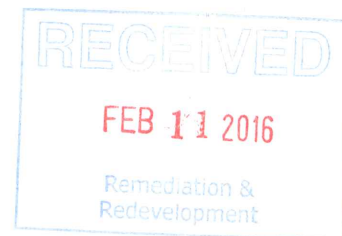




February 8, 2016

Gena Larson
Wisconsin Department of Natural Resources
101 South Webster Street
Madison, WI 53703



**Re: Site Investigation Summary
Former Vogue Cleaners
1416 North 4th Street, Milwaukee, WI 53212
BRRTS # 02-41-559223
EnviroForensics Project# 6350**

Dear Mr. Collision:

Environmental Forensic Investigations, Inc. (EnviroForensics) is pleased to present this summary of site investigation activities conducted at the Former Vogue Cleaners facility located at 1416 North 4th Street, Milwaukee (Site). The Site location is shown on **Figure 1**.

SITE INVESTIGATION ACTIVITIES

In order to define the nature, extent, and degree of impacts to the Site from petroleum and chlorinated dry cleaning solvents. EnviroForensics conducted the following investigation activities:

- Advanced 11 direct-push soil borings and converted each to a temporary well to assess soil and groundwater impacts, including one (1) deeper boring to determine the vertical extent of contamination near the source area.
- Advanced four (4) hand-auger soil borings inside the building to determine the degree of contamination at the assumed source area.
- Collected a total of 39 soil samples and submitted the samples to a laboratory for analysis of volatile organic compounds (VOCs) by US Environmental Protection Agency (USEPA) SW-846 Test Method 8260 and polynuclear aromatic hydrocarbons (PAHs) by USEPA SW-846 Test Method 8270.
- Collected a total of 11 grab groundwater samples and submitted the samples to a laboratory for analysis of VOCs and PAHs.
- Conducted an inventory of chemicals in the building.

Document: 6350-0173
Environmental Forensic Investigations, Inc.
N16 W23390 Stone Ridge Drive, Suite G, Waukesha, Wisconsin 53188
Phone: 414-982-3988 • Fax: 262-510-0460

The locations of each of the sampling points are shown on **Figure 2**.

Direct-push soil samples were collected in 4-ft long by 1.5-inch diameter plastic sample sleeves, sampled and logged. Field screening at each 2-ft interval was conducted using a photoionization detector (PID) meter, the results of which were recorded on boring logs. Soil lithology was continuously described in accordance with the Unified Soil Classification System (USCS) and recorded on boring logs.

Grab groundwater samples were collected from each direct-push boring via a temporary well to further define the horizontal distribution of dissolved phase contaminants. Groundwater samples were collected from a 1-inch diameter, 10-foot PVC temporary screen using disposable tubing connected to a peristaltic pump.

Soil and groundwater samples for laboratory analysis were collected in laboratory supplied sample containers. Any reusable sampling equipment that contacted the soil was decontaminated with an Alconox detergent solution and rinsed with clean water between sampling locations.

Investigation-derived media (IDM) including soil cuttings, purge water, and decontamination fluids generated during sampling activities were placed into 55-gallon steel drums pending characterization and management.

SITE INVESTIGATION RESULTS

The investigation results are summarized on **Tables 1 through 3** and **Figures 3 through 5**. Several VOCs were detected in Site soil samples, included both chlorinated and petroleum-related compounds. Isopropylbenzene, n-propylbenzene, and trimethylbenzenes were the most frequently detected compounds at concentrations above the residual contaminant level (RCL) for the protection of groundwater. Sample HA-1 (5-6 feet) was the only soil sample that contained VOCs at concentrations above direct-contact RCLs. Several PAHs were also detected in Site soil samples, including benzo(a)pyrene which was detected in approximately 70% of the soil samples at concentrations above direct-contact RCLs.

Groundwater at the Site also exhibits VOC and PAH impacts. Vinyl chloride, cis-1,2-dichloroethene, 1,2,4-trimethylbenzene, anthracene, benzo(a)pyrene, and benzo(b)fluoranthene were all detected in one (1) or more grab groundwater samples at concentrations above their respective enforcement standards (ESs).

The contaminant source area comprises the eastern part of the Site building and former underground storage tank (UST) area indicated on the figures. In general, the VOC concentrations are higher in deeper soil samples, indicating releases from trenches or storage tanks as opposed to surface releases. One (1) deeper soil boring was advanced to 30 feet bgs to define the vertical extent of impacts. The deepest sample contained a minor concentration of a



single compound, indicating that impacts are generally limited to within 30 feet of the ground surface. The horizontal extent of impacts has not been defined, and may extend into the City of Milwaukee right-of-way and adjacent private properties.

RECOMMENDATIONS

The site investigation is incomplete. In addition to the previously proposed off-Site sampling activities, EnviroForensics recommends the following actions:

- Investigate potential contaminant migration along the utility corridors to the east of the Site; and
- Implement a remedial action.

REMEDIAL ACTION OPTIONS

EnviroForensics has identified three (3) feasible remedial action options to address the subsurface impacts at the Site. The options include:

- Excavation and off-Site disposal;
- In-situ soil mixing; and
- Soil vapor extraction (SVE).

The options are listed above in order of increasing remedial timeframe. From planning to completion, excavation could be completed in as little as 6 months; SVE could take up to 3 years or longer.

Cost estimates for conducting the remaining investigation activities, implementing these remedial actions options, and managing the post-closure continuing obligations were developed based on the following assumptions:

- Vapor intrusion assessment of the north adjacent building (1422 N. 4th Street) will be performed by others;
- The building will be completely demolished and all debris removed for disposal off-Site;
- Remediation of the subsurface within the right-of-way east of the Site or within the property south of the Site (1402 N. 4th Street) will not be required.



EnviroForensics appreciates the opportunity to provide this Site investigation summary. If you have any questions, please feel free to contact me at 262-290-4001.

Sincerely,

Environmental Forensic Investigations, Inc.

A handwritten signature in black ink, appearing to read "Rob Hoverman".

Rob Hoverman, PG
Senior Project Manager

Attachments

Copy: Ted Warpinski, Freibert, Finerty and St. John, S.C.

TABLES

TABLE 3
SUMMARY OF GRAB GROUNDWATER SAMPLE ANALYTICAL RESULTS
 Vogue Cleaners
 1416 N. 4th Street, Milwaukee, Wisconsin

Boring Identification	Sample Depth (feet)	Sample Date	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	Benzene	tert-Butylbenzene	sec-Butylbenzene	n-Butylbenzene	Isopropylbenzene	p-Isopropyltoluene	Methyl tert-butyl ether (MTBE)	n-propylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene
			Volatile Organic Compounds														
SB-1	15	7/21/2015	<0.49	<0.47	5.9	1.3 J	<0.44	<0.44	<1.1	6.0	2.63 J	9.1	<1.1	<1.1	11.8	<1.7	<2.7
SB-2	15	7/21/2015	<0.49	<0.47	8.4	1.25 J	0.34 J	0.46 J	<1.1	<1.2	<1	<0.82	<1.1	2.48 J	<0.77	<1.7	<2.7
SB-3	15	7/21/2015	2.72	<0.47	0.50 J	<0.54	<0.17	<0.44	<1.1	2.47 J	2.21 J	1.18 J	<1.1	<1.1	3.2	18.6	3.11 J
SB-4	15	7/21/2015	<0.49	<0.47	22.3	0.78 J	1.92	1.39 J	<1.1	7.8	4.7	8.0	2.53 J	<1.1	6.2	22.1	<1.5
SB-5	15	7/21/2015	<0.49	<0.47	6.8	0.80 J	1.18	<0.44	2.01 J	18.8	13.2	14.5	1.15 J	1.31 J	27.5	2.43 J	<1.5
SB-6	15	7/21/2015	<24.5	<23.5	<22.5	<27	<8.5	<22	<55	204	251	146	134 J	<55	370	2,360	156 J
SB-7	15	7/21/2015	<4.9	<4.7	74	<5.4	30.9	<4.4	<11	18.4 J	18.3 J	10.6 J	<11	<11	24.6	146	27.5 J
SB-8	15	9/22/2015	<0.49	<0.47	<0.45	<0.54	<0.17	<0.44	<1.1	<1.2	<1	<0.82	<1.1	<1.1	<0.77	<1.6	<1.5
SB-9	15	9/22/2015	<4.9	<4.7	<4.5	<5.4	<1.7	<4.4	<11	24.8 J	19.8 J	35	<11	<11	84	<16	<15
SB-10	15	9/22/2015	<0.49	<0.47	<0.45	<0.54	<0.17	<0.44	<1.1	<1.2	<1	<0.82	<1.1	<1.1	<0.77	<1.6	<1.5
SB-11	15	9/22/2015	<4.9	<4.7	<4.5	<5.4	<1.7	<4.4	<11	45	36	75	<11	<11	159	119	<15
Public Health Enforcement Standard			5	5	70	100	0.2	5	NE	NE	NE	NE	NE	60.0	NE	480	480
Public Health Preventive Action Limit			0.5	0.5	7	20	0.02	0.5	NE	NE	NE	NE	NE	12.0	NE	96	96

Notes:

All concentrations reported in micrograms per liter µg/l

VOC Samples analyzed using EPA SW-846 Method 8260

PAH Samples analyzed using EPA SW-846 Method 8270

Bolded values are above detection limits

Bolded and Orange Shaded values indicates an exceedance of the Public Health Enforcement Standard

Bolded and Blue Shaded values indicates an exceedance the Public Health Preventive Action Limit

J = Estimated concentration between the Method Detection Limit and the Reporting Limit

NE = Not Established

TABLE 3
SUMMARY OF GRAB GROUNDWATER SAMPLE ANALYTICAL RESULTS
 Vogue Cleaners
 1416 N. 4th Street, Milwaukee, Wisconsin

Boring Identification	Sample Depth (feet)	Sample Date	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Flouranthene	Flourene	Indeno(1,2,3-dc)pyrene	1-Methyl naphthalene	2-Methyl naphthalene	Naphthalene	Phenanthrene	Pyrene
			Polynuclear Aromatic Hydrocarbons																	
SB-1	15	7/21/2015	<0.02	0.064 J	<0.02	<0.019	<0.019	<0.019	<0.024	<0.018	<0.017	<0.025	<0.018	<0.017	<0.018	0.035 J	0.021 J	<0.018	<0.017	<0.018
SB-2	15	7/21/2015	<0.02	<0.021	<0.02	<0.019	<0.019	<0.019	<0.024	<0.018	<0.017	<0.025	<0.018	<0.017	<0.018	0.020 J	0.020 J	<0.018	<0.017	<0.018
SB-3	15	7/21/2015	0.073	<0.021	<0.02	0.024 J	<0.019	0.023 J	<0.024	<0.018	<0.017	<0.025	<0.018	0.075	<0.018	0.40	0.018 J	<0.018	0.062	0.023 J
SB-4	15	7/21/2015	1.54	0.48	0.62	<0.019	<0.019	<0.019	<0.024	<0.018	<0.017	<0.025	<0.018	2.39	<0.018	21.1	5.5	0.122 J	3.5	0.135 J
SB-5	15	7/21/2015	<0.02	<0.021	<0.02	<0.019	<0.019	<0.019	<0.024	<0.018	<0.017	<0.025	<0.018	0.021 J	<0.018	0.22	0.228	0.032 J	0.039 J	<0.018
SB-6	15	7/21/2015	1.37 J	<0.021	1.85 J	2.67 J	1.3 J	2.11 J	<0.024	1.08 J	<0.017	<0.025	6.2	2.77	<0.018	15.5	24.3	4.3	9.3	6.2
SB-7	15	7/21/2015	0.028 J	<0.021	0.022 J	<0.019	<0.019	<0.019	<0.024	<0.018	<0.017	<0.025	<0.018	0.083	<0.018	0.025 J	0.017 J	<0.018	0.236	0.022 J
SB-8	15	9/22/2015	<0.02	<0.021	<0.02	<0.019	<0.019	<0.019	<0.024	<0.018	<0.017	<0.025	<0.018	<0.017	<0.018	<0.018	<0.017	0.022 J	<0.017	<0.018
SB-9	15	9/22/2015	<0.02	<0.021	<0.02	0.028 J	0.019	0.023 J	<0.024	<0.018	0.021 J	<0.025	0.034 J	<0.017	<0.018	0.048 J	0.037 J	0.023 J	0.029 J	0.032 J
SB-10	15	9/22/2015	<0.02	<0.021	<0.02	<0.019	<0.019	<0.019	<0.024	<0.018	<0.017	<0.025	<0.018	<0.017	<0.018	<0.018	<0.017	<0.018	<0.017	<0.018
SB-11	15	9/22/2015	<0.02	<0.021	<0.02	<0.019	<0.019	<0.019	<0.024	<0.018	<0.017	<0.025	<0.018	<0.017	<0.018	1.33	1.82	0.45 J	0.269 J	0.181 J
Public Health Enforcement Standard			NE	NE	0.003	NE	0.2	0.2	NE	NE	0.2	NE	400	400	NE	NE	NE	100	NE	250
Public Health Preventive Action Limit			NE	NE	0.0003	NE	0.02	0.02	NE	NE	0.02	NE	40	40	NE	NE	NE	10	NE	25

Notes:

All concentrations reported in micrograms per liter µg/l
 VOC Samples analyzed using EPA SW-846 Method 8260
 PAH Samples analyzed using EPA SW-846 Method 8270

Bolded values are above detection limits

Bolded and Orange Shaded values indicates an exceedance of the Public Health Enforcement Standard

Bolded and Blue Shaded values indicates an exceedance the Public Health Preventive Action Limit

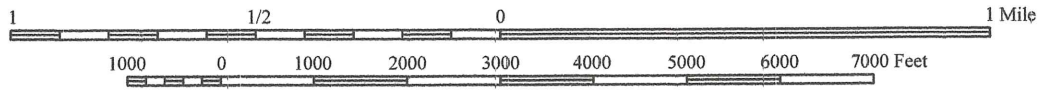
J = Estimated concentration between the Method Detection Limit and the Reporting Limit

NE = Not Established

FIGURES



Scale 1:24,000



Source: US Geological Survey, Milwaukee, Wisconsin, 7.5 Minute Series, 2010

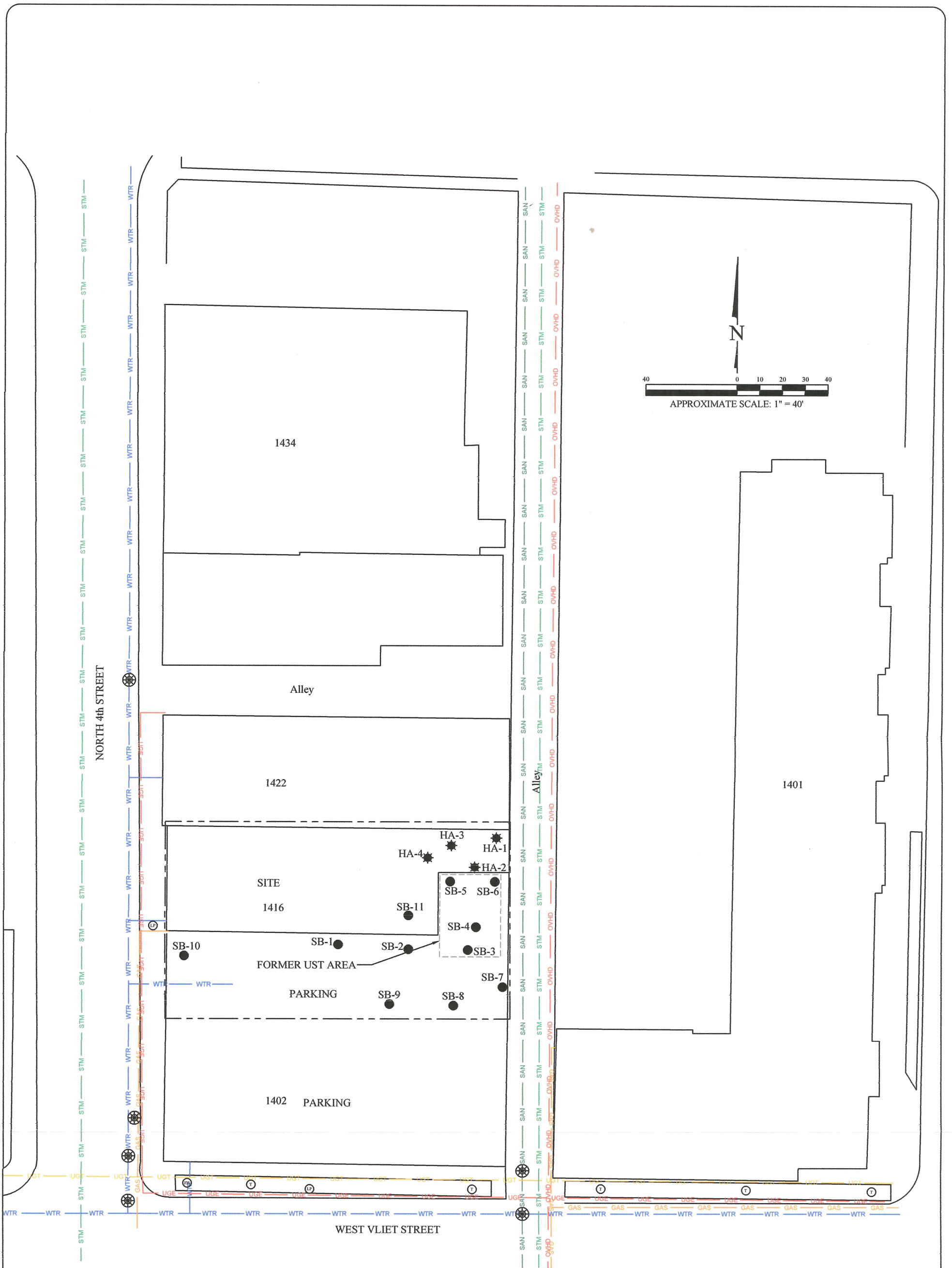
No.	Date	Revision	Approved

ENVIROforensics
 ENVIRONMENTAL FORENSIC INVESTIGATIONS, INC.
 802 N. Capitol Ave, Suite 210 • Indianapolis, IN 46204
 EnviroForensics.com

Date: 12/10/14
 Designed: EB
 Drawn: EB
 Checked: BR
 DWG file: 6350-0060

SITE TOPOGRAPHICAL MAP
 Former Vogue Cleaners
 1416 North 4th Street
 Milwaukee, Wisconsin

Figure
1
Project
6350



Legend

- DP-1 ● Soil boring location
- HA-1 ★ Hand auger location
- Property boundary
- GAS — Underground gas utility line
- WTR — Underground water utility line

- STM — Underground storm utility line
- OVHD — Over head electrical utility line
- UGE — Underground electrical utility line
- UGT — Underground telephone utility line
- SAN — Underground sanitary sewer utility line

- ⊙ Tree
- ⊕ Fire Hydrant
- ⊙ Light Pole
- ⊗ Manhole

No.	Date	Revision	Approved

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 DWG file: 6350-0134

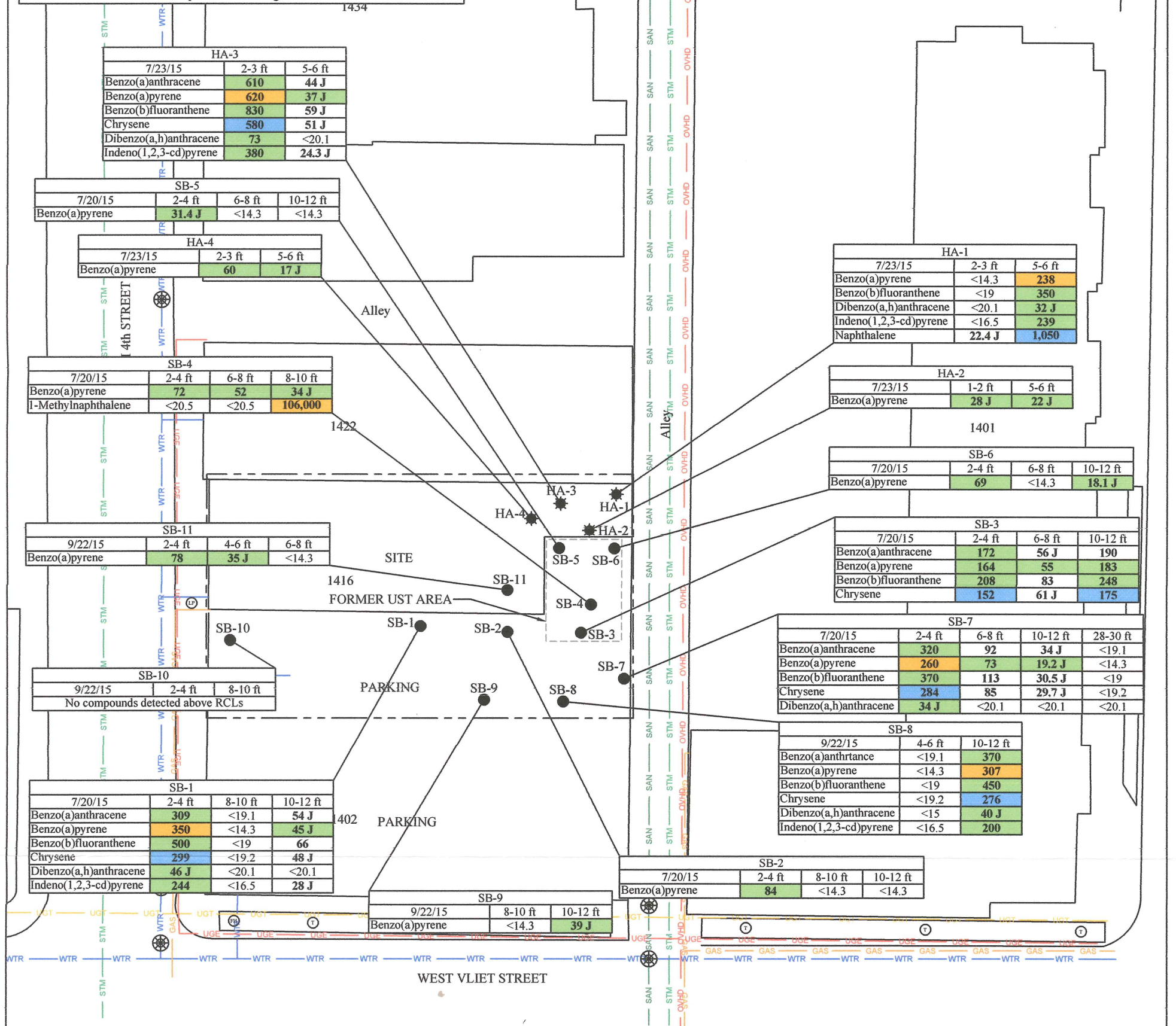
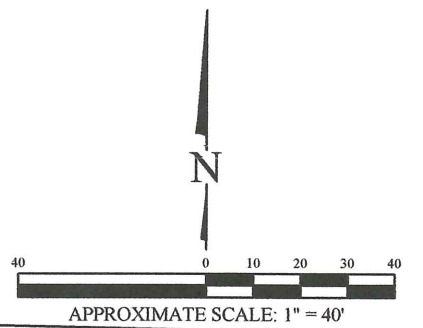
SITE PLAN

1416-1420 North 4th Street
 Milwaukee, Wisconsin 53212

Figure
 2
 Project
 6350

Analyte	Soil to Groundwater Residual Contaminant Level	Residential Residual Contaminant Level	Industrial Residual Contaminant Level
Acenaphthene	NE	3,440,000	33,000,000
Acenaphthalene	NE	NE	NE
Anthracene	198,900	17,200,000	100,000,000
Benzo(a)anthracene	NE	148	2,110
Benzo(a)pyrene	470	15	211
Benzo(b)fluoranthene	479	148	2,110
Benzo(g,h,i)perylene	NE	NE	NE
Benzo(k)fluoranthene	NE	1,480	21,100
Chrysene	144	14,800	211,000
Dibenzo(a,h)anthracene	NE	15	211
Flouranthene	88,877	2,290,000	22,000,000
Flourene	14,800	2,290,000	22,000,000
Indeno(1,2,3-cd)pyrene	NE	148	2,110
1-Methylnaphthalene	NE	15,600	53,100
2-Methylnaphthalene	NE	229,000	2,200,000
Naphthalene	658	5,150	26,000
Phenanthrene	NE	NE	NE
Pyrene	54,132	1,720,000	16,500,000

- Note:
- Bolded and blue shaded values exceed the Soil to Groundwater Residual Contaminant Level
 - Bolded and green shaded values exceed the Non-Industrial Residual Contaminant Level
 - Bolded and orange shaded values exceed the Industrial Residual Contaminant Level
 - Bolded values are above detection limits
 - J = Analyte concentration less than laboratory detection limits
 - Samples analyzed using EPA SW-846 Method 8260
 - All results reported in units of micrograms per kilogram (µg/kg)
 - PAHs = Polycyclic Aromatic Hydrocarbons
 - Only compounds detected at concentrations above residual contaminant levels are reported on this figure



HA-3			
Date	2-3 ft	5-6 ft	
7/23/15			
Benzo(a)anthracene	610	44 J	
Benzo(a)pyrene	620	37 J	
Benzo(b)fluoranthene	830	59 J	
Chrysene	580	51 J	
Dibenzo(a,h)anthracene	73	<20.1	
Indeno(1,2,3-cd)pyrene	380	24.3 J	

SB-5			
Date	2-4 ft	6-8 ft	10-12 ft
7/20/15			
Benzo(a)pyrene	31.4 J	<14.3	<14.3

HA-4			
Date	2-3 ft	5-6 ft	
7/23/15			
Benzo(a)pyrene	60	17 J	

SB-4			
Date	2-4 ft	6-8 ft	8-10 ft
7/20/15			
Benzo(a)pyrene	72	52	34 J
1-Methylnaphthalene	<20.5	<20.5	106,000

SB-11			
Date	2-4 ft	4-6 ft	6-8 ft
9/22/15			
Benzo(a)pyrene	78	35 J	<14.3

SB-10			
Date	2-4 ft	8-10 ft	
9/22/15			
No compounds detected above RCLs			

SB-1			
Date	2-4 ft	8-10 ft	10-12 ft
7/20/15			
Benzo(a)anthracene	309	<19.1	54 J
Benzo(a)pyrene	350	<14.3	45 J
Benzo(b)fluoranthene	500	<19	66
Chrysene	299	<19.2	48 J
Dibenzo(a,h)anthracene	46 J	<20.1	<20.1
Indeno(1,2,3-cd)pyrene	244	<16.5	28 J

SB-9			
Date	8-10 ft	10-12 ft	
9/22/15			
Benzo(a)pyrene	<14.3	39 J	

SB-2			
Date	2-4 ft	8-10 ft	10-12 ft
7/20/15			
Benzo(a)pyrene	84	<14.3	<14.3

HA-1			
Date	2-3 ft	5-6 ft	
7/23/15			
Benzo(a)pyrene	<14.3	238	
Benzo(b)fluoranthene	<19	350	
Dibenzo(a,h)anthracene	<20.1	32 J	
Indeno(1,2,3-cd)pyrene	<16.5	239	
Naphthalene	22.4 J	1,050	

HA-2			
Date	1-2 ft	5-6 ft	
7/23/15			
Benzo(a)pyrene	28 J	22 J	

SB-6			
Date	2-4 ft	6-8 ft	10-12 ft
7/20/15			
Benzo(a)pyrene	69	<14.3	18.1 J

SB-3			
Date	2-4 ft	6-8 ft	10-12 ft
7/20/15			
Benzo(a)anthracene	172	56 J	190
Benzo(a)pyrene	164	55	183
Benzo(b)fluoranthene	208	83	248
Chrysene	152	61 J	175

SB-7				
Date	2-4 ft	6-8 ft	10-12 ft	28-30 ft
7/20/15				
Benzo(a)anthracene	320	92	34 J	<19.1
Benzo(a)pyrene	260	73	19.2 J	<14.3
Benzo(b)fluoranthene	370	113	30.5 J	<19
Chrysene	284	85	29.7 J	<19.2
Dibenzo(a,h)anthracene	34 J	<20.1	<20.1	<20.1

SB-8		
Date	4-6 ft	10-12 ft
9/22/15		
Benzo(a)anthracene	<19.1	370
Benzo(a)pyrene	<14.3	307
Benzo(b)fluoranthene	<19	450
Chrysene	<19.2	276
Dibenzo(a,h)anthracene	<15	40 J
Indeno(1,2,3-cd)pyrene	<16.5	200

Legend

- DP-1 ● Soil boring location
- HA-1 ★ Hand auger location
- Property boundary
- GAS --- Underground gas utility line
- WTR --- Underground water utility line
- STM --- Underground storm utility line
- OVHD --- Over head electrical utility line
- UGE --- Underground electrical utility line
- UGT --- Underground telephone utility line
- SAN --- Underground sanitary sewer utility line
- ⊙ Tree
- ⊙ Fire Hydrant
- ⊙ Light Pole
- ⊙ Manhole

No.	Date	Revision	Approved

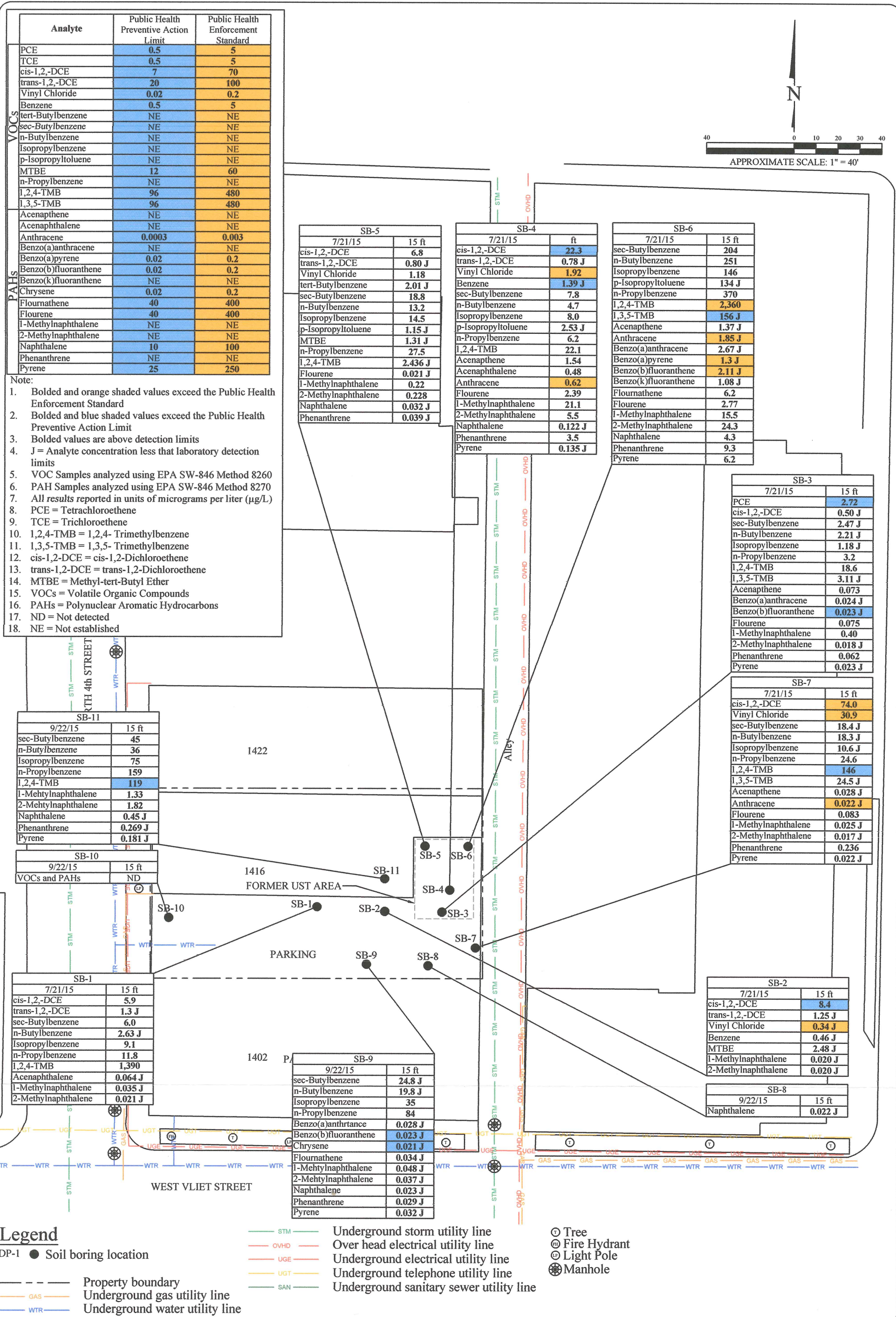
ENVIROforensics
 ENVIRONMENTAL FORENSIC INVESTIGATIONS, INC.
 602 N Capitol Ave, Suite 210 • Indianapolis, IN 46204
 EnviroForensics.com

Date:	8/13/15
Designed:	EB
Drawn:	EB
Checked:	KH
DWG file:	6350-0136

SOIL ANALYTICAL RESULTS MAP
 PAHs in µg/kg

1416-1420 North 4th Street
 Milwaukee, Wisconsin 53212

Figure	4
Project	6350



Analyte	Public Health Preventive Action Limit	Public Health Enforcement Standard
PCE	0.5	5
TCE	0.5	5
cis-1,2,-DCE	7	70
trans-1,2,-DCE	20	100
Vinyl Chloride	0.02	0.2
Benzene	0.5	5
tert-Butylbenzene	NE	NE
sec-Butylbenzene	NE	NE
n-Butylbenzene	NE	NE
Isopropylbenzene	NE	NE
p-Isopropyltoluene	NE	NE
MTBE	12	60
n-Propylbenzene	NE	NE
1,2,4-TMB	96	480
1,3,5-TMB	96	480
Acenaphthene	NE	NE
Acenaphthalene	NE	NE
Anthracene	0.0003	0.003
Benzo(a)anthracene	NE	NE
Benzo(a)pyrene	0.02	0.2
Benzo(b)fluoranthene	0.02	0.2
Benzo(k)fluoranthene	NE	NE
Chrysene	0.02	0.2
Flourmathene	40	400
Flourene	40	400
1-Methylnaphthalene	NE	NE
2-Methylnaphthalene	NE	NE
Naphthalene	10	100
Phenanthrene	NE	NE
Pyrene	25	250

SB-5	
7/21/15	15 ft
cis-1,2,-DCE	6.8
trans-1,2,-DCE	0.80 J
Vinyl Chloride	1.18
tert-Butylbenzene	2.01 J
sec-Butylbenzene	18.8
n-Butylbenzene	13.2
Isopropylbenzene	14.5
p-Isopropyltoluene	1.15 J
MTBE	1.31 J
n-Propylbenzene	0.22
1,2,4-TMB	2.436 J
Flourene	0.021 J
1-Methylnaphthalene	0.22
2-Methylnaphthalene	0.228
Naphthalene	0.032 J
Phenanthrene	0.039 J

SB-4	
7/21/15	ft
cis-1,2,-DCE	22.3
trans-1,2,-DCE	0.78 J
Vinyl Chloride	1.92
Benzene	1.39 J
sec-Butylbenzene	7.8
n-Butylbenzene	4.7
Isopropylbenzene	8.0
p-Isopropyltoluene	2.53 J
n-Propylbenzene	6.2
1,2,4-TMB	22.1
Acenaphthene	1.54
Acenaphthalene	0.48
Anthracene	0.62
Flourene	2.39
1-Methylnaphthalene	21.1
2-Methylnaphthalene	5.5
Naphthalene	0.122 J
Phenanthrene	3.5
Pyrene	0.135 J

SB-6	
7/21/15	15 ft
sec-Butylbenzene	204
n-Butylbenzene	251
Isopropylbenzene	146
p-Isopropyltoluene	134 J
n-Propylbenzene	370
1,2,4-TMB	2,360
1,3,5-TMB	156 J
Acenaphthene	1.37 J
Anthracene	1.85 J
Benzo(a)anthracene	2.67 J
Benzo(a)pyrene	1.3 J
Benzo(b)fluoranthene	2.11 J
Benzo(k)fluoranthene	1.08 J
Flourmathene	6.2
Flourene	2.77
1-Methylnaphthalene	15.5
2-Methylnaphthalene	24.3
Naphthalene	4.3
Phenanthrene	9.3
Pyrene	6.2

SB-3	
7/21/15	15 ft
PCE	2.72
cis-1,2,-DCE	0.50 J
sec-Butylbenzene	2.47 J
n-Butylbenzene	2.21 J
Isopropylbenzene	1.18 J
n-Propylbenzene	3.2
1,2,4-TMB	18.6
1,3,5-TMB	3.11 J
Acenaphthene	0.073
Benzo(a)anthracene	0.024 J
Benzo(b)fluoranthene	0.023 J
Flourene	0.075
1-Methylnaphthalene	0.40
2-Methylnaphthalene	0.018 J
Phenanthrene	0.062
Pyrene	0.023 J

SB-7	
7/21/15	15 ft
cis-1,2,-DCE	74.0
Vinyl Chloride	30.9
sec-Butylbenzene	18.4 J
n-Butylbenzene	18.3 J
Isopropylbenzene	10.6 J
n-Propylbenzene	24.6
1,2,4-TMB	146
1,3,5-TMB	24.5 J
Acenaphthene	0.028 J
Anthracene	0.022 J
Flourene	0.083
1-Methylnaphthalene	0.025 J
2-Methylnaphthalene	0.017 J
Phenanthrene	0.236
Pyrene	0.022 J

SB-11	
9/22/15	15 ft
sec-Butylbenzene	45
n-Butylbenzene	36
Isopropylbenzene	75
n-Propylbenzene	159
1,2,4-TMB	119
1-Mehtylnaphthalene	1.33
2-Mehtylnaphthalene	1.82
Naphthalene	0.45 J
Phenanthrene	0.269 J
Pyrene	0.181 J

SB-10	
9/22/15	15 ft
VOCs and PAHs	ND

SB-1	
7/21/15	15 ft
cis-1,2,-DCE	5.9
trans-1,2,-DCE	1.3 J
sec-Butylbenzene	6.0
n-Butylbenzene	2.63 J
Isopropylbenzene	9.1
n-Propylbenzene	11.8
1,2,4-TMB	1,390
Acenaphthalene	0.064 J
1-Methylnaphthalene	0.035 J
2-Methylnaphthalene	0.021 J

SB-9	
9/22/15	15 ft
sec-Butylbenzene	24.8 J
n-Butylbenzene	19.8 J
Isopropylbenzene	35
n-Propylbenzene	84
Benzo(a)anthrance	0.028 J
Benzo(b)fluoranthene	0.023 J
Chrysene	0.021 J
Flourmathene	0.034 J
1-Mehtylnaphthalene	0.048 J
2-Mehtylnaphthalene	0.037 J
Naphthalene	0.023 J
Phenanthrene	0.029 J
Pyrene	0.032 J

SB-2	
7/21/15	15 ft
cis-1,2,-DCE	8.4
trans-1,2,-DCE	1.25 J
Vinyl Chloride	0.34 J
Benzene	0.46 J
MTBE	2.48 J
1-Methylnaphthalene	0.020 J
2-Methylnaphthalene	0.020 J

SB-8	
9/22/15	15 ft
Naphthalene	0.022 J

Legend

- DP-1 ● Soil boring location
- Property boundary
- GAS --- Underground gas utility line
- WTR --- Underground water utility line
- STM --- Underground storm utility line
- OVHD --- Over head electrical utility line
- UGE --- Underground electrical utility line
- UGT --- Underground telephone utility line
- SAN --- Underground sanitary sewer utility line

- ⊙ Tree
- ⊙ Fire Hydrant
- ⊙ Light Pole
- ⊙ Manhole

No.	Date	Revision	Approved

ENVIROforensics
 ENVIRONMENTAL FORENSIC INVESTIGATIONS, INC.
 602 N Capitol Ave, Suite 210 • Indianapolis, IN 46204
 EnviroForensics.com

Date:	8/13/15
Designed:	EB
Drawn:	EB
Checked:	KH
DWG file:	6350-0137

GRAB GROUNDWATER ANALYTICAL RESULTS MAP
 VOCs and PAHs in µg/kg
 1416-1420 North 4th Street
 Milwaukee, Wisconsin 53212

Figure	5
Project	6350