



**WE ENERGIES PLEASANT PRAIRIE POWER PLANT
SITE INVESTIGATION WORK PLAN
8000 95TH STREET
KENOSHA, WI 53158**

**BRRTS # 02-30-576938
FID 230006260**

Prepared for:
**We Energies
333 W Everett St
Milwaukee, WI 53203**

Prepared by:
**LF Green Development, LLC
5600 W Brown Deer Road, Suite 120
Milwaukee, Wisconsin 53223**

May 23, 2016



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A handwritten signature in black ink that reads 'Linda J. Fellenz'.

Linda J. Fellenz
Environmental Manager



SUBMITTAL CERTIFICATION

WE ENERGIES PLEASANT PRAIRIE STATION
8000 95TH STREET
KENOSHA, WI

BRRTS # 02-30-576938
FID 230006260

I, LINDA J. FELLEENZ, declare that to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in 40 CFR 312.10 of this part.

I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR 312.

Linda J. Fellenz

LF Green Development, LLC

Linda J. Fellenz

Environmental Manager

414-254-4813

May 23, 2016

Date

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1.0 INTRODUCTION

This Site Investigation Work Plan (SIWP) presents the planned work for the site investigation of at the Pleasant Prairie Power Plant (P4) at 9000 85th St., Kenosha, Wisconsin at the area of the site where petroleum impacts were detected in soil samples collected during the abandonment/removal of piping associated with the permanent closure and decommissioning of a 500,000-gallon diesel fuel Above Ground Storage Tank (AST).

The 500,000-gallon diesel fuel AST was used to provide emergency fuel to the two (2) on-site boilers during a power failure. In 2014 a new and smaller (30,000-gallon) AST was constructed closer to the boiler building to provide emergency fuel to the boilers. The existing 500,000-gallon diesel fuel AST was decommissioned as part of the Plant's Main Fuel Oil Storage Tank Removal Project.

The buildings and property are currently owned by We Energies. The site is bordered to the east and west by railroad, the north by vacant rural land, and the south by 95th Street.

Figure B.1.b in Appendix A is a site location map.

This work plan provides the scope, sampling plan, and schedule for the planned investigation. The intent of this work is to determine the nature and extent of contaminants and identify what, if any, remedial action is required to receive site closure from the Wisconsin Department of Natural Resources (WDNR).

The investigation will include GeoProbe® borings, soil sample collection, groundwater well installation, groundwater sampling, and the preparation of a Site Investigation Report. Additional mobilizations may be required if adequate site information is not obtained to fully delineate the nature and extent of impacts.

1.1 Project Location

The address of the property is 8000 95th Street, Kenosha, Wisconsin 53158. The legal description of the property indicates the property is located as follows: NE 1/4 of the NW 1/4 of Sec 21, T01N, R22E; Pleasant Prairie, Kenosha County, State of Wisconsin. WTM Coordinates 692043, 231522.



1.2 CONTACTS

RP Representative:

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DRILLER

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GeoProbe Contractor

Kim Kapugi

Direct : 608-837-8992

E-mail: onsiteenvironmental@charter.net

Sun Prairie, WI 53590

LABORATORY

Pace Analytical Services Inc.

Steve Mleczo

Project Manager

Green Bay Lab

Phone: 920-321-9440

Email: Steve.Mleczo@pacelabs.com

2.0 PROJECT BACKGROUND

2.1 Tank System Closure Assessment Activities and Observations

LF Green was contracted by We Energies to perform the oversight during the AST and associated piping systems closure/removal activities. On January 8-13, 2015 the AST was dismantled and removed from the site. LF Green personnel mobilized to the site to provide oversight during the AST and associated piping, removal and cleaning procedures. Ms. Linda Fellenz Wisconsin Site Assessor, (Certification # 253484) monitored the site activities.

The AST was cleaned and removed by Advanced Tank Service Inc., Eau Claire, WI (Cleaner Remover Certification # 41335).

The location of the ASTs is provided on Figure 1 in Appendix A.

2.2 Information from TSSA Report

The piping system associated with the AST included four (4) 3-inch steel lines between the boiler buildings and the fuel pumphouse, one of the lines was abandoned in place (previously), one line was a return line from the boiler directly back to the AST, and two lines were fuel lines taking diesel from the pumphouse to the boilers.

The piping lines were organized into 3 Areas to allow for reporting the sample results and mapping the sample locations.

Area A includes the AST and all piping systems between the pumphouse and the AST, including the truck off-load area (to the east) and piping immediately west of the pumphouse to the main roadway.

Area B includes all of the piping system between the pumphouse and the pipe run where the pipes turn north toward the boilers.

Area C included all the piping systems running north-south between the roadway and the boilers. Inaccessible piping was abandoned in place and accessible piping was removed.

2.3 Sample Results by Area

Naphthalene concentrations detected at soil samples PL-4 (7.96) parts per million (ppm) and PL-5 (18.3 ppm), collected in Area C near the boiler building were above the Groundwater Pathway (GW) RCL of 0.6582 ppm, but below the Industrial DC RCL of 26 mg/kg.



Combined Trimethylbenzene (TMB) concentrations detected at PL-4 (1.286 ppm) and PL-5 (4.23 ppm) exceeded the GW RCL of 1.3821 ppm but below the Industrial DC RCL of 271.9 ppm.

Arsenic concentrations detected at soil samples PL-20 (9.3 ppm), PL-21 (7.9 ppm), and PL-22 (8.4 ppm), collected in **Area B** near the main roadway were above the DC RCL of 0.61 ppm but below the assumed background concentration.

Combined Trimethylbenzene (TMB) concentrations detected at PL-4 (1.286 ppm) and P1-5 (4.23 ppm) exceed the GW RCL of 1.3821 ppm but below the DC RCL of 271.8 ppm.

Area C is entirely paved and used for parking of We Energies vehicles.

The soil results are presented on Table 2 in Appendix B.

3.0 SITE INVESTIGATION WORK PLAN

This work plan has been developed based on the WDNR NR 716 guidance.

3.1 Soil Investigation

The site investigation will include the completion of 4-6 GeoProbe® soil borings to evaluate the nature and extent of potential soil impacts at the site. Boring locations are based on the location of the impacts identified during the piping closure assessment completed at the site following the closure of the 500,000-gallon diesel AST. The proposed boring locations are indicated on Figure B.1.b.

Soil borings will be completed to a depth of 15 feet below ground surface (bgs). One soil sample from each two-foot interval will be screened using a photoionization detector (PID). We anticipate collecting 2 samples from each boring for laboratory analysis. One sample will be collected from 0-4 feet bgs to determine direct contact conditions. The sample in the 0-2 foot section will be used unless it is topsoil or gravel. A second unsaturated sample with the highest PID reading from each boring will be sent to the laboratory for analysis. In the event there are no PID readings during soil screening activities, soil samples that are stained will be sent for analytical testing. Otherwise, soil samples collected at the deepest unsaturated interval will be shipped for analysis.

Soil Samples will be submitted for analysis of DRO and VOCs by method 8260B. Samples will be submitted to a Wisconsin accredited laboratory for analysis. The laboratory chain of custody (COC) form will be prepared and soil samples will be securely packed in an ice-filled cooler and shipped to the laboratory for analysis.

If analytical concentrations are 20 times over the regulatory limit, Toxicity characteristic Leaching Procedure (TCLP) analysis will be performed on the soil samples.

3.2 Groundwater Investigation

NR 141 permanent monitor wells will be installed at 4 of the Geoprobe® locations using a hollow stem auger drill rig. Groundwater is anticipated at between 8 and 11 feet below ground surface(bgs) and the wells will be installed at depths of approximately 8-15 feet with 5-foot screen sections. Proposed well locations are indicated on Figure B.1.b.

Following installation, the wells will be developed and sampled. Samples will be analyzed for



VOCs (Method 8260). If feasible, low flow sampling techniques will be used.

Monitor well locations will be surveyed to document location and top of casing and ground surface elevations. Groundwater elevations will be measured to confirm the ground water flow direction at the site.

Samples will be submitted to a Wisconsin accredited laboratory for analysis. A laboratory chain of custody (COC) form will be prepared and the groundwater samples will be securely packed in an ice-filled cooler and shipped to the laboratory for analysis.

3.3 Investigation-Derived Waste

Investigation-derived waste that is suspected or known to be contaminated will be stored on-site in appropriately labeled 55-gallon drums. Before waste is transported off-site for disposal, the on-site project manager will ensure that all waste profiles and manifests are reviewed and signed by an appropriate representative. Waste stream sampling and characterization will be performed in accordance with appropriate Federal and State guidelines. Environmental sampling at the site will be accomplished by a qualified, competent individual. The project manager will oversee the sampling, characterization, profiling and disposal of all investigation-derived waste.

3.4 Health and Safety

An LF Green Development project manager will oversee the safety performance of the project and will be responsible for the health and safety of all on-site workers, including subcontractors and We Energies personnel.

3.5 Quality Assurance and Control

LF Green Development LLC QC procedures will be followed to assure quality control of project implementation and preparation of project deliverables.

3.6 Reporting

Following the soil and groundwater investigative sampling, the data will be analyzed to evaluate the nature and extent of soil and groundwater impacts, if any.

Figures will be created showing the location of known and potential sources of contamination, soil sample locations and groundwater wells. Figures will include iso-concentration maps, sample results, cross sections that identify the contaminant sources, the local geology and the



water table.

The information from the site investigation will be prepared and submitted to the WDNR in a closure submittal package.

3.7 Schedule

We Energies and LF Green Development's schedule for the Pleasant Prairie Power Plant AST Decommissioning project is:

June, 2016:	Submit the work plan to WDNR for review
June-July, 2016:	Complete the Geoprobe® and monitoring well installation) and sampling
July, 2016:	Evaluate laboratory results and prepare site investigation Report
August-September, 2016:	Submit the SI Report to WDNR for review
October-November, 2016:	Receive feedback from WDNR Review

4.0 REFERENCES

1. American Society for Testing and Materials (2005). Standard Practice for Environmental Site Assessments: Phase I Environmental Assessment Process (E-1527-13).
2. Environmental Protection Agency (2005). Title 40, Code of Federal Regulations, Part 312 (40 CFR part 312) – Standard Practices for All Appropriate Inquiries (AAI).
3. USGS Topographic Map Milwaukee Quadrangle 7.5-Minute Series.
4. Wisconsin Department of Natural Resources, Chapter NR716.



Disclaimer

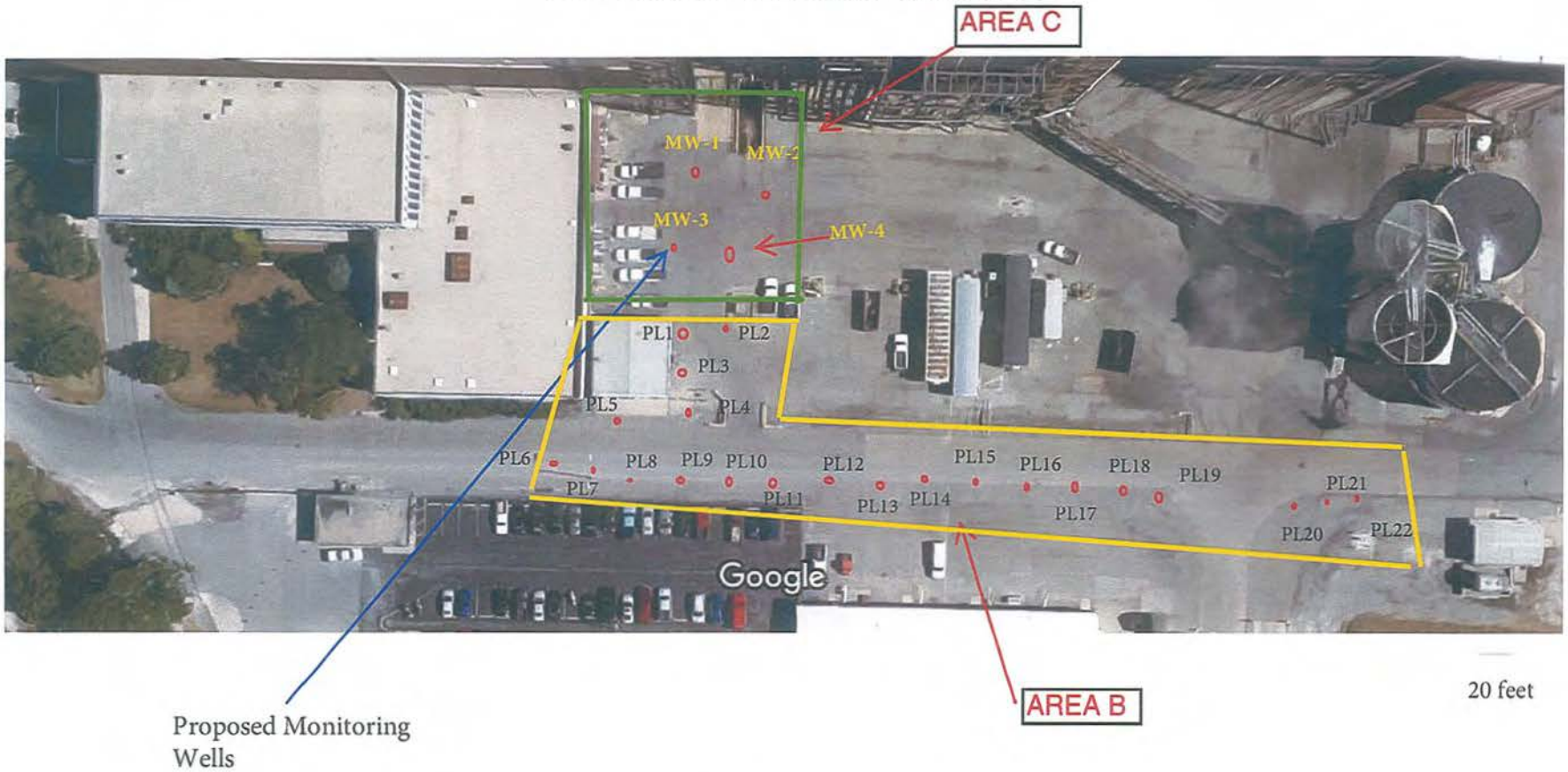
The conclusions and recommendations contained in this report represent our professional opinions. No warranty or guarantee is expressed or implied concerning the findings and/or conclusions of this site investigation. The scope and performance of the professional services rendered are in accordance with currently accepted environmental and engineering practices currently employed within the site region by qualified contractors.



APPENDIX A

SITE MAP

FIGURE B.1.b
MONITORING WELL
LOCATION MAP AREA C



Diesel AST Removal Project
Pleasant Prairie Power Plant
8000 95th Street Pleasant
Prairie, WI



APPENDIX B

TABLE

Table 2
Soil Sample Results (P4)

				Samples Collected from Area C (Boiler Building)													
Analyte (ppm)	Industrial Direct Contact	Non-Industrial DC RCL	GW RCL	PL-1	PL-2	PL-3	PL-4	PL-5	PL-6	PL-7	PL-8	PL-9	PL-10	PL-11			
DEPTH				3-4'	3-4'	3-4'	3-4'	3-4'	3-4'	3-4'	3-4'	3-4'	3-4'	3-4'			
DATE				7/7/15	7/7/15	7/7/15	7/7/15	7/7/15	7/7/15	7/7/15	7/7/15	7/7/15	7/7/15	7/7/15			
P VOC																	
Ethylbenzene	37	7.47	1.57	<0.025	0.0621	0.0459J	<0.206	0.672J	0.0452J	0.084	<0.025	0.0417J	0.074	<0.0258			
Naphthalene	26	5.15	0.6582	0.105	0.302	0.351	7.960	18.300	0.641	0.589	0.118	0.161	0.395	0.108			
1,2,4-Trimethylbenzene	219	89.8	1.3821	<0.025	<0.025	<0.025	0.9890	2.740	0.056	0.0542J	<0.025	<0.0258	0.112	<0.0258			
1,3,5-trimethylbenzene	182	182		<0.025	0.1030	0.0337J	0.297J	1.490	0.058	0.0444J	0.0437J	0.032	0.116	<0.0258			
Xylenes	260	260	3.96	<0.075	0.1041J	<0.075	<0.618	<1.910J	<0.075	<0.075	<0.075	<0.0773	0.1538J	<0.0773			
RCRA Metals																	
Mercury	3.13	3.13	0.208	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS			
Arsenic	2.39	0.613	0.584	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS			
Barium	100000	15300	164.8	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS			
Cadmium	799	70	0.752	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS			
Chromium	100000	100000	360000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS			
Lead	800	400	27	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS			
Chrysene	211	14.8	0.1446	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS			
1-Methylnaphthalene	53.1	15.6	No RCL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS			
2-Methylnaphthalene	2200	229	No RCL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS			
Naphthalene	26.00	5.15	0.6582	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS			
Phenanthrene	No RCL	No RCL	No RCL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS			
Italics with highlight indicates result exceeds Industrial Direct Contact RCL																	
ppm - parts per million																	
Bold indicates result exceeds Groundwater RCL																	
NS : Not Sampled																	

Table 2
Soil Sample Results (P4)

				Samples Collected from Area B (Long Piping Run)													
Analyte (ppm)	Industrial Direct Contact	Non-Industrial DC RCL	GW RCL	PL-1	PL-2	PL-3	PL-4	PL-5	PL-6	PL-7	PL-8	PL-9	PL-10	PL-11			
DEPTH				3-4'	3-4'	3-4'	3-4'	3-4'	3-4'	3-4'	3-4'	3-4'	3-4'	3-4'			
DATE				8/4/15	8/4/15	8/4/15	8/4/15	8/4/15	8/4/15	8/4/15	8/4/15	8/4/15	8/4/15	8/4/15			
PVOC																	
Ethylbenzene	37	7.47	1.57	<0.0347	<0.0371	<0.0399	<0.0371	<0.0371	<0.0412	<0.0395	<0.0436	<0.0383	<0.0350	<0.0329			
Naphthalene	26	5.15	0.6582	<0.0347	<0.0371	0.147	0.106	<0.0371	0.102J	<0.0395	<0.0436	<0.0383	<0.0350	<0.0329			
1,2,4-Trimethylbenzene	219	89.8	1.3821	<0.0347	<0.0371	0.0472J	<0.0371	<0.0371	<0.0412	<0.0395	<0.0436	<0.0383	<0.0350	<0.0329			
1,3,5-trimethylbenzene	182	182		<0.0347	<0.0371	<0.0399	<0.0371	<0.0371	<0.0412	<0.0395	<0.0436	<0.0383	<0.0350	<0.0329			
Xylenes	260	260	3.96	<0.1041	<0.1114	<0.1197	<0.1114	<0.1114	<0.1236	<0.1184	<0.1308	<0.1148	<0.1051	<0.0987			
RCRA Metals																	
Mercury	3.13	3.13	0.208	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS			
Arsenic	2.39	0.613	0.584	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS			
Barium	100000	15300	164.8	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS			
Cadmium	799	70	0.752	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS			
Chromium	100000	100000	360000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS			
Lead	800	400	27	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS			
Chrysene	211	14.8	0.1446	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS			
1-Methylnaphthalene	53.1	15.6	No RCL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS			
2-Methylnaphthalene	2200	229	No RCL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS			
Naphthalene	26.00	5.15	0.6582	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS			
Phenanthrene	No RCL	No RCL	No RCL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS			
Italics with highlight indicates result exceeds Industrial Direct																	
ppm - parts per million																	
Bold indicates result exceeds Groundwater RCL																	
NS : Not Sampled																	

Table 2
Soil Sample Results (P4)

Samples Collected From Long Pipe Run (Area B)															
Analyte (ppm)	Industrial Direct Contact	Non-Industrial DC RCL	GW RCL	PL-12	PL-13	PL-14	PL-15	PL-16	PL-17	PL-18	PL-19	PL-20	PL-21	PL-22	
DEPTH				3-4'	3-4'	3-4'	3-4'	3-4'	3-4'	3-4'	3-4'	3-4'	3-4'	3-4'	
DATE				8/4/15	8/4/15	8/4/15	8/4/15	8/4/15	8/4/15	8/4/15	8/4/15	8/4/15	8/4/15	8/4/15	
PVOC															
Ethylbenzene	37	7.47	1.57	<0.0321	<0.0417	<0.0431	<0.0403	<0.0457	<0.0446	<0.0344	<0.0463	<0.0399	<0.0355	<0.0463	
Naphthalene	26	5.15	0.6582	<0.0321	<0.0417	<0.0431	<0.0403	<0.0457	0.0671J	<0.0344	0.145	<0.0639	<0.0569	<0.0742	
1,2,4-Trimethylbenzene	219	89.8	1.3821	<0.0321	<0.0417	<0.0431	<0.0403	<0.0457	<0.0446	<0.0344	<0.0463	<0.0399	<0.0355	0.134	
1,3,5-trimethylbenzene	182	182		<0.0321	<0.0417	<0.0431	<0.0403	<0.0457	<0.0446	<0.0344	<0.0463	<0.0399	<0.0355	<0.0463	
Xylenes	260	260	3.96	<0.0962	<0.125	<0.1293	<0.1209	<0.1372	<0.1339	<0.1032	<0.1389	<0.1197	<0.1065	<0.1389	
RCRA Metals															
Mercury	3.13	3.13	0.208	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0130	0.0076	0.0097
Arsenic	2.39	0.613	0.584	NS	NS	NS	NS	NS	NS	NS	NS	NS	9.3	7.9	8.4
Barium	100000	15300	164.8	NS	NS	NS	NS	NS	NS	NS	NS	NS	27.4000	26.0000	29.7000
Cadmium	799	70	0.752	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.15J	0.21J	0.16J
Chromium	100000	100000	360000	NS	NS	NS	NS	NS	NS	NS	NS	NS	11.9	11.6	11.9
Lead	800	400	27	NS	NS	NS	NS	NS	NS	NS	NS	NS	11.5	11.4	11.9
Chrysene	211	14.8	0.1446	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0087J	0.0090J	<0.0083
1-Methylnaphthalene	53.1	15.6	No RCL	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.0089	<0.0089	0.0159J
2-Methylnaphthalene	2200	229	No RCL	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.0089	<0.0089	0.0293
Naphthalene	26.00	5.15	0.6582	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.0089	<0.0089	0.0107J
Phenanthrene	No RCL	No RCL	No RCL	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0092J	0.0101J	0.0125J
Italics with highlight indicates result exceeds Industrial Direct															
ppm - parts per million															
Bold indicates result exceeds Groundwater RCL															
NS : Not Sampled															