Rec'd 6/26/12

Updated

Phase II Environmental Site Assessment

66**-6709 West National Avenue and

6737 West National Avenue

West Allis, Wisconsin

September 2009

Prepared For
City of West Allis
Community Development Authority

THE ENVIRONMENTAL MANAGEMENT COMPANY LLC

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SECTION 1 GENERAL INFORMATION

1.1 Client Information

Community Development Authority (CDA)
City of West Allis
City Hall
7525 West Greenfield Avenue
West Allis, Wisconsin 53214

Contact: Mr. John F. Stibal, Director, CDA
Phone: 414-302-8462

1.2 Site Description

66** - 6709 West National Avenue
6737 West National Avenue
West Allis, Wisconsin 53214

Legal Description

The above referenced properties, collectively the site, are legally described as follows:

- 67** West National Avenue

  Part of the northeast ¼ of section 3, town 6 north, range 21 east, in the City of West Allis, County of Milwaukee and state of Wisconsin bounded and described as follows: beginning at a point 304.92 feet east of the west line and 1073.06 feet south of the north line of said ¼ section; running thence east on a line parallel to the north line of said ¼ section 60 feet to a point; thence north on a line parallel to the west line of said ¼ section, 173.17 feet to the center of West National Avenue; thence south 65[1' west along the center line of West National Avenue, 66.16 feet to a point 304.92 feet east of the west line of said ¼ section; thence south on a line parallel to the west line of said ¼ section, 146.41 feet to the place of beginning.

- 6709 West National Avenue

  Lot 2, in block 2 in Central Improvement Company's Subdivision number 3, being a subdivision of part of the northeast ¼ of section 3, township 6 north, range 21 east, in the City of West Allis, Milwaukee County, Wisconsin.

- 6737 West National Avenue

  Lot 3 in block 2 in Assessor's Plat No. 269, being a part of the northwest ¼, northeast ¼ and southeast ¼ of section 3, in township 6 north, range 21 east, in the City of West Allis, County of Milwaukee, State of Wisconsin.

General Description

The site is located along the south side of West National Avenue in the City of West Allis. The site is split in two parts by a railroad spur which lies north-south along the South 67th Street right-of-way.

The site is bordered on the north by West National Avenue, the former Pressed Steel Tank plant property (east side) and a grocery mega-store and parking lot (west side). It is bordered on the east by the former multi-tenant industrial site. The site is bordered on the south by the former multi-tenant industrial site (east side) and Milwaukee Ductile Iron Co. (west side). It is bordered on the west by Perfect Screw Products Co. A railroad spur runs north-south between the east and west sides of the site. All of the property northeast, east, and southeast of the site, as well as the east one-half of the site itself, is part of the Six Points / Farmers Market Redevelopment Project. All former structures on these properties have been razed in the past several years and site remediation, where required, has been completed. These properties will be redeveloped into a high-density mixture of retail, commercial, and residential uses. The western one-half of the site is not included in the Six Points / Farmers Market redevelopment Project, however, the former National Salvage building has been demolished and the site prepared for future redevelopment.

1.3 Consulting Firm and Contractor Information

Consulting Firm

THE ENVIRONMENTAL MANAGEMENT COMPANY LLC
P.O. Box 856
2088 Washington Avenue
Cedarburg, WI 53012

Phone:	262-675-6000
Fax:	262-675-6170
Contact:	Jeffrey L. Hosler, Principal
Email:	jlhosler@temco-llc.com

Contractors

North Shore Drilling Inc.

P.O. Box 255
Grafton, WI 53024-0255

Phone: 262-375-8121
Service: Soil probing

Moraine Environmental, Inc.
1402 7th Avenue
Grafton, WI 53024-2330

Phone: 262-377-9060
Service: Soil probing

U.S. Analytical Lab
1090 Kennedy Avenue
Kimberly, WI 54136

Phone: 800-490-4902
Service: Laboratory analysis of soil samples

Synergy Environmental Lab, Inc.
1990 Prospect Court
Appleton, WI 54914

Phone: 920-830-2455
Service: Laboratory analysis of soil samples

Cardinal Environmental
3303 Paine Avenue
Sheboygan, WI 53081

Phone: 920-459-2500
Service: Asbestos assessment

SECTION 2 BACKGROUND INFORMATION

2.1 Regional Geologic and Groundwater Conditions

The regional geology in which the Six Points / Farmers Market Redevelopment Project is located consists of approximately 200 feet of glacial sediments overlying sedimentary bedrock. The glacial sediments are primarily ground moraine and till. These deposits are generally composed of a clay and/or silt matrix with varying amounts of entrained sand and gravel. They are often interbedded with sediment deposited by glacial meltwaters, which locally results in seams and lenses of sand and fine gravel.

Shallow native soils in the vicinity of the project are primarily silty clay. Due to historic local land filling practices and the industrial heritage of the project area, it is anticipated that shallow fill is present at many locations in the project area. The fill typically consists of mixtures of clay, silt, and sand, and may include debris such as brick, concrete and wood. Slag and cinder-like materials, foundry sand, and flyash may be present in some locations. Fill consistency may vary from loose to very hard and dense.

2.2 Site History and Land Use

The east side of the site was occupied by a tavern until 1935 when the property was sold and converted to metal scrap and salvage operations which continuously occupied the site until 2005. The west side of the site was continuously operated as a metal scrap and salvage operation from 1945, the earliest records available, until 2005.

2.3 Potential Contaminant Sources

The Phase I ESA of the site conducted by TEMCO in December 2001 identified various potential soil and groundwater contaminant sources associated with past and current facilities and uses of the site and surrounding properties:

- The presence of a former closed in-place 8,000-gallon gasoline UST near the west side of the former building located at 6633 - 6639 West National Avenue. This UST was located near the east side of the site and was topographically upgradient of the site.

- The former presence of a fuel storage and supply company, and use of heating oil at 6635 and 6639 West National Avenue. This property was east of the site and is topographically upgradient of the site.

- The former presence of an oil supply and service station at 6701 West National Avenue.

This property was located adjacent to the east side (upgradient) of the site.

- The former long-term presence of salvage and scrapyard storage and operations on the site.
- The former presence of the Pressed Steel Tank (PST) plant north of the site across West National Avenue.

SECTION 3 OBJECTIVES AND SCOPE OF WORK

3.1 Objectives

The objectives of the Phase II ESA included:

- Characterization of on-site soil and shallow groundwater conditions.
- Verification of the presence or absence of various contaminants potentially on-site as a result of discharge from the sources described in Section 2.3.
- Development of recommendations for additional site investigation, if required.
- Evaluation of the need for site remediation considering soil and groundwater cleanup criteria and site redevelopment plans. Determination of the most appropriate site remediation alternatives, conceptual plan, and cost estimate.
- Assessment of on-site asbestos containing building materials to provide the basis for competitive bidding of asbestos removal by asbestos abatement contractors.

3.2 Scope of Work

The principal elements of the Phase II ESA scope of work completed by TEMCO to address the Phase II ESA objectives included:

- Development of a soil boring and sampling plan designed to assess shallow subsurface conditions and collect soil samples in the following on-site areas:
  - The northeastern area of the site comprising the area downgradient from the closed in-place 8,000-gallon gasoline UST, and the area formerly occupied by Cities Fuel & Supply Co. and supply and service sation, all of which were located on the east side and upgradient of the site.
  - At locations adjacent to the rail spur right-of-way and throughout the operational areas of the salvage / scrapyard businesses formerly present on the site.
- Installation and logging of fourteen(14) geoprobe soil borings in the above listed areas ranging in depth from four to twelve feet below ground surface (bgs).
- Laboratory analysis of twelve(12) soil samples for the range of contaminants associated with the potential contaminant sources described in Section 2.2.
- Completion of an assessment of asbestos containing building materials in each of the former

on-site buildings.

- Preparation of this Phase II ESA report, describing field activities, the laboratory analytical program and results, and interpretation of the field and laboratory data. Laboratory analytical results for the soil samples are summarized in the Tables section and laboratory analytical reports are provided as Appendix A. Site figures, including site location, soil boring plan, and contaminant distribution, are included in the Figures section. Soil boring logs are provided as Appendix B. Soil boring abandonment forms are provided as Appendix C. The asbestos assessment report is provided as Appendix D.

SECTION 4 FIELD AND LABORATORY PROGRAM

4.1 Soil Borings

Prior to soil boring and sampling, on-site and near off-site utilities were located and marked. On July 16, 2002, 12 soil borings were drilled at the locations shown in Figure 1. Soil boring W-8 and W-9 were drilled and sampled on October 19, 2004. The borings were drilled by direct push using a truck mounted Geoprobe drill rig. 2.0 inch diameter, 4 feet long hollow steel sampling tubes with plastic liners were driven in 4 feet increments by hydraulic pressure and percussion to total depths ranging from 4 feet to 12 feet bgs. TEMCO used continuous soil sampling to ensure that changes in soil type, evidence of contaminants, and groundwater conditions were observed and recorded.

Soil samples were inspected and classified according to the Unified Soil Classification System. Soil sample descriptions, evidence of contamination, and groundwater conditions are recorded on soil boring logs (WDNR Form 4400-122) prepared for each borehole, and are presented in Appendix B.

Soil borings were located by measuring from the various on-site buildings and property boundaries. Soil borings were abandoned in accordance with WAC NR141 by filling the borehole with granular bentonite from bottom to top after soil sampling was completed. Soil boring abandonment forms (WDNR Form 3300-5B) are provided in Appendix C.

4.2 Soil Analyses

Soil samples selected for laboratory analysis were containerized and preserved immediately following sample collection. Sample containers were placed on ice in a cooler and transported along with a chain-of-custody document to a WDNR certified analytical laboratory.

The analytical program was designed to address the Phase II ESA objectives outlined in Section 3.1:

- All soil samples with the exception of the sample collected from boring W-5 were analyzed for Volatile Organic Compounds (VOC) and Diesel Range Organics (DRO). These analyses were selected to characterize the petroleum hydrocarbon contamination observed in soil samples collected from the northeastern part of the site and as the most likely indicators of potential discharges associated with long term use of the site for salvage/ scrapyard operations.

- The soil sample from boring E-1 was analyzed for Polyaromatic Hydrocarbon (PAH) to determine the levels of these contaminants associated with the petroleum contamination present in the northeastern part of the site. Similarly, the soil sample from boring W-5 was analyzed for PAH to determine the level of these contaminants associated with the foundry sand layer observed at this location. The soil sample collected from boring W-9 was analyzed for PAH to determine the level of these contaminants associated with potential

release(s) from salvage operations. The sample was collected from the shallow clay fill above the foundry sand layer.

SECTION 5 FINDINGS AND CONCLUSIONS

- The site is relatively flat and slopes gently to the west and south. The direction of shallow groundwater migration in the northeastern part of the site is likely controlled by the surface topography, i.e. to the west and southwest.

- The site is filled with a mixture of silty clay, gravel, and crushed stone with minor amounts of foundry sand from beneath the asphalt or concrete pavement (or ground surface) to a depth of approximately 2 feet bgs. In the eastern part of the site, the fill below this depth generally consists of silty clay with varying amounts of sand and gravel to a depth of approximately 6.0 bgs. The fill from 6.0 feet bgs to 7.5 bgs varies from dark stained silty clay with sand and gravel to foundry sand and typically has a petroleum odor. Soils below 7.5' bgs in the eastern part of the site generally appear to be native silty clay glacial till and are free of staining and petroleum odor. The shallow groundwater level in the eastern part of the site was encountered between 6.0 and 7.0 feet bgs, generally consistent with the top of the discolored soil zone in which petroleum odor was observed.

  The upper portion of the fill in the western part of the site is the same as in the eastern part of the site. The foundry sand, which was encountered primarily in the southern part of the property, was present in the depth interval from 2.0 to 4.0 feet bgs, dependent on boring locations. Soils below 4.0 feet bgs throughout the property appeared to be native silty clay till with minor amounts of sand and gravel and were typically very dense. The foundry sand generally exhibited slight petroleum odor. Groundwater was not encountered in any of the borings, which extended to 8.0 feet bgs.

- The zone of gasoline sourced soil contamination is shown in Figure 2. Potential contaminant sources include 1) the closed-in-place 8,000-gallon gasoline UST formerly located east of the site on a former industrial property, and 2) a former service station reported to have been located in the northern part of the contaminated zone adjacent to National Avenue. The lateral and vertical distribution of petroleum contamination in shallow soils suggests gasoline leakage from former UST systems and gradual development of a groundwater contaminant plume which migrated with shallow groundwater to the southwest. The bulk of the groundwater contaminant plume is located on the adjacent property to the east of the site, although the plume extends into the northeastern part of the site.

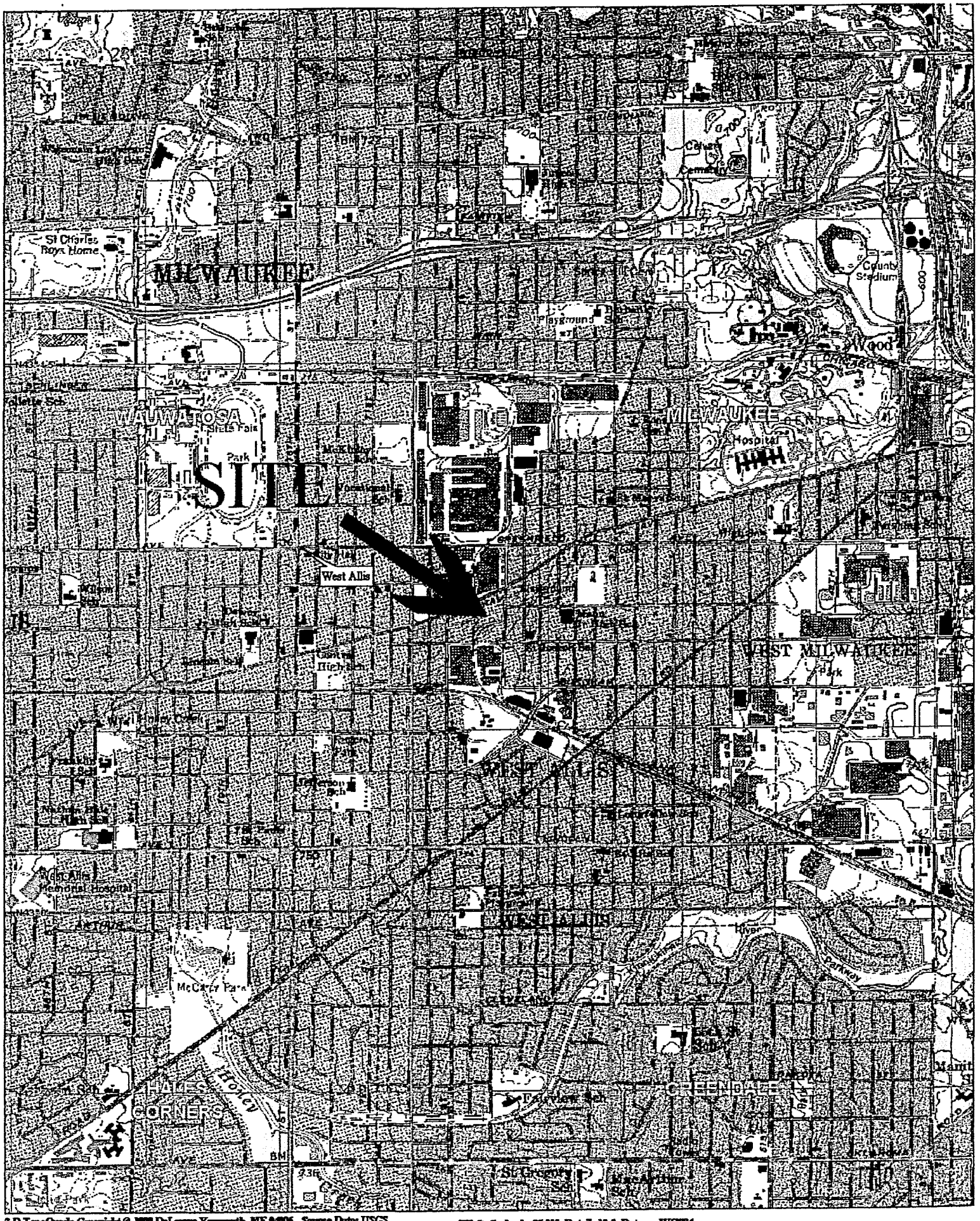
- The soil contaminant mass derived from the gasoline discharge is contained in the depth interval from 6 feet to 9 feet bgs in the northeastern part of the site. This is the "smear zone" which is saturated (below the groundwater table) most of the time. Soil contaminant levels in this area resulting from former petroleum releases are very low (Tables 1, 2 and 3).

- Petroleum derived contamination encountered in the western part of the site is associated with the oil binder present in foundry sand and occurred at relatively low levels.

- Site remediation (petroleum contaminated soil excavation and off-site bio-treatment / disposal) was completed in the eastern one-half of the site, following razing of former on-site structures, in May 2006. Site remediation is reported in detail in the Site Remediation Report for the 700 series properties of the Six Point / Farmers Market Redevelopment Project issued by TEMCO in September 2009. Remaining low level residual petroleum contamination in the shallow subsurface in the eastern one-half of the site will be managed on-site or removed to off-site treatment / disposal during site redevelopment.

Subsurface contamination in the shallow subsurface in the western one-half of the site is primarily limited to low levels of PAH compounds and DRO associated with the foundry sand present at the locations of these soil samples (W-4 and W-5). The higher level of DRO and the low level detection of benzene in the shallow soil sample collected from boring W-8 are likely sourced from diesel fuel release(s) on the adjacent railroad spur right-of-way.

The subsurface contamination database developed for the western one-half of the site is sufficient to support future redevelopment planning. The contaminant types and levels identified can be managed on-site during redevelopment or removed to off-site treatment/disposal if required by the redevelopment plan.



3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS

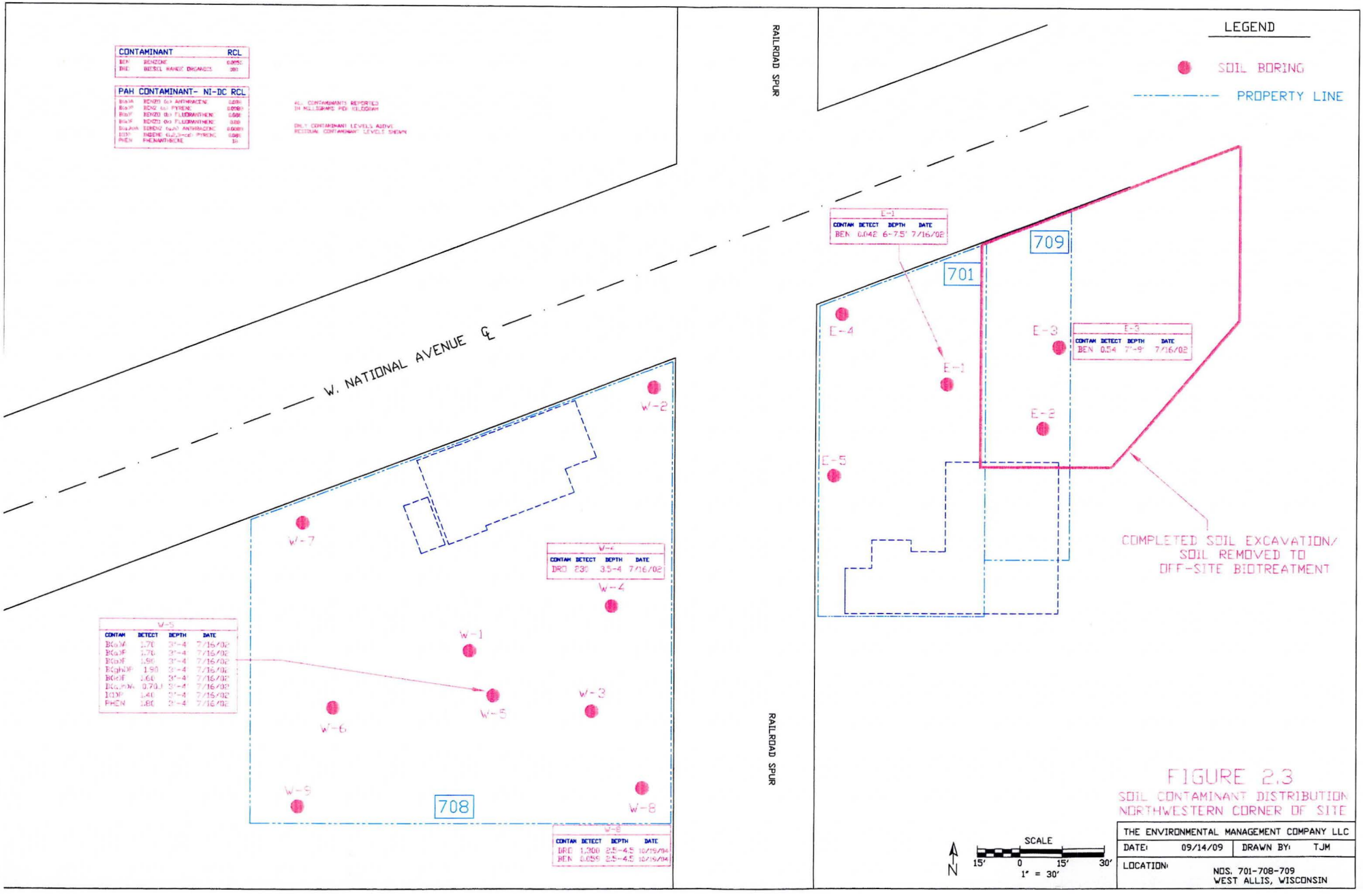
750 ft Scale: 1 : 25,000 Detail: 13-0 Datum: WGS84

CONTAMINANT		RCL
BEN	BENZENE	0.005
DRO	DIESEL RANGE ORGANICS	100

PAH CONTAMINANT- NI-DC RCL		
BaAA	BENZO (a) ANTHRACENE	0.088
BaP	BENZO (a) PYRENE	0.0088
BbF	BENZO (b) FLUORANTHENE	0.088
BkF	BENZO (k) FLUORANTHENE	0.88
BghiPe	BENZO (g,h,i) PERYLENE	0.0088
CHY	CHRYSENE	0.088
DBAH	DIBENZ (a,h) ANTHRACENE	0.0088
IDP	INDENO (1,2,3-cd) PYRENE	0.088
PHEN	PHENANTHRENE	50

ALL CONTAMINANTS REPORTED IN MILLIGRAMS PER KILOGRAM

ONLY CONTAMINANT LEVELS ABOVE RESIDUAL CONTAMINANT LEVELS SHOWN



E-1			
CONTAM	DETECT	DEPTH	DATE
BEN	0.042	6-7.5'	7/16/02

E-3			
CONTAM	DETECT	DEPTH	DATE
BEN	0.54	7'-9'	7/16/02

W-4			
CONTAM	DETECT	DEPTH	DATE
DRO	230	3.5-4	7/16/02

W-5			
CONTAM	DETECT	DEPTH	DATE
BaAA	1.70	3'-4'	7/16/02
BaP	1.70	3'-4'	7/16/02
BbF	1.90	3'-4'	7/16/02
BghiPe	1.90	3'-4'	7/16/02
BkF	1.60	3'-4'	7/16/02
DBAH	0.70J	3'-4'	7/16/02
IDP	1.40	3'-4'	7/16/02
PHEN	1.80	3'-4'	7/16/02

W-8			
CONTAM	DETECT	DEPTH	DATE
DRO	1,300	2.5-4.5	10/15/04
BEN	0.055	2.5-4.5	10/15/04

FIGURE 2.3
SOIL CONTAMINANT DISTRIBUTION
NORTHWESTERN CORNER OF SITE

THE ENVIRONMENTAL MANAGEMENT COMPANY LLC			
DATE:	09/14/09	DRAWN BY:	TJM
LOCATION:	NOS. 701-708-709 WEST ALLIS, WISCONSIN		

Table 1
THE ENVIRONMENTAL MANAGEMENT COMPANY LLC
Soil Sample Analytical Results - Volatile Organic Compounds (VOC)
Property #701-708-709 ~ Six Points / Farmers Market ~ West Allis, Wisconsin
All Contaminants Shown In mg/kg (milligrams per kilogram) • Only Contaminants With Detects Shown

Sample ID	Sample Date	Feet (bgs)	Benzene	n-Butyl benzene	1,2-DCA	cis-1,2-DCE	trans-1,2-DCE	Ethyl benzene	Isopropyl benzene	p-Isopropyltoluene	Methylene chloride	Naphthalene	n-Propyl benzene	Toluene	TCE	1,2,4-TMB	1,3,5-TMB	Vinyl Chloride	Xylenes
E-1	7/16/02	6-7.5	***0.042***	<0.025	<0.025	<0.025	<0.025	0.034	<0.025	<0.025	<0.025	<0.025	<0.025	0.059	<0.025	0.025[J]	<0.025	<0.025	<0.050
E-2	7/16/02	6 - 7	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.050
E-3	7/16/02	7 - 9	***0.54***	<0.025	<0.025	<0.025	<0.025	0.10	0.038	<0.025	<0.025	0.053	0.110	0.031	<0.025	0.025[J]	0.033	<0.025	0.096
E-4	7/16/02	6 - 7	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.050
E-5	7/16/02	5 - 6	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.050
W-2	7/16/02	6 - 7	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.050
W-3	7/16/02	2.5-3.5	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.050
W-4	7/16/02	3.5-4	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.110	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.050
W-6	7/16/02	1.5-2.5	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.027	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.050
W-8	10/19/04	2.5-4.5	**0.059**	0.027	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.057	<0.025	0.033	<0.025	<0.025	<0.025	<0.025	<0.050
W-9	10/19/04	3.5-4.5	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.047	<0.025	<0.025	0.043	<0.025	<0.025	<0.025	<0.025	<0.050
Residual Contaminant Levels			0.0055	-	0.0049	-	-	2.9	-	-	-	0.4†	-	1.5	-	-	-	-	4.1

† = recommended RCL bold & outlined = exceeds RCL [J] = Analyte detected between LOD and LOQ

November 18, 2004

Table 2
THE ENVIRONMENTAL MANAGEMENT COMPANY LLC
Soil Sample Analytical Results - Diesel Range Organics (DRO)
Property #701-708-709 ~ Six Points / Farmers Market ~ West Allis, Wisconsin
All Contaminants Shown In mg/kg (milligrams per kilogram)

Sample ID	Sample Date	Feet (bgs)	DRO (mg/kg)
E-1	07/16/02	6 - 7.5	<10
E-2	07/16/02	6 - 7	<10
E-3	07/16/02	7 - 9	<10
E-4	07/16/02	6 - 7	<10
E-5	07/16/02	5 - 6	<10
W-2	07/16/02	6 - 7	<10
W-3	07/16/02	2.5 - 3.5	<10
W-4	07/16/02	3.5 - 4	***230***
W-6	07/16/02	1.5 - 2.5	<10
W-8	10/19/04	2.5 - 4.5	**1,300**
W-9	10/19/04	3.5 - 4.5	71
Residual Contaminant Level (RCL)			***100***

bgs = below ground surface bold & outlined = exceeds RCL November 18, 2004

Table 3
THE ENVIRONMENTAL MANAGEMENT COMPANY LLC
Soil Sample Analytical Results - Polyaromatic Hydrocarbons (PAH)
Property #701-708-709 ~ Six Points / Farmers Market ~ West Allis, Wisconsin
All Contaminants Shown In mg/kg (milligrams per kilogram)

Sample ID	E-1 6' - 7.5' 07/16/02	W-5 3' - 4' 07/16/02	W-9 3.5' - 4.5' 10/19/04	Recommended Residual Contaminant Levels		
				Ground water Pathway[1]	Non-Industrial	Industrial
Acenaphthene	<0.041	<0.21	<0.041	38	900	60000
Acenaphthylene	<0.042	0.24[J]	<0.042	0.7	18	360
Anthracene	0.037[J]	0.69	<0.034	3000	5000	300000
Benzo (a) anthracene	<0.054	***1.70***	<0.054	17	0.088	3.9
Benz (a) pyrene	<0.059	***1.70***	<0.059	48	0.0088	0.39
Benzo (b) fluoranthene	<0.042	***1.90***	<0.042	360	0.088	3.9
Benzo (ghi) perylene	<0.082	***1.90***	<0.082	6800	1.8	39
Benzo (k) fluoranthene	<0.079	***1.60***	<0.079	870	0.88	39
Chrysene	0.043[J]	2.70	<0.038	37	8.8	390
Dibenz (a,h) anthracene	<0.076	***0.70[J]***	<0.076	38	0.0088	0.39
Fluoranthene	0.089[J]	1.90	0.064[J]	500	600	40000
Fluorene	<0.041	0.37[J]	<0.041	100	600	40000
Indeno (1,2,3-cd) pyrene	<0.069	***1.40***	<0.069	680	0.088	3.9
1-Methyl naphthalene	0.073[J]	0.24[J]	<0.037	23	1100	70000
2-Methyl naphthalene	0.085[J]	<0.36	<0.072	20	600	40000
Naphthalene	0.068[J]	0.27[J]	<0.040	0.4	20	110
Phenanthrene	0.160	***1.80***	0.048[J]	1.8	18	390
Pyrene	0.084[J]	3.50	0.071[J]	8700	500	30000

[1] = for protection of groundwater [J] = detected between LOD & LOQ
bold & outlined = exceeds one or more of the recommended residual contaminant levels

November 18, 2004