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July 29, 2011
Empire Project Number BEV-11-014

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Attn: Mr. John T. Kolaga

Reference: Supplemental Subsurface Investigation Report
1130 Niagara Street
Buffalo, New York
NYSDEC Spill Number 0903551

Gentlemen:

Empire-Geo Services, Inc. (Empire) is pleased to present this report of our recent supplemental subsurface investigation work at the referenced site. The field work was completed in accordance with our Supplemental Subsurface Investigation Plan dated April 28, 2011.

I. BACKGROUND INFORMATION

Previous subsurface investigations completed by others during 2009 to 2010 on this former commercial/industrial site indicated that subsurface soil had been impacted in a localized area by oil that consisted of motor oil, No. 2 fuel oil, or cutting oil, including a monitoring well that reportedly contained more than five feet of free product. Sixteen additional soil borings were completed in 2010, with trace amounts of oil seen on the exterior of the recovered soil samples at eight locations and heavier oil accumulations seen on soil samples from three locations. The impacted depth interval reportedly was four feet to 14 feet below existing site grades. Bailing was performed in 2010 by the owner and reduced the amount of free product.

A meeting was held onsite on March 10, 2011 to discuss the next steps. Empire prepared the Supplemental Subsurface Investigation Plan of April 28, 2011 in response to NYSDEC's request for additional investigation to attempt to delineate the extent of the oil impacts.

II. SUBSURFACE INVESTIGATION

Subsurface Soils

Empire mobilized a Geoprobe Model 6620DT to the site on May 12, 2011 and completed soil probes at nine locations inside the existing building. In order to expedite the field work, Empire cored the concrete floor slab at each soil probe location in advance of soil sampling work.

The soil probes were located in the area where the previous soil borings indicated oil impacts in the subsurface, and at additional locations to supplement previous information. The probe locations were designates E-1 through E-9 and are indicated on the attached figure. The soil probes were typically advanced to depths of approximately 12-16 feet or to sampler refusal, whichever occurred first.

The soil probes were advanced and soil samples were continuously collected using direct push techniques in general accordance with *ASTM D6282 – Standard Guide for Direct Push Soil Sampling for Environmental Site Characterizations*. The soil samples were collected from ground surface to the termination depth using the Geoprobe® Macro-Core (MC) soil sampling system. The MC sampler collects soil samples 1.5-inches in diameter and 48 inches in length. The samplers were fitted with a removable cutting shoe and clear PVC liner, and a new liner was used for each soil sample in order to prevent cross-contamination between sample intervals and probe locations.

The soil sampling was directed in the field by an Empire environmental geologist who visually classified the recovered soil samples in the field and prepared individual subsurface direct push logs including soil descriptions, indications of contamination, and other pertinent information. The Empire geologist also screened the recovered soil samples for the presence of volatile organic compounds (VOCs) using an Ion Science PhoCheck 1000 Photoionization Detector (PID) equipped with a 10.6 eV lamp. The PID will detect, if present, the aggregate concentration of many VOCs at a practical threshold of approximately 1-2 parts per million (ppm). PID measurements are indicated on the attached direct push logs.

The geologist collected soil samples at each location for laboratory analysis from the depth interval exhibiting visible evidence of contamination, if any, or elevated PID readings. If no such evidence was observed then a laboratory sample was not collected. Soil samples selected for laboratory analysis were those exhibiting the greatest evidence of oil impacts (PID readings, odors, staining, etc.). No soil samples were submitted for laboratory analysis, as discussed in Section III below.

Groundwater / Free Product and Monitoring Well Installations

Evidence of free product was observed at soil probe locations E-4, E-5, and E-6, by lowering a bailer into the open borehole. Based on this evidence, temporary monitoring wells consisting of one-inch ID PVC well screen and riser pipe were installed at these three locations. Additional details are discussed in Section III below. The boreholes at the other six locations did not remain open to allow a bailer to be lowered inside. The Empire geologist also used a bailer to check the product level in existing well MW-1.

Empire returned to the site on May 18, 2011 to make additional product measurements in the new wells and the existing wells.

III. FINDINGS OF THE INVESTIGATION

Subsurface Soil Conditions

The thickness of the concrete floor slab inside the building varied from approximately six to 15 inches at the nine soil probe locations. Beneath the floor slab, approximately one foot to 5.5 feet of miscellaneous fill materials were encountered, including varying proportions of sand, gravel, silty clay, crushed stone, slag, brick fragments, and cinders. Beneath the fills, native soils predominantly consisted of silty clay with varying amounts of sand and gravel. Probe refusal was obtained at a depth 15.5 feet at locations E-5 and E-6, and at a depth of 14.5 feet at location E-9.

Elevated PID readings and oil-type odors were obtained from varying depths at all nine soil probe locations, as indicated on the attached direct push logs. Although a previous analysis for Total Petroleum Hydrocarbons by method 310.13 indicated a fuel oil component, the oil-type odors appear to indicate an unidentified oil rather than a petroleum fuel. At probe locations E-3 through E-8, isolated wet spots that appeared to be traces of free product were found at varying depths inside the silty clay soil samples. Since the presence of free product in soil probes E-4, E-5, and E-6, as discussed below, was considered to be a higher priority, no soil samples were submitted for laboratory analysis.

Groundwater / Free Product

The following observations were made on liquids bailed from the new and existing wells on May 12 and 18, 2011.

Well MW-1: Initial bailing in existing well MW-1 on May 12, 2011 indicated more than four feet of floating product (oil). Similar conditions were found in this well on May 18, 2011.

Soil Probe E-4: Initial bailing on May 12, 2011 indicated approximately two feet of water with approximately one-eighth to one-quarter inch of floating black product. Bailing on May 18, 2011 indicated approximately two inches of floating black product.

Soil Probe E-5: Initial bailing on May 12, 2011 indicated very small nodules of black product rising through the water column. Bailing on May 18, 2011 indicated a “skin” of approximately one-sixteenth inch of floating black product.

Soil Probe E-6: Initial bailing on May 12, 2011 indicated approximately two feet of floating black product and no water. Bailing on May 18, 2011 indicated more than three feet of floating black product. Repetitive bailing recovered somewhat less product and water in the bottom of the bailer.

Wells SP-5 and SP-12: Bailing in existing wells SP-5 and SP-12 on May 18, 2011 did not indicate floating product, but a golden yellow oily residue was found on the exterior of the bailer upon retrieval from each well. This oily residue has an odor and appearance similar to that of the product that is recovered from existing well MW-1.

Well SP-10: Bailing in existing well SP-10 did not indicate evidence of petroleum product.

IV. CONCLUSIONS

Elevated PID readings and oil-type odors were obtained from varying depths at all nine soil probe locations. The oil-type odors appear to indicate an unidentified oil rather than a petroleum fuel.

Floating, free-phase product is present in new wells E-4, E-5, and E-6, and existing well MW-1. An oily residue, with an odor and appearance similar to product recovered from well MW-1, was found on the exterior of bailers retrieved from existing wells SP-5 and SP-12, although floating product was not observed.

V. CLOSING

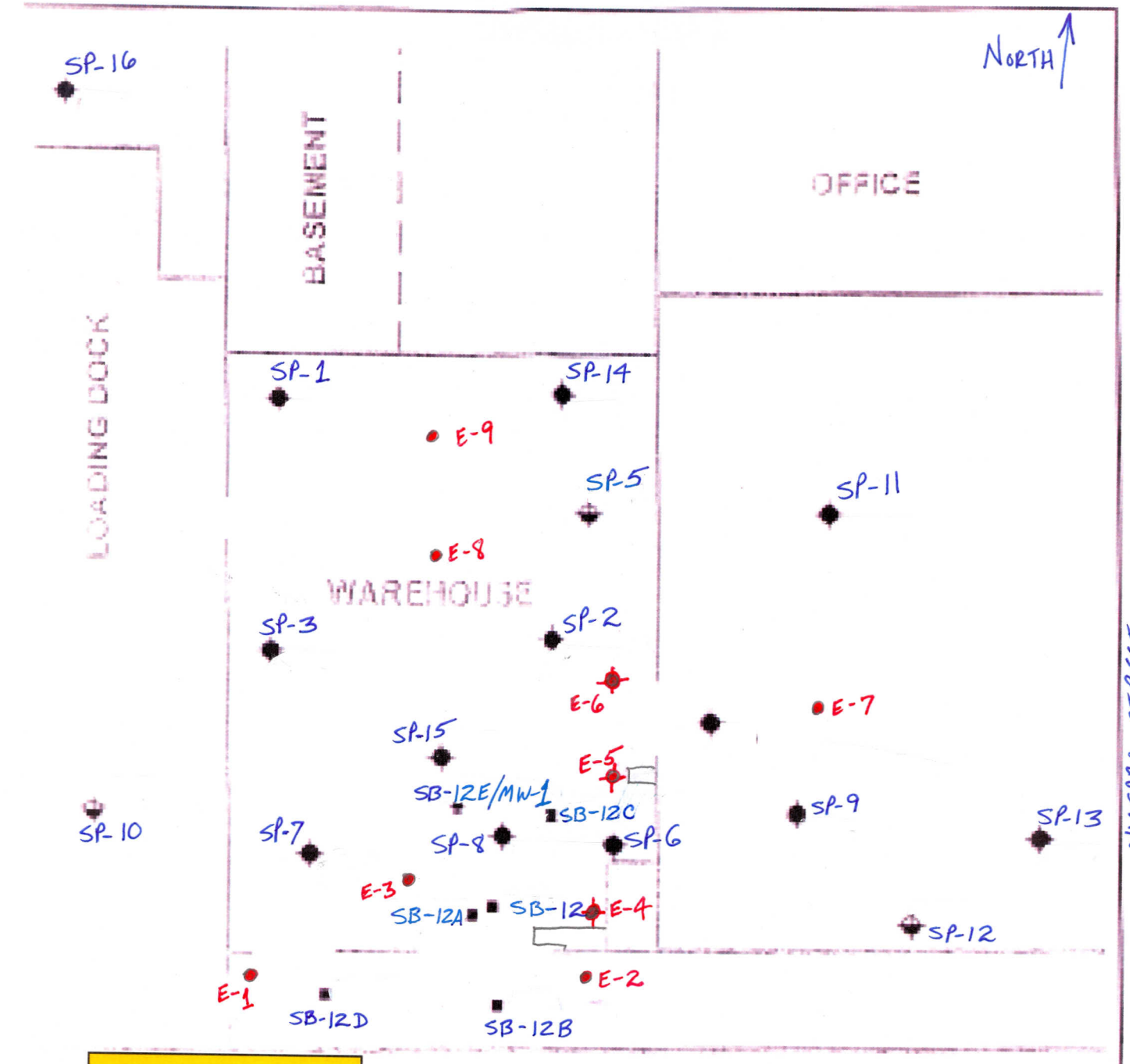
This supplemental subsurface investigation was prepared for the exclusive use of the addressees for specific application to the subject site in accordance with generally accepted environmental practices. If you have any questions or if we can provide further assistance, please contact our office at (716) 649-8110.

Respectfully Submitted,
EMPIRE GEO SERVICES, INC.

David R. Steiner
Senior Engineering Geologist
Project Manager

Attachments:

Figure
Direct Push Logs



E-1 ● Locations of Borings Completed by Empire on May 12, 2011

E-5 ✦ Locations with Monitoring Wells installed by Empire on May 12, 2011

SP-2 ✦ APPROXIMATE LOCATION AND DESIGNATION OF SOIL PROBE

SP-5 ✦ APPROXIMATE LOCATION AND DESIGNATION OF SOIL PROBE WITH MICRO WELL INSTALLED

LEISURE LIVING
1130 NIAGARA STREET
BUFFALO, NEW YORK

SITE PLAN

LEISURE LIVING

DATE: OCTOBER 2011

FIGURE 2

DATE:
STARTED 5/12/2011
FINISHED 5/12/2011
SHEET 1 OF 1

SJB SERVICES, INC.
DIRECT PUSH LOG

HOLE NO. E-1
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: SUBSURFACE INVESTIGATION LOCATION: 1130 NIAGARA STREET
PROJ. NO.: BEV-11-014 BUFFALO, NEW YORK

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
	BG	CONCRETE FLOOR 9"	PID = Photoionization
1		Brown f-c GRAVEL, little f-c Sand (subbase)	Detector readings in ppm
2		Brown Clayey SILT, tr.sand (moist, ML-CL)	BG = Background PID Reading
3		Red-Brown and Grey Mottled Silty CLAY, tr.sand (moist, CL)	S-1 = 36"
4			No stain, no odor
5	BG		
6	5.0	Becomes Brown, contains oil odor	S-2 = 48" Possible stain, oil-type odor
7	10.0		
8	5.0		
9	1.0		
10	BG	Becomes Red-Brown, no odor	S-3 = 48" No stain, no odor
11	BG		
12			
13		PROBE COMPLETE AT 12.0'	No free standing water encountered at probe completion.
14			
15			
16			

DRILLER: A. KOSKE **DRILL RIG TYPE:** GEOPROBE 6620DT **CLASSIFIED BY:** D. STEINER

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

DATE:
STARTED 5/12/2011
FINISHED 5/12/2011
SHEET 1 OF 1

SJB SERVICES, INC.
DIRECT PUSH LOG

HOLE NO. E-2
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: SUBSURFACE INVESTIGATION
PROJ. NO.: BEV-11-014
LOCATION: 1130 NIAGARA STREET
BUFFALO, NEW YORK

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
		CONCRETE FLOOR 9"	PID = Photoionization Detector readings in ppm
1		Dark Grey-Black f-c GRAVEL, little f-c Sand (wet, FILL) (Subbase)	
	2.5		BG = Background PID Reading
2		Dark Brown-Grey Silty CLAY, little f-c Sand, tr.gravel (FILL)	
	2.5		S-1 = 30"
3		Red-Brown Silty CLAY, tr.sand (moist, CL)	Strong oil-type odor and staining 1.0' - 3.2'
	1.0		
4			Slight oil-type odor 3.2' - 12'
5	1.0		
		Contains H. Grey seam 5.5' - 7.0', little f-c Sand	S-2 = 48"
6	2.5		
7	2.0	Becomes Red-Brown	
8	4.0		
9			
	9.0		S-3 = 48"
10	12.0		Very slight oil-type odor, no staining
11	14.0		
12	17.0		
13		PROBE COMPLETE AT 12.0'	No free standing water encountered at probe completion.
14			
15			
16			

DRILLER: A. KOSKE **DRILL RIG TYPE:** GEOPROBE 6620DT **CLASSIFIED BY:** D. STEINER

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

DATE:
STARTED 5/12/2011
FINISHED 5/12/2011
SHEET 1 OF 1

SJB SERVICES, INC.
DIRECT PUSH LOG

HOLE NO. E-3
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: SUBSURFACE INVESTIGATION LOCATION: 1130 NIAGARA STREET
PROJ. NO.: BEV-11-014 BUFFALO, NEW YORK

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
		CONCRETE FLOOR 9"	PID = Photoionization Detector readings in ppm
1	1.0	Black f-c SAND, little Cinders (wet, FILL)	BG = Background PID Reading
2		Brown Silty CLAY, little f-c Sand, tr.slag, tr.cinders (moist-wet, FILL)	
	2.0		S-1 = 18"
3		Red-Brown Silty CLAY, tr.sand (moist, CL)	Slight oil-type odor
	3.0		No staining
4			
5	1.3	Brown Silty CLAY, little f-c Sand, tr.gravel	S-2 = 48"
6		Becomes Grey (moist-wet)	Strong oil-type odor on grey soil, no staining
	3.0		
7			Grey Seam 6.0' - 7.5'
	2.0	Becomes Brown (moist)	Slight oil-type odor on brown soil
8			
9		Becomes Red-Brown, contains tr.sand	
	3.5		S-3 = 48"
10		(8.0' - 10.0', isolated wet spots within soil, may be product)	Slight oil-type odor, No staining
	10.0		
11			
	22.0		
12			
13		PROBE COMPLETE AT 12.0'	No free standing water encountered at probe completion.
14			
15			
16			

DRILLER: A. KOSKE **DRILL RIG TYPE:** GEOPROBE 6620DT **CLASSIFIED BY:** D. STEINER

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

DATE:
STARTED 5/12/2011
FINISHED 5/12/2011
SHEET 1 OF 1

SJB SERVICES, INC.
DIRECT PUSH LOG

HOLE NO. E-4
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: SUBSURFACE INVESTIGATION
PROJ. NO.: BEV-11-014
LOCATION: 1130 NIAGARA STREET
BUFFALO, NEW YORK

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
1		CONCRETE FLOOR 12"	PID = Photoionization Detector readings in ppm
2	2.0	Grey SLAG, wet at bottom of concrete, and Red Brick (moist, FILL)	BG = Background PID Reading
3	2.0		S-1 = 24" Sewer like odor in upper portion of sample
4			
5	1.5		
	1.5		S-2 = 42"
6		Brown Silty CLAY, little f-c Sand, tr.gravel (moist, CL)	Oil-type odor 6.0'-7.0'
7	3.5	Becomes Light Grey (6.2'-7.2')	
8	3.5	Becomes Brown	Slight oil-type odor at 7.0'-12.0'
9	3.0		
10	2.5	Contains tr.-little f-c Gravel	S-3 = 48"
	2.0		
11	2.0	(wet spots inside soil may be product)	
12	2.5		
13		PROBE COMPLETE AT 12.0'	No free standing water encountered at probe completion.
14			
15			
16			

DRILLER: A. KOSKE **DRILL RIG TYPE:** GEOPROBE 6620DT **CLASSIFIED BY:** D. STEINER

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

DATE:
STARTED 5/12/2011
FINISHED 5/12/2011
SHEET 1 OF 1

SJB SERVICES, INC.
DIRECT PUSH LOG

HOLE NO. E-5
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: SUBSURFACE INVESTIGATION
PROJ. NO.: BEV-11-014
LOCATION: 1130 NIAGARA STREET
BUFFALO, NEW YORK

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
1		CONCRETE FLOOR 15"	PID = Photoionization Detector readings in ppm
2	1.0	Brown f-c SAND, Red Brick and Crushed Stone (moist, FILL)	BG = Background PID Reading
3			S-1 = 18"
4	1.0		Sewer like odor in upper portion of sample
5	2.0		
6		Brown Silty CLAY, little f-c Sand, tr.gravel (moist, CL)	S-2 = 45"
7	9.0	Becomes Grey (6' - 7') (moist-wet)	Strong oil-type odor on grey soil
8	5.0 1.5	Becomes Brown (moist)	Oil-type odor on brown soil
9	5.0		S-3 = 48"
10	3.0		Strong oil-type odor at 8.0' - 9.0'
11	5.0 8.0	Becomes Red-Brown	Oil-type odor at 9.0' - 15.5'
12			
13	4.0	Contains tr.sand	S-4 = 48"
14	5.0		Wet spots inside soil may be product
15	5.0		
		Contains "and" f-c Sand	
16		PROBE COMPLETE WITH PROBE REFUSAL AT 15.5'	No Lab Sample

DRILLER: A. KOSKE **DRILL RIG TYPE:** GEOPROBE 6620DT **CLASSIFIED BY:** D. STEINER

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

DATE:
STARTED 5/12/2011
FINISHED 5/12/2011
SHEET 1 OF 1

SJB SERVICES, INC.
DIRECT PUSH LOG

HOLE NO. E-6
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: SUBSURFACE INVESTIGATION LOCATION: 1130 NIAGARA STREET
PROJ. NO.: BEV-11-014 BUFFALO, NEW YORK

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
		CONCRETE FLOOR 6"	PID = Photoionization Detector readings in ppm
1		Tan-Brown f-c SAND, f-c Gravel, Red Brick, Black Cinders, Crush Stone (moist, FILL)	
	2.0		BG = Background PID Reading
2			
	5.0		S-1 = 36"
3		Becomes Light Grey	Sewer like odor in upper portion of sample
4	30.0		
5	20.0		
			S-2 = 45"
6	10.0	Brown Silty CLAY, little f-c Sand, tr.gravel (moist, CL)	No Staining
7	5.0		Oil-type odor at 6.0' - 12.0'
8	1.0		
9	10.0		S-3 = 48"
10	9.0	Becomes Red-Brown	
		(wet spots inside soil may be product)	
11	10.0		
12	20.0		
13		Contains tr.sand	Wet spot on Rock fragments at bottom of shoe may be product
14			Rock fragments in shoe
15			No free standing water encountered at Probe Completion
		Contains occasional f-c Sand seams	
16		PROBE COMPLETE WITH PROBE REFUSAL AT 15.5'	

DRILLER: A. KOSKE **DRILL RIG TYPE:** GEOPROBE 6620DT **CLASSIFIED BY:** D. STEINER

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

DATE:
STARTED 5/12/2011
FINISHED 5/12/2011
SHEET 1 OF 1

SJB SERVICES, INC.
DIRECT PUSH LOG

HOLE NO. E-7
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: SUBSURFACE INVESTIGATION
PROJ. NO.: BEV-11-014
LOCATION: 1130 NIAGARA STREET
BUFFALO, NEW YORK

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
		CONCRETE FLOOR 8"	PID = Photoionization Detector readings in ppm
1		Tan f-c SAND and Red-Brick (moist, FILL)	BG = Background PID Reading
2			S-1 = 18"
3	65.0		No staining, "sweet" odor
4	30.0		
	6.0		
5	6.0	Brown Silty CLAY, tr.sand (moist, CL)	S-2 = 48"
6	6.0		No staining, oil-type odor in the clays
7	9.0	Contains little f-c Sand, tr.gravel	
8	8.0		Strong oil-type odor at 6.5'-8.0'
9	10.0		Oil-type odor 8.0'-12.0'
10	10.0		
11	20.0	Becomes Red-Brown	
12	12.0	(wet spots inside soil may be product)	
13		PROBE COMPLETE AT 12.0'	No free standing water encountered at probe completion.
14			
15			
16			

DRILLER: A. KOSKE **DRILL RIG TYPE:** GEOPROBE 6620DT **CLASSIFIED BY:** D. STEINER

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

DATE:
STARTED 5/12/2011
FINISHED 5/12/2011
SHEET 1 OF 1

SJB SERVICES, INC.
DIRECT PUSH LOG

HOLE NO. E-8
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: SUBSURFACE INVESTIGATION
PROJ. NO.: BEV-11-014
LOCATION: 1130 NIAGARA STREET
BUFFALO, NEW YORK

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
		CONCRETE FLOOR 8"	PID = Photoionization Detector readings in ppm
1		Brown f-c SAND, Red Brick, Black Cinders, light Grey f-m Sand (moist, FILL)	
	2.0		BG = Background PID Reading
2	14.0		S-1 = 36"
3	30.0		No staining
	50.0		Slight oil-type odor
4			
	10.0		
5			S-2 = 12"
6	10.0	Brown Silty CLAY, tr.sand (moist, CL)	
7	15.0		
	20.0		
8			
9		Contains tr.gravel	S-3 = 48"
	65.0		No staining, strong oil-type odor
10			at 9.0' - 12.0'
	90.0	Becomes Red-Brown	(wet spots inside soil maybe product)
11			
	60.0		
12			
13		PROBE COMPLETE AT 12.0'	No free standing water encountered at probe completion.
14			
15			
16			

DRILLER: A. KOSKE **DRILL RIG TYPE:** GEOPROBE 6620DT **CLASSIFIED BY:** D. STEINER

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

DATE:
STARTED 5/12/2011
FINISHED 5/12/2011
SHEET 1 OF 1

SJB SERVICES, INC.
DIRECT PUSH LOG

HOLE NO. E-9
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: SUBSURFACE INVESTIGATION
PROJ. NO.: BEV-11-014
LOCATION: 1130 NIAGARA STREET
BUFFALO, NEW YORK

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
		CONCRETE FLOOR 8"	PID = Photoionization Detector readings in ppm
1	32.0	Brown f-c SAND, Black Cinders, Crushed Stone, Red Brick, occasional Silty	BG = Background PID Reading
2	10.0	Clay seams (moist, FILL)	S-1 = 30"
3	5.0		No staining
4	5.0		Slight oil-type odor
5	2.5		
6	3.0	Grey-Brown Silty CLAY, little f-c Sand, tr.gravel (moist, CL)	S-2 = 48"
7	3.0		Oil-type odor at 6.0' - 14.5'
8	2.5		
9	2.5		S-3 = 48"
10	45.0	Becomes Red-Brown, contains tr.sand	
11	120.0		
12	90.0		
13	120.0		S-4 = 30"
14	135.0		
15	110.0		
16		PROBE COMPLETE WITH PROBE REFUSAL AT 14.5'	No free standing water encountered at probe completion

DRILLER: A. KOSKE **DRILL RIG TYPE:** GEOPROBE 6620DT **CLASSIFIED BY:** D. STEINER

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING