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WORK PLAN FOR COMPLETION OF SITE EVALUATION

Mid-America Steel Drum
Company, Inc.
8570 South Chicago Road
Oak Creek, Wisconsin
FID# 241021220
BRRTS #: 02-41-000934

April 24, 2017

PREPARED FOR:

Mr. Mike Higgins
Mid-America Steel Drum
8570 South Chicago Road
Oak Creek, Wisconsin 53154

WORK PLAN FOR COMPLETION OF SITE EVALUATION

Former Kitzinger Site
2529 East Norwich Avenue
St. Francis, Wisconsin
FID# 241063570
BRRTS #: 02-41-560089
BRRTS #: 03-41-196554

April 24, 2017

PREPARED FOR:

Mr. Mike Higgins
Mid-America Steel Drum
8570 South Chicago Road
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1.0 INTRODUCTION

This *Work Plan for Completion of Additional Site Evaluation* at the Former Kitzinger Site in St. Francis, Wisconsin, was prepared for Mid-America Drum Company by Key Engineering Group, Ltd. (KEY). The subject property is currently an industrial site used by Mid America Drum Company.

1.1 Site Description

The subject site occupies approximately 4.78 acres. The site is developed with an industrial facility that occupies nearly half of the site. The site is bound on the north by a closed City of South Milwaukee Landfill, to the south by vacant land, to the east by railroad tracks, and to the west by residences.

1.2 Site History

Based upon information included in reports submitted to WDNR, the northeast portion of the site has been operated as a drum recycling/reclamation facility by Kitzinger Cooperage Corp since approximately 1951. Prior to 1951, this parcel may have operated as a steel drum reconditioning facility under the name of Barker Barrel. The southwest portion of the facility along Pennsylvania Avenue, was owned by others and operated as a machine shop until the late 1970s.

1.3 Site Topography and Drainage

The site topography and drainage features were evaluated by reviewing the *U.S. Geological Survey, South Milwaukee, Wisconsin, 7.5 Minute Series (topographic) Quadrangle Map.* The topography in the vicinity of the subject site appears to be slightly sloped toward the north. The elevation of the subject site is approximately 690 feet above mean sea level. Lake Michigan is located approximately one-mile northeast of the subject site.

1.4 Site Pedology, Geology, and Hydrogeology

Various available publications and maps for pedologic, geologic, and hydrogeologic information for the area were reviewed.

The pedology (soils) at the subject site was reviewed in the Soil Survey - Milwaukee and Waukesha Counties, Wisconsin. According to the *General Soil Map*, site soils were identified as belonging to the Ozaukee-Morley-Mequon association, and consist of well-drained to somewhat poorly drained soils that have a subsoil of clay and silty clay, and silty clay loam glacial till

The general geologic profile in the vicinity of the subject site consists of glacial end moraine deposits (till) overlying undifferentiated dolomite bedrock of the Silurian System (*Glacial Deposits of Wisconsin*, 1976, and Skinner and Borman, 1973). The depth to dolomite bedrock is approximately 100 to 200 feet bgs (Trotta and Cotter, 1973).

Three (3) aquifers are located in the vicinity of the subject site. The aquifers are, in order of depth, the sand and gravel aquifer located within the glacial till, the Niagaran aquifer located in the Silurian dolomite overlying

the Maquoketa Shale, and the sandstone aquifer located in the Ordovician and Cambrian age rocks underlying the Maquoketa Shale. The sandstone aquifer lies on Precambrian rocks and is confined above by the Maquoketa Shale.

Groundwater in the vicinity of the subject site likely flows east toward Lake Michigan. The regional groundwater flow direction is also to the east toward Lake Michigan (Skinner and Borman, 1973). Local conditions, such as buried utility lines and tunnels, roadways, building foundations, and fill soils may affect local groundwater flow direction.

1.5 Additional Investigation Objective

The objective of the scope of work is to determine the current concentrations of volatile organic compounds (VOCs) in groundwater at the site, evaluate possible migration across property boundaries, and close data gaps through additional delineation. A baseline groundwater sampling event will be conducted to evaluate current groundwater quality at the site.

Historical delineation data exhibit trichloroethene (TCE), tetrachloroethene (PCE), cis-1,2-dichloroethene (cis-1,2-DCE), and 1,1,1-trichloroethane (1,1,1-TCA) concentrations in soil above their respective Wisconsin Administrative Code Chapter (WAC Chapter) NR 720 Residual Contaminant Levels (NR 720 RCLs) for the Groundwater Pathway. Figure 1 depicts a summary of the soil sampling analytical results.

Historically, several chlorinated and petroleum-based VOCs were detected in groundwater above WAC Chapter NR 140 Enforcement Standards (NR 140 ES). After collecting a baseline groundwater sampling event, a minimum of two groundwater monitoring wells and a piezometer will be installed at the site in an effort to complete the delineation of soil and groundwater impacts. The monitoring wells are planned to be installed at the north and west property boundaries where we believe the extent still needs more definition. The proposed piezometer will be nested with an existing monitoring well to evaluate vertical gradients. The location of the piezometer will be determined based on site conditions and the proposed groundwater sampling results.

1.6 Vapor Intrusion Assessment

A vapor intrusion assessment will be conducted as a result of the shallow groundwater table and the presence of VOCs in groundwater. Depth to groundwater is less than 5 feet below ground surface (bgs). KEY will complete the vapor assessment and provide an opinion on whether vapor intrusion is considered a risk to the subject site building. Currently, the dissolved-phase hydrocarbon plume is not known to extend beneath the subject site building on the former Kitzinger site, and vapor intrusion is not suspected to be an imminent threat.

2.0 WELL INSTALLATION AND GROUNDWATER MONITORING

2.1 Soil Boring Drilling and Soil Sample Collection

The proposed monitoring wells and piezometer will be drilled with a truck-mounted drilling rig using hollow stem augers (HSAs). Soil samples will be collected in accordance with American Society of Testing and Materials (ASTM) D1586, *Standard Method for Penetration Test and Split-Barrel Sampling of Soil*. Soil samples will be collected with a 2-foot long stainless steel split-spoon sampler at 2½-foot intervals.

A representative from KEY will classify soil samples using the Unified Soil Classification System (USCS) and maintain a soil boring log for each boring location. Boring logs will include the Standard Penetration Test blow counts, depth and thickness of each soil stratum; a description of each stratum including color, USCS classification, soil moisture, density or consistency; olfactory observations; depth interval from which samples are collected, sample number and sample recovery; field screening results; samples selected for laboratory analysis; and the depth at which groundwater is encountered.

A portion of each soil sample which may be submitted for laboratory analysis will immediately be placed into laboratory supplied containers, preserved and stored on ice. A portion of each sample will be placed into either an 8-ounce glass jar or sealable plastic bag for field screening.

2.2 Soil Sample Field Screening

Soil samples will be field screened for the presence of volatile organic compounds (VOCs) with a photo ionization detector (PID). The PID will be equipped with a 10.6 electron volt (eV) lamp and will be calibrated as required by the manufacturer.

The sample will be allowed to warm prior to field screening. The tip of the PID will be inserted into the headspace of the filed-screening sample container, and the highest reading on the PID recorded.

KEY proposes two additional wells; one along the north property boundary (located northeast of KMW-1) and one located at the South Pennsylvania Avenue right-of-way at the west property boundary (south of MW-14). With the anticipated groundwater flow to the northeast to east, these locations are intended to delineate the extent of dissolved-phase VOCs. The attached figures depict the approximate locations for the two additional wells with the understanding that site conditions may warrant some adjustment. The location of the proposed piezometer will be determined based on the proposed groundwater sampling event and existing site conditions.

Since groundwater is expected at depths of about 2 to 3 feet bgs, KEY proposes to collect soil samples between 0 to 5 feet and submit for analysis of VOCs.

2.3 Well Development

The new wells will be developed to remove sediment produced by construction and to establish a hydraulic connection between the well and groundwater. The wells will be developed in accordance with NR 141 utilizing a bailer or pump. For wells that cannot be purged dry, the wells will first be purged of approximately 10 water volumes until the well produces sediment-free water. For wells that can be purged dry, development will consist of slowly purging the well dry and allowing recovery until the water is sediment free.

2.4 Groundwater Sampling

A decontaminated Teflon® bailer or sampling pump will be used to collect groundwater samples from the monitoring wells. The groundwater samples will be transferred to laboratory supplied containers and stored on ice. Groundwater samples would be analyzed for VOCs.

2.5 Survey and Groundwater Elevation Measurements

The elevation and horizontal location of the existing and two proposed groundwater monitoring wells, and the proposed piezometer will be surveyed with respect to a known benchmark. Elevations of the ground surface and top of the PVC casing will be surveyed. The depth to groundwater will be measured with an electronic water level indicator during each groundwater sampling event. Groundwater elevations will be contoured on a scale drawing of the site and the groundwater flow will be interpreted.

2.6 Quality Assurance/Quality Control

The groundwater development and sampling equipment will be either a dedicated bailer, or a bailer decontaminated with an Alconox® detergent, distilled water wash, and a distilled water rinse. A trip blank supplied by the laboratory will be maintained with the collected samples and submitted for analysis during each round of sampling. The trip blank is a water sample prepared by the laboratory and analyzed to identify contamination which may occur due to outside influences.

KEY will follow chain of custody protocols from sample collection to laboratory analysis. Each sample will be identified and labeled with a field sample identification number consisting of a KEY project number, sample matrix identifier, sample location identifier, sample number identifier, samplers name, time, and date collected.

2.7 Documentation

The drilling and groundwater monitoring well development and sampling will be documented in the field by a KEY representative using Soil Boring Log Information Form (WDNR Form 4400-122), Monitoring Well Construction Form (WDNR Form 4400-113A), and Monitoring Well Development Form (WDNR Form 4400-113B).

2.8 Management of Investigation Derived Wastes

Soil cuttings and water generated during well development and sampling will be collected and placed in 55-gallon Wisconsin Department of Transportation (WDOT) approved drums. The drums will be properly labeled and disposed in accordance with Wisconsin waste disposal guidelines.

2.9 Health and Safety

A *Health and Safety Plan (HASP)* has been prepared and will be followed by KEY personnel. KEY subcontractor's will be responsible for site safety related to their own operations and will perform work under their HASP.

3.0 REPORTING

Upon review of the soil and groundwater data obtained during the activity described in this work plan, KEY will determine if there is a need to expand the site investigation. With groundwater flow expected to be toward the northeast, KEY believes the collection of groundwater flow information is important to assess the proper locations for any additional borings or wells, if additional wells are necessary to define the extent of dissolved phase impacts. Adjacent release sites suggest groundwater flow toward the northeast. The proposed wells to be installed at the north and west property boundaries are intended to complete the investigation of VOCs in shallow groundwater.

4.0 PROJECT TIMELINE

Project timeline as follows:

Task	Description	Timeline (weeks)
1	Well installation & Surveying	2-3 weeks
2	Groundwater sampling & analysis	2-3 weeks
3	WDNR submittal letter & opinion of current site conditions	2 weeks following receiving results

Tables

TABLE 1
Soil Sampling Analytical Results
Former Kitzinger Site
2529 East Norwich Avenue, St. Francis, Wisconsin
BRRTS 02-41-560089 and 03-41-196554

	Date Collected	Depth (feet bgs)	Benzene	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Ethylbenzene	Naphthalene	PCE	Toluene	1,1,1-TCA	1,1,2-TCA	TCE	1,2,4-TMB	1,3,5-TMB	Vinyl Chloride	m&p-Xylene	o-Xylene
NR 720 RCL for Industrial Direct Contact			7,070	23,700	2,870	1,190,000	2,340,000	1,850,000	35,400	24,100	145,000	818,000	640,000	7,010	8,410	219,000	182,000	2,080	260,000	
NR 720 RCL for Groundwater Pathway			5.1	483.4	2.8	5	41.2	62.6	1,570	658.2	4.5	1,107.2	140.2	3.2	3.6	1,382.1		0.1	3,960	
KGP-1	6/28/13	2-4	<25.0	80.5	<25.0	<25.0	**87.7**	<25.0	<25.0	<25.0	**655**	<25.0	**193**	<25.0	**2,340**	<25.0	<25.0	<25.0	<50.0	<25.0
KGP-2	6/28/13	2-4	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<50.0	<25.0
KGP-3	6/28/13	2-4	<25.0	<25.0	<25.0	<25.0	**204**	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	**35.9J**	<25.0	<25.0	<25.0	<50.0	<25.0
KMW-1	6/28/13	2-4	<25.0	<25.0	<25.0	<25.0	**58.5J**	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	**49.3J**	<25.0	<25.0	<25.0	<50.0	<25.0
KMW-2	6/28/13	2-4	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<50.0	<25.0
KMW-3	6/28/13	2-4	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<50.0	<25.0

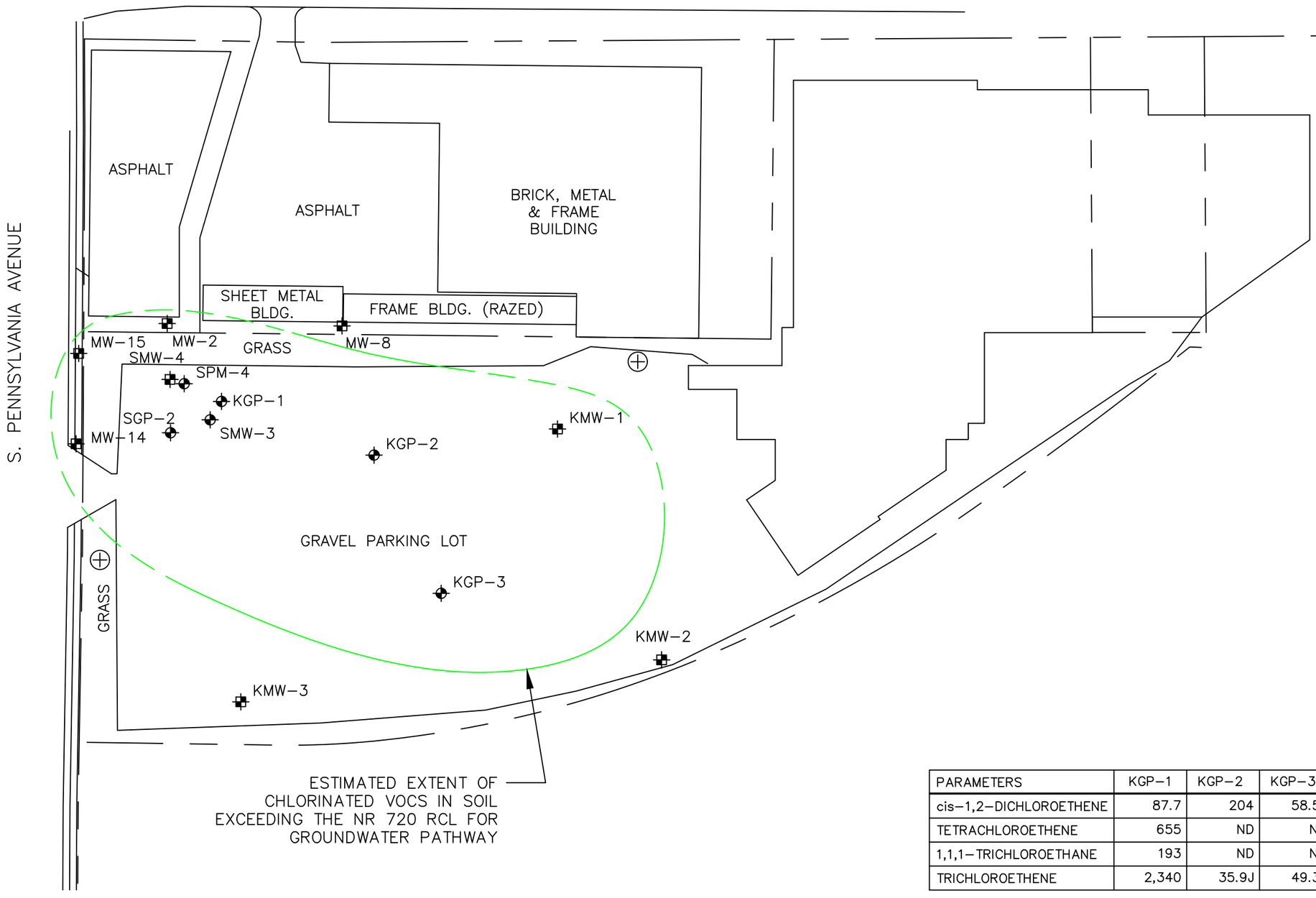
Notes
All results are expressed in micrograms per kilogram (µg/kg), equivalent to parts per billion (ppb).
Results presented in *italic* type exceed the NR 720 RCL for Industrial Direct Contact (applicable to 0 to 4 feet)
Results presented in **bold** type exceed the NR 720 RCL for Groundwater Pathway
All detections in soil are presented. VOCs detected in groundwater that have an NR 720 Groundwater Pathway RCL are also presented.
J - Results between the limit of detection and limit of quantitation
bgs - below ground surface
NS - No Standard
DCA - Dichloroethane
DCE - Dichloroethene
PCE - Tetrachloroethene
TCA - Trichloroethane
TCE - Trichloroethene
TMB - Trimethylbenzenes
VOCs - volatile organic compounds
NR 720 RCL - Wisconsin Administrative Code Chapter NR 720 Residual Contaminant Level (March 2017)

TABLE 2
Groundwater Sampling Analytical Results
Former Kitzinger Site
2529 East Norwich Avenue, St. Francis, Wisconsin
BRRTS 02-41-560089 and 03-41-196554

	Date Collected	Benzene	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Chloroethane	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Ethylbenzene	Isopropylbenzene (Cumene)	p-Isopropyltoluene	Naphthalene	n-Propylbenzene	PCE	Toluene	1,1,1-TCA	1,1,2-TCA	TCE	1,2,4-TMB	1,3,5-TMB	Vinyl chloride	Xylenes
	NR 140 ES	5.0	NS	NS	NS	400	850	5.0	7.0	70	100	700	NS	NS	100	NS	5.0	800	200	5.0	5.0	480		0.2	2,000
	NR 140 PAL	0.5	NS	NS	NS	80	85	0.5	0.7	7.0	20	140	NS	NS	10	NS	0.5	160	40	0.5	0.5	96		0.02	400
SMW-3	7/11/13	<50.0	<40.0	<60.5	<42.4	*193*	**1,720**	**269**	**152**	**29,800**	<37.1	**898**	302	<39.7	<250	<50.0	**100**	**2,160**	**4,850**	<39.0	**311**	*392J*	*<250*	**9,520**	**4,730**
SMW-4	7/11/13	*1.6J*	7.5	3.5J	<1.1	7.9	*102*	*3.5*	*1.2J*	**398**	5.0	17.4	9.4	4.9	*15.7*	4.1	*4.7*	2.4J	33.6	*1.6J*	**77.1**	38.6	8.4J	**26.6**	30.2
SPM-4	7/11/13	<2,500	<2,000	<3,020	<2,120	<2,220	**14,200**	<2,380	**2,490J**	**409,000**	**2,630J**	<2,500	<1,700	<1,990	<12,500	<2,500	<2,360	**14,300**	**95,500**	<1,950	**37,100**	<2,860	<12,500	**14,300**	<7,250J
MW-2	7/11/13	<500	<400	<605	<424	<444	**2,990**	**518J**	<427	**79,400**	<371	<500	<341	<397	<2500	<500	<472	**1,440**	**7,860**	<390	<429	<572	<2,500	**3,420**	**1,740J**
MW-8	7/11/13	<0.50	5.9	17.6	1.1	3.7	44.6	*0.78J*	*1.7*	*30.7*	1.1	4.2	13.6	<0.40	<2.5	12.3	<0.47	0.51J	3.9	<0.39	*8.5*	9.9	<2.5	**56.5**	<1.70J
MW-14	7/11/13	<0.50	<0.40	<0.60	<0.42	<0.44	4.1	<0.48	<0.43	1.1	<0.37	<0.50	<0.34	<0.40	<2.5	<0.50	*3.1*	<0.44	12.4	<0.39	**84.7**	<0.57	<2.5	<0.18	<1.32
KMW-1	7/12/13	<0.50	<0.40	<0.60	<0.42	<0.44	<0.28	<0.48	<0.43	1.3	<0.37	<0.50	<0.34	<0.40	<2.5	<0.50	<0.47	<0.44	<0.44	<0.39	<0.43	<0.57	<2.5	<0.18	<1.32
KMW-2	7/12/13	<0.50	<0.40	<0.60	<0.42	<0.44	<0.28	<0.48	<0.43	<0.42	<0.37	<0.50	<0.34	<0.40	<2.5	<0.50	<0.47	<0.44	<0.44	<0.39	<0.43	<0.57	<2.5	<0.18	<1.32
KMW-3	7/12/13	<0.50	<0.40	<0.60	<0.42	<0.44	<0.28	<0.48	<0.43	<0.42	<0.37	<0.50	<0.34	<0.40	<2.5	<0.50	<0.47	<0.44	<0.44	<0.39	<0.43	<0.57	<2.5	<0.18	<1.32

Notes
All results are expressed in micrograms per liter (µg/L), equivalent to parts per billion (ppb).
Results presented in *underlined italic type* exceed the NR 140 PAL
Results presented in **bold type** exceed the NR 140 ES
J - Results between the limit of detection and limit of quantitation
NS - No Standard
DCA - Dichloroethane
DCE - Dichloroethene
PCE - Tetrachloroethene
TCA - Trichloroethane
TCE - Trichloroethene
TMB - Trimethylbenzenes
VOCs - volatile organic compounds
NR 140 PAL - Wisconsin Administrative Code Chapter NR 140 Preventive Action Limit (February 2017)
NR 140 ES - Wisconsin Administrative Code Chapter NR 140 Enforcement Standard (February 2017)

Figures



LEGEND

- 3 MONITORING WELL (KEY)
- 3 SOIL PROBE (KEY)
- 3 MONITORING WELL BY OTHERS
- 3 SOIL PROBE BY OTHERS

NOTES:

ALL SOIL SAMPLES COLLECTED FROM THE 2 TO 4 FOOT BELOW GROUND SURFACE INTERVAL.

J – ESTIMATED CONCENTRATION ABOVE THE ADJUSTED METHOD DETECTION LIMIT AND BELOW THE ADJUSTED REPORTING LIMIT.

ug/kg – MICROGRAMS PER KILOGRAM.

ALL SAMPLE RESULTS ARE ABOVE THEIR RESPECTIVE PROTECTION OF GROUNDWATER RCL, BUT RESPECTIVE DIRECT CONTACT EXPOSURE RCL.

WDNR WEBSITE – RESIDUAL CONTAMINANT LEVEL (RCL) SPREADSHEET AS OF JUNE 2013.

⊕ PROPOSED MONITORING WELL LOCATION

PARAMETERS	KGP-1	KGP-2	KGP-3
cis-1,2-DICHLOROETHENE	87.7	204	58.5J
TETRACHLOROETHENE	655	ND	ND
1,1,1-TRICHLOROETHANE	193	ND	ND
TRICHLOROETHENE	2,340	35.9J	49.3J

SCALE IN FEET

80' 0 80'

DESIGNED BY KDM	DATE 4-21-17
DRAWN BY RJN	PROJECT 2306004
APPROVED BY KWW	SHEET NO. 1
CADFILE G:\ACAD\2306004\2017 Revisions\FIGURE 1.dwg XREF LMAN	

FIGURE 1
SOIL ANALYTICAL RESULTS SUMMARY
FORMER KITZINGER SITE
2529 E. NORWICH AVENUE
SAINT FRANCIS, WISCONSIN

KEY ENGINEERING GROUP LTD.
735 NORTH WATER STREET, SUITE 510
MILWAUKEE, WI 53202
414.224.8300 (tel) • 414.224.8383 (fax)

Apr 24, 2017 - 1:18pm G:\ACAD\2306004\2017 Revisions\FIGURE 1.dwg

NORWICH AVENUE

S. PENNSYLVANIA AVENUE

ASPHALT

ASPHALT

BRICK, METAL & FRAME BUILDING

SHEET METAL BLDG.

FRAME BLDG. (RAZED)

GRASS

MW–15 MW–2 MW–8

SMW–4

SPM–4

KGP–1

SGP–2

MW–14

SMW–3

KGP–2

KMW–1

GRAVEL PARKING LOT

KGP–3

GRASS

KMW–2

KMW–3

ESTIMATED EXTEND OF CHLORINATED VOCS IN GROUNDWATER EXCEEDING THE NR140 PAL

LEGEND

3 MONITORING WELL (KEY)

3 SOIL PROBE (KEY)

3 MONITORING WELL BY OTHERS

3 SOIL PROBE BY OTHERS

NOTES:

J – RESULTS BETWEEN THE LIMIT OF DETECTION AND LIMIT OF QUANTIFICATION.
ug/kg – MICROGRAMS PER KILOGRAM.

⊕ PROPOSED MONITORING WELL LOCATION

SCALE IN FEET

80’ 0 80’

PARAMETERS	SMW–3	SMW–4	SPM–4	MW–2	MW–8	MW–14
BENZENE	ND	1.6J	ND	ND	ND	ND
CHLOROETHANE	193	ND	ND	ND	ND	ND
1,1–DICHLOROETHANE	1,720	102	14,200	2,990	44.6	ND
1,2–DICHLOROETHANE	269	3.5	ND	ND	ND	ND
1,1–DICHLOROETHENE	152	1.2J	2,490J	ND	1.7	ND
cis–1,2–DICHLOROETHENE	29,800	398	409,000	79,400	30.7	ND
ETHYLBENZENE	898	ND	ND	ND	ND	ND
ISOPROPYLBENZENE	302	ND	ND	ND	13.6	ND
NAPHTHALENE	ND	15.7	ND	ND	ND	ND
TETRACHLOROETHENE	100	4.7	ND	ND	ND	ND
TOLUENE	2,160	ND	14,300	1,440	ND	ND
1,1,1–TRICHLOROETHANE	4,850	ND	95,500	7,860	ND	ND
1,1,2–TRICHLOROETHANE	ND	1.6J	ND	ND	ND	ND
TRICHLOROETHENE	311	77.1	37,100	ND	8.5	84.7
VINYL CHLORIDE	9,520	26.6	14,300	3,420	56.5	ND
XYLENES	4,730	ND	ND	1,740J	ND	ND

DESIGNED BY KDM	DATE 4–21–17
DRAWN BY RJN	PROJECT 2306004
APPROVED BY KWW	SHEET NO. 1
CADFILE G:\ACAD\2306004\2017 Revisions\FIGURE 2.dwg XREF LMAN	

FIGURE 2
GROUNDWATER ANALYTICAL RESULTS SUMMARY
FORMER KITZINGER SITE
2529 E. NORWICH AVENUE
SAINT FRANCIS, WISCONSIN

KEY ENGINEERING GROUP LTD.
735 NORTH WATER STREET, SUITE 510
MILWAUKEE, WI 53202
414.224.8300 (tel) • 414.224.8383 (fax)

Apr 24, 2017 – 1:20pm G:\ACAD\2306004\2017 Revisions\FIGURE 2.dwg

Attachment I

TABLE 4.3

SOIL ANALYTICAL RESULTS[1]
D-F INCORPORATED
ST. FRANCIS, WISCONSIN
PAGE 1 OF 6

Sample Location[2]	SB01 [3]	SB02 [3]	SB03 [3]	SB04[3]	SB05 [3]	SB06 [3]	SB07 [3]	SB08 [3]	SB09 [3]	SB10 [3]	SB11 [3]
x-Coordinate	4869.91	4832.18	4833.91	4869.4	4870.54	4871.17	4873.34	4876.58	4838.1	4837.02	4835.91
y-Coordinate	4853.79	4852.9	4892.94	4893.13	4933.09	4973.05	5014	5052.49	5052.94	5013.15	4971.89
Ground Elevation	666.16	665.68	664.93	665.25	664.50	663.54	662.66	661.81	662.51	663.03	663.54
Date Sampled	7/21/97	7/21/97	7/21/97	7/22/97	7/22/97	7/22/97	7/22/97	7/22/97	7/22/97	7/22/97	7/22/97
Sample Depth	2-4'	2-4'	4-6'	4-6'	4-6'	1-2'	2-4'	4-6'	4-6'	2-4'	2-4'
Percent Solids	81	88	76	68	87	52	47	85	92	95	84
Parameters											
Diesel Range Organics (mg/kg)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Petroleum Volatile Orgnic Compounds											
Benzene	<2.4	<4.6	<13	<15	<46	<48	<22	<2.4	<4.4	<11	<12
Toluene	<6.0	<12	<33	<37	<120	<120	<55	<6.0	<11	<27	<30
Ethyl Benzene	<6.0	<12	<33	<37	<120	<120	<55	<6.0	<11	<27	<30
Total Xylenes	<18	<35	<98	<110	<350	<360	<165	<18	<33	<80	<90
m,p-xylenes	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene and Styrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	<12	<23	<65	<74	<230	<240	<110	<12	<22	<53	<60
1,3,5-Trimethylbenzene	<12	<23	<65	<74	<230	<240	<110	<12	<22	<53	<60
Chlorinated Ethenes											
Tetrachloroethene	35	44	86	<37	250	<120	<55	<6.0	<11	35	37
Trichloroethene	540	660	990	1,500	4,800	2,100	1,900	46	390	770	1,000
cis-1,2-Dichloroethene	120	160	250	1,600	3,300	1,700	<55	9.4	130	320	680
trans-1,2-Dichloroethene	<6.0	<12	<33	<37	<120	<120	<55	<6.0	<11	<27	<30
1,1-Dichloroethene	<6.0	<12	<33	<37	<120	<120	130	<6.0	<11	<27	<30
Vinyl Chloride	<6	<12	<33	<37	<120	<120	1,200	<6.0	<11	<27	<30
Chlorinated Ethanes											
1,1,1-Trichloroethane	40	41	140	59	140	<120	<55	<6.0	27	<27	<30
1,2-Dichloroethane	<6.0	<12	<33	<37	<120	<120	<55	<6.0	<11	<27	<30
1,1-Dichloroethane	27	13	72	130	<120	<120	1,500	<6.0	18	<27	<30
Chloroethane	<6.0	<12	<33	<37	<120	<120	<55	<6.0	<11	<27	<30
Other Volatile Organic Compounds											
Bromochloromethane	<6.0	<12	<33	<37	<120	<120	<55	<6.0	<11	<27	<30
Chloromethane	<6.0	<12	<33	<37	<120	<120	<55	<6.0	<11	<27	<30
Chloroform	<6.0	<12	<33	<37	<120	<120	<55	<6.0	<11	<27	<30
n-butylbenzene	<6.0	<12	<33	<37	<120	<120	<55	<6.0	<11	<27	<30
sec-Butylbenzene	<6.0	<12	<33	<37	<120	<120	<55	<6.0	<11	<27	<30
tert-Butylbenzene	<6.0	<12	<33	<37	<120	<120	<55	<6.0	<11	<27	<30
Isopropylbenzene	<6.0	<12	<33	<37	<120	<120	<55	<6.0	<11	<27	<30
n-Propylbenzene	<6.0	<12	<33	<37	<120	<120	<55	<6.0	<11	<27	<30
p-Isopropyltoluene	<6.0	<12	<33	<37	<120	<120	<55	<6.0	<11	<27	<30
Naphthalene	<30	<58	<160	<190	<580	<600	<275	<30	<55	<130	<150
Methylene Chloride	<6.0	<12	<33	<37	<120	<120	<55	<6.0	<11	<27	<30

Notes:

[1] All concentrations given in units of ug/kg (ppb).

[2] See Figure 2 for sampling location.

[3] Samples collected by ERM

[4] Samples collected by Maxim

Key:

NA = Not analyzed.

TABLE 4.3

SOIL ANALYTICAL RESULTS[1]
D-F INCORPORATED
ST. FRANCIS, WISCONSIN

Sample Location[2]	SB12 [3]	SB13 [3]	SB14 [3]	SB15 [3]	SB15	SB16 [3]	SB17 [3]	SB18 [3]	SB19 [3]	SB20[3]	SB21[3]
x-Coordinate	4833.44	4919.39	4912.59	4900.54	4900.54	4936.32	4950.98	4965.83	4937.35	5040.94	4840.19
y-Coordinate	4932.56	5051.41	5012.41	4968.52	4968.52	4916.19	4923.58	4923.87	4899.18	4944.98	5010.92
Ground Elevation	664.22	660.81	661.91	663.52	663.52	658.88	658.80	658.81	659.14	659.23	663.10
Date Sampled	7/22/97	7/22/97	7/23/97	7/23/97	7/23/97	7/24/97	7/24/97	7/24/97	7/24/97	7/24/97	7/24/97
Sample Depth	0-2'	0-2'	2-4'	2-4'	9-11'	0-2'	0-2'	0-2'	0-2'	16-17'	10-12'
Percent Solids	78	89	49	63	82	87	92	90	91	82	74
Parameters											
Diesel Range Organics (mg/kg)	NA	NA	NA	NA	NA	NA	NA	NA	NA	TOC=11,000	TOC=13,000
Petroleum Volatile Orgnic Compounds										NA	NA
Benzene	<13	<2.0	<20	<2.0	<100	<2.3	<2.2	<2.2	<2.2	NA	NA
Toluene	<32	<5.0	<50	<5.0	600	<5.8	<5.5	<5.6	<5.5	NA	NA
Ethyl Benzene	<32	<5.0	220	<5.0	3,400	<5.8	<5.5	<5.6	<5.5	NA	NA
Total Xylenes	<96	<15	<150	<15	18,000	<17	<16	<17	<17	NA	NA
m,p-xylenes	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene and Styrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	<64	<10	<100	<10	2,800	<12	<11	<11	<11	NA	NA
1,3,5-Trimethylbenzene	<64	<10	<100	<10	700	<12	<11	<11	<11	NA	NA
Chlorinated Ethenes										NA	NA
Tetrachloroethene	110	<5.0	770	<5.0	<250	6.7	<5.5	<5.6	<5.5	NA	NA
Trichloroethene	1,100	6.2	<50	350	<250	560	200	210	340	NA	NA
cis-1,2-Dichloroethene	620	<5.0	220	9.2	<250	160	210	82	240	NA	NA
trans-1,2-Dichloroethene	<32	<5.0	<50	<5.0	<250	16	<5.5	<5.6	<5.5	NA	NA
1,1-Dichloroethene	<32	<5.0	<50	<5.0	<250	33	<5.5	<5.6	<5.5	NA	NA
Vinyl Chloride	<32	<5	<50	<5.0	<250	120	<5.5	<5.6	<5.5	NA	NA
Chlorinated Ethanes										NA	NA
1,1,1-Trichloroethane	<32	<5.0	1,900	250	<250	6.9	8.9	<5.6	22	NA	NA
1,2-Dichloroethane	<32	<5.0	<50	<5.0	<250	<5.8	<5.5	<5.6	<5.5	NA	NA
1,1-Dichloroethane	<32	<5.0	590	290	<250	64	33	74	36	NA	NA
Chloroethane	<32	<5.0	<50	<5.0	<250	<5.8	<5.5	5.9	<5.5	NA	NA
Other Volatile Organic Compounds										NA	NA
Bromochloromethane	<32	<5.0	<50	<5.0	<250	<5.8	<5.5	<5.6	<5.5	NA	NA
Chloromethane	<32	<5.0	<50	<5.0	<250	<5.8	<5.5	<5.6	<5.5	NA	NA
Chloroform	<32	<5.0	<50	<5.0	<250	<5.8	<5.5	<5.6	<5.5	NA	NA
n-butylbenzene	<32	<5.0	<50	<5.0	<250	<5.8	<5.5	<5.6	<5.5	NA	NA
sec-Butylbenzene	<32	<5.0	<50	<5.0	1,200	<5.8	<5.5	<5.6	<5.5	NA	NA
tert-Butylbenzene	<32	<5.0	<50	<5.0	1,300	<5.8	<5.5	<5.6	<5.5	NA	NA
Isopropylbenzene	<32	<5.0	<50	<5.0	700	<5.8	<5.5	<5.6	<5.5	NA	NA
n-Propylbenzene	<32	<5.0	<50	<5.0	2,000	<5.8	<5.5	<5.6	<5.5	NA	NA
p-Isopropyltoluene	<32	<5.0	<50	<5.0	1,500	<5.8	<5.5	<5.6	<5.5	NA	NA
Naphthalene	<160	<25	<250	<25	<1300	<29	<27	<28	<28	NA	NA
Methylene Chloride	<32	<5.0	<50	<5.0	<250	<5.8	<5.5	<5.6	<5.5	NA	NA

Notes:

[1] All concentrations given in units of ug/kg (ppb).

[2] See Figure 2 for sampling location.

[3] Samples collected by ERM

[4] Samples collected by Maxim

Key:

NA = Not analyzed.

TABLE 4.3

SOIL ANALYTICAL RESULTS[1]
D-F INCORPORATED
ST. FRANCIS, WISCONSIN
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Sample Location[2]	GP1[4]	GP2[4]	GP3[4]	GP4[4]	GP5[4]	GP6[4]	GP7[4]	GP8[4]	GP9[4]	GP10[4]	GP11[4]
x-Coordinate	4941	4942	5317.42	5299.48	5314.9	5039	4871.27	4869.27	4865	4894	4926.4
y-Coordinate	4887	4897	4891	4870.9	4853.86	4852	4852.51	4874.01	4964	4963	5058
Ground Elevation	659.00	659.00	657.59	657.59	657.59	660.00	665.44	665.44	663.70	663.70	657.81
Date Sampled	1/22/96	1/22/96	1/22/96	1/22/96	1/22/96	1/22/96	11/11/96	11/11/96	11/11/96	11/11/96	11/11/96
Sample Depth	3.5-5.5'	3.5-5.5'	3.5-5.5'	3.0-5.0'	0-6'	0-4'	4-5'	4-5'	4-5'	4-6'	2-6'
Percent Solids	82	77	89	83	85	85	81	91	66	86	39
Parameters											
Diesel Range Organics (mg/kg)	NA	NA	<10	<10	<10	460	NA	NA	NA	NA	NA
Petroleum Volatile Orgnic Compounds											
Benzene	<5000	<5100	139	<30	<29	<60	30	31	41	460	<13
Toluene	43,100	96,500	<29	<30	<29	<60	160	150	200	960	<9.0
Ethyl Benzene	31,200	53,800	29	<30	<29	<60	28	28	33	320	<8.0
Total Xylenes	160,500	313,400	86	40	46	122	156	161	226	1,870	182
m,p-xylenes	114,000	221,000	39.5	<30	<29	<60	110	110	130	1,300	120
o-Xylene and Styrene	46,500	92,400	46.2	39.9	45.9	122	46	51	96	570	62
Styrene	NA	NA	NA	NA	NA	NA	<8.0	<8.0	<8.0	<120	<8.0
1,2,4-Trimethylbenzene	64,400	121,000	<29	<30	<29	<60	29	39	63	440	16
1,3,5-Trimethylbenzene	14,700	34,900	<29	<30	<29	<60	27	28	68	330	<10
Chlorinated Ethenes											
Tetrachloroethene	24,100	<5100	<29	<30	<29	133	240	31	200	1,900	<11
Trichloroethene	176,000	<5100	<29	<30	<29	2,010	2,800	990	2,900	36,000	140
cis-1,2-Dichloroethene	338,000	572,000	141	<30	<29	<60	300	300	9,300	13,000	370
trans-1,2-Dichloroethene	<5000	<5100	<29	<30	<29	<60	<24	<24	230	<360	<24
1,1-Dichloroethene	<5000	7,280	<29	<30	<29	<60	<10	<10	<10	<150	<10
Vinyl Chloride	<5000	<5100	59	<30	<29	<60	<6.0	<6.0	130	<90	<6.0
Chlorinated Ethanes											
1,1,1-Trichloroethane	84,700	76,100	<29	<30	40	<60	93	72	320	1,700	23
1,2-Dichloroethane	<5000	<5100	1,040	<30	<29	<60	<6.0	<6.0	<6	<90	<6.0
1,1-Dichloroethane	6,640	16,000	<29	<30	<29	<60	31	<7.0	740	430	580
Chloroethane	<5000	<5100	<29	<30	<29	<60	<5.0	<5.0	<5.0	<75	<5.0
Other Volatile Organic Compounds											
Bromochloromethane	<5000	<5100	<29	<30	<29	<60	<8.0	<8.0	380	<120	<8.0
Chloromethane	<5000	<5100	<29	<30	<29	<60	<22	<22	<22	<330	<22
Chloroform	<5000	<5100	<29	<30	<29	<60	<9.0	<9.0	<9.0	<140	<9.0
n-butylbenzene	45,000	71,000	<29	<30	<29	<60	<11	<11	<11	<170	<11
sec-Butylbenzene	12,300	14,500	<29	<30	<29	<60	<6.0	<6.0	120	510	<6.0
tert-Butylbenzene	<5000	<5100	<29	<30	<29	<60	50	54	92	<150	<10
Isopropylbenzene	<5000	8,870	<29	<30	<29	<60	<6.0	<6.0	100	<90	<6.0
n-Propylbenzene	14,700	25,500	<29	<30	<29	<60	65	57	87	860	<6.0
p-Isopropyltoluene	7,830	17,700	<29	<30	<29	<60	<8.0	<8.0	51	<120	<8.0
Naphthalene	10,300	11,700	<29	<30	59	2,580	110	140	150	1,600	230
Methylene Chloride	<5000	<5100	<29	<30	<29	<60	<6.0	<6.0	<6.0	<90	<6.0

Notes:

[1] All concentrations given in units of ug/kg (ppb).

[2] See Figure 2 for sampling location.

[3] Samples collected by ERM

[4] Samples collected by Maxim

Key:

NA = Not analyzed.

TABLE 4.3

SOIL ANALYTICAL RESULTS[1]
D-F INCORPORATED
ST. FRANCIS, WISCONSIN
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Sample Location[2]	GP12[4]	GP13[4]	GP14[4]	GP15[4]	GP16[4]	GP17[4]	GP18[4]	GP19[4]	GP20[4]	GP21[4]	MW-1/B-01[4]
x-Coordinate	4959	4994	4919	4919	4963	4963	4995	5094	4951	4905.94	5313.22
y-Coordinate	5000.5	4945	4885	4908	4886.81	4908.81	5037	5047	4852	4853.02	4908.88
Ground Elevation	657.25	657.50	659.00	659.00	659.00	659.00	659.23	659.23	659.00	659.00	658.90
Date Sampled	11/11/96	11/11/96	11/11/96	11/11/96	11/11/96	11/11/96	11/11/96	11/11/96	11/12/96	11/12/96	4/23/96
Sample Depth	4	4'	2-4'	4'	4'	4'	4'	5'	2'	2.1	6-8'
Percent Solids	64	83	52	52	69	64	83	72	80	44	87
Parameters											
Diesel Range Organics (mg/kg)	NA	NA	NA	NA	NA	NA	NA	NA	23	12,000	NA
Petroleum Volatile Orgnic Compounds											
Benzene	66	56	670	150	330	71	29	30	31	8,600	272
Toluene	270	250	1,100	840	17,000	300	150	45	200	270,000	<29
Ethyl Benzene	53	42	430	120	7,000	72	160	22	44	150,000	<29
Total Xylenes	224	232	2,390	690	42,000	370	1,430	139	290	570,000	NA
m,p-xylenes	160	160	1,600	470	23,000	260	940	90	180	340,000	NA
o-Xylene and Styrene	64	72	790	220	19,700	110	490	179	110	230,000	39
Styrene	<8.0	<16	<120	<32	700	<16	<8.0	130	<8.0	<800	NA
1,2,4-Trimethylbenzene	71	30	440	95	16,000	31	280	31	60	290,000	<29
1,3,5-Trimethylbenzene	76	50	600	140	9,100	62	170	28	41	83,000	<29
Chlorinated Ethenes											
Tetrachloroethene	<11	56	580	<44	<110	<22	73	<11	19	72,000	<29
Trichloroethene	1,100	4,800	56,000	13,000	<110	2,800	2,000	<11	180	1,100,000	69
cis-1,2-Dichloroethene	1,100	1,500	62,000	15,000	<790	2,800	210	<79	940	1,700,000	60
trans-1,2-Dichloroethene	<24	160	5,000	470	<240	140	<24	<24	<24	<240	<29
1,1-Dichloroethene	<10	210	17,000	1,400	<100	390	<10	<10	<10	17,000	<29
Vinyl Chloride	<6.0	460	17,000	2,900	<60	2,800	<6	<6	<6	9,400	<29
Chlorinated Ethanes											
1,1,1-Trichloroethane	110	99	1,300	1,000	230	97	<16	<16	1,100	<1600	NA
1,2-Dichloroethane	150	<12	7,000	4,000	<60	710	<6.0	<6.0	<6.0	17,000	587
1,1-Dichloroethane	790	1,000	11,000	12,000	2,000	2,700	<7.0	<7.0	63	91,000	<29
Chloroethane	<5.0	<10	<75	<20	<50	<10	<5.0	<5.0	<5.0	<500	<29
Other Volatile Organic Compounds											
Bromochloromethane	<8.0	<16	<120	890	<80	<16	<8.0	<8.0	<8.0	35,000	<29
Chloromethane	<22	<44	<330	<88	<220	<44	<22	<22	95	<2200	<44
Chloroform	<9.0	<18	<140	<36	<90	<18	<9.0	<9.0	<9.0	11,000	<18
n-butylbenzene	<11	<22	<170	<44	18,000	<22	46	<11	<11	100,000	<29
sec-Butylbenzene	120	<12	<90	<24	7,800	<12	77	56	50	48,000	<29
tert-Butylbenzene	62	<20	1,300	<40	6,700	130	75	73	<10	29,000	1,070
Isopropylbenzene	77	<12	<90	<24	6,300	<12	600	<6	<6	39,000	<29
n-Propylbenzene	94	120	1,500	370	5,700	<12	78	<6.0	68	56,000	<29
p-Isopropyltoluene	21	<16	<120	<32	20,000	<16	55	<8.0	<8.0	38,000	<29
Naphthalene	230	210	2,500	660	4,900	270	150	150	140	52,000	<29
Methylene Chloride	<6.0	<12	<90	<240	<60	<12	<6.0	<6.0	<6.0	<600	<29

Notes:

[1] All concentrations given in units of ug/kg (ppb).

[2] See Figure 2 for sampling location.

[3] Samples collected by ERM

[4] Samples collected by Maxim

Key:

NA = Not analyzed.

TABLE 4.3

SOIL ANALYTICAL RESULTS[1]
D-F INCORPORATED
ST. FRANCIS, WISCONSIN
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Sample Location[2]	MW-1/B-01[4]	B-03/MW-2[4]	B-04[4]	B-05/MW-3[4]	B-06[4]	B-07[4]	B-08/MW-4[4]	B-09/MW-5[4]	B-09/MW-5[4]
x-Coordinate	5313.22	4866.27	4837.00	5041.79	4936.00	4994.86	4995.44	4833.94	4833.94
y-Coordinate	4908.88	4852.51	4858	4911.64	4960	5000.33	5052.72	5043.32	5043.32
Ground Elevation	658.90	666.12	665.44	659.32	659.00	659.00	658.57	662.66	662.66
Date Sampled	4/23/96	4/23/96	4/23/96	4/23/96	4/24/96	4/24/96	4/24/96	4/24/96	4/24/96
Sample Depth	12-14'	10-12'	6-8'	8-10'	2-4'	4-6'	12-14'	4-6'	12-14'
Percent Solids	77	71	71	88	46	68	83	90	85
Parameters									
Diesel Range Organics (mg/kg)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Petroleum Volatile Orgnic Compounds									
Benzene	<28	<5,507	<2,841	<29	<8,726	<564	41	920	<29
Toluene	<28	132,000	5,720	<29	26,000	2,980	<30	1,160	817
Ethyl Benzene	<28	101,000	60,400	<29	60,700	13,500	<30	574	1,340
Total Xylenes	NA	NA	NA	NA	NA	NA	NA	NA	NA
m,p-xylenes	<28	334,000	253,000	<29	294,000	76,800	<30	396	1,580
o-Xylene and Styrene	40	205,000	193,000	92	380,000	29,700	<30	634	860
Styrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	<28	89,000	85,000	<29	114,000	27,300	<30	737	<29
1,3,5-Trimethylbenzene	<28	23,500	25,400	<29	38,300	10,000	>30	179	<29
Chlorinated Ethenes									
Tetrachloroethene	<28	93,100	<2,841	<29	<8,726	<564	<30	<29	<29
Trichloroethene	43	3,310,000	<2,841	40	<8,726	<564	75	509	79
cis-1,2-Dichloroethene	<28	131,000	<2,841	112	<8,726	761	17,700	722	5,100
trans-1,2-Dichloroethene	<28	<5,507	<2,841	<29	<8,726	<564	178	<28	<29
1,1-Dichloroethene	<28	20,700	<2,841	<29	<8,726	<564	40	<29	<29
Vinyl Chloride	<28	<5,507	<2,841	<29	<8,726	<564	939	<29	1,830
Chlorinated Ethanes									
1,1,1-Trichloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	<28	28,600	<2,841	<29	<8,726	<564	51	<29	33
1,1-Dichloroethane	<28	19,000	<2,841	<29	<8,726	<564	956	73	863
Chloroethane	<28	<5,507	<2,841	<29	<8,726	<564	<30	<28	<29
Other Volatile Organic Compounds									
Bromochloromethane	<28	<5507	<2,841	<29	<8,726	<564	<30	<28	<29
Chloromethane	<28	<5507	<2,841	<29	<8,726	<564	30	<28	<29
Chloroform	<28	<5507	<2,841	<29	<8,726	<564	<30	<28	<29
n-butylbenzene	<28	42,400	63,600	<29	67,800	25,000	<30	482	<29
sec-Butylbenzene	<28	10,700	22,300	<29	15,000	7,060	<30	357	<29
tert-Butylbenzene	545	17,000	12,300	<29	<8,726	2,810	<30	333	<29
Isopropylbenzene	<28	6,510	11,300	<29	11,600	3,780	<30	188	<29
n-Propylbenzene	<28	21,400	26,700	<29	30,900	8,780	<30	404	<29
p-Isopropyltoluene	<28	8,940	29,500	<29	17,900	6,250	<30	231	<29
Naphthalene	<28	10,700	6,760	<29	<8,726	1,590	<30	428	<29
Methylene Chloride	<28	11,300	<2,841	<29	<8,726	<564	<30	<29	<29

Notes:

[1] All concentrations given in units of ug/kg (ppb).

[2] See Figure 2 for sampling location.

[3] Samples collected by ERM

[4] Samples collected by Maxim

Key:

NA = Not analyzed.

TABLE 4.3

SOIL ANALYTICAL RESULTS[1]
D-F INCORPORATED
ST. FRANCIS, WISCONSIN

Sample Location[2]	MW-6 [4]	MW-7[4]	MW-8[4]	MW-9[4]	MW-10 [4]	MW-11 [4]	MW-12[4]	MW-13 [4]
x-Coordinate	4835.33	4940.16	5001.55	5318.49	4829	4768	4770	4770
y-Coordinate	4962.79	4899.73	4852.52	5044.04	4760	4810	4918	5045
Ground Elevation	663.85	659.13	663.35	659.2	668.4	667.8	665.2	664.9
Date Sampled	11/13/96	11/13/96	11/12/96	11/13/96	11/11/96	11/12/96	11/12/96	11/11/96
Sample Depth	6-8'	2-4'	4'	6-10'	4'	5-6'	4'	4'
Percent Solids	85	60	81	87	86	85	87	86
Parameters	TOC=69000					TOC = 142,000	TOC = 84,000	
Diesel Range Organics (mg/kg)	<0.61	NA	150	NA	NA	<0.61	130	NA
Petroleum Volatile Orgnic Compounds								
Benzene	52	2,900	240	23	27	29	27	42
Toluene	330	120,000	1,700	37	50	150	59	170
Ethyl Benzene	50	260,000	410	<8.0	25	25	32	31
Total Xylenes	306	430,000	3,700	111	NA	131	NA	NA
m,p-xylenes	210	1,000,000	2,000	71	95	91	120	130
o-Xylene and Styrene	96	430,000	2,390	120	108	41	114	63
Styrene	<16	<400	690	80	61	<8.0	48	<8.0
1,2,4-Trimethylbenzene	82	1,100,000	16,000	20	41	23	110	55
1,3,5-Trimethylbenzene	57	430,000	9,000	22	31	27	45	35
Chlorinated Ethenes								
Tetrachloroethene	410	2,600	<110	<11	150	<11	<11	20
Trichloroethene	6,200	5,800	<110	<11	530	<11	<11	<11
cis-1,2-Dichloroethene	2,000	370,000	<790	<79	99	<79	<79	<79
trans-1,2-Dichloroethene	<48	<1200	<240	<24	<24	<24	<24	<24
1,1-Dichloroethene	<20	5,300	<100	<10	<10	<10	<10	<10
Vinyl Chloride	<12	780	<60	<6.0	<6.0	<6.0	<6.0	<6.0
Chlorinated Ethanes								
1,1,1-Trichloroethane	780	120,000	<160	<16	<16	<16	<16	<16
1,2-Dichloroethane	<12	<300	<60	<6.0	<6.0	<6.0	<6.0	<6.0
1,1-Dichloroethane	450	16,000	<70	<7.0	<7.0	<7.0	<7.0	<7.0
Chloroethane	<10	<250	<50	<5.0	<5.0	<5.0	<5.0	<5.0
Other Volatile Organic Compounds								
Bromochloromethane	<16	18,000	<80	<8.0	<8.0	<8.0	<8.0	<8.0
Chloromethane	<44	<1100	<220	<22	<22	85	<22	94
Chloroform	<18	1,300	<90	<9.0	<9.0	<9.0	<9.0	<9.0
n-butylbenzene	<22	740,000	17,000	<11	<11	<11	<11	<11
sec-Butylbenzene	<12	420,000	22,000	<10	47	<6	41	40
tert-Butylbenzene	<20	210,000	8,800	53	72	<10	61	<10
Isopropylbenzene	<12	310,000	3,100	<6.0	<6	<6	57	54
n-Propylbenzene	130	280,000	7,100	<6.0	63	58	63	66
p-Isopropyltoluene	<16	690,000	25,000	<8.0	<8	<8	<8	<8
Naphthalene	230	170,000	4,900	120	160	110	220	250
Methylene Chloride	<12	<300	<60	<6.0	<6.0	<6.0	<6.0	<6.0

Notes:

[1] All concentrations given in units of ug/kg (ppb).

[2] See Figure 2 for sampling location.

[3] Samples collected by ERM

[4] Samples collected by Maxim

Key:

NA = Not analyzed.

TABLE 1
SUMMARY OF SOIL ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS
Former D-F Incorporated Property
St. Francis, Wisconsin
Project Reference #13097

Soil Boring Identification:					SGP-1	SGP-2	SMW-3	SMW-4	SGP-5	SGP-6
Sample Depth (ft):					9 -10	7.5 - 10	9 - 10	9 - 10	3.5 - 6.5	3 - 6
Parameter	Unit	NR 720 / NR 720.19	NR 746		Collection Date					
		(1) RCL	(2) Table 1	(3) Table 2	09/17/12	09/17/12	09/17/12	09/17/12	10/02/12	10/02/12
Benzene	µg/kg	5.5	8,500	1,100	<890	<890	<890	<890	<8.9	<8.9
Bromobenzene	µg/kg	NS	NS	NS	<1400	<1400	<1400	<1400	<14	<14
Bromodichloromethane	µg/kg	0.24 GW	NS	NS	<1200	<1200	<1200	<1200	<12	<12
Bromoform	µg/kg	45 GW	NS	NS	<2000	<2000	<2000	<2000	<20	<20
tert-Butylbenzene	µg/kg	NS	NS	NS	<5400	<5400	<5400	<5400	<54	<54
sec-Butylbenzene	µg/kg	NS	NS	NS	<5100	**10400 J**	<5100	**6800 J**	<51	<51
n-Butylbenzene	µg/kg	NS	NS	NS	**6600 J**	**19900**	**8000 J**	**13900 J**	<48	<48
Carbon tetrachloride	µg/kg	5.0 GW	NS	NS	<1200	<1200	<1200	<1200	<12	<12
Chlorobenzene	µg/kg	150 GW	NS	NS	<940	<940	<940	<940	<9.4	<9.4
Chloroethane	µg/kg	NS	NS	NS	<14200	<14200	<14200	<14200	<142	<142
Chloroform	µg/kg	39 GW	NS	NS	<4600	<4600	<4600	<4600	<46	<46
Chloromethane	µg/kg	2.7 GW	NS	NS	<20700	<20700	<20700	<20700	<207	<207
2-Chlorotoluene	µg/kg	2700 GW	NS	NS	<8400	<8400	<8400	<8400	<84	<84
4-Chlorotoluene	µg/kg	2700 GW	NS	NS	<7600	<7600	<7600	<7600	<76	<76
1,2-Dibromo-3-chloropropane	µg/kg	24 GW	NS	NS	<7700	<7700	<7700	<7700	<77	<77
Dibromochloromethane	µg/kg	760 DC	NS	NS	<950	<950	<950	<950	<9.5	<9.5
1,4-Dichlorobenzene	µg/kg	110 GW	NS	NS	<5200	<5200	<5200	<5200	<52	<52
1,3-Dichlorobenzene	µg/kg	NS	NS	NS	<5300	<5300	<5300	<5300	<53	<53
1,2-Dichlorobenzene	µg/kg	1800 GW	NS	NS	<5100	<5100	<5100	<5100	<51	<51
Dichlorodifluoromethane	µg/kg	21972 GW	NS	NS	<1200	<1200	<1200	<1200	<12	<12
1,2-Dichloroethane	µg/kg	4.9	600	540	<1300	<1300	**(1,2,3) 2220 J**	<1300	<13	<13
1,1-Dichloroethane	µg/kg	2900 GW	NS	NS	<1100	**(1) 4400**	**(1) 11900**	<1100	<11	<11
1,1-Dichloroethene	µg/kg	5.0 GW	NS	NS	<2200	<2200	**(1) 2900 J**	<2200	<22	<22
cis-1,2-Dichloroethene	µg/kg	55 GW	NS	NS	**(1) 17400**	**(1) 116000**	**(1) 264000**	**(1) 3300 J**	<14	**25.8 J**
trans-1,2-Dichloroethene	µg/kg	98 GW	NS	NS	<2200	<2200	<2200	<2200	<22	<22
1,2-Dichloropropane	µg/kg	1.9 GW	NS	NS	<1100	<1100	<1100	<1100	<11	<11
2,2-Dichloropropane	µg/kg	NS	NS	NS	<3300	<3300	<3300	<3300	<33	<33
1,3-Dichloropropane	µg/kg	640 GW	NS	NS	<1100	<1100	<1100	<1100	<11	<11
Di-isopropyl ether	µg/kg	NS	NS	NS	<4700	<4700	<4700	<4700	<47	<47
EDB (1,2-Dibromoethane)	µg/kg	0.033 GW	NS	NS	<1700	<1700	<1700	<1700	<17	<17
Ethylbenzene	µg/kg	2,900	4,600	NS	**(1,2) 17100 J**	**(1,2) 106000**	**(1,2) 55000**	**(1,2) 21300**	**205**	<55
Hexachlorobutadiene	µg/kg	120 GW	NS	NS	<9500	<9500	<9500	<9500	<95	<95
Isopropylbenzene	µg/kg	NS	NS	NS	<5300	**9600 J**	<5300	<5300	<53	<53
p-Isopropyltoluene	µg/kg	NS	NS	NS	<4500	**11500 J**	<4500	**5300 J**	<45	<45
Methylene chloride	µg/kg	1.6 GW	NS	NS	<11900	<11900	<11900	<11900	<119	<119
Methyl-tert-butyl-ether	µg/kg	6270000 DC	NS	NS	<1200	<1200	<1200	<1200	<12	<12
Naphthalene	µg/kg	427 GW	2,700	NS	<10700	**(1,2) 14700 J**	**(1,2) 11100 J**	**(1,2) 16000 J**	<107	<107
n-Propylbenzene	µg/kg	NS	NS	NS	<5300	**18800**	**8100 J**	**10400 J**	<53	<53
1,1,2,2-Tetrachloroethane	µg/kg	0.1 GW	NS	NS	<2000	<2000	<2000	<2000	<20	<20
1,1,1,2-Tetrachloroethane	µg/kg	7.4 GW	NS	NS	<4100	<4100	<4100	<4100	<41	<41
Tetrachloroethene	µg/kg	4.1 GW	NS	NS	**(1) 2500 J**	**(1) 4200 J**	**(1) 390000**	**(1) 4200 J**	<24	<24
Toluene	µg/kg	1,500	38,000	NS	**(1) 30400**	**(1,2) 126000**	**(1,2) 70000**	**(1) 11700 J**	**189**	<50
1,2,4-Trichlorobenzene	µg/kg	540 GW	NS	NS	<7400	<7400	<7400	<7400	<74	<74
1,2,3-Trichlorobenzene	µg/kg	NS	NS	NS	<12900	<12900	<12900	<12900	<129	<129
1,1,1-Trichloroethane	µg/kg	280 GW	NS	NS	**(1) 62000**	**(1) 3400 J**	**(1) 305000**	**(1) 2150 J**	<11	<11
1,1,2-Trichloroethane	µg/kg	11 GW	NS	NS	<1600	<1600	<1600	<1600	<16	<16
Trichloroethene	µg/kg	3.7 GW	NS	NS	**(1) 3300 J**	<1700	**(1) 330000**	**(1) 3400 J**	<17	<17
Trichlorofluoromethane	µg/kg	29000 GW	NS	NS	<4300	<4300	<4300	<4300	<43	<43
1,2,4-Trimethylbenzene	µg/kg	28000 GW	83,000	NS	**(1) 29400**	**(1,2) 112000**	**(1) 59000**	**(1) 49000**	**182 J**	<80
1,3,5-Trimethylbenzene	µg/kg	13000 GW	11,000	NS	**7200 J**	**(1,2) 34000**	**(1,2) 16000**	**(1,2) 14300 J**	**70 J**	<48
Vinyl chloride	µg/kg	0.13 GW	NS	NS	<1600	**(1) 11300**	**(1) 2590 J**	<1600	<16	<16
Total Xylenes	µg/kg	4,100	42,000	NS	**(1,2) 80200**	**(1,2) 415000**	**(1,2) 269000**	**(1,2) 91900**	**1170**	<86

Notes:
J = analyte detected between Limit of Detection and Limit of Quantitation
µg/kg = micrograms per kilogram (equivalent to parts per billion)
NA = Not Analyzed NS = No Standard
NR 720 RCL = DNR, Chapter NR 720, Generic Residual Contaminat Levels Based on Protection of Groundwater Quality.
NR 746 Table 1 = DNR, Chapter NR 746, Table 1 soil screening level: Indicators of Residual Petroleum Products in Soil Pores.
NR 746 Table 2 = DNR, Chapter NR 746, Table 2: Protection of Human Health from Direct Contact with Contaminated Soil.
NR 720.19 RCL = RCLs calculated in accordance with Ch. NR 720.19 and WDNR document PUB-RR-682 and present in EPA approved QAPP (October 2010). Most strigent pathway (**groundwater [GW]** or **direct contact [DC]**) presented when state standards are not available.

Exceedances:
BOLD = detected compound
(1) = concentration exceeds suggested NR 720 Generic RCLs for VOC Compounds in Soil
(2) = concentration exceeds suggested NR 746 Indicators of Residual Petroleum Product in Soil Pores (Table 1)
(3) = concentration exceeds suggested NR 746 Protection of Human Health from Direct Contact with Contaminated Soil (Table 2)

TABLE 3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS
Former D-F Incorporated Property
St. Francis, Wisconsin
Project Reference # 13097

Monitoring Well Identification:		NR 140		SMW-3	SMW-4	SPM-4	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-11	MW-12	MW-13	MW-14	MW-15
Parameter	Unit	ES	PAL	Collection Date																
				10/15/12	10/15/12	10/15/12	10/15/12	10/15/12	10/15/12	10/15/12	10/15/12	10/15/12	10/15/12	10/15/12	10/15/12	10/15/12	10/15/12	10/15/12	10/15/12	10/15/12
Benzene	µg/L	5.0	0.5	<250	**(1,2) 5.8 J**	<2500	<0.5	<1000	**(2) 0.91 J**	**(2) 2.22**	**(2) 1.96**	**(1,2) 5.4 J**	Free Product - Not Sampled	<2.5	<0.5	Well Not Found - No Site Access	Well Not Found - No Site Access	Well Not Found - No Site Access	<50	Free Product - Not Sampled
Bromobenzene	µg/L	NS	NS	<370	<7.4	<3700	<0.74	<1480	<0.74	<0.74	<0.74	<7.4		<3.7	<0.74				<74	
Bromodichloromethane	µg/L	0.6	0.06	<340	<6.8	<3400	<0.68	<1360	<0.68	<0.68	<0.68	<6.8		<3.4	<0.68				<68	
Bromoform	µg/L	4.4	0.44	<215	<4.3	<2150	<0.43	<860	<0.43	<0.43	<0.43	<4.3		<2.15	<0.43				<43	
tert-Butylbenzene	µg/L	NS	NS	<355	<7.1	<3550	<0.71	<1420	**1.48 J**	<0.71	<0.71	<7.1		<3.55	<0.71				<71	
sec-Butylbenzene	µg/L	NS	NS	<500	<10	<5000	<1	<2000	<1	<1	<1	<10		**16.9**	<1				<100	
n-Butylbenzene	µg/L	NS	NS	<450	**17.9 J**	<4500	<0.9	<1800	<0.9	<0.9	<0.9	<9		**5.7 J**	<0.9				<90	
Carbon Tetrachloride	µg/L	5.0	0.5	<235	<4.7	<2350	<0.47	<940	<0.47	<0.47	<0.47	<4.7		<2.35	<0.47				<47	
Chlorobenzene	µg/L	100	10	<255	<5.1	<2550	<0.51	<1020	<0.51	**2.8**	<0.51	<5.1		<2.35	<0.51				<51	
Chloroethane	µg/L	400	80	<700	**48**	<7000	<1.4	<2800	**2.93 J**	**27**	<1.4	**(1,2) 400**		**9.8 J**	<1.4				<140	
Chloroform	µg/L	6.0	0.6	<245	<4.9	<2450	<0.49	<980	<0.49	<0.49	<0.49	<4.9		<2.45	<0.49				<49	
Chloromethane	µg/L	30	3.0	<950	<19	<9500	<1.9	<3800	<1.9	<1.9	<1.9	<19		<9.5	<1.9				<190	
2-Chlorotoluene	µg/L	NS	NS	<350	<7	<3500	<0.7	<1400	<0.7	<0.7	<0.7	<7		<3.5	<0.7				<70	
4-Chlorotoluene	µg/L	NS	NS	<220	<4.4	<2200	<0.44	<880	<0.44	<0.44	<0.44	<4.4		<2.2	<0.44				<44	
1,2-Dibromo-3-Chloropropane	µg/L	0.2	0.02	<1400	<28	<14000	<2.8	<5600	<2.8	<2.8	<2.8	<28		<14	<2.8				<280	
Dibromochloromethane	µg/L	60	6.0	<275	<5.5	<2750	<0.55	<1100	<0.55	<0.55	<0.55	<5.5		<2.75	<0.55				<55	
1,4-Dichlorobenzene	µg/L	75	15	<490	<9.8	<4900	<0.98	<1960	<0.98	<0.98	<0.98	<9.8		<4.9	<0.98				<98	
1,3-Dichlorobenzene	µg/L	600	120	<435	<8.7	<4350	<0.87	<1740	<0.87	<0.87	<0.87	<8.7		<4.35	<0.87				<87	
1,2-Dichlorobenzene	µg/L	600	60	<380	<7.6	<3800	<0.76	<1520	<0.76	<0.76	<0.76	<7.6		<3.8	<0.76				<76	
Dichlorodifluoromethane	µg/L	1,000	200	<900	<18	<9000	<1.8	<3600	<1.8	<1.8	<1.8	<18		<9	<1.8				<180	
1,2-Dichloroethane	µg/L	5.0	0.5	**(1,2) 320 J**	**(1,2) 30.1**	<2500	**(1,2) 9.3**	<1000	**(2) 0.55 J**	**(2) 2.31**	**(2) 0.92 J**	<5		<2.5	<0.5				<50	
1,1-Dichloroethane	µg/L	850	85	**(1,2) 1840**	**(2) 116**	**(1,2) 12800 J**	<0.98	**(1,2) 4500 J**	**2.59 J**	**14.1**	**35**	<9.8		**67**	<0.98				<98	
1,1-Dichloroethene	µg/L	7.0	0.7	<300	<6	<3000	<0.6	<1200	<0.6	<0.6	<0.6	<6		<3	<0.6				<60	
cis-1,2-Dichloroethene	µg/L	70	7.0	**(1,2) 31100**	**(1,2) 640**	**(1,2) 283000**	<0.74	**(1,2) 120000**	**6.4**	**1.75 J**	**(2) 30.7**	<7.4		**(2) 21.6**	<0.74				<74	
trans-1,2-Dichloroethene	µg/L	100	20	<395	**16.6 J**	<3950	<0.79	<1580	<0.79	<0.79	<0.79	<7.9		<3.95	<0.79				<79	
1,2-Dichloropropane	µg/L	5.0	0.5	<200	<4	<2000	<0.4	<800	<0.4	<0.4	<0.4	<4		<2	<0.4				<40	
2,2-Dichloropropane	µg/L	NS	NS	<950	<19	<9500	<1.9	<3800	<1.9	<1.9	<1.9	<19		<9.5	<1.9				<190	
1,3-Dichloropropane	µg/L	NS	NS	<355	<7.1	<3550	<0.71	<1420	<0.71	<0.71	<0.71	<7.1		<3.55	<0.71				<71	
Di-isopropyl ether	µg/L	NS	NS	<345	<6.9	<3450	<0.69	<1380	<0.69	<0.69	<0.69	<6.9		<3.45	<0.69				<69	
EDB (1,2-Dibromoethane)	µg/L	0.05	0.005	<315	<6.3	<3150	<0.63	<1260	<0.63	<0.63	<0.63	<6.3		<3.15	<0.63				<63	
Ethylbenzene	µg/L	700	140	**(1,2) 950 J**	**(2) 199**	<3900	<0.78	<1560	<0.78	<0.78	<0.78	<7.8		<3.9	<0.78				<78	
Hexachlorobutadiene	µg/L	NS	NS	<1100	<22	<11000	<2.2	<4400	<2.2	<2.2	<2.2	<22		<11	<2.2				<220	
Isopropylbenzene	µg/L	NS	NS	<460	**15.2 J**	<4600	<0.92	<1840	**1.44 J**	**0.95 J**	<0.92	<9.2		**11.8 J**	<0.92				<92	
p-Isopropyltoluene	µg/L	NS	NS	<460	**12.8 J**	<4600	<0.92	<1840	<0.92	<0.92	<0.92	<9.2		<4.6	<0.92				<92	
Methylene Chloride	µg/L	5.0	0.5	<550	<11	<5500	<1.1	<2200	<1.1	<1.1	<1.1	<11		<5.5	<1.1				<110	
Methyl Tert Butyl Ether (MTBE)	µg/L	60	12	<400	<8	<4000	<0.8	<1600	<0.8	<0.8	<0.8	<8		<4	<0.8				<80	
Naphthalene	µg/L	100	10	<1050	**(1,2) 135**	<10500	<2.1	<4200	<2.1	<2.1	<2.1	<21		<10.5	<2.1				<210	
n-Propylbenzene	µg/L	NS	NS	<295	**22.7**	<2950	<0.59	<1180	<0.59	<0.59	<0.59	<5.9		**9.4 J**	<0.59				<59	
1,1,2,2-Tetrachloroethane	µg/L	0.2	0.02	<265	<5.3	<2650	<0.53	<1060	<0.53	<0.53	<0.53	<5.3		<2.65	<0.53				<53	
1,1,1,2-Tetrachloroethane	µg/L	70	7.0	<500	<10	<5000	<1	<2000	<1	<1	<1	<10		<5	<1				<100	
Tetrachloroethene	µg/L	5.0	0.5	**(1,2) 820**	<4.4	<2200	<0.44	<880	<0.44	<0.44	<0.44	<4.4		<2.2	<0.44				<44	
Toluene	µg/L	800	160	**(1,2) 2500**	**(2) 320**	**(1,2) 19000**	<0.53	**(1,2) 1740 J**	<0.53	<0.53	<0.53	<5.3		<2.65	<0.53				<53	
1,2,4-Trichlorobenzene	µg/L	70	14	<750	<15	<7500	<1.5	<3000	<1.5	<1.5	<1.5	<15		<7.5	<1.5				<150	
1,2,3-Trichlorobenzene	µg/L	NS	NS	<650	<13	<6500	<1.3	<2600	<1.3	<1.3	<1.3	<13		<6.5	<1.3				<130	
1,1,1-Trichloroethane	µg/L	200	40	**(1,2) 6700**	**(2) 77**	**(1,2) 96000**	<0.85	**(1,2) 17900**	<0.85	**1.28 J**	**3.3**	<8.5		<4.25	<0.85				<85	
1,1,2-Trichloroethane	µg/L	5.0	0.5	<235	<4.7	<2350	<0.47	<940	<0.47	<0.47	<0.47	<4.7		<2.35	<0.47				<47	
Trichloroethene (TCE)	µg/L	5.0	0.5	**(1,2) 1600**	**(1,2) 36**	**(1,2) 26000**	<0.47	**(1,2) 1820 J**	<0.47	**(1,2) 6.5**	**(1,2) 35**	<4.7		**(2) 3 J**	<0.47				**(1,2) 102 J**	
Trichlorofluoromethane	µg/L	3,490	698	<850	<17	<8500	<1.7	<3400	<1.7	<1.7	<1.7	<17		<8.5	<1.7				<170	
1,2,4-Trimethylbenzene	µg/L	**	**	**440 J**	**257**	<4000	<0.8	<1600	<0.8	<0.8	<0.8	**13.9 J**		<4	<0.8				<80	
1,3,5-Trimethylbenzene	µg/L	**	**	<370	**76**	<3700	<0.74	<1480	<0.74	<0.74	<0.74	<7.4		<3.7	<0.74				<74	
Total Trimethylbenzenes	µg/L	480	96	**(1,2) 440 J**	**(2) 333**	<4000	<0.8	<1600	<0.8	<0.8	<0.8	**13.9 J**		<4	<0.8				<80	
Vinyl Chloride	µg/L	0.2	0.02	**(1,2) 9700**	**(1,2) 122**	**(1,2) 12600**	**(1,2) 1.27**	**(1,2) 1820**	**(1,2) 35**	**(1,2) 2.73**	**(1,2) 17.5**	**(1,2) 2.2 J**		**(1,2) 160**	<0.18				<18	
Xylenes (total)	µg/L	2,000	400	**(1,2) 4790**	**(2) 1380**	**(1,2) 8800 J**	<1.1	<2200	<1.1	<1.1	<1.1	**92**		<5.5	<1.1				<110	

Notes:
J = analyte detected between Limit of Detection and Limit of Quantitation
µg/L = micrograms per liter (equivalent to parts per billion)
NA = Not Analyzed NS =No Standard
NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard
NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
Exceedances: **BOLD** = detected compound
(1) = concentration exceeds Chapter NR 140 ES
(2) = concentration exceeds Chapter NR 140 PAL