ATTACHMENT 05

PREVIOUS ENVIRONMENTAL INVESTIGATION

LCS INC. SUPPLEMENTAL PHASE II ENVIRONMENTAL SITE ASSESSMENT, LIMITED FOCUSED SUBSURFACE SOIL & INVESTIGATION, 300 OHIO STREET, BUFFALO, NEW YORK, NYSDEC SPILL NUMBER 0904777. PREPARED FOR THE NYSDEC, SEPTEMBER 2010.

LCS INC. PHASE II ENVIRONMENTAL SITE ASSESSMENT, LIMITED FOCUSED SUBSURFACE SOIL & INVESTIGATION, 300 OHIO STREET, BUFFALO, NEW YORK, NYSDEC SPILL NUMBER 0904777. PREPARED FOR THE NYSDEC, MAY 2010.

Attachment 5

Previous Environmental Investigations
300 Ohio Street Site
Brownfield Cleanup Program Application

A summary of the previous environmental site investigation completed for the Site is presented below.

September 2010 – Supplemental Phase II Environmental Site Assessment, Limited Focused Subsurface Soil & Investigation

LCS Inc. (LCS) conducted a limited site investigation of a portion of the subject property, and the findings are summarized below. Note that the initial May 2010 investigation results were incorporated into the findings of the September 2010 report.

- Visual and olfactory evidence of impacted soil/fill was noted in multiple soil boring locations by field personnel. Elevated photoionization detector (PID) readings for volatile organic compounds (VOCs) were detected in multiple locations across the site, with readings as high as 1,897 ppm being detected.
- Petroleum-impacted soil exceeding NYSDEC Part 375 Industrial SCOs and NYSDEC CP-51 SSCOs for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs) were detected at multiple soil boring locations across the site.
- Elevated PID readings were noted in 280 out of 301 soil sample locations.

The former Petroleum Sales and Services, Inc site is listed on the NYSDEC Petroleum Bulk Storage Record (PBS No. 9-383511) as containing at least 12 underground storage tanks (USTs) and one above-ground storage tank (AST). City of Buffalo Municipal records indicate that several of the tanks have been replaced due to former leaking USTs.

This portion of the Site is also listed on the NYSDEC Spills Database including at least 12 spill events between 1988 and 2010.

Facility Information

Site No.: 9-383511
Status: Active
Expiration Date: 08/17/2007
Site Type: PBS
Site Name: SAM'S TRUCK STOP #110
Address: 300 OHIO ST
Locality: BUFFALO
State: NY
Zipcode: 14204
County: Erie

Owner(s) Information

Owner: PETROLEUM SALES & SERVICE
300 OHIO ST . BUFFALO, NY. 14204
Mail Contact: PETROLEUM SALES & SERVICE
300 OHIO ST . BUFFALO, NY. 14204

Tank Information

13 Tanks Found

Tank No	Tank Location	Status	Capacity (Gal.)
1	Underground	In Service	10000
10	Underground	In Service	6000
11	Underground	Closed - Removed	12000
12	Underground	Closed - In Place	20000
13	Aboveground - in contact with soil	Closed - Removed	1000
2	Underground	In Service	3000
3	Underground	In Service	6000
4	Underground	Closed - Removed	11000
5	Underground	Closed - Removed	2000
6	Underground	In Service	11000
7	Underground	Closed - In Place	20000
8	Underground	In Service	10000
9	Underground	In Service	10000

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Spill Incidents Database Search Results

Record Count: 13 Rows: 1 to 13

Export XLS Export CSV

	Spill Number	Date Spill Reported	Spill Name	County	City/Town	Address
1.	8804555	08/25/1988	PETROLEUM SALES	Erie	BUFFALO	300 OHIO STREET
2.	9009917	12/12/1990	OIL IN NFG EXCAVATION	Erie	BUFFALO	300 OHIO STREET
3.	9104400	07/24/1991	PETROLEUM SALES & SERVICE	Erie	BUFFALO	300 OHIO STREET
4.	9110763	01/16/1992	PETROLEUM SALES & SERVICE	Erie	BUFFALO	300 OHIO STREET
5.	9302663	05/27/1993	SAM'S TRUCK STOP	Erie	BUFFALO	300 OHIO STREET
6.	9302840	05/27/1993	SAM'S TRUCK STOP	Erie	BUFFALO	300 OHIO STREET
7.	9510010	11/11/1995	SAM'S TRUCK STOP	Erie	BUFFALO	300 OHIO STREET
8.	9610492	11/15/1996	PETRO USA	Erie	BUFFALO	300 OHIO STREET
9.	9709878	11/24/1997	SAM'S TRUCK STOP	Erie	BUFFALO	300 OHIO STREET
10.	9800568	04/14/1998	PETROLEUM SALES & SERVICE	Erie	BUFFALO	300 OHIO STREET
11.	9805444	07/31/1998	PETROLEUM SALES AND SERVI	Erie	BUFFALO	300 OHIO STREET
12.	0904777	07/24/2009	FORMER SAM'S TRUCK STOP	Erie	BUFFALO	300 OHIO STREET
13.	0911296	01/15/2010	ROADSIDE	Erie	BUFFALO	300 OHIO STREET

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Environmental and Real Estate Consultants

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Pennsylvania

Baltimore
Maryland

Salisbury
Maryland

Cleveland
Ohio

September 17, 2010 - Revised

Mr. Eric Warren
Russo Development, Inc.
535 East Main Street
Springville, New York 14141

Re: Supplemental Phase II Environmental Site Assessment
Limited and Focused Subsurface Soil & Investigation
300 Ohio Street
Buffalo, New York
LCS Project #10B667.22
NYSDEC Spill Number 0904777

Dear Mr. Warren:

Background
At your request, Lender Consulting Services, Inc. (LCS) documented site investigation activities completed on March 31 through April 2, 2010 at 300 Ohio Street, Buffalo, New York (See Figure 1). The results of that investigation are summarized in LCS' Phase II Environmental Site Assessment Report dated May 7, 2010.

Subsequently, at your request, LCS documented additional site investigation activities completed on July 26 and July 27, 2010. All test boring locations and soil sampling was completed at the direction of the New York State Department of Environmental Conservation (NYSDEC) and/or their contractors.

For the ease of the reader, the results of the field activates summarized in LCS' Phase II Environmental Site Assessment Report dated May 7, 2010, have been included within this report.

Site Description
The subject property was historically utilized as a gasoline and diesel filling station and petroleum distribution operation. Multiple gasoline, diesel, #2 heating oil and kerosene underground storage tanks (USTs) are currently or were historically located on the subjected property. Five inoperative pump islands are currently located west and south of the subject structure. The topography of the site is generally level at grade. The Buffalo River is located approximately 250 feet from the subject property; although, does not border the subject property. The subject property is located in a primarily industrial setting.

Introduction
The purpose of this intrusive study was to better assess the environmental quality of on-site soils in accessible locations of the subject property. Soil samples were collected for stratigraphic characterization and field monitoring. Select soil samples were submitted for laboratory analysis to supplement field observations.

The following is a summary of the methods and results of the investigation.

Methods of Investigation

Soil

Soil samples were collected on March 31 through April 2, July 26 and July 27, 2010 with a track-mounted percussion and hydraulically driven drive system equipped with an approximate 2-inch diameter, approximate 48-inch long macro-core sampler. Soil samples were collected within each borehole continuously from the ground surface until a depth of between approximately eight and 16 feet below the ground surface (ft. bgs). Any downhole equipment was decontaminated with an Alconox and tap water wash and tap water rinse between boreholes. The cutting shoes were decontaminated in a similar manner between collection of each sample.

The physical characteristics of all soil samples were classified using the Unified Soil Classification System (USCS) (Visual-Manual Method) and placed in separate sealable containers to allow any vapors to accumulate in the headspace. After several minutes, the container was opened slightly and total volatile organic compound (VOC) concentrations in air within the sample container were measured using a photoionization detector (PID). (The PID is designed to detect VOCs, such as those associated with petroleum.) Based on the field observations and/or screening results, soils were selected for analysis (see below).

Sample Analysis

Following labeling of the laboratory-supplied sample containers, selected samples were placed on ice. The samples were then submitted, under standard chain-of-custody, to a New York State Department of Health (NYSDOH) approved laboratory for analysis in accordance with the United States Environmental Protection agency (USEPA) SW-846 Methods as summarized below.

The following table summarizes the specific analytical testing performed and their respective sample locations.

Sample Location	Analytical Testing Performed
BH1 (8-10 ft. bgs)	VOCs (STARS List), SVOCs (STARS List)
BH10 (0-2 ft. bgs)	
BH11 (4-8 ft. bgs)	
BH13 (4-8 ft. bgs)	
BH15 (0-2 ft. bgs)	
BH18 (0-4 ft. bgs)	
BH19 (2-4 ft. bgs)	
BH21 (6-8 ft. bgs)	
BH23 (6-8 ft. bgs)	
BH24 (2-4 ft. bgs)	
BH25 (0-4 ft. bgs)	
BH26 (8-10 ft. bgs)	
BH27 (8-10 ft. bgs)	
BH28 (6-8 ft. bgs)	
BH29 (10-12 ft. bgs)	
BH30 (8-12 ft. bgs)	
BH31 (8-10 ft. bgs)	
BH34 (6-8 ft. bgs)	
BH37 (0-4 ft. bgs)	
BH38 (6-8 ft. bgs)	
BH40 (8-10 ft. bgs)	
BH41 (4-8 ft. bgs)	
BH42 (2-4 ft. bgs)	
BH43 (2-4 ft. bgs)	
BH44 (2-4 ft. bgs)	
BH45 (4-6 ft. bgs)	
BH46 (8-10 ft. bgs)	
BH47 (2-4 ft. bgs)	
BH48 (4-6 ft. bgs)	
BH50 (4-6 ft. bgs)	
BH51 (2-4 ft. bgs)	
BH52 (0-4 ft. bgs)	
BH53 (4-6 ft. bgs)	
BH54 (4-8 ft. bgs)	
BH55 (4-8 ft. bgs)	
BH56 (8-10 ft. bgs)	
BH58 (0-4 ft. bgs)	
BH59 (8-10 ft. bgs)	
BH60 (8-10 ft. bgs)	
BH61 (0-2 ft. bgs)	
BH62 (4-8 ft. bgs)	
BH63 (4-8 ft. bgs)	
BH64 (4-8 ft. bgs)	
BH65 (2-4 ft. bgs)	
BH66 (4-8 ft. bgs)	

ft. bgs = feet below ground surface
VOCs (STARS List+ 10 TICs) = Spill Technology and Remediation Series
volatile organic compounds + 10 Tentatively Identified Compounds via USEPA Test Method 8260
SVOCs (STARS List + 20 TICs) = Spill Technology and Remediation Series
semi-volatile organic compounds + 20 Tentatively Identified Compound via USEPA Test Method 8270

Results of Field Investigation

Sixty-six boreholes (BH1 through BH35 and BH37 through BH66) were completed in accessible areas of the subject property proximate to the environmental concerns. Test boring BH36 was not completed due to its proximity to two natural gas utility lines. (See Figure 2.) A total of 301 soil samples were collected for geologic description. Fill material consisting of asphalt, brick, gravel, clay, sand and silt was noted within all of the test borings with the exception of BH26, BH31, BH40 through BH42, BH52, BH55, BH57, BH62 and BH66 to a maximum depth of approximately eight ft. bgs. Generally, the native soils encountered consisted of varying mixtures of gravel, sand, silt and clay to the bottom of the test borings. Apparent groundwater was encountered in BH1, BH4, BH7, BH12, BH18, BH20, BH25, BH29 through BH34, BH37, BH56 and BH58 between approximately four and 12 ft. bgs. Equipment refusal was encountered within test boring BH7, BH49, BH61 and BH65 between approximately two and eight ft. bgs. The cause of the equipment refusal could not be determined; however, is suspected to be due to urban fill materials on-site.

PID measurements were above total ambient air background VOC measurements (i.e., 0.0 parts per million, ppm) in 280 of the 301 soil samples collected. These elevated concentrations ranged from 0.1 parts per million (ppm) to 1,897 ppm (BH11, ~2-4 ft. bgs). Petroleum-type odors were detected in soil samples collected from test borings BH1, BH11, BH12, BH15, BH18, BH19, BH23 through BH29, BH31, BH37, BH38, BH41, BH45, BH51 through BH56, and BH58 through BH63 between approximately the ground surface and 16 ft. bgs. Petroleum-type staining was observed in soil samples collected from test borings BH38, BH41, BH53, BH62 and BH63 between approximately two and eight ft. bgs. In LCS' experience, the PID measurements and field observations (i.e., odors/staining) suggest petroleum-type impact located west, south and east of the subject structure.

Refer to the attached subsurface logs for soil classification for each sample interval, field observations and PID measurements.

Investigation Analytical Results

The soil samples collected and analyzed detected the following analytes. The respective concentrations as well as applicable regulatory guidance values are also listed for comparison. Analytes not detected are not shown.

VOCs by USEPA SW-846 Method 8260 (STARS List)

Sample ID	BH1	BH10	BH11	BH13	BH15	BH18	BH19	BH21	BH23	BH24	BH25	TAGM Recommended Soil Cleanup Objectives	Part 375 (Unrestricted) Soil Cleanup Objectives
Date Sampled	3/31/10	3/31/10	3/31/10	3/31/10	4/1/10	4/1/10	4/1/10	4/1/10	4/1/10	4/1/10	4/1/10		
Sample Depth	8-10 ft. bgs	0-2 ft. bgs	4-8 ft. bgs	4-8 ft. bgs	0-2 ft. bgs	0-4 ft. bgs	2-4 ft. bgs	6-8 ft. bgs	6-8 ft. bgs	2-4 ft. bgs	0-4 ft. bgs		
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Benzene	<34	10 J	900 J	<22	<1,700	750	2,000	1,200	<41,000	<1,900	<740	80	60
Toluene	<34	19	<2,100	<22	<1,700	400 J	700 J	<410	<41,000	<1,900	<740	1,500	700
Ethylbenzene	<34	140	2,000 J	22	<1,700	960	5,300	2,200	<41,000	<1,900	<740	5,500	1,000
m,p,-Xylene	<34	68	4,900	110	<1,700	1,500	3,200	1,900	<41,000	<1,900	<740	1,200*	260*
o-Xylene	<34	7 J	1,000 J	27	<1,700	400 J	<780	200 J	<41,000	<1,900	<740	1,200*	260*
Isopropylbenzene	<34	92	<2,100	<22	<1,700	4,900	3,000	400 J	<41,000	<1,900	<740	2,300	NL
n-Propylbenzene	<34	230	2,000 J	22	<1,700	3,300	2,400	300 J	<41,000	2,000 J	400 J	3,700	3,900
1,3,5-Trimethylbenzene	<34	360	3,500	69	<1,700	2,900	3,300	200 J	<41,000	900 J	<740	3,300	8,400
1,2,4-Trimethylbenzene	<34	450	12,000	240	<1,700	2,600	1,200	630	<41,000	1,000 J	700 J	10,000	3,600
tert-Butyl Benzene	<34	<18	<2,100	<22	<1,700	<750	<780	<410	<41,000	<1,900	<740	10,000	11,000
sec-Butylbenzene	<34	50	<2,100	<22	<1,700	600 J	700 J	<410	<41,000	<1,900	<740	10,000	5,900
4-Isopropyltoluene	<34	51	<2,100	<22	<1,700	500 J	500 J	<410	<41,000	<1,900	<740	10,000	NL
n-Butylbenzene	<34	130	1,000 J	<22	<1,700	1,500	1,400	<410	<41,000	1,000 J	<740	10,000	12,000
Naphthalene	<34	210	2,900	36	2,300	2,800	3,300	580	<41,000	2,100	920	13,000	12,000

VOCs by USEPA SW-846 Method 8260 (STARS List)

Sample ID	BH26	BH27	BH28	BH29	BH30	BH31	BH34	BH37	BH38	BH40	BH41	BH42	TAGM Recommended Soil Cleanup Objectives	Part 375 (Unrestricted) Soil Cleanup Objectives
Date Sampled	4/1/10	4/2/10	4/2/10	4/2/10	4/2/10	4/2/10	4/2/10	4/2/10	4/2/10	4/2/10	4/2/10	4/2/10		
Sample Depth	8-10 ft. bgs	8-10 ft. bgs	6-8 ft. bgs	10-12 ft. bgs	8-12 ft. bgs	8-10 ft. bgs	6-8 ft. bgs	0-4 ft. bgs	6-8 ft. bgs	8-10 ft. bgs	4-8 ft. bgs	2-4 ft. bgs		
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Benzene	<710	<1,800	<1,800	<36,000	<750	<770	<700	<1,700	<860	<780	<1,900	<390	80	60
Toluene	<710	<1,800	<1,800	<36,000	<750	<770	<700	<1,700	<860	<780	<1,900	<390	1,500	700
Ethylbenzene	<710	2,000 J	<1,800	<36,000	<750	<770	<700	3,700	<860	<780	<1,900	<390	5,500	1,000
m,p,-Xylene	<710	2,400	<1,800	<36,000	<750	1,300	<700	4,700	<860	<780	<1,900	<390	1,200*	260*
o-Xylene	<710	<1,800	<1,800	<36,000	<750	<770	<700	<1,700	<860	<780	<1,900	<390	1,200*	260*
Isopropylbenzene	<710	<1,800	<1,800	<36,000	<750	<770	<700	1,000 J	<860	<780	<1,900	<390	2,300	NL
n-Propylbenzene	<710	2,000 J	1,000 J	<36,000	<750	<770	400 J	1,800	<860	<780	1,000 J	<390	3,700	3,900
1,3,5-Trimethylbenzene	<710	2,400	<1,800	<36,000	<750	400 J	<700	3,000	<860	<780	<1,900	<390	3,300	8,400
1,2,4-Trimethylbenzene	<710	4,600	<1,800	<36,000	<750	1,200	<700	13,000	<860	<780	1,900	<390	10,000	3,600
sec- Butylbenzene	<710	<1,800	<1,800	<36,000	<750	<770	<700	<1,700	<860	<780	<1,900	<390	10,000	11,000
tert-Butyl Benzene	<710	<1,800	<1,800	<36,000	<750	<770	<700	<1,700	<860	<780	<1,900	<390	10,000	5,900
4-Isopropyltoluene	<710	<1,800	<1,800	<36,000	<750	<770	<700	<1,700	<860	<780	<1,900	<390	10,000	NL
n-Butylbenzene	<710	<1,800	<1,800	<36,000	<750	<770	<700	<1,700	<860	<780	<1,900	<390	10,000	12,000
Naphthalene	<710	1,000 J	3,100	<36,000	<750	<770	<700	4,500	<860	<780	<1,900	1,800	13,000	12,000

ug/kg = micrograms per kilogram
ft. bgs = feet below ground surface
* = Based on the sum of the Total Xylenes.
J = Analyte detected below quantitation limits
STARS = Spill Technology and Remediation Series
TAGM Recommended Soil Cleanup Objectives = Division Technical and Administrative Guidance Memorandum (TAGM 4046): Determination of Soil Cleanup Objectives and Cleanup Levels and addendum (August, 2001)
Underlined = Analyte that is detected above the TAGM Recommended Soil Cleanup Objectives.
Shaded = Analyte that is detected above the Part 375 (Unrestricted) Soil Cleanup Objectives.

VOCs by USEPA SW-846 Method 8260 (STARS List)

Sample ID	BH43	BH44	BH45	BH46	BH47	BH48	BH50	BH51	BH52	BH53	BH54	BH55	TAGM Recommended Soil Cleanup Objectives	Part 375 (Unrestricted) Soil Cleanup Objectives
Date Sampled	7/26/10	7/26/10	7/26/10	7/26/10	7/26/10	7/26/10	7/26/10	7/26/10	7/26/10	7/26/10	7/26/10	7/26/10		
Sample Depth	2-4 ft. bgs	2-4 ft. bgs	4-6 ft. bgs	8-10 ft. bgs	2-4 ft. bgs	4-6 ft. bgs	4-6 ft. bgs	2-4 ft. bgs	0-4 ft. bgs	4-6 ft. bgs	4-8 ft. bgs	4-8 ft. bgs		
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Benzene	<3.5	<370	<4,700	<2,200	<3.6	<370	<330	64	<3,400	7,500	14,000	<1,800	80	60
Toluene	<3.5	<370	<4,700	<2,200	<3.6	<370	<330	<36	<3,400	<3,800	43,000	<1,800	1,500	700
Ethylbenzene	<3.5	<370	<4,700	<2,200	<3.6	<370	<330	280	<3,400	32,000	52,000	5,100	5,500	1,000
m,p,-Xylene	<3.5	<370	<4,700	<2,200	<3.6	<370	<330	110	44,000	58,000	170,000	<1,800	1,200*	260*
o-Xylene	<3.5	<370	<4,700	<2,200	<3.6	<370	<330	45	<3,400	13,000	66,000	<1,800	1,200*	260*
Isopropylbenzene	<3.5	<370	7,100	<2,200	<3.6	<370	<330	200	<3,400	21,000	41,000	5,100	2,300	NL
n-Propylbenzene	<3.5	<370	7,600	<2,200	<3.6	<370	<330	200	<3,400	20,000	39,000	6,900	3,700	3,900
1,3,5-Trimethylbenzene	<3.5	<370	<4,700	<2,200	<3.6	<370	<330	120	16,000	20,000	51,000	<1,800	3,300	8,400
1,2,4-Trimethylbenzene	<3.5	<370	<4,700	<2,200	<3.6	<370	<330	130	43,000	70,000	150,000	<1,800	10,000	3,600
sec- Butylbenzene	<3.5	<370	<4,700	<2,200	<3.6	<370	<330	<36	<3,400	<3,800	<9,200	<1,800	10,000	11,000
tert-Butyl Benzene	<3.5	<370	<4,700	<2,200	<3.6	<370	<330	<36	<3,400	<3,800	<9,200	<1,800	10,000	5,900
4-Isopropyltoluene	<3.5	<370	<4,700	<2,200	<3.6	<370	<330	<36	<3,400	<3,800	<9,200	<1,800	10,000	NL
n-Butylbenzene	<3.5	<370	6,000	<2,200	<3.6	<370	<330	56	<3,400	11,000	10,000	4,600	10,000	12,000
Naphthalene	18	<370	<4,700	<2,200	<3.6	<370	<330	92	<3,400	8,400	<9,200	<1,800	13,000	12,000

VOCs by USEPA SW-846 Method 8260 (STARS List)

Sample ID	BH56	BH58	BH59	BH60	BH61	BH62	BH63	BH64	BH65	BH66	TAGM Recommended Soil Cleanup Objectives	Part 375 (Unrestricted) Soil Cleanup Objectives
Date Sampled	7/27/10	7/27/10	7/27/10	7/27/10	7/27/10	7/27/10	7/27/10	7/27/10	7/27/10	7/27/10		
Sample Depth	8-10 ft. bgs	0-4 ft. bgs	8- 10 ft. bgs	8-10 ft. bgs	0-2 ft. bgs	4-8 ft. bgs	4-8 ft. bgs	4-8 ft. bgs	2-4 ft. bgs	6-8 ft. bgs		
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Benzene	<40	<7,400	<3,700	<35	<3,300	<400	<410	<49	<340	<36	80	60
Toluene	<40	<7,400	<3,700	<35	<3,300	<400	510	<49	<340	<36	1,500	700
Ethylbenzene	<40	<7,400	<3,700	<35	<3,300	<400	<410	<49	<340	<36	5,500	1,000
m,p,-Xylene	60	12,000	<3,700	<35	<3,300	<400	710	<49	<340	<36	1,200*	260*
o-Xylene	49	13,000	<3,700	<35	<3,300	<400	530	<49	<340	<36	1,200*	260*
Isopropylbenzene	71	7,600	<3,700	35	<3,300	970	2,200	<49	<340	<36	2,300	NL
n-Propylbenzene	73	<7,400	<3,700	<35	<3,300	1,100	5,100	<49	<340	<36	3,700	3,900
1,3,5-Trimethylbenzene	130	170,000	<3,700	<35	<3,300	<400	610	<49	<340	<36	3,300	8,400
1,2,4-Trimethylbenzene	220	38,000	<3,700	<35	<3,300	<400	570	<49	<340	<36	10,000	3,600
sec- Butylbenzene	45	<7,400	<3,700	<35	<3,300	1,200	2,100	<49	<340	<36	10,000	11,000
tert-Butyl Benzene	<40	<7,400	<3,700	<35	<3,300	<400	<410	<49	<340	<36	10,000	5,900
4-Isopropyltoluene	50	<7,400	<3,700	<35	<3,300	<400	<410	<49	<340	<36	10,000	NL
n-Butylbenzene	58	<7,400	<3,700	<35	<3,300	1,600	4,500	<49	<340	<36	10,000	12,000
Naphthalene	<40	15,000	<3,700	<35	3,800	<400	<410	620	<340	<36	13,000	12,000

ug/kg = micrograms per kilogram
ft. bgs = feet below ground surface
* = Based on the sum of the Total Xylenes.
J = Analyte detected below quantitation limits
STARS = Spill Technology and Remediation Series
TAGM Recommended Soil Cleanup Objectives = Division Technical and Administrative Guidance Memorandum (TAGM 4046): Determination of Soil Cleanup Objectives and Cleanup Levels and addendum (August, 2001)
Underlined = Analyte that is detected above the TAGM Recommended Soil Cleanup Objectives.
= Analyte that is detected above the Part 375 (Unrestricted) Soil Cleanup Objectives.

SVOCs by USEPA SW-846 Method 8270 (STARS list)

Sample ID	BH1	BH10	BH11	BH13	BH15	BH18	BH19	BH21	BH23	BH24	BH25	TAGM Recommended Soil Cleanup Objectives	Part 375 (Unrestricted) Soil Cleanup Objectives
Date Sampled	3/31/10	3/31/10	3/31/10	3/31/10	4/1/10	4/1/10	4/1/10	4/1/10	4/1/10	4/1/10	4/1/10		
Sample Depth	8-10 ft. bgs	0-2 ft. bgs	4-8 ft. bgs	4-8 ft. bgs	0-2 ft. bgs	0-4 ft. bgs	2-4 ft. bgs	6-8 ft. bgs	6-8 ft. bgs	2-4 ft. bgs	0-4 ft. bgs		
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Acenaphthene	<3,700	<40,000	<460	<4,900	<37,000	<41,000	<43,000	<450	<460	<42,000	<810	50,000*	20,000
Fluorene	<3,700	<40,000	200 J	<4,900	<37,000	<41,000	8,000 J	<450	<460	8,000 J	<810	50,000*	30,000
Phenanthrene	<3,700	<40,000	630	<4,900	10,000 J	20,000 J	30,000 J	<450	870	40,000 J	5,000	50,000*	100,000
Anthracene	<3,700	<40,000	100 J	<4,900	<37,000	<41,000	9,000 J	<450	<460	10,000 J	<810	50,000*	100,000
Fluoanthene	<3,700	<40,000	730	<4,900	5,000 J	8,000 J	40,000 J	<450	100 J	40,000 J	890	50,000*	100,000
Pyrene	<3,700	<40,000	550	<4,900	6,000 J	8,000 J	30,000 J	<450	100 J	30,000 J	860	50,000*	100,000
Benzo(a)anthracene	<3,700	<40,000	300 J	<4,900	<37,000	5,000 J	20,000 J	<450	<460	20,000 J	300 J	224 or MDL	1,000
Chrysene	<3,700	<40,000	300 J	<4,900	<37,000	6,000 J	20,000 J	<450	<460	10,000 J	300 J	400	1,000
Benzo(b)fluoranthene	<3,700	<40,000	300 J	<4,900	<37,000	<41,000	10,000 J	<450	<460	8,000 J	<810	220 or MDL	1,000
Benzo(k)fluoranthene	<3,700	4,000 J	300 J	<4,900	<37,000	7,000 J	10,000 J	<450	<460	10,000 J	<810	220 or MDL	800
Benzo(a)pyrene	800 J	4,000 J	200 J	<4,900	<37,000	5,000 J	20,000 J	1,900	<460	10,000 J	<810	61 or MDL	1,000
Indeno(1,2,3-cd)pyrene	<3,700	4,000 J	<460	<4,900	<37,000	<41,000	<43,000	<450	<460	<42,000	<810	3,200	500
Benzo(g,h,i)perylene	<3,700	5,000 J	<460	<4,900	<37,000	<41,000	10,000 J	<450	<460	<42,000	<810	50,000*	100,000

SVOCs by USEPA SW-846 Method 8270 (STARS list)

Sample ID	BH26	BH27	BH28	BH29	BH30	BH31	BH34	BH37	BH38	BH40	BH41	BH42	TAGM Recommended Soil Cleanup Objectives	Part 375 (Unrestricted) Soil Cleanup Objectives
Date Sampled	4/1/10	4/2/10	4/2/10	4/2/10	4/2/10	4/2/10	4/2/10	4/2/10	4/2/10	4/2/10	4/2/10	4/2/10		
Sample Depth	8-10 ft. bgs	8-10 ft. bgs	6-8 ft. bgs	10-12 ft. bgs	8-12 ft. bgs	8-10 ft. bgs	6-8 ft. bgs	0-4 ft. bgs	6-8 ft. bgs	8-10 ft. bgs	4-8 ft. bgs	2-4 ft. bgs		
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Acenaphthene	<390	<400	<3,900	<390	<410	900 J	<380	<3,600	<4,700	<4,300	<41,000	200,000 J	50,000*	20,000
Fluorene	<390	<400	<3,900	<390	<410	800 J	<380	<3,600	<4,700	<4,300	7,000 J	200,000 J	50,000*	30,000
Phenanthrene	60 J	<400	14,000	70 J	300 J	9,400	60 J	1,000 J	600 J	10,000 J	30,000 J	1,900,000	50,000*	100,000
Anthracene	<390	90 J	<3,900	<390	<410	2,000 J	70 J	<3,600	<4,700	<4,300	20,000 J	660,000	50,000*	100,000
Fluoanthene	<390	40 J	<3,900	<390	300 J	12,000	<380	700 J	3,000 J	10,000 J	91,000	2,600,000	50,000*	100,000
Pyrene	<390	<400	3,000 J	<390	200 J	10,000	<380	1,000 J	2,000 J	10,000 J	84,000	2,200,000	50,000*	100,000
Benzo(a)anthracene	<390	<400	<3,900	<390	100 J	5,400	<380	<3,600	3,000 J	<4,300	53,000	1,100,000	224 or MDL	1,000
Chrysene	<390	<400	<3,900	<390	100 J	5,100	<380	<3,600	3,000 J	<4,300	72,000	1,300,000	400	1,000
Benzo(b)fluoranthene	<390	<400	<3,900	<390	90 J	4,000 J	<380	<3,600	3,000 J	<4,300	98,000	970,000	220 or MDL	1,000
Benzo(k)fluoranthene	<390	<400	<3,900	<390	90 J	3,000 J	<380	<3,600	2,000 J	<4,300	95,000	1,900,000	220 or MDL	800
Benzo(a)pyrene	<390	<400	<3,900	<390	100 J	5,000	<380	<3,600	2,000 J	<4,300	120,000	1,800,000	61 or MDL	1,000
Indeno(1,2,3-cd)pyrene	<390	<400	<3,900	<390	<410	3,000 J	<380	<3,600	2,000 J	<4,300	81,000	1,000,000	3,200	500
Benzo(g,h,i)perylene	<390	<400	<3,900	<390	<410	4,000 J	<380	<3,600	2,000 J	<4,300	100,000	1,200,000	50,000*	100,000

ug/kg = micrograms per kilogram
ft. bgs = feet below ground surface
J = Analyte detected below quantitation limits
STARS = Spill Technology and Remediation Series
* = Total SVOCs must be ≤ 500,000ug/kg, and individual non-carcinogenic SVOCs must be ≤ 50,000ug/kg
TAGM Recommended Soil Cleanup Objectives = Division Technical and Administrative Guidance Memorandum (TAGM 4046): Determination of Soil Cleanup Objectives and Cleanup Levels and addendum (August, 2001)
B = This analyte was also detected within the laboratory's method blank and may be the result of laboratory contamination.
Underlined = Analyte that is detected above the TAGM Recommended Soil Cleanup Objectives.
Shaded = Analyte that is detected above the Part 375 (Unrestricted) Soil Cleanup Objectives.

SVOCs by USEPA SW-846 Method 8270 (STARS List)

Sample ID	BH43	BH44	BH45	BH46	BH47	BH48	BH50	BH51	BH52	BH53	BH54	BH55	TAGM Recommended Soil Cleanup Objectives	Part 375 (Unrestricted) Soil Cleanup Objectives
Date Sampled	7/26/10	7/26/10	7/26/10	7/26/10	7/26/10	7/26/10	7/26/10	7/26/10	7/26/10	7/26/10	7/26/10	7/26/10		
Sample Depth	2-4 ft. bgs	2-4 ft. bgs	4-6 ft. bgs	8-10 ft. bgs	2-4 ft. bgs	4-6 ft. bgs	4-6 ft. bgs	2-4 ft. bgs	0-4 ft. bgs	4-6 ft. bgs	4-8 ft. bgs	4-8 ft. bgs		
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Acenaphthene	<3,800	<4,100	<5,100	<480	<4,000	<4,100	<3,700	<400	<3,700	<420	<5,100	<3,900	50,000*	20,000
Fluorene	<3,800	<4,100	<5,100	<480	<4,000	<4,100	<3,700	<400	<3,700	<420	<5,100	<3,900	50,000*	30,000
Phenanthrene	<3,800	5,200	16,000	<480	<4,000	8,000	<3,700	<400	15,000	1,400	<5,100	5,900	50,000*	100,000
Anthracene	<3,800	<4,100	<5,100	<480	<4,000	<4,100	<3,700	<400	<3,700	<420	<5,100	<3,900	50,000*	100,000
Fluoanthene	<3,800	6,100	16,000	<480	5,100	7,400	<3,700	<400	17,000	<420	<5,100	<3,900	50,000*	100,000
Pyrene	<3,800	5,900	15,000	<480	4,900	6,300	<3,700	<400	16,000	<420	<5,100	<3,900	50,000*	100,000
Benzo(a)anthracene	<3,800	<4,100	6,000	<480	<4,000	<4,100	<3,700	<400	8,300	<420	<5,100	<3,900	224 or MDL	1,000
Chrysene	<3,800	<4,100	6,800	<480	<4,000	<4,100	<3,700	<400	7,300	<420	<5,100	<3,900	400	1,000
Benzo(b)fluoranthene	<3,800	<4,100	<5,100	<480	<4,000	<4,100	<3,700	<400	6,300	<420	<5,100	<3,900	220 or MDL	1,000
Benzo(k)fluoranthene	<3,800	<4,100	7,700	<480	<4,000	<4,100	<3,700	<400	6,200	<420	<5,100	<3,900	220 or MDL	800
Benzo(a)pyrene	<3,800	<4,100	5,700	<480	<4,000	<4,100	<3,700	<400	6,300	<420	<5,100	<3,900	61 or MDL	1,000
Indeno(1,2,3-cd)pyrene	<3,800	<4,100	<5,100	<480	<4,000	<4,100	<3,700	<400	<3,700	<420	<5,100	<3,900	3,200	500
Benzo(g,h,i)perylene	<3,800	<4,100	<5,100	<480	<4,000	<4,100	<3,700	<400	<3,700	<420	<5,100	<3,900	50,000*	100,000

SVOCs by USEPA SW-846 Method 8270 (STARS List)

Sample ID	BH56	BH58	BH59	BH60	BH61	BH62	BH63	BH64	BH65	BH66	TAGM Recommended Soil Cleanup Objectives	Part 375 (Unrestricted) Soil Cleanup Objectives
Date Sampled	7/27/10	7/27/10	7/27/10	7/27/10	7/27/10	7/27/10	7/27/10	7/27/10	7/27/10	7/27/10		
Sample Depth	8-10 ft. bgs	0-4 ft. bgs	8- 10 ft. bgs	8-10 ft. bgs	0-2 ft. bgs	4-8 ft. bgs	4-8 ft. bgs	4-8 ft. bgs	2-4 ft. bgs	6-8 ft. bgs		
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Acenaphthene	<440	<4,100	<410	<380	<3,700	<4,400	<4,500	<5,400	<3,800	<4,000	50,000*	20,000
Fluorene	<440	<4,100	<410	<380	<3,700	4,600	<4,500	<5,400	<3,800	<4,000	50,000*	30,000
Phenanthrene	<440	13,000	<410	<380	<3,700	13,000	16,000	6,800	<3,800	<4,000	50,000*	100,000
Anthracene	<440	<4,100	<410	<380	<3,700	<4,400	<4,500	<5,400	<3,800	<4,000	50,000*	100,000
Fluoanthene	<440	<4,100	<410	<380	<3,700	5,200	20,000	7,900	<3,800	<4,000	50,000*	100,000
Pyrene	<440	<4,100	<410	<380	<3,700	4,900	17,000	7,100	<3,800	<4,000	50,000*	100,000
Benzo(a)anthracene	<440	<4,100	<410	<380	<3,700	<4,400	9,000	<5,400	<3,800	<4,000	224 or MDL	1,000
Chrysene	<440	<4,100	<410	<380	<3,700	<4,400	8,500	<5,400	<3,800	<4,000	400	1,000
Benzo(b)fluoranthene	<440	<4,100	<410	<380	<3,700	<4,400	7,400	<5,400	<3,800	<4,000	220 or MDL	1,000
Benzo(k)fluoranthene	<440	<4,100	<410	<380	<3,700	<4,400	7,900	<5,400	<3,800	<4,000	220 or MDL	800
Benzo(a)pyrene	<440	<4,100	<410	<380	<3,700	<4,400	8,200	<5,400	<3,800	<4,000	61 or MDL	1,000
Indeno(1,2,3-cd)pyrene	<440	<4,100	<410	<380	<3,700	<4,400	<4,500	<5,400	<3,800	<4,000	3,200	500
Benzo(g,h,i)perylene	<440	<4,100	<410	<380	<3,700	<4,400	<4,500	<5,400	<3,800	<4,000	50,000*	100,000

ug/kg = micrograms per kilogram
ft. bgs = feet below ground surface
J = Analyte detected below quantitation limits
STARS = Spill Technology and Remediation Series
* = Total SVOCs must be ≤ 500,000ug/kg, and Individual non-carcinogenic SVOCs must be ≤ 50,000ug/kg
TAGM Recommended Soil Cleanup Objectives = Division Technical and Administrative Guidance Memorandum (TAGM 4046): Determination of Soil Cleanup Objectives and Cleanup Levels and addendum (August, 2001)
B = This analyte was also detected within the laboratory's method blank and may be the result of laboratory contamination.
Underlined = Analyte that is detected above the TAGM Recommended Soil Cleanup Objectives.
= Analyte that is detected above the Part 375 (Unrestricted) Soil Cleanup Objectives.

Conclusions

The purpose of this intrusive study was to better assess the environmental quality of on-site soils in accessible locations of the subject property proximate to the historic pump islands and the current and historic USTs. All test boring locations and soil sampling was completed at the direction of the New York State Department of Environmental Conservation (NYSDEC) and/or their contractors.

The following tables summarize the field observations and the laboratory results.

Sample ID	Depth of Refusal	Depth of Groundwater	Highest PID Reading		Petroleum-Type Odors	Petroleum-Type Staining	Free Product	Analytes Detected Above Regulatory Criteria
	ft. bgs	ft. bgs	ppm	ft. bgs	ft. bgs	ft. bgs	ft. bgs	
BH1	None	12	1,541	8-10	8-10	None	None	Yes
BH2	None	None	1.7	0-4	None	None	None	NA
BH3	None	None	0.4	0-2	None	None	None	NA
BH4	None	8	None	None	None	None	None	NA
BH5	None	None	0.6	2-4	None	None	None	NA
BH6	None	None	3.5	0-4	None	None	None	NA
BH7	8	4	2.9	2-4	None	None	None	NA
BH8	None	None	1.8	0-4	None	None	None	NA
BH9	None	None	3.2	0-2	None	None	None	NA
BH10	None	None	35.1	0-2	None	None	None	Yes
BH11	None	None	1,897	4-8	1-11	None	None	Yes
BH12	None	8	583	8-12	3-4	None	None	NA
BH13	None	None	13.2	4-8	None	None	None	No**
BH14	None	None	1.5	8-10	None	None	None	NA
BH15	None	None	52.3	0.4-2	0-5	None	None	No**
BH16	None	None	2.7	10-12	None	None	None	NA
BH17	None	None	1.8	2-4	None	None	None	NA
BH18	None	8	527	0.4-4	3-10	None	None	Yes
BH19	None	None	923	2-4	1-10	None	None	Yes
BH20	None	9	2.8	8-10	None	None	None	NA
BH21	None	None	21.3	6-8	None	None	None	Yes
BH22	None	None	6.8	6-8	None	None	None	NA
BH23	None	None	303	6-8	3-8	None	None	No**
BH24	None	None	616	2-4	3-5.5	None	None	No**
BH25	None	8	157	0.4-4	0-10	None	None	Yes
BH26	None	None	175	8-10	8-10	None	None	No
BH27	None	None	998	8-10	2-12	None	None	Yes
BH28	None	None	523	6-8	1-8	None	None	No**
BH29	None	8	>999	10-12	8-12	None	None	No**
BH30	None	11	26	8-12	None	None	None	Yes
BH31	None	8	663	8-10	8-11	None	None	Yes
BH32	None	9	6	4-8	None	None	None	NA
BH33	None	10	3	0.4-12	None	None	None	NA
BH34	None	8	22.5	6-8	None	None	None	No
BH35	None	None	5	4-8	None	None	None	NA
BH36	*	*	*	*	*	*	*	*
BH37	None	10	>999	0.4-8, 12-16	0.4-16	None	None	Yes
BH38	None	None	>999	4-8	6-8	6-8	None	Yes
BH39	None	None	8	0-4	None	None	None	No**
BH40	None	None	27	0-4	None	None	None	No**
BH41	None	None	392	4-8	4-8	4-8	None	Yes
BH42	None	None	10	2-4	None	None	None	Yes

NA = not analyzed
* = test boring was not completed due to proximity to natural gas utility lines
** = elevated laboratory method detection limit

Sample ID	Depth of Refusal	Depth of Groundwater	Highest PID Reading		Petroleum-Type Odors	Petroleum-Type Staining	Free Product	Analytes Detected Above Regulatory Criteria
	ft. bgs	ft. bgs	ppm	ft. bgs	ft. bgs	ft. bgs	ft. bgs	
BH43	None	None	6	2-4	None	None	None	No**
BH44	None	None	40	2-4	None	None	None	No**
BH45	None	None	810	4-6	4-7	None	None	Yes
BH46	None	None	172	8-10	None	None	None	No**
BH47	None	None	6	2-4	None	None	None	No**
BH48	None	None	2	0-8, 10-12	None	None	None	No**
BH49	4	None	1	0-4	None	None	None	NA
BH50	None	None	1	0-6	None	None	None	No**
BH51	None	None	339	2-4	2-8	None	None	No
BH52	None	None	>999	0-4	0-8	None	None	Yes
BH53	None	None	>999	0-8	2-10	2-8	None	Yes
BH54	None	None	>999	2-8	2-8	None	None	Yes
BH55	None	None	668	4-8	4-10	None	None	No**
BH56	None	12	>999	8-10	8-12	None	None	No
BH57	NR	NR	NR	NR	NR	NR	NR	NR
BH58	None	8	>999	0-4	1-10	None	None	Yes
BH59	None	None	448	8-10	1-10	None	None	No**
BH60	None	None	336	8-10	8-12	None	None	No
BH61	2	None	672	0-2	0.4-2	None	None	No**
BH62	None	None	>999	0-2, 4-8	4-8	4-8	None	No**
BH63	None	None	>999	4-8	4-8	4-8	None	Yes
BH64	None	None	9	0-2	None	None	None	No**
BH65	7	None	25	2-4	None	None	None	No**
BH66	None	None	2	4-12	None	None	None	No**

NA = not analyzed
NR = no recovery
* = test boring was not completed due to proximity to natural gas utility lines
** = elevated laboratory method detection limit

Based on the analytical results, analytes were detected at concentrations above TAGM Recommended Soil Cleanup Objectives and Part 375 (Unrestricted) Soil Cleanup Objectives in soil samples collected from west, south and east of the subject structure. Analytes were not detected at concentrations above TAGM Recommended Soil Cleanup Objectives or Part 375 (Unrestricted) Soil Cleanup Objectives in soil samples collected from test borings BH15, BH23, BH28, BH29, BH40, BH46, BH55, BH59, BH61 and BH62. Based on the field observations (i.e. elevated PID readings, odors, staining) analytes may be present in soil samples collected from those test borings; however, were not detected due to elevated laboratory method detection limits.

Recommendations

Contaminated soil and groundwater (if any) should be remediated in accordance with the requirements of the NYSDEC. Similarly, non compliant UST systems should be properly abandoned (i.e., closed-in-place or excavated and removed).

Thank you for allowing LCS to service your environmental needs. If you have any questions or require additional information, please do not hesitate to call our office.

Sincerely,

Adam Zebrowski
Environmental Analyst

Reviewed by:

Douglas B. Reid
Sr. VP, Environmental Services
Sr. Environmental Scientist

SITE LOCATION MAP

Send To Printer Back To MSR Maps Change to 11x17 Print Size Show Grid Lines Change to Landscape

USGS **Buffalo, New York, United States** 01 Jul 1995

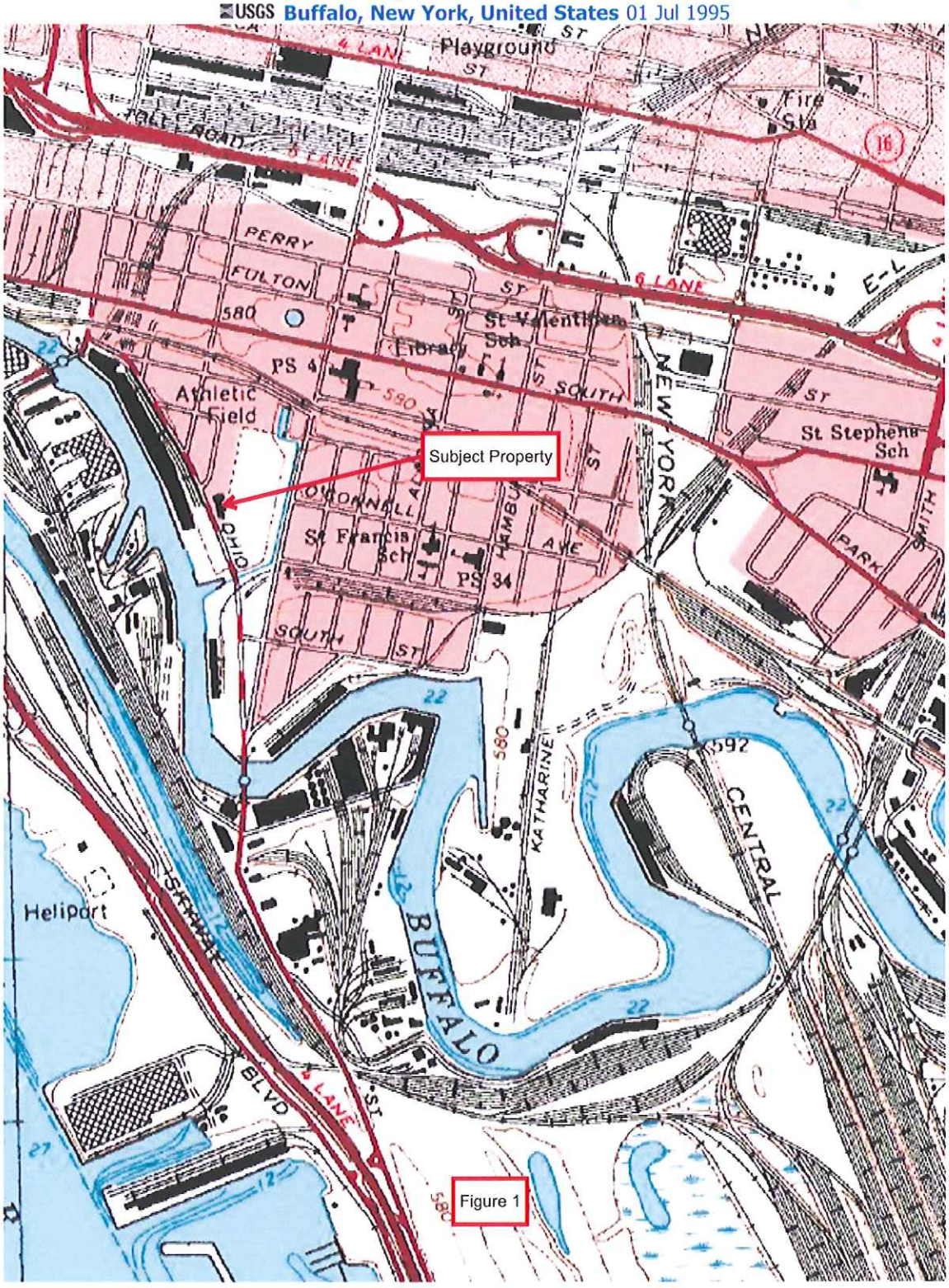
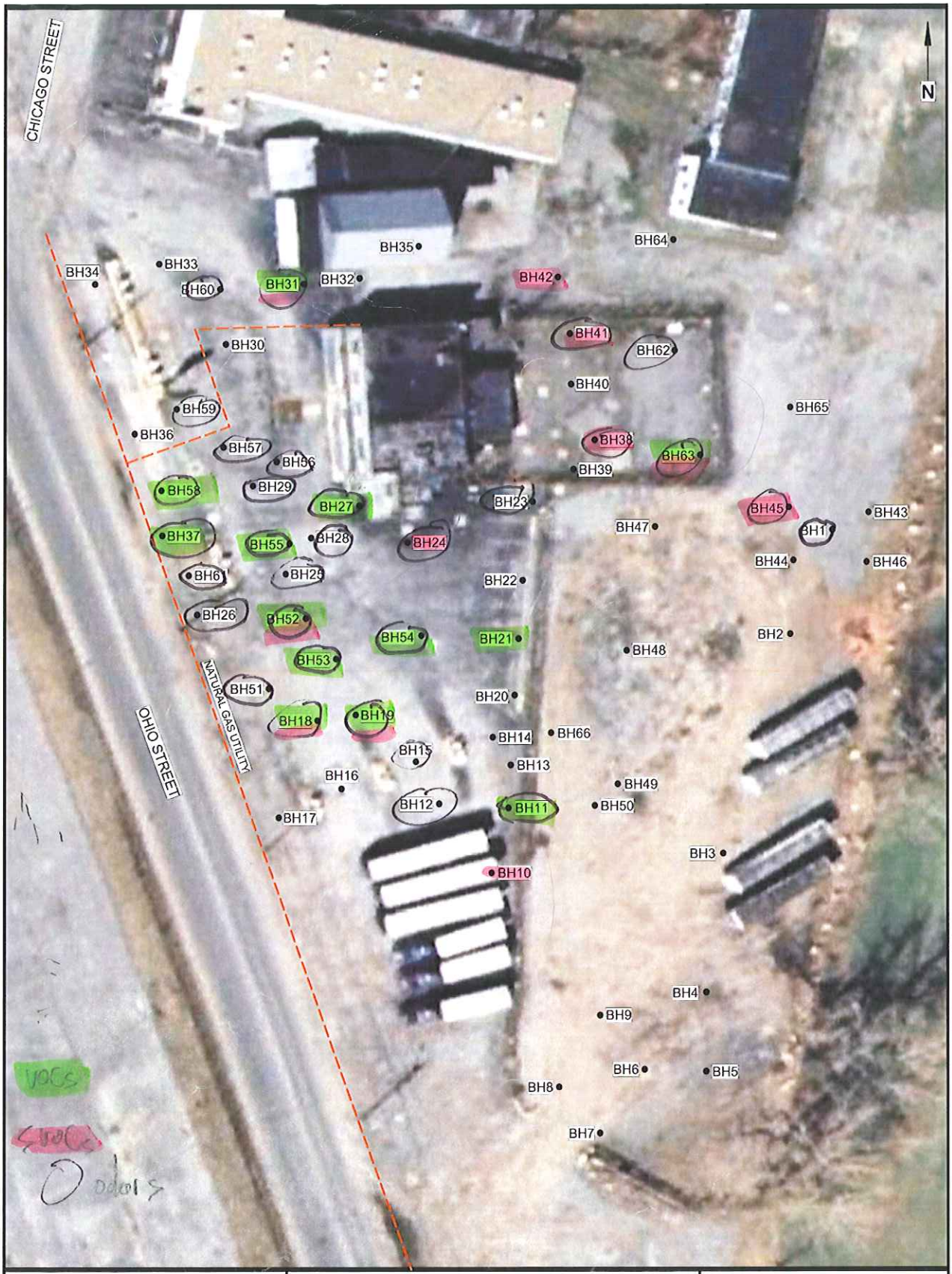


Image courtesy of the U.S. Geological Survey

SUBSURFACE INVESTIGATION MAP



LCS INC.	**FIGURE 2 - SITE INVESTIGATION PLAN** **300 OHIO STREET** **BUFFALO, NEW YORK**	*Drawn by: AKZ* *Checked by: DBR* *Not to Scale* *LCS Project # 10B667.22*