	Quotation #: 160551
CITY:	CITY:	State:
ZIP:	ZIP:	Phone:
State:	State:	ATTN:
PHONE:	PHONE:	Email:

PROJECT REFERENCE

DEANEY DRIVING PARK

ATTN: **DAVID DEYOUNG**

DEYOUNG ENGINEERING, CONI

Matrix Codes:

AQ - Aqueous Liquid
NQ - Non-Aqueous Liquid

WA - Water
WG - Groundwater

DW - Drinking Water
WW - Wastewater

SO - Soil
SL - Sludge

SD - Solid
PT - Paint

WP - Wipe
CK - Caulk

OL - Oil
AR - Air

REQUESTED ANALYSIS

DATE COLLECTED	TIME COLLECTED	COMPOSITE	G R A B	SAMPLE IDENTIFIER	M C A O T R E I S	C N O U M T B A I N E R O R S	REMARKS	PARADIGM LAB SAMPLE NUMBER
12/8/16	10:00		X	BN-1-5	SD	1	X TC VCC	c1
2								
3								
4								
5								
6								
7								
8								
9								
10								

Turnaround Time	Report Supplements
Availability contingent upon lab approval; additional fees may apply. Standard 5 day <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Rush 3 day <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Rush 2 day <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Rush 1 day <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Other please indicate: _____	Batch QC <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Category A <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Category B <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Other please indicate: _____

Sampled By	Date/Time
DAVID DEYOUNG	2/8/16
Relinquished By	Date/Time
DAVID DEYOUNG	2/8/16
Received By	Date/Time
DAVID DEYOUNG	2/8/16
Received @ Lab By	Date/Time
DAVID DEYOUNG	2/8/16

Total Cost:

P.I.F.

1511 9/13/16 11:51



Chain of Custody Supplement

Client: Ravi Engineering
 Lab Project ID: 160551

Completed by: Glenn Pezzullo
 Date: 2/8/16

Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

Condition		NELAC compliance with the sample condition requirements upon receipt		
		Yes	No	N/A
Container Type		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> 5035	<input type="checkbox"/>
	Comments			
Transferred to method-compliant container		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Headspace (<1 mL)		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Comments			
Preservation		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Comments			
Chlorine Absent (<0.10 ppm per test strip)		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Comments			
Holding Time		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Comments			
Temperature		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Comments	16°C		
Sufficient Sample Quantity		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Comments			



PARADIGM
ENVIRONMENTAL SERVICES, INC.

Analytical Report For
Ravi Engineering & Land Surveying, P.C.

For Lab Project ID

160805

Referencing

Dewey Driving Park

Prepared

Thursday, March 10, 2016

This project has been re-issued to expand the analyte list, per Chain of Custody and client correspondence.

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

A handwritten signature in black ink, appearing to be "A. J.", is written over a horizontal line.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

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Report Prepared Thursday, March 10, 2016



Lab Project ID: 160805

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: Dewey Driving Park

Sample Identifier: MW-1

Lab Sample ID: 160805-01

Date Sampled: 2/26/2016

Matrix: Water

Date Received: 2/26/2016

Semi-Volatile Organics (PAHs)

Analyte	Result	Units	Qualifier	Date Analyzed
1,1-Biphenyl	< 10.0	ug/L		3/2/2016 16:50
1,2,4,5-Tetrachlorobenzene	< 10.0	ug/L		3/2/2016 16:50
1,2,4-Trichlorobenzene	< 10.0	ug/L		3/2/2016 16:50
1,2-Dichlorobenzene	< 10.0	ug/L		3/2/2016 16:50
1,3-Dichlorobenzene	< 10.0	ug/L		3/2/2016 16:50
1,4-Dichlorobenzene	< 10.0	ug/L		3/2/2016 16:50
2,4-Dinitrotoluene	< 10.0	ug/L		3/2/2016 16:50
2,6-Dinitrotoluene	< 10.0	ug/L		3/2/2016 16:50
2-Chloronaphthalene	< 10.0	ug/L		3/2/2016 16:50
2-Methylnaphthalene	< 10.0	ug/L		3/2/2016 16:50
2-Nitroaniline	< 20.0	ug/L		3/2/2016 16:50
3,3'-Dichlorobenzidine	< 10.0	ug/L		3/2/2016 16:50
3-Nitroaniline	< 20.0	ug/L		3/2/2016 16:50
4-Bromophenyl phenyl ether	< 10.0	ug/L		3/2/2016 16:50
4-Chloroaniline	< 10.0	ug/L		3/2/2016 16:50
4-Chlorophenyl phenyl ether	< 10.0	ug/L		3/2/2016 16:50
4-Nitroaniline	< 20.0	ug/L		3/2/2016 16:50
Acenaphthene	< 10.0	ug/L		3/2/2016 16:50
Acenaphthylene	< 10.0	ug/L		3/2/2016 16:50
Acetophenone	< 10.0	ug/L		3/2/2016 16:50
Anthracene	< 10.0	ug/L		3/2/2016 16:50
Atrazine	< 10.0	ug/L		3/2/2016 16:50
Benzaldehyde	< 10.0	ug/L		3/2/2016 16:50
Benzo (a) anthracene	< 10.0	ug/L		3/2/2016 16:50
Benzo (a) pyrene	< 10.0	ug/L		3/2/2016 16:50
Benzo (b) fluoranthene	< 10.0	ug/L		3/2/2016 16:50
Benzo (g,h,i) perylene	< 10.0	ug/L		3/2/2016 16:50
Benzo (k) fluoranthene	< 10.0	ug/L		3/2/2016 16:50
Bis (2-chloroethoxy) methane	< 10.0	ug/L		3/2/2016 16:50

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Report Prepared Thursday, March 10, 2016



Lab Project ID: 160805

Client: Ravi Engineering & Land Surveying, P.C.

Project Reference: Dewey Driving Park

Sample Identifier:	MW-1			
Lab Sample ID:	160805-01		Date Sampled:	2/26/2016
Matrix:	Water		Date Received:	2/26/2016
Bis (2-chloroethyl) ether	< 10.0	ug/L	3/2/2016	16:50
Bis (2-chloroisopropyl) ether	< 10.0	ug/L	3/2/2016	16:50
Bis (2-ethylhexyl) phthalate	< 10.0	ug/L	3/2/2016	16:50
Butylbenzylphthalate	< 10.0	ug/L	3/2/2016	16:50
Caprolactam	< 10.0	ug/L	3/2/2016	16:50
Carbazole	< 10.0	ug/L	3/2/2016	16:50
Chrysene	< 10.0	ug/L	3/2/2016	16:50
Dibenz (a,h) anthracene	< 10.0	ug/L	3/2/2016	16:50
Dibenzofuran	< 10.0	ug/L	3/2/2016	16:50
Diethyl phthalate	< 10.0	ug/L	3/2/2016	16:50
Dimethyl phthalate	< 20.0	ug/L	3/2/2016	16:50
Di-n-butyl phthalate	< 10.0	ug/L	3/2/2016	16:50
Di-n-octylphthalate	< 10.0	ug/L	3/2/2016	16:50
Fluoranthene	< 10.0	ug/L	3/2/2016	16:50
Fluorene	< 10.0	ug/L	3/2/2016	16:50
Hexachlorobenzene	< 10.0	ug/L	3/2/2016	16:50
Hexachlorobutadiene	< 10.0	ug/L	3/2/2016	16:50
Hexachlorocyclopentadiene	< 10.0	ug/L	3/2/2016	16:50
Hexachloroethane	< 10.0	ug/L	3/2/2016	16:50
Indeno (1,2,3-cd) pyrene	< 10.0	ug/L	3/2/2016	16:50
Isophorone	< 10.0	ug/L	3/2/2016	16:50
Naphthalene	< 10.0	ug/L	3/2/2016	16:50
Nitrobenzene	< 10.0	ug/L	3/2/2016	16:50
N-Nitroso-di-n-propylamine	< 10.0	ug/L	3/2/2016	16:50
N-Nitrosodiphenylamine	< 10.0	ug/L	3/2/2016	16:50
Phenanthrene	< 10.0	ug/L	3/2/2016	16:50
Pyrene	< 10.0	ug/L	3/2/2016	16:50



Lab Project ID: 160805

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: Dewey Driving Park

Sample Identifier: MW-1

Lab Sample ID: 160805-01

Date Sampled: 2/26/2016

Matrix: Water

Date Received: 2/26/2016

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2-Fluorobiphenyl	25.9	20.3 - 108		3/2/2016 16:50
Nitrobenzene-d5	38.9	48 - 101	*	3/2/2016 16:50
Terphenyl-d14	51.4	52.7 - 113	*	3/2/2016 16:50

Method Reference(s): EPA 8270D

EPA 3510C

Preparation Date: 3/2/2016

Data File: B10490.D

Volatile Organics (Petroleum)

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		2/29/2016 15:40
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		2/29/2016 15:40
1,1,2-Trichloroethane	< 2.00	ug/L		2/29/2016 15:40
1,1-Dichloroethane	< 2.00	ug/L		2/29/2016 15:40
1,1-Dichloroethene	< 2.00	ug/L		2/29/2016 15:40
1,2,3-Trichlorobenzene	< 5.00	ug/L		2/29/2016 15:40
1,2,4-Trichlorobenzene	< 5.00	ug/L		2/29/2016 15:40
1,2,4-Trimethylbenzene	< 2.00	ug/L		2/29/2016 15:40
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		2/29/2016 15:40
1,2-Dibromoethane	< 2.00	ug/L		2/29/2016 15:40
1,2-Dichlorobenzene	< 2.00	ug/L		2/29/2016 15:40
1,2-Dichloroethane	< 2.00	ug/L		2/29/2016 15:40
1,2-Dichloropropane	< 2.00	ug/L		2/29/2016 15:40
1,3,5-Trimethylbenzene	< 2.00	ug/L		2/29/2016 15:40
1,3-Dichlorobenzene	< 2.00	ug/L		2/29/2016 15:40
1,4-Dichlorobenzene	< 2.00	ug/L		2/29/2016 15:40
1,4-dioxane	< 20.0	ug/L		2/29/2016 15:40
2-Butanone	< 10.0	ug/L		2/29/2016 15:40
2-Hexanone	< 5.00	ug/L		2/29/2016 15:40
4-Methyl-2-pentanone	< 5.00	ug/L		2/29/2016 15:40
Acetone	< 10.0	ug/L		2/29/2016 15:40
Benzene	< 1.00	ug/L		2/29/2016 15:40

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Report Prepared Thursday, March 10, 2016



Lab Project ID: 160805

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: Dewey Driving Park

Sample Identifier:	MW-1		
Lab Sample ID:	160805-01	Date Sampled:	2/26/2016
Matrix:	Water	Date Received:	2/26/2016
Bromochloromethane	< 5.00	ug/L	2/29/2016 15:40
Bromodichloromethane	< 2.00	ug/L	2/29/2016 15:40
Bromoform	< 5.00	ug/L	2/29/2016 15:40
Bromomethane	< 2.00	ug/L	2/29/2016 15:40
Carbon disulfide	< 2.00	ug/L	2/29/2016 15:40
Carbon Tetrachloride	< 2.00	ug/L	2/29/2016 15:40
Chlorobenzene	< 2.00	ug/L	2/29/2016 15:40
Chloroethane	< 2.00	ug/L	2/29/2016 15:40
Chloroform	< 2.00	ug/L	2/29/2016 15:40
Chloromethane	< 2.00	ug/L	2/29/2016 15:40
cis-1,2-Dichloroethene	< 2.00	ug/L	2/29/2016 15:40
cis-1,3-Dichloropropene	< 2.00	ug/L	2/29/2016 15:40
Cyclohexane	< 10.0	ug/L	2/29/2016 15:40
Dibromochloromethane	< 2.00	ug/L	2/29/2016 15:40
Dichlorodifluoromethane	< 2.00	ug/L	2/29/2016 15:40
Ethylbenzene	< 2.00	ug/L	2/29/2016 15:40
Freon 113	< 2.00	ug/L	2/29/2016 15:40
Isopropylbenzene	< 2.00	ug/L	2/29/2016 15:40
m,p-Xylene	< 2.00	ug/L	2/29/2016 15:40
Methyl acetate	< 2.00	ug/L	2/29/2016 15:40
Methyl tert-butyl Ether	< 2.00	ug/L	2/29/2016 15:40
Methylcyclohexane	< 2.00	ug/L	2/29/2016 15:40
Methylene chloride	< 5.00	ug/L	2/29/2016 15:40
Naphthalene	< 5.00	ug/L	2/29/2016 15:40
n-Butylbenzene	< 2.00	ug/L	2/29/2016 15:40
n-Propylbenzene	< 2.00	ug/L	2/29/2016 15:40
o-Xylene	< 2.00	ug/L	2/29/2016 15:40
p-Isopropyltoluene	< 2.00	ug/L	2/29/2016 15:40
sec-Butylbenzene	< 2.00	ug/L	2/29/2016 15:40
Styrene	< 5.00	ug/L	2/29/2016 15:40
tert-Butylbenzene	< 2.00	ug/L	2/29/2016 15:40
Tetrachloroethene	< 2.00	ug/L	2/29/2016 15:40

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Report Prepared Thursday, March 10, 2016



Lab Project ID: 160805

Client: **Ravi Engineering & Land Surveying, P.C.**

Project Reference: Dewey Driving Park

Sample Identifier: MW-1

Lab Sample ID: 160805-01

Date Sampled: 2/26/2016

Matrix: Water

Date Received: 2/26/2016

Toluene	< 2.00	ug/L	2/29/2016 15:40
trans-1,2-Dichloroethene	< 2.00	ug/L	2/29/2016 15:40
trans-1,3-Dichloropropene	< 2.00	ug/L	2/29/2016 15:40
Trichloroethene	< 2.00	ug/L	2/29/2016 15:40
Trichlorofluoromethane	< 2.00	ug/L	2/29/2016 15:40
Vinyl chloride	< 2.00	ug/L	2/29/2016 15:40

<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Limits</u>	<u>Outliers</u>	<u>Date Analyzed</u>
1,2-Dichloroethane-d4	103	81.6 - 118		2/29/2016 15:40
4-Bromofluorobenzene	85.9	79.5 - 115		2/29/2016 15:40
Pentafluorobenzene	88.9	91.4 - 111	*	2/29/2016 15:40
Toluene-D8	92.2	89.8 - 108		2/29/2016 15:40

Method Reference(s): EPA 8260C

EPA 5030C

Data File: x29869.D



Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

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All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

"<" = Analyzed for but not detected at or above the quantitation limit.

"E" = Result has been estimated, calibration limit exceeded.

"Z" = See case narrative.

"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.

"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.

"B" = Method blank contained trace levels of analyte. Refer to included method blank report.

"J" = Result estimated between the quantitation limit and half the quantitation limit.

"L" = Laboratory Control Sample recovery outside accepted QC limits.

"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.

"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.

"" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*

"(1)" = Indicates data from primary column used for QC calculation.

"A" = denotes a parameter for which ELAP does not offer approval as part of their laboratory certification program.

"F" = denotes a parameter for which Paradigm does not carry certification, the results for which should therefore only be used where ELAP certification is not required, such as personal exposure assessment.

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GENERAL TERMS AND CONDITIONS

LABORATORY SERVICES

These Terms and Conditions embody the whole agreement of the parties in the absence of a signed and executed contract between the Laboratory (LAB) and Client. They shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties. The LAB specifically rejects all additional, inconsistent, or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Client to the LAB. The invalidity or unenforceability in whole or in part of any provision, term or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions. No waiver by LAB of any provision, term, or condition hereof or of any breach by or obligation of the Client hereunder shall constitute a waiver of such provision, term, or condition on any other occasion or a waiver of any other breach by or obligation of the Client. This agreement shall be administered and interpreted under the laws of the state which services are procured.

Warranty.

Recognizing that the nature of many samples is unknown and that some may contain potentially hazardous components, LAB warrants only that it will perform testing services, obtain findings, and prepare reports in accordance with generally accepted analytical laboratory principles and practices at the time of performance of services. LAB makes no other warranty, express or implied.

Scope and Compensation.

LAB agrees to perform the services described in the chain of custody to which these terms and conditions are attached. Unless the parties agree in writing to the contrary, the duties of LAB shall not be construed to exceed the services specifically described. LAB will use LAB default method for all tests unless specified otherwise on the Work Order.

Payment terms are net 30 days from the date of invoice. All overdue payments are subject to an interest charge of one and one-half percent (1-1/2%) per month or a portion thereof. Client shall also be responsible for costs of collection, including payment of reasonable attorney fees if such expense is incurred. The prices, unless stated, do not include any sale, use or other taxes. Such taxes will be added to invoice prices when required.

Prices.

Compensation for services performed will be based on the current Lab Analytical Fee Schedule or on quotations agreed to in writing by the parties. Turnaround time based charges are determined from the time of resolution of all work order questions. Testimony, court appearances or data compilation for legal action will be charged separately. Evaluation and reporting of initial screening runs may incur additional fees.

Limitations of Liability.

In the event of any error, omission, or other professional negligence, the sole and exclusive responsibility of LAB shall be to re-perform the deficient work at its own expense and LAB shall have no other liability whatsoever. All claims shall be deemed waived unless made in writing and received by LAB within ninety (90) days following completion of services.

LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results.

All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.

Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

Hazard Disclosure.

Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance that is to be delivered to LAB will be packaged, labeled, transported, and delivered properly and in accordance with applicable laws.

Sample Handling.

Prior to LAB's acceptance of any sample (or after any revocation of acceptance), the entire risk of loss or of damage to such sample remains with Client. Samples are accepted when receipt is acknowledged on chain of custody documentation. In no event will LAB have any responsibility for the action or inaction of any carrier shipping or delivering any sample to or from LAB premises.

Client authorizes LAB to proceed with the analysis of samples as received by the laboratory, recognizing that any samples not in compliance with all current DOH-ELAP-NELAP requirements for containers, preservation or holding time will be noted as such on the final report.

Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis unless modified by applicable state or federal laws. Client will be required to give the LAB written instructions concerning disposal of these samples.

LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample, which, in the sole judgment of LAB (a) is of unsuitable volume, (b) may be or become unsuitable for or may pose a risk in handling, transport, or processing for any health, safety, environmental or other reason whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) if the condition or sample date make the sample unsuitable for analysis.

Legal Responsibility.

LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort including negligence.

Assignment.

LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.

Force Majeure.

LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.

Law.

This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

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2072



Chain of Custody Supplement

Client:

Ravi

Completed by:

Molykai

Lab Project ID:

160805

Date:

2/26/16

Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

Condition	NELAC compliance with the sample condition requirements upon receipt		
	Yes	No	N/A
Container Type	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments	<hr/>		
Transferred to method-compliant container	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Headspace (<1 mL)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments	<hr/>		
Preservation	<input checked="" type="checkbox"/> <u>VOA</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comments	<hr/>		
Chlorine Absent (<0.10 ppm per test strip)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comments	<hr/>		
Holding Time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments	<hr/>		
Temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments	<u>6°C 2/26/16 1634</u>		
Sufficient Sample Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments	<hr/>		