

Geotechnical Data Report

Dewey Ave. and Driving Park Ave. Realignment Project
Rochester, New York

September 28, 2016
Project No. J9165113

Prepared for:

City of Rochester
Dept. of Environ. And Engineering Svcs.
30 Church Street
City Hall – Room 300B
Rochester, New York 14614-1290

Prepared by:

Terracon Consultants – NY, Inc.
Rochester, NY

terracon.com

Terracon

Environmental



Facilities



Geotechnical



Materials

September 28, 2016



City of Rochester
Dept. of Environ. And Engineering Svcs.
30 Church Street
City Hall – Room 300B
Rochester, New York 14614-1290

Attn: Mr. Al Giglio
E: agiglio@cityofrochester.gov

Re: Geotechnical Data Report
Dewey Ave. and Driving Park Ave. Realignment Project
Rochester, New York
Terracon Project No: J9165113

Dear Mr. Giglio:

Terracon Consultants, Inc. (Terracon) has completed the geotechnical services for the above-referenced project. Services were performed in general accordance with our proposal PJ9165113. This Geotechnical Data Report presents the results of the subsurface exploration program for the proposed project.

We appreciate the opportunity to be of service to you on this project. If you have questions concerning this report, or if we may be of further service, please contact us.

Sincerely,
Terracon Consultants, Inc.

A handwritten signature in blue ink, appearing to read 'Frank Minnolera', is written over a light blue circular background.

Frank Minnolera
Senior Project Geologist

A handwritten signature in blue ink, appearing to read 'Chuck Guzzetta', is written over a light blue circular background.

Chuck Guzzetta
Office Manager



TABLE OF CONTENTS

1.0	INTRODUCTION	2
2.0	PROJECT INFORMATION	2
3.0	SUBSURFACE CONDITIONS	3
3.1	Typical Subsurface Profile	3
4.0	GENERAL COMMENTS	4

APPENDIX A – FIELD EXPLORATION

- Exhibit A-1: Site Plan
- Exhibit A-2: Boring Location Plan
- Exhibit A-3 : Field Exploration Description
- Exhibits A-4 through A-6 : Boring Logs
- Exhibits A-7 through A-9: Recovered Core Photographs

APPENDIX B – SUPPORTING DOCUMENTS

- Exhibit B-1 : Soil Classification Description
- Exhibit B-2 : General Notes
- Exhibit B-3 : Unified Soil Classification

APPENDIX C – LABORATORY TESTING RESULTS

- Exhibit C-1: Dipra Test Results
- Exhibit C-2: Laboratory Test Results

Geotechnical Data Report

Dewey Ave. and Driving Park Ave. Realignment Project ■ Rochester, NY
September 28, 2016 ■ Terracon Project No. J9165113



GEOTECHNICAL DATA REPORT
Dewey Ave. And Driving Park Ave. Realignment Project
Rochester, New York
Terracon Project No. J9165113
September 28, 2016

1.0 INTRODUCTION

This report presents the results of our subsurface sampling investigation performed at various locations along the proposed realignment of Dewey Ave. and Driving Park Ave. in the City of Rochester, Monroe County, New York.

Our scope of services included advancing three (3) exploratory soil test borings to depths of approximately 9 feet below existing grade within the area of interest. Boring Location Plans are included in Appendix A as part of this report. Logs of the test borings are also included in Appendix A. Photographs of the recovered pavement cores are also included in Appendix A.

2.0 PROJECT INFORMATION

2.1 Site Location and Description

The areas of interest delineated for this project were noted to be within the ROW along the north side of Driving Park Avenue immediately east of Dewey Avenue. The project encompassed the northern edge of pavement in front of the buildings located at #288, #308 and #320 Driving Park Avenue. All three (3) locations were completed at the approximate locations selected by the client, and are indicated on the attached Exhibits A-1 and A-2 of this report.

Geotechnical Data Report

Dewey Ave. and Driving Park Ave. Realignment Project ■ Rochester, NY
September 28, 2016 ■ Terracon Project No. J9165113



3.0 SUBSURFACE CONDITIONS

3.1 Typical Subsurface Profile

Based on the results of the borings, subsurface conditions can be generalized as presented on the ensuing table:

Boring Number	General Subsurface Conditions
B-1 – front of #320 Driving Park Avenue	Approximately 5 ½" asphalt and approximately 6 ½" of concrete underlain by predominantly sandy silts and silts to completion.
B-2 – front of #308 Driving Park Avenue	Approximately 12 ¾" of asphalt underlain by silty clays and silts to completion..
B-3 – front of #288 Driving Park Avenue	Approximately 5" asphalt and approximately 8" of concrete underlain by predominantly silty clays, sandy silts and silts to completion.

Visual soil classifications and conditions encountered at each boring location are indicated on the individual boring logs. Stratification boundaries on the boring logs represent the approximate locations of changes in soil types; in-situ, the transition between materials may be gradual. Details of each boring can be found on the boring logs in Appendix A. A discussion of field sampling procedures is included in Appendix A.

Samples of the recovered soils from the approximate 4 – 6 feet depth below grade were submitted to our Rochester New York soils laboratory for further testing. 10-point DIPRA tests were completed on those samples selected and submitted to our lab. The results are presented in Appendix C of this report.

In addition, portions of the recovered soil samples were collected and submitted to Paradigm Laboratory in Rochester, New York for analytical testing. The results of the analytical testing is included as Appendix C of this report.

Geotechnical Data Report

Dewey Ave. and Driving Park Ave. Realignment Project ■ Rochester, NY
September 28, 2016 ■ Terracon Project No. J9165113



4.0 GENERAL COMMENTS

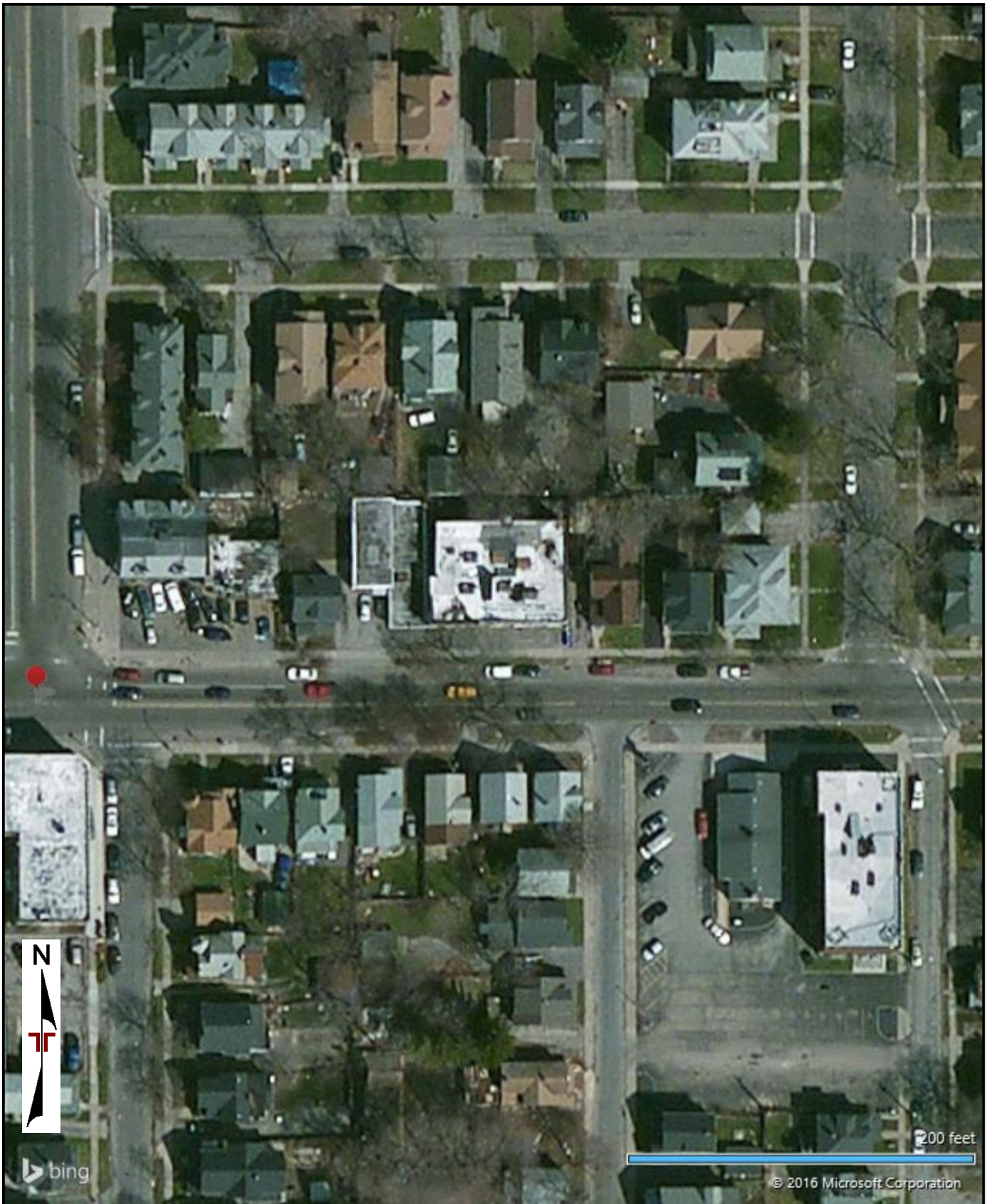
The subsurface conditions presented in this report are based upon the data obtained from the explorations performed at the indicated locations and from other information discussed in this report. This report does not reflect variations that may occur between explorations, across the site, or because of the modifying effects of weather. The nature and extent of such variations may not become evident until during or after construction.

The scope of services for this project does not include either specifically or by implication any environmental assessment of the site or identification or prevention of pollutants, hazardous materials or conditions other than as directed by the client. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

This report has been prepared for the exclusive use of our client for specific application to the project discussed and prepared in accordance with generally accepted geotechnical exploration practices. No warranties, either express or implied, are intended or made.

APPENDIX A

FIELD EXPLORATION



Project Manager:	CG
Drawn by:	FRM
Checked by:	CG
Approved by:	CG
Project No.	J5165113
Scale:	1"=2,000'
File Name:	011111
Date:	Sept 2016

Terracon
 15 Marway Cir Ste 2B
 Rochester, NY 14624-2300

SITE LOCATION
Dewey Ave / Driving Park Ave - Intersection Realignment Dewey Avenue & Driving Park Avenue Rochester, NY

Exhibit
A-1

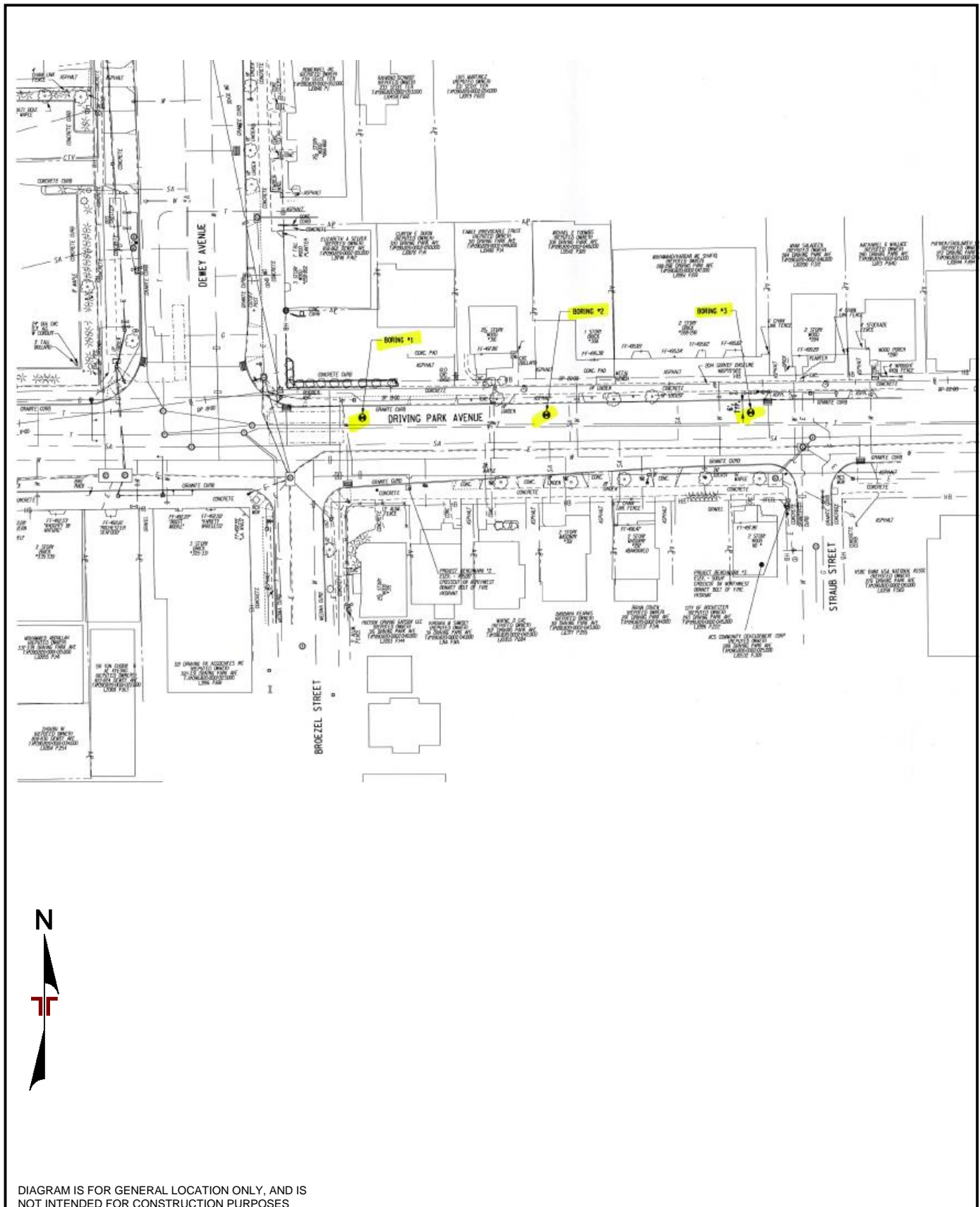



DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Manager: CG	Project No. AS SHOWN	 <p>15 Marway Cir Ste 2B Rochester, NY 14624-2300</p>	EXPLORATION PLAN	Exhibit
Drawn by: FRM	File Name: Click		Dewey Ave / Driving Park Ave - Intersection	A-2
Checked by: CG	Date: Sept 2016		Realignment	
Approved by: CG			Dewey Avenue & Driving Park Avenue Rochester, NY	

Field Exploration Description

A total of three (3) exploratory test borings were drilled at various locations throughout the proposed project limits to an approximate depth of 9 feet below existing ground surface on September 6th, 2016. Borings were advanced at the approximate locations designated by the client as indicated on the attached Boring Location Plan. Borings were located in the field by tape measurement and line-of-sight referencing existing site features. A portable GPS unit was utilized to obtain as-drilled coordinates of the boring locations. The accuracy of boring locations should only be assumed to the level implied by the method and equipment used to define them.

Initially, a portable “CoreBore” coring machine equipped with a 6-inch (nominal) inside diameter (ID) thinwall diamond core barrel was utilized to advance through the existing roadway. The core was extracted and returned to our office for photographing. A Central mine Equipment CME-550X rotary drill rig mounted on a rubber tired all-terrain carrier was then utilized to perform these soil borings. Soil samples were obtained continuously throughout the depth of the boring using a standard 2-inch O.D. split-barrel sampler to the depths indicated on the logs. Standard Penetration Tests (SPTs) were performed in general accordance with industry standards (ASTM D-1586). Density of soil samples are based on N-values, which is determined by the number of hammer blows required to drive the sampler in a 12-inch interval.

A Terracon environmental geologist was present during the drilling and sampling operations to “screen” the recovered samples for the presence of volatile organic vapors. A “MiniRae 2000” Photo Ionization Detector (PID) was utilized by Terracon to “screen” the recovered soil samples. The results of the soil vapor screening are presented in the PID column of the soil boring logs.

Representative portions of the soils from the approximate 5 foot depth below grade were placed in precleaned soil sample containers provided by Paradigm Laboratory and labelled with pertinent information such as boring number, depth below grade, time, and date of sample collection. The samples were then transported to Paradigm to be analyzed for Chloride content (USEPA Method 9056), total petroleum hydrocarbons (NYSDOH Test method 310.13), and volatile organic compounds (EPA Method 8260). One additional sample from Boring B-1 at approximately 8.5-9.0 feet below grade which exhibited elevated PID readings was submitted to the lab and analyzed for volatile organic compounds.

Visual classification of soils and observed groundwater levels are shown on test boring logs included in Appendix A.

BORING LOG NO. B-1

Page 1 of 1

PROJECT: Dewey Ave. / Driving Park Ave. Intersection
Realignment

CLIENT: City Of Rochester - Dept. of Enviro. Services
30 Church St., Rm. 300B, Rochester NY

SITE: Driving Park Ave.
Rochester, NY

GRAPHIC LOG	LOCATION See Exhibit A-2 Latitude: 43.1807271° Longitude: -77.6388016°	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	PID Readings (PPM)
	DEPTH						
	ASPHALT CONCRETE						
	0.5						
	CONCRETE						
	1.0						
	FILL - AGGREGATE BASE COURSE , (Poor Recovery)						
	2.0						
	SANDY SILT (ML) , trace gravel, brown to gray, medium dense				1	13-14-7-7 N=21	BKG
					12	5-7-9-9 N=16	BKG
		5					
					20	4-10-10-12 N=20	BKG - 5
	7.0						
	SILT (ML) , trace sand, gray, medium dense, (Stained with petroleum odors noted)				12	15-10-12-10 N=22	50 - 400
	9.0						
	Boring Terminated at 9 Feet						

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Portable Core Machine equipped with 6" thinwall core bit
4.25-inch ID Hollow Stem Augers
2-inch OD Split Barrel Sampler

Abandonment Method:
Borings backfilled with soil cuttings and patched with
non-shrink grout/concrete

See Exhibit A-3 for description of field
procedures.
See Appendix B for description of laboratory
procedures and additional data (if any).
See Appendix C for explanation of symbols and
abbreviations.

Notes:
BKG = Ambient Background Levels (0 - 1 ppm)

WATER LEVEL OBSERVATIONS

None encountered at completion of sampling

Terracon
15 Marway Cir Ste 2B
Rochester, NY

Boring Started: 9/6/2016

Drill Rig: CME-550X

Project No.: J5165113

Boring Completed: 9/6/2016

Driller: R. Brown

Exhibit: A-4

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL J5165113 - DRIVING PARK INTERSECTION REALIGNMENT.GPJ

BORING LOG NO. B-2

Page 1 of 1

PROJECT: Dewey Ave. / Driving Park Ave. Intersection
Realignment

CLIENT: City Of Rochester - Dept. of Enviro. Services
30 Church St., Rm. 300B, Rochester NY

SITE: Driving Park Ave.
Rochester, NY

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL J5165113 - DRIVING PARK INTERSECTION REALIGNMENT.GPJ

GRAPHIC LOG	LOCATION See Exhibit A-2 Latitude: 43.180969° Longitude: -77.638124°	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	PID Readings (PPM)
	DEPTH						
	ASPHALT CONCRETE						
1.1							
	FILL - AGGREGATE BASE COURSE , gray, (Crushed Stone Subbase)						
2.1					8	12-7-6-1 N=13	BKG
	SILTY CLAY (CL-ML) , trace sand, gray to brown, soft to medium stiff						
		5			9	1-1-2-1 N=3	BKG
					22	2-4-4-9 N=8	BKG
7.1							
	SILT (ML) , trace sand, gray to brown, loose, (Staining and petroleum odors noted at approximately 8' depth)				20	2-4-2-4 N=6	15 - 45+
9.1							
	Boring Terminated at 9.1 Feet						

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Portable Core Machine equipped with 6" thinwall core bit
4.25-inch ID Hollow Stem Augers
2-inch OD Split Barrel Sampler

Abandonment Method:
Borings backfilled with soil cuttings and patched with
non-shrink grout/concrete

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:
BKG = Ambient Background Levels (0 - 1 PPM)

WATER LEVEL OBSERVATIONS

None encountered at completion of sampling

Terracon
15 Marway Cir Ste 2B
Rochester, NY

Boring Started: 9/6/2016

Drill Rig: CME-550X

Project No.: J5165113

Boring Completed: 9/6/2016

Driller: R. Brown

Exhibit: A-5

BORING LOG NO. B-3

Page 1 of 1

PROJECT: Dewey Ave. / Driving Park Ave. Intersection
Realignment

CLIENT: City Of Rochester - Dept. of Enviro. Services
30 Church St., Rm. 300B, Rochester NY

SITE: Driving Park Ave.
Rochester, NY

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL J5165113 - DRIVING PARK INTERSECTION REALIGNMENT.GPJ

GRAPHIC LOG	LOCATION See Exhibit A-2 Latitude: 43.180965° Longitude: -77.637626°	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	PID Readings (PPM)
	DEPTH						
	ASPHALT CONCRETE	0.4					
	CONCRETE	1.1					
	FILL - POORLY GRADED SAND WITH SILT , fine grained, brown	2.5			18	2-5-4-3 N=9	BKG
	SILTY CLAY WITH SAND (CL-ML) , brown, very stiff	4.5			3	1-8-9-13	BKG
	SANDY SILT (ML) , brown, dense	7.1			14	3-18-19-24	BKG
	SILT (ML) , gray, dense	9.1			23	21-20-12-13	BKG
	Boring Terminated at 9.1 Feet						

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Portable Core Machine equipped with 6" thinwall core bit
4.25-inch ID Hollow Stem Augers
2-inch OD Split Barrel Sampler

Abandonment Method:
Borings backfilled with soil cuttings and patched with
non-shrink grout/concrete

See Exhibit A-3 for description of field
procedures.
See Appendix B for description of laboratory
procedures and additional data (if any).
See Appendix C for explanation of symbols and
abbreviations.

Notes:
BKG = Ambient Background Levels (0 - 1 ppm)

WATER LEVEL OBSERVATIONS

None encountered at completion of sampling

Terracon
15 Marway Cir Ste 2B
Rochester, NY

Boring Started: 9/6/2016

Drill Rig: CME-550X


Project No.: J5165113

Boring Completed: 9/6/2016

Driller: R. Brown

Exhibit: A-6




DEWEY AVE. AND DRIVING PARK AVE. REALIGNMENT PROJECT DRIVING PARK AVE. ROCHESTER, NY	Site Plan:	
	Report Number: J5165113	
	Technician:	
	Date: Sept 2106	
	Scale: Not to Scale	CORE PHOTOGRAPHS EXHIBIT A-7



DEWEY AVE. AND DRIVING PARK AVE. REALIGNMENT PROJECT
CITY OF ROCHESTER, NEW YORK PIN 4755.55
CORE C-2 308 DRIVING PARK AVE.

DEWEY AVE. AND DRIVIG PARK AVE. REALIGNMENT PROJECT DRIVING PARK AVE. ROCHESTER, NY	Site Plan:	Terracon CORE PHOTOGRAPHS EXHIBIT A-8
	Report Number: J5165113	
	Technician:	
	Date: Sept 2106	
	Scale: Not to Scale	



DEWEY AVE. AND DRIVIG PARK AVE. REALIGNMENT PROJECT DRIVING PARK AVE. ROCHESTER, NY	Site Plan:	
	Report Number: J5165113	
	Technician:	
	Date: Sept 2106	
	Scale: Not to Scale	CORE PHOTOGRAPHS EXHIBIT A-9

APPENDIX B

SUPPORTING DOCUMENTS

Soil Classification Description

As part of the subsurface exploration program, samples were examined in our laboratory and classified in accordance with the General Notes and the Unified Soil Classification System (USCS) based on the material's texture and plasticity. The USCS group symbol is shown on the boring logs, and a brief description of the USCS is included with this report in Appendix B.

GENERAL NOTES

DRILLING & SAMPLING SYMBOLS:

SS: Split Spoon – 1-3/8" I.D., 2" O.D., unless otherwise noted	HS: Hollow Stem Auger
ST: Thin-Walled Tube - 2" O.D., unless otherwise noted	PA: Power Auger
RS: Ring Sampler - 2.42" I.D., 3" O.D., unless otherwise noted	HA: Hand Auger
DB: Diamond Bit Coring - 4", N, B	RB: Rock Bit
BS: Bulk Sample or Auger Sample	WB: Wash Boring or Mud Rotary

The number of blows required to advance a standard 2-inch O.D. split-spoon sampler (SS) the last 12 inches of the total 18-inch penetration with a 140-pound hammer falling 30 inches is considered the "Standard Penetration" or "N-value."

WATER LEVEL MEASUREMENT SYMBOLS:

WL: Water Level	WS: While Sampling	N/E: Not Encountered
WCI: Wet Cave in	WD: While Drilling	
DCI: Dry Cave in	BCR: Before Casing Removal	
AB: After Boring	ACR: After Casing Removal	

DESCRIPTIVE SOIL CLASSIFICATION: Soils are generally categorized by Group Name with modifiers (Grain-size Distribution), Color, and Consistency. The order of the visual-manual classification is as follows:

1. Group Name
2. Modifiers (with, trace, or modified Group Name)
3. Color
4. Consistency (or Relative Density)

CONSISTENCY OF FINE-GRAINED SOILS

<u>Unconfined Compressive Strength, Qu, psf</u>	<u>Standard Penetration or N-value (SS) Blows/Ft.</u>	<u>Consistency</u>
< 500	<2	Very Soft
500 – 1,000	2-3	Soft
1,001 – 2,000	4-6	Medium Stiff
2,001 – 4,000	7-12	Stiff
4,001 – 8,000	13-26	Very Stiff
8,000+	26+	Hard

RELATIVE DENSITY OF COARSE-GRAINED SOILS

<u>Standard Penetration or N-value (SS) Blows/Ft.</u>	<u>Ring Sampler (RS) Blows/Ft.</u>	<u>Relative Density</u>
0 – 3	0-6	Very Loose
4 – 9	7-18	Loose
10 – 29	19-58	Medium Dense
30 – 49	59-98	Dense
50+	99+	Very Dense

RELATIVE PROPORTIONS OF SAND AND GRAVEL

<u>Descriptive Term(s) of other Constituents</u>	<u>Percent of Dry Weight</u>
Trace	< 15
With	15 – 29
Modifier	> 30

GRAIN SIZE TERMINOLOGY

<u>Major Component of Sample</u>	<u>Particle Size</u>
Boulders	Over 12 in. (300mm)
Cobbles	12 in. to 3 in. (300mm to 75 mm)
Gravel	3 in. to #4 sieve (75mm to 4.75 mm)
Sand	#4 to #200 sieve (4.75mm to 0.075mm)
Silt or Clay	Passing #200 Sieve (0.075mm)

RELATIVE PROPORTIONS OF FINES

<u>Descriptive Term(s) of other Constituents</u>	<u>Percent of Dry Weight</u>
Trace	< 5
With	5 – 12
Modifiers	> 12

PLASTICITY DESCRIPTION

<u>Term</u>	<u>Plasticity Index</u>
Non-plastic	0
Low	1-10
Medium	11-30
High	30+

UNIFIED SOIL CLASSIFICATION SYSTEM

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests ^A					Soil Classification	
					Group Symbol	Group Name ^B
Coarse Grained Soils: More than 50% retained on No. 200 sieve	Gravels: More than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels: Less than 5% fines ^C	Cu ≥ 4 and 1 ≤ Cc ≤ 3 ^E	GW	Well-graded gravel ^F	
			Cu < 4 and/or 1 > Cc > 3 ^E	GP	Poorly graded gravel ^F	
		Gravels with Fines: More than 12% fines ^C	Fines classify as ML or MH	GM	Silty gravel ^{F,G,H}	
			Fines classify as CL or CH	GC	Clayey gravel ^{F,G,H}	
	Sands: 50% or more of coarse fraction passes No. 4 sieve	Clean Sands: Less than 5% fines ^D	Cu ≥ 6 and 1 ≤ Cc ≤ 3 ^E	SW	Well-graded sand ^I	
			Cu < 6 and/or 1 > Cc > 3 ^E	SP	Poorly graded sand ^I	
		Sands with Fines: More than 12% fines ^D	Fines classify as ML or MH	SM	Silty sand ^{G,H,I}	
			Fines Classify as CL or CH	SC	Clayey sand ^{G,H,I}	
Fine-Grained Soils: 50% or more passes the No. 200 sieve	Silts and Clays: Liquid limit less than 50	Inorganic:	PI > 7 and plots on or above “A” line ^J	CL	Lean clay ^{K,L,M}	
			PI < 4 or plots below “A” line ^J	ML	Silt ^{K,L,M}	
		Organic:	Liquid limit - oven dried	< 0.75	OL	Organic clay ^{K,L,M,N}
			Liquid limit - not dried		Organic silt ^{K,L,M,O}	
	Silts and Clays: Liquid limit 50 or more	Inorganic:	PI plots on or above “A” line	CH	Fat clay ^{K,L,M}	
			PI plots below “A” line	MH	Elastic Silt ^{K,L,M}	
		Organic:	Liquid limit - oven dried	< 0.75	OH	Organic clay ^{K,L,M,P}
			Liquid limit - not dried		Organic silt ^{K,L,M,Q}	
Highly organic soils:	Primarily organic matter, dark in color, and organic odor			PT	Peat	

^A Based on the material passing the 3-in. (75-mm) sieve

^B If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

^C Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

^D Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay

$$^E \quad Cu = D_{60}/D_{10} \quad Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$$

^F If soil contains $\geq 15\%$ sand, add "with sand" to group name.

^G If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

^H If fines are organic, add "with organic fines" to group name.

^I If soil contains $\geq 15\%$ gravel, add "with gravel" to group name.

^J If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

^K If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

^L If soil contains $\geq 30\%$ plus No. 200 predominantly sand, add "sandy" to group name.

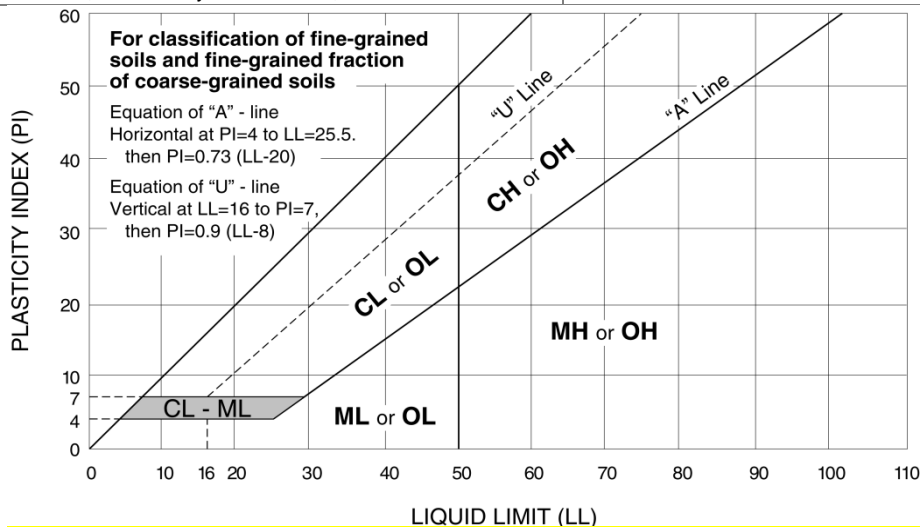
^M If soil contains $\geq 30\%$ plus No. 200, predominantly gravel, add "gravelly" to group name.

^N $PI \geq 4$ and plots on or above "A" line.

^O $PI < 4$ or plots below "A" line.

^P PI plots on or above "A" line.

^Q PI plots below "A" line.



APPENDIX C

LABORATORY TEST RESULTS



Project Name:	Dewey Ave. & Driving Park Ave. Realignment	Project Number:	J5165113
Client:	City of Rochester	Location:	City of Rochester, NY
Date:	9/22/2016	Test Performed By:	Ian Muir

D.I.P.R.A. 10-POINT SOIL EVALUATION TEST RESULTS

Test No.	Location	Resistivity (ohm-cm)	Redox (mv)	Ph	Sulfides (+,T,-)	Moisture (wet, moist, dry)	Total Points
		points	points	points	points	points	
1	B-1, 5' BGS	670	60.1	8.41	negative	moist	14.5
		10	3.5	0	0	1	
2	B-2, 5' BGS	760	215	8.65	negative	moist	14
		10	0	3	0	1	
3	B-3, 5' BGS	1020	170	8.63	negative	moist	14
		10	0	3	0	1	

EXHIBIT C-1



PARADIGM
ENVIRONMENTAL SERVICES, INC.

Analytical Report For
Terracon Consultants-NY, Inc.

For Lab Project ID

163851

Referencing

Driving Park Ave.

Prepared

Thursday, September 15, 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 be "M. [unclear]", is written 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 • PADEP ID# 68-02351

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.

Report Prepared Thursday, September 15, 2016

Page 1 of 18



Client: Terracon Consultants-NY, Inc.

Project Reference: Driving Park Ave.

Sample Identifier: B-3 - 5' Depth

Lab Sample ID: 163851-01

Date Sampled: 9/6/2016

Matrix: Soil

Date Received: 9/6/2016

Chloride

Analyte	Result	Units	Qualifier	Date Analyzed
Chloride	330	mg/Kg		9/13/2016

Method Reference(s): EPA 9251

Subcontractor ELAP ID: 11148

Petroleum Hydrocarbons by GC

Analyte	Result	Units	Qualifier	Date Analyzed
Petroleum Hydrocarbon	< 7.72	mg/Kg		9/14/2016 13:51

Method Reference(s): NYSDOH 310.13

Preparation Date: 9/9/2016

ELAP does not offer this test for approval as part of their laboratory certification program.

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 8.20	ug/Kg		9/9/2016 23:48
1,1,2,2-Tetrachloroethane	< 8.20	ug/Kg		9/9/2016 23:48
1,1,2-Trichloroethane	< 8.20	ug/Kg		9/9/2016 23:48
1,1-Dichloroethane	< 8.20	ug/Kg		9/9/2016 23:48
1,1-Dichloroethene	< 8.20	ug/Kg		9/9/2016 23:48
1,2,3-Trichlorobenzene	< 20.5	ug/Kg		9/9/2016 23:48
1,2,4-Trichlorobenzene	< 20.5	ug/Kg		9/9/2016 23:48
1,2-Dibromo-3-Chloropropane	< 41.0	ug/Kg		9/9/2016 23:48
1,2-Dibromoethane	< 8.20	ug/Kg		9/9/2016 23:48
1,2-Dichlorobenzene	< 8.20	ug/Kg		9/9/2016 23:48
1,2-Dichloroethane	< 8.20	ug/Kg		9/9/2016 23:48
1,2-Dichloropropane	< 8.20	ug/Kg		9/9/2016 23:48
1,3-Dichlorobenzene	< 8.20	ug/Kg		9/9/2016 23:48
1,4-Dichlorobenzene	< 8.20	ug/Kg		9/9/2016 23:48
1,4-dioxane	< 82.0	ug/Kg		9/9/2016 23:48
2-Butanone	< 41.0	ug/Kg		9/9/2016 23:48
2-Hexanone	< 20.5	ug/Kg		9/9/2016 23:48

Client: **Terracon Consultants-NY, Inc.**
Project Reference: Driving Park Ave.

Sample Identifier:	B-3 - 5' Depth			
Lab Sample ID:	163851-01		Date Sampled:	9/6/2016
Matrix:	Soil		Date Received:	9/6/2016
4-Methyl-2-pentanone	< 20.5	ug/Kg	9/9/2016	23:48
Acetone	< 41.0	ug/Kg	9/9/2016	23:48
Benzene	< 8.20	ug/Kg	9/9/2016	23:48
Bromochloromethane	< 20.5	ug/Kg	9/9/2016	23:48
Bromodichloromethane	< 8.20	ug/Kg	9/9/2016	23:48
Bromoform	< 20.5	ug/Kg	9/9/2016	23:48
Bromomethane	< 8.20	ug/Kg	9/9/2016	23:48
Carbon disulfide	< 8.20	ug/Kg	9/9/2016	23:48
Carbon Tetrachloride	< 8.20	ug/Kg	9/9/2016	23:48
Chlorobenzene	< 8.20	ug/Kg	9/9/2016	23:48
Chloroethane	< 8.20	ug/Kg	9/9/2016	23:48
Chloroform	< 8.20	ug/Kg	9/9/2016	23:48
Chloromethane	< 8.20	ug/Kg	9/9/2016	23:48
cis-1,2-Dichloroethene	< 8.20	ug/Kg	9/9/2016	23:48
cis-1,3-Dichloropropene	< 8.20	ug/Kg	9/9/2016	23:48
Cyclohexane	< 41.0	ug/Kg	9/9/2016	23:48
Dibromochloromethane	< 8.20	ug/Kg	9/9/2016	23:48
Dichlorodifluoromethane	< 8.20	ug/Kg	9/9/2016	23:48
Ethylbenzene	< 8.20	ug/Kg	9/9/2016	23:48
Freon 113	< 8.20	ug/Kg	9/9/2016	23:48
Isopropylbenzene	< 8.20	ug/Kg	9/9/2016	23:48
m,p-Xylene	< 8.20	ug/Kg	9/9/2016	23:48
Methyl acetate	< 8.20	ug/Kg	9/9/2016	23:48
Methyl tert-butyl Ether	< 8.20	ug/Kg	9/9/2016	23:48
Methylcyclohexane	< 8.20	ug/Kg	9/9/2016	23:48
Methylene chloride	< 20.5	ug/Kg	9/9/2016	23:48
o-Xylene	< 8.20	ug/Kg	9/9/2016	23:48
Styrene	< 20.5	ug/Kg	9/9/2016	23:48
Tetrachloroethene	< 8.20	ug/Kg	9/9/2016	23:48
Toluene	< 8.20	ug/Kg	9/9/2016	23:48
trans-1,2-Dichloroethene	< 8.20	ug/Kg	9/9/2016	23:48
trans-1,3-Dichloropropene	< 8.20	ug/Kg	9/9/2016	23:48

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: 163851

Client: **Terracon Consultants-NY, Inc.**

Project Reference: Driving Park Ave.

Sample Identifier: B-3 - 5' Depth

Lab Sample ID: 163851-01

Date Sampled: 9/6/2016

Matrix: Soil

Date Received: 9/6/2016

Trichloroethene	< 8.20	ug/Kg	9/9/2016 23:48
Trichlorofluoromethane	< 8.20	ug/Kg	9/9/2016 23:48
Vinyl chloride	< 8.20	ug/Kg	9/9/2016 23:48

<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Limits</u>	<u>Outliers</u>	<u>Date Analyzed</u>
1,2-Dichloroethane-d4	104	81.3 - 124		9/9/2016 23:48
4-Bromofluorobenzene	99.3	80 - 117		9/9/2016 23:48
Pentafluorobenzene	99.5	88.3 - 111		9/9/2016 23:48
Toluene-D8	99.8	78 - 123		9/9/2016 23:48

Method Reference(s): EPA 8260C
EPA 5035A

Data File: x35255.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.



Client: Terracon Consultants-NY, Inc.

Project Reference: Driving Park Ave.

Sample Identifier: B-2 - 5' Depth

Lab Sample ID: 163851-02

Date Sampled: 9/6/2016

Matrix: Soil

Date Received: 9/6/2016

Chloride

Analyte	Result	Units	Qualifier	Date Analyzed
Chloride	410	mg/Kg		9/13/2016

Method Reference(s): EPA 9251

Subcontractor ELAP ID: 11148

Petroleum Hydrocarbons by GC

Analyte	Result	Units	Qualifier	Date Analyzed
Medium weight PHC as Diesel	11.1	mg/Kg		9/14/2016 14:29

Method Reference(s): NYSDOH 310.13

Preparation Date: 9/9/2016

ELAP does not offer this test for approval as part of their laboratory certification program.

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 8.67	ug/Kg		9/10/2016 00:12
1,1,2,2-Tetrachloroethane	< 8.67	ug/Kg		9/10/2016 00:12
1,1,2-Trichloroethane	< 8.67	ug/Kg		9/10/2016 00:12
1,1-Dichloroethane	< 8.67	ug/Kg		9/10/2016 00:12
1,1-Dichloroethene	< 8.67	ug/Kg		9/10/2016 00:12
1,2,3-Trichlorobenzene	< 21.7	ug/Kg		9/10/2016 00:12
1,2,4-Trichlorobenzene	< 21.7	ug/Kg		9/10/2016 00:12
1,2-Dibromo-3-Chloropropane	< 43.4	ug/Kg		9/10/2016 00:12
1,2-Dibromoethane	< 8.67	ug/Kg		9/10/2016 00:12
1,2-Dichlorobenzene	< 8.67	ug/Kg		9/10/2016 00:12
1,2-Dichloroethane	< 8.67	ug/Kg		9/10/2016 00:12
1,2-Dichloropropane	< 8.67	ug/Kg		9/10/2016 00:12
1,3-Dichlorobenzene	< 8.67	ug/Kg		9/10/2016 00:12
1,4-Dichlorobenzene	< 8.67	ug/Kg		9/10/2016 00:12
1,4-dioxane	< 86.7	ug/Kg		9/10/2016 00:12
2-Butanone	< 43.4	ug/Kg		9/10/2016 00:12
2-Hexanone	< 21.7	ug/Kg		9/10/2016 00:12



Lab Project ID: 163851

Client: Terracon Consultants-NY, Inc.

Project Reference: Driving Park Ave.

Sample Identifier:	B-2 - 5' Depth		
Lab Sample ID:	163851-02	Date Sampled:	9/6/2016
Matrix:	Soil	Date Received:	9/6/2016
4-Methyl-2-pentanone	< 21.7	ug/Kg	9/10/2016 00:12
Acetone	< 43.4	ug/Kg	9/10/2016 00:12
Benzene	< 8.67	ug/Kg	9/10/2016 00:12
Bromochloromethane	< 21.7	ug/Kg	9/10/2016 00:12
Bromodichloromethane	< 8.67	ug/Kg	9/10/2016 00:12
Bromoform	< 21.7	ug/Kg	9/10/2016 00:12
Bromomethane	< 8.67	ug/Kg	9/10/2016 00:12
Carbon disulfide	< 8.67	ug/Kg	9/10/2016 00:12
Carbon Tetrachloride	< 8.67	ug/Kg	9/10/2016 00:12
Chlorobenzene	< 8.67	ug/Kg	9/10/2016 00:12
Chloroethane	< 8.67	ug/Kg	9/10/2016 00:12
Chloroform	< 8.67	ug/Kg	9/10/2016 00:12
Chloromethane	< 8.67	ug/Kg	9/10/2016 00:12
cis-1,2-Dichloroethene	< 8.67	ug/Kg	9/10/2016 00:12
cis-1,3-Dichloropropene	< 8.67	ug/Kg	9/10/2016 00:12
Cyclohexane	< 43.4	ug/Kg	9/10/2016 00:12
Dibromochloromethane	< 8.67	ug/Kg	9/10/2016 00:12
Dichlorodifluoromethane	< 8.67	ug/Kg	9/10/2016 00:12
Ethylbenzene	< 8.67	ug/Kg	9/10/2016 00:12
Freon 113	< 8.67	ug/Kg	9/10/2016 00:12
Isopropylbenzene	< 8.67	ug/Kg	9/10/2016 00:12
m,p-Xylene	< 8.67	ug/Kg	9/10/2016 00:12
Methyl acetate	< 8.67	ug/Kg	9/10/2016 00:12
Methyl tert-butyl Ether	< 8.67	ug/Kg	9/10/2016 00:12
Methylcyclohexane	< 8.67	ug/Kg	9/10/2016 00:12
Methylene chloride	< 21.7	ug/Kg	9/10/2016 00:12
o-Xylene	< 8.67	ug/Kg	9/10/2016 00:12
Styrene	< 21.7	ug/Kg	9/10/2016 00:12
Tetrachloroethene	< 8.67	ug/Kg	9/10/2016 00:12
Toluene	< 8.67	ug/Kg	9/10/2016 00:12
trans-1,2-Dichloroethene	< 8.67	ug/Kg	9/10/2016 00:12
trans-1,3-Dichloropropene	< 8.67	ug/Kg	9/10/2016 00:12

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Lab Project ID: 163851

Client: Terracon Consultants-NY, Inc.

Project Reference: Driving Park Ave.

Sample Identifier:	B-2 - 5' Depth			Date Sampled:	9/6/2016
Lab Sample ID:	163851-02			Date Received:	9/6/2016
Matrix:	Soil				
Trichloroethene	< 8.67	ug/Kg			9/10/2016 00:12
Trichlorofluoromethane	< 8.67	ug/Kg			9/10/2016 00:12
Vinyl chloride	< 8.67	ug/Kg			9/10/2016 00:12
Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed	
1,2-Dichloroethane-d4	104	81.3 - 124		9/10/2016	00:12
4-Bromofluorobenzene	98.2	80 - 117		9/10/2016	00:12
Pentafluorobenzene	98.0	88.3 - 111		9/10/2016	00:12
Toluene-D8	97.9	78 - 123		9/10/2016	00:12

Method Reference(s): EPA 8260C
EPA 5035A

Data File: x35256.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.

Client: Terracon Consultants-NY, Inc.
Project Reference: Driving Park Ave.

Sample Identifier: B-1 - 5' Depth

Lab Sample ID: 163851-03

Date Sampled: 9/6/2016

Matrix: Soil

Date Received: 9/6/2016

Chloride

Analyte	Result	Units	Qualifier	Date Analyzed
Chloride	310	mg/Kg		9/13/2016

Method Reference(s): EPA 9251

Subcontractor ELAP ID: 11148

Petroleum Hydrocarbons by GC

Analyte	Result	Units	Qualifier	Date Analyzed
Petroleum Hydrocarbon	< 7.98	mg/Kg		9/14/2016 15:06

Method Reference(s): NYSDOH 310.13

Preparation Date: 9/9/2016

ELAP does not offer this test for approval as part of their laboratory certification program.
Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 7.44	ug/Kg	M	9/13/2016 14:10
1,1,2,2-Tetrachloroethane	< 7.44	ug/Kg		9/13/2016 14:10
1,1,2-Trichloroethane	< 7.44	ug/Kg		9/13/2016 14:10
1,1-Dichloroethane	< 7.44	ug/Kg	M	9/13/2016 14:10
1,1-Dichloroethene	< 7.44	ug/Kg	M	9/13/2016 14:10
1,2,3-Trichlorobenzene	< 18.6	ug/Kg		9/13/2016 14:10
1,2,4-Trichlorobenzene	< 18.6	ug/Kg		9/13/2016 14:10
1,2-Dibromo-3-Chloropropane	< 37.2	ug/Kg		9/13/2016 14:10
1,2-Dibromoethane	< 7.44	ug/Kg		9/13/2016 14:10
1,2-Dichlorobenzene	< 7.44	ug/Kg	M	9/13/2016 14:10
1,2-Dichloroethane	< 7.44	ug/Kg		9/13/2016 14:10
1,2-Dichloropropane	< 7.44	ug/Kg	M	9/13/2016 14:10
1,3-Dichlorobenzene	< 7.44	ug/Kg	M	9/13/2016 14:10
1,4-Dichlorobenzene	< 7.44	ug/Kg	M	9/13/2016 14:10
1,4-dioxane	< 74.4	ug/Kg		9/13/2016 14:10
2-Butanone	< 37.2	ug/Kg		9/13/2016 14:10
2-Hexanone	< 18.6	ug/Kg		9/13/2016 14:10



Lab Project ID: 163851

Client: Terracon Consultants-NY, Inc.

Project Reference: Driving Park Ave.

Sample Identifier:	B-1 - 5' Depth			
Lab Sample ID:	163851-03		Date Sampled:	9/6/2016
Matrix:	Soil		Date Received:	9/6/2016
4-Methyl-2-pentanone	< 18.6	ug/Kg		9/13/2016 14:10
Acetone	< 37.2	ug/Kg		9/13/2016 14:10
Benzene	< 7.44	ug/Kg	M	9/13/2016 14:10
Bromochloromethane	< 18.6	ug/Kg		9/13/2016 14:10
Bromodichloromethane	< 7.44	ug/Kg		9/13/2016 14:10
Bromoform	< 18.6	ug/Kg		9/13/2016 14:10
Bromomethane	< 7.44	ug/Kg		9/13/2016 14:10
Carbon disulfide	< 7.44	ug/Kg		9/13/2016 14:10
Carbon Tetrachloride	< 7.44	ug/Kg	M	9/13/2016 14:10
Chlorobenzene	< 7.44	ug/Kg	M	9/13/2016 14:10
Chloroethane	< 7.44	ug/Kg	M	9/13/2016 14:10
Chloroform	< 7.44	ug/Kg	M	9/13/2016 14:10
Chloromethane	< 7.44	ug/Kg		9/13/2016 14:10
cis-1,2-Dichloroethene	< 7.44	ug/Kg		9/13/2016 14:10
cis-1,3-Dichloropropene	< 7.44	ug/Kg		9/13/2016 14:10
Cyclohexane	< 37.2	ug/Kg		9/13/2016 14:10
Dibromochloromethane	< 7.44	ug/Kg		9/13/2016 14:10
Dichlorodifluoromethane	< 7.44	ug/Kg		9/13/2016 14:10
Ethylbenzene	< 7.44	ug/Kg	M	9/13/2016 14:10
Freon 113	< 7.44	ug/Kg		9/13/2016 14:10
Isopropylbenzene	< 7.44	ug/Kg		9/13/2016 14:10
m,p-Xylene	< 7.44	ug/Kg		9/13/2016 14:10
Methyl acetate	< 7.44	ug/Kg		9/13/2016 14:10
Methyl tert-butyl Ether	< 7.44	ug/Kg		9/13/2016 14:10
Methylcyclohexane	< 7.44	ug/Kg		9/13/2016 14:10
Methylene chloride	< 18.6	ug/Kg	M	9/13/2016 14:10
o-Xylene	< 7.44	ug/Kg		9/13/2016 14:10
Styrene	< 18.6	ug/Kg		9/13/2016 14:10
Tetrachloroethene	< 7.44	ug/Kg		9/13/2016 14:10
Toluene	< 7.44	ug/Kg		9/13/2016 14:10
trans-1,2-Dichloroethene	< 7.44	ug/Kg	M	9/13/2016 14:10
trans-1,3-Dichloropropene	< 7.44	ug/Kg		9/13/2016 14:10

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: 163851

Client: **Terracon Consultants-NY, Inc.**

Project Reference: Driving Park Ave.

Sample Identifier: B-1 - 5' Depth

Lab Sample ID: 163851-03

Date Sampled: 9/6/2016

Matrix: Soil

Date Received: 9/6/2016

Trichloroethene	< 7.44	ug/Kg	M	9/13/2016 14:10
Trichlorofluoromethane	< 7.44	ug/Kg	M	9/13/2016 14:10
Vinyl chloride	< 7.44	ug/Kg		9/13/2016 14:10

<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Limits</u>	<u>Outliers</u>	<u>Date Analyzed</u>
1,2-Dichloroethane-d4	101	81.3 - 124		9/13/2016 14:10
4-Bromofluorobenzene	99.4	80 - 117		9/13/2016 14:10
Pentafluorobenzene	99.6	88.3 - 111		9/13/2016 14:10
Toluene-D8	101	78 - 123		9/13/2016 14:10

Method Reference(s): EPA 8260C
EPA 5035A

Data File: x35273.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: 163851

Client: **Terracon Consultants-NY, Inc.**

Project Reference: Driving Park Ave.

Sample Identifier: B-1 - 8.5-9.0'

Lab Sample ID: 163851-04

Date Sampled: 9/6/2016

Matrix: Soil

Date Received: 9/6/2016

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 7.77	ug/Kg		9/13/2016 15:23
1,1,2,2-Tetrachloroethane	< 7.77	ug/Kg		9/13/2016 15:23
1,1,2-Trichloroethane	< 7.77	ug/Kg		9/13/2016 15:23
1,1-Dichloroethane	< 7.77	ug/Kg		9/13/2016 15:23
1,1-Dichloroethene	< 7.77	ug/Kg		9/13/2016 15:23
1,2,3-Trichlorobenzene	< 19.4	ug/Kg		9/13/2016 15:23
1,2,4-Trichlorobenzene	< 19.4	ug/Kg		9/13/2016 15:23
1,2-Dibromo-3-Chloropropane	< 38.9	ug/Kg		9/13/2016 15:23
1,2-Dibromoethane	< 7.77	ug/Kg		9/13/2016 15:23
1,2-Dichlorobenzene	< 7.77	ug/Kg		9/13/2016 15:23
1,2-Dichloroethane	< 7.77	ug/Kg		9/13/2016 15:23
1,2-Dichloropropane	< 7.77	ug/Kg		9/13/2016 15:23
1,3-Dichlorobenzene	< 7.77	ug/Kg		9/13/2016 15:23
1,4-Dichlorobenzene	< 7.77	ug/Kg		9/13/2016 15:23
1,4-dioxane	< 77.7	ug/Kg		9/13/2016 15:23
2-Butanone	< 38.9	ug/Kg		9/13/2016 15:23
2-Hexanone	< 19.4	ug/Kg		9/13/2016 15:23
4-Methyl-2-pentanone	< 19.4	ug/Kg		9/13/2016 15:23
Acetone	57.8	ug/Kg		9/13/2016 15:23
Benzene	< 7.77	ug/Kg		9/13/2016 15:23
Bromochloromethane	< 19.4	ug/Kg		9/13/2016 15:23
Bromodichloromethane	< 7.77	ug/Kg		9/13/2016 15:23
Bromoform	< 19.4	ug/Kg		9/13/2016 15:23
Bromomethane	< 7.77	ug/Kg		9/13/2016 15:23
Carbon disulfide	< 7.77	ug/Kg		9/13/2016 15:23
Carbon Tetrachloride	< 7.77	ug/Kg		9/13/2016 15:23
Chlorobenzene	< 7.77	ug/Kg		9/13/2016 15:23
Chloroethane	< 7.77	ug/Kg		9/13/2016 15:23
Chloroform	< 7.77	ug/Kg		9/13/2016 15:23

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Lab Project ID: 163851

Client: **Terracon Consultants-NY, Inc.**

Project Reference: Driving Park Ave.

Sample Identifier: B-1 - 8.5-9.0'

Lab Sample ID: 163851-04

Date Sampled: 9/6/2016

Matrix: Soil

Date Received: 9/6/2016

Chloromethane	< 7.77	ug/Kg	9/13/2016 15:23
cis-1,2-Dichloroethene	< 7.77	ug/Kg	9/13/2016 15:23
cis-1,3-Dichloropropene	< 7.77	ug/Kg	9/13/2016 15:23
Cyclohexane	< 38.9	ug/Kg	9/13/2016 15:23
Dibromochloromethane	< 7.77	ug/Kg	9/13/2016 15:23
Dichlorodifluoromethane	< 7.77	ug/Kg	9/13/2016 15:23
Ethylbenzene	29.5	ug/Kg	9/13/2016 15:23
Freon 113	< 7.77	ug/Kg	9/13/2016 15:23
Isopropylbenzene	27.6	ug/Kg	9/13/2016 15:23
m,p-Xylene	< 7.77	ug/Kg	9/13/2016 15:23
Methyl acetate	< 7.77	ug/Kg	9/13/2016 15:23
Methyl tert-butyl Ether	< 7.77	ug/Kg	9/13/2016 15:23
Methylcyclohexane	9.62	ug/Kg	9/13/2016 15:23
Methylene chloride	< 19.4	ug/Kg	9/13/2016 15:23
o-Xylene	< 7.77	ug/Kg	9/13/2016 15:23
Styrene	< 19.4	ug/Kg	9/13/2016 15:23
Tetrachloroethene	< 7.77	ug/Kg	9/13/2016 15:23
Toluene	< 7.77	ug/Kg	9/13/2016 15:23
trans-1,2-Dichloroethene	< 7.77	ug/Kg	9/13/2016 15:23
trans-1,3-Dichloropropene	< 7.77	ug/Kg	9/13/2016 15:23
Trichloroethene	< 7.77	ug/Kg	9/13/2016 15:23
Trichlorofluoromethane	< 7.77	ug/Kg	9/13/2016 15:23
Vinyl chloride	< 7.77	ug/Kg	9/13/2016 15:23

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: 163851

Client: Terracon Consultants-NY, Inc.

Project Reference: Driving Park Ave.

Sample Identifier: B-1 - 8.5-9.0'

Lab Sample ID: 163851-04

Date Sampled: 9/6/2016

Matrix: Soil

Date Received: 9/6/2016

<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Limits</u>	<u>Outliers</u>	<u>Date Analyzed</u>	
1,2-Dichloroethane-d4	101	81.3 - 124		9/13/2016	15:23
4-Bromofluorobenzene	98.9	80 - 117		9/13/2016	15:23
Pentafluorobenzene	100	88.3 - 111		9/13/2016	15:23
Toluene-D8	104	78 - 123		9/13/2016	15:23

Method Reference(s): EPA 8260C

EPA 5035A

Data File: x35276.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.

CHAIN OF CUSTODY

1 of 2



PARADIGM
ENVIRONMENTAL SERVICES, INC.

REPORT TO:

INVOICE TO:

LAB PROJECT ID

163851

Quotation #:

Email:

FRANK MINOCCIA @ TEMACON.COM
410-502-5714 @ TEMACON.COM

PROJECT REFERENCE

DIVING Rock AVE.

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	GARB	SAMPLE IDENTIFIER	MC AC OD RES IS	C N U M B E R O F S	REMARKS	PARADIGM LAB SAMPLE NUMBER
9/6/16	1230	✓	✓	B-3 - 5' DEPTH	SO	2	✓	01
9/6/16	1315	✓	✓	B-2 - 5' DEPTH	SO	2	✓	02
9/6/16	1330	✓	✓	B-2 - 8' DEPTH	SO	2	✓	03
9/6/16	1415	✓	✓	B-1 - 5' DEPTH	SO	2	✓	03
9/6/16	1430	✓	✓	B-1 - 8.5-9.0'	SO	2	✓	0304

Comments

Turnaround Time

Report Supplements

Availability contingent upon lab approval; additional fees may apply.

Standard 5 day

☒

None Required

☐

None Required

☐

10 day

☐

Batch QC

☐

Basic EDD

☐

Rush 3 day

☐

Category A

☐

NYSDEC EDD

☐

Rush 2 day

☐

Category B

☐

Rush 1 day

☐

Other

☐

Other
please indicate package needed:

Other EDD

☐

Other EDD
please indicate EDD needed:

Sampled By

F. Minocchia

Date/Time

9/6/16 1430

Total Cost:

Relinquished By

F. Minocchia

Date/Time

9/6/16 1530

Received By

Frank Minocchia

Date/Time

9/6/16 1530

P.L.F.

Received @ Lab By

Frank Minocchia

Date/Time

9/6/16 1545

32°C 9/6/16 1542

By signing this form, client agrees to Paradigm Terms and Conditions (reverse).



Chain of Custody Supplement

2 of 2

Client: TerraconCompleted by: Glenn PezzuloLab Project ID: 163851Date: 9/6/16

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 checked="" type="checkbox"/> 6P 9/6/16
Comments	32°C		
Sufficient Sample Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments			

CHAIN OF CUSTODY

1 of 1
L1628256 11148



REPORT TO:

INVOICE TO:

COMPANY:	Paradigm Environmental	COMPANY:	Same	LAB PROJECT #:	CLIENT PROJECT #:
ADDRESS:	179 Lake Avenue	ADDRESS:			
CITY:	Rochester	STATE:	NY	ZIP:	14608
PHONE:		FAX:			
ATTN:	Reporting	ATTN:	Accounts Payable		
COMMENTS: Please email results to reporting@paradigmenv.com				Date Due: 9/16/16	

REQUESTED ANALYSIS

DATE	TIME	COMPOSITION	GRADES	SAMPLE LOCATION/FIELD ID	MATERIALS	COINTEGRATION	REMARKS	PARADIGM LAB SAMPLE NUMBER
1	9/6/16	12:30	X	163851-01	5:1	1	Chloride	
2	1	13:15		-02	1	1		
3	1	14:15		-03	1	1		
4								
5								
6								
7								
8								
9								
10								

LAB USE ONLY BELOW THIS LINE

Sample Condition: Per NELAC/ELAP 210241/242/243/244

Container Type:	Y <input type="checkbox"/> N <input type="checkbox"/>
Preservation:	Y <input type="checkbox"/> N <input type="checkbox"/>
Holding Time:	Y <input type="checkbox"/> N <input type="checkbox"/>
Comments:	2.6°C Temperature: Y <input type="checkbox"/> N <input type="checkbox"/>

Client

Sampled By	Date/Time
Relinquished By	Date/Time
Received By	Date/Time
Received By	Date/Time

Total Cost

P.L.F.

Received @ Lab By

Date/Time