AECOM Environment

Prepared for:
Wisconsin Department of
Natural Resources

Prepared by:
AECOM
Milwaukee, WI
60311418
April 15, 2014

Limited Site Investigation Report

Prairie Tool and Die Site
525 South Marquette Road, Prairie du Chien, Wisconsin

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April 15, 2014

Ms. Jenna Soyer
Wisconsin Department of Natural Resources
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P.O. Box 7921
Madison, Wisconsin 53707-7921

Subject: Limited Site Investigation Report for the Prairie Tool & Die Site
525 South Marquette Road, Prairie du Chien, Wisconsin
AECOM Project 60311418

Dear Ms. Soyer:

AECOM has completed a Limited Site Investigation (SI) for the above-referenced property under the Wisconsin Assessment Monies Contractor Services Project. A previous Phase II Environmental Site Assessment (ESA), completed at the site on behalf of the City of Prairie du Chien, detected metals and PAHs above generic RCLs in several soil samples. The objective of the AECOM Limited SI was to further evaluate the extent of the soil identified in the Phase II ESA. The following report provides a summary of SI activities, results, and conclusions.

Thank you for the opportunity to assist you with this project. Please contact us if you have any questions or comments regarding the information presented herein

Yours sincerely,

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Executive Summary

AECOM was retained by the Wisconsin Department of Natural Resources (WDNR), under the Wisconsin Assessment Monies (WAM) Contractor Services Project, to perform a Limited Site Investigation (SI) of a portion of the property located at 525 South Marquette Road, Prairie du Chien, Wisconsin (**Figure 1**). The area of the property that is the subject of this Limited SI is located on the northern approximate one-half of the property (Site). The Site is located in the City of Prairie du Chien, Crawford County, Wisconsin and previously was occupied by a former tool and die manufacturing facility, which operated on the site for over 80 years, beginning in the 1920s. The tool and die building was razed in 2008.

A Phase I Environmental Site Assessment (ESA) was performed at the Site by another consultant on behalf of the City of Prairie du Chien, prior to the razing of the tool and die manufacturing facility. The Phase I ESA documented staining on the floor of the tool and die facility which may have resulted in subsurface impacts from spillage of solvents, lubricating fluids and metals. A paint booth on the south side of the facility was also a concern. A Phase II ESA was then conducted in 2007 to assess possible impacts to soil and groundwater based on the concerns identified in the Phase I ESA. The Phase II ESA detected metals and polynuclear hydrocarbons (PAHs) concentrations above generic residual contaminant levels (RCLs) in several soil samples. Additional investigation was recommended to determine the extent of the impacts.

The AECOM Limited SI was intended to investigate areas of environmental concern based on the results of the 2007 Phase II ESA. The Limited SI included advancing 7 soil probes to a maximum depth of approximately 8 feet below ground surface (bgs). Selected soil samples from the probes were submitted to a State Certified Laboratory for analysis of PAHs and Resource Conservation and Recovery Act (RCRA) metals.

AECOM's site investigation findings are as follows:

- Soils at the Site generally consisted of silty fine to coarse sand fill with traces of gravel and clay near the surface underlain by native fine- to medium-grained sand to at least 8 feet bgs;
- Groundwater was not encountered prior to reaching the proposed soil probe termination depths;
- Arsenic was reported in each of the soil samples analyzed at concentrations above the generic RCLs; however, none of the samples tested during this SI exceeded the WDNR's Background Threshold Value of 8 mg/kg. Only one of the 8 samples tested during the previous assessment contained arsenic above the BTV at a concentration of 9.2 mg/kg.
- Lead was detected at concentrations ranging from 1.6 to 17.9 mg/kg, below the generic RCLs, in samples collected during this SI. Samples collected during the previous assessment exceeded the current generic groundwater pathway RCLs at four locations (GP-7, GP-8, GP-9 and GP-10) and the non-industrial direct contact RCL at one location (GP-9). There were no industrial direct contact RCL exceedances. Groundwater sampling for lead, during the previous assessment resulted in no exceedances of the groundwater quality standards in wells located on the Site.
- There were no PAH concentrations detected during this SI above the generic RCLs except for benzo[a]pyrene which was detected above the non-industrial direct contact RCL in the shallow soil sample collected from GP-20 located on the property to the north of the Site.

Based on these results AECOM does not recommend additional investigation of the Site. We anticipate that this site could receive case closure with a GIS Registry for the low-level soil impacts. Alternatively, a limited hot-spot removal could be conducted to achieve clean closure for the Site.

1.0 Introduction

1.1 Purpose

AECOM was retained by the Wisconsin Department of Natural Resources (WDNR), under the Wisconsin Assessment Monies (WAM) Contractor Services Project, to perform a Limited Site Investigation (SI) of the northern portion of the property located at 525 South Marquette Road, Prairie du Chien, Wisconsin (Site; **Figure 1**). The Limited SI was conducted on behalf of the WDNR under the Wisconsin Assessment Monies (WAM) Contractor Services Project to support potential redevelopment of the Site. The purpose of this Limited SI was to evaluate the extent of soil impacts identified in a previous Phase II ESA (August, 2007) completed by another consultant.

1.2 Project Background

The Site is located in the City of Prairie du Chien, Crawford County, Wisconsin and previously consisted of a former tool and die manufacturing facility, which operated on the site for over 80 years, beginning in the 1920s. The tool and die manufacturing facility was razed in 2008. The area of the property that is the subject of this Limited SI is located on the northern approximate one-half of the property. The southern half of the property contains a truck stop with car wash and restaurant that had been in business since the 1950s but has ceased operation in the last 10 years.

A Phase I Environmental Site Assessment (ESA), completed at the Site by another consultant prior to the razing of the tool and die manufacturing facility, identified several potential sources of environmental impacts. These included staining on the manufacturing facility floor from lubricating fluid or solvent spills as well as a paint booth located on the south side of the former facility.

A Phase II ESA (included as **Appendix C**) was completed in August 2007 by another consultant to assess environmental impacts to soil and groundwater based on the possible sources identified in the Phase I ESA. The Phase II ESA detected polynuclear aromatic hydrocarbon (PAH) concentrations above the non-industrial residual contaminant levels (RCLs) in soil samples along the west side and beneath the floor of the former tool and die manufacturing facility. The Phase II ESA also detected soil concentrations of lead, chromium and arsenic above either the non-industrial or industrial RCLs in the same area as the PAH exceedances. The Phase II ESA recommended that the Site and surrounding areas be further investigated to determine the extent of the environmental impacts.

To support redevelopment of the site, the WDNR, through the WAM program, engaged AECOM to perform a Limited SI at the Site based on the recommendations provided in the Phase II ESA. The intent of the Limited SI was to evaluate the extent of soil impacts through a series of shallow soil probes and subsequent analytical testing. The following report presents a summary of the SI activities, results and conclusions.

1.3 Physical Setting

Published geologic and hydrogeologic information was reviewed to assess soil and bedrock types in the area, regional groundwater flow direction, and groundwater sources. The United States Geological Survey 7.5-minute quadrangle map was used to determine general land features in the area of the Site, to evaluate the local topography, and to estimate shallow groundwater flow direction.

The 7.5-minute topographic map of the Prairie du Chien, Wisconsin quadrangle (dated 1983) shows the area topography and surface water features in and around the Site (**Figure 1**). The topographic map shows the Site as generally level with an approximate elevation of 638 feet above mean sea level. The topography of the Site is generally flat. According to Natural Resource Conservation Survey (NRCS) Web Soil Survey, the Site is underlain primarily by well-drained Dakota silt loam.

Site-specific hydrologic information identified groundwater at approximately 23 feet below ground surface (bgs) based on temporary groundwater monitoring wells installed for the previous Phase II ESA. Based on the topographic gradient in the area of the Site, the groundwater flow beneath the property and surrounding area is anticipated to flow west towards the Mississippi River, which is located approximately 2/3-mile to the west. However, existing ditches, underground utilities, and other natural and manmade features may influence local groundwater flow direction. The actual groundwater flow direction in the vicinity of the Site would need to be determined by installing permanent site-specific groundwater monitoring wells.

2.0 Investigation Methods

2.1 Project Scope/Approach

The scope of services for this Limited SI was developed to evaluate the extent of soil impacts identified in the Phase II ESA (August 2007). The Limited SI included advancing 7 soil probes to termination depths of 8 feet bgs. This scope of work was developed by Mr. Rozeboom at WDNR. The seven probe locations were established to evaluate potential soil impacts related to the Site's historic uses. Field and laboratory activities were conducted in accordance with the Quality Assurance Project Plan (QAPP) for the AECOM-WDNR Brownfields Assessment projects, dated November 15, 2010 and updated May 22, 2012 and the Sampling and Analysis Plan, dated November 14, 2013.

2.2 Soil Boring/Sampling

AECOM conducted soil sampling from the Site on March 4, 2014. The locations of the seven soil probes (GP-114 through GP-120) are shown on **Figure 2**. The soil probe locations were identified by Mr. Rozenboom at WDNR and staked in the field by the AECOM field representative using a hand-held GPS unit. Locations of additional stationary features, such as nearby power poles and property corners were also determined using the GPS unit for reference points. The coordinates were recorded and are provided on the soil boring logs in **Appendix A**.

Soil samples were collected using a hydraulic push probe unit. The soil probes were advanced to a depth of 8 feet bgs using a hydraulic probe utilizing a 2-inch diameter drive rod. Continuous soil samples were collected in four-foot increments throughout the depth of each soil probe. The soil samples were collected inside of a polyethylene sheath inserted into the end of the drive rod.

The recovered soil samples were screened in the field using a photo-ionization detector (PID) to detect total volatile organic compounds (VOCs). The PID was equipped with a 10.6 electron volt (eV) lam and was calibrated in the field according to manufacturer's instructions, using 100 parts per million (ppm) isobutylene span gas and air (zero gas), and checked between each screening event for proper response.

The soil samples were visually evaluated in the field by a geotechnical engineer according to soil type, grain size distribution, color (or discoloration), odor and relative moisture content. Representative soil samples from each stratigraphic unit were described according to the Unified Soil Classification System and boring logs were prepared. The soil boring logs are provided in WDNR format (Form 4400-122) in **Appendix A**.

The soil probes were abandoned on March 4, 2014 after soil sampling was completed. Borehole Filling/Sealing Forms (Form 3300-005) were not completed because the soil probes did not extend past a depth of 10 feet and the groundwater table was not encountered.

One to two soil samples per soil boring location were submitted for laboratory analysis. Two samples each were collected from GP-16 through GP-20 for laboratory analysis, one from 1 to 2 feet bgs and one from 7 to 8 feet bgs. One sample, collected from an approximate depth of 1 to 2 feet bgs, was obtained from GP-14 and GP-15 for laboratory analysis. The original plan called for

the 7 to 8-foot deep samples from GP-14 and GP-15 to be analyzed; however, the shallow samples were submitted in error. Based on the results of shallow sample analysis, it was approved by WDNR that additional soil sampling would not be required. The soil samples were submitted to Pace Analytical Services, Inc. (Pace) located in Green Bay, Wisconsin for laboratory analyses of PAHs (EPA Method 8270) and Resource Conservation and Recovery Act (RCRA) metals (EPA Methods 6010 and 7470).

2.3 Investigation-derived Waste

Soil collected during the Limited SI activities was bagged/jarred and used for soil screening, laboratory testing, and soil classification. Soil samples not sent to Pace for analytical testing were disposed of by AECOM, as general refuse, after analytical results documented that the material was not hazardous. All other investigation-derived waste (*e.g.,* sampling sleeves, used sampling gloves, *etc.*) was disposed by AECOM as general refuse.

3.0 Results

The results of the soil and groundwater analyses are discussed below. A copy of the laboratory report is included in **Appendix B**. Soil PAH and RCRA metals results are compared to the generic Residual Contaminant Levels (RCLs), in accordance with Wisconsin Administrative Code (WAC) Chapter (Ch.) NR 720. Generic RCLs were those calculated by WDNR (December 2013) using the USEPA Regional Screening Level Web Calculator in accordance with WDNR PUB-RR-890. RCLs were developed based on risks to human health associated with direct contact at both industrial and non-industrial sites and with groundwater quality. Because of the anticipated redevelopment potential at brownfield sites, both direct contact scenarios are evaluated herein. In addition, AECOM has considered the previous analytical data and included a discussion of same below. Exceedances of the generic RCL standards are indicated on **Table 1** and illustrated on **Figure 3**, including the previous assessment results.

3.1 Soil Results

Asphalt pavement was encountered at the surface in probes GP-16 and GP-17. Granular fill soils were encountered beneath the asphalt pavement in probes GP-16 and GP-17 and at the surface in the remainder of the probes. The granular fill soils typically consisted of silty sand (SM) with varying, but generally minor, amounts of gravel and clay. The fill soils were encountered to depths ranging from 2 to 7 feet. The fill was thickest in probe GP-17 adjacent to the property entrance south of Weber Street. The fill soils were underlain by native fine- to medium-grained sand (SP) with traces of fine-grained gravel and silt to the termination depths of 8 feet bgs. Bedrock was not encountered during the Phase II ESA activities.

3.1.1 VOCs

VOCs were not detected by the PID in the soil samples obtained from the Site. Likewise, odors, typical of VOC impacts, were not noted in the field.

3.1.2 Metals

In general, low level concentrations of arsenic, barium cadmium, chromium, lead and mercury were detected in one or more soil samples collected from locations on the Site. Selenium and silver were not detected in the soil samples collected from the site. The concentrations of detected metals did not exceed the generic RCLs, except as discussed below.

Arsenic was reported in each of the soil samples at concentrations ranging from 1.2 to 3.2 milligrams per kilogram (mg/kg), concentrations above direct contact and/or protection of groundwater RCLs; however, arsenic concentrations are below the WDNR state wide arsenic Background Threshold Level of 8 mg/kg (WDNR, RR-940, July 2013.

Arsenic results from the previous assessment were also tabulated and compared to the December 2013 RCLs (see Table 1). One soil sample, collected from GP-7, contained arsenic (9.2 mg/kg) above the BTV of 8 mg/kg.

Lead was not detected above generic RCLs in the soil samples collected during this SI. The previous assessment detected lead concentrations above the current generic groundwater pathway RCLs at four locations (GP-7, GP-8, GP-9 and GP-10) and the non-industrial direct contact RCL at one location (GP-9). There were no industrial direct contact RCL exceedances. The locations where the elevated lead occurred were all directly outside the former building footprint. Based on the results of surrounding sample locations these lead impacts appear to be very localized. For example, GP-9 (0 to 2 feet) contained lead at 596 mg/kg, while the samples collected from GP-18, located approximately 10 feet away had lead concentrations of 4 and 1.6 mg/kg at depths of 1 to 2 feet and 7 to 8 feet, respectively.

Groundwater sampling for lead, during the previous assessment resulted in no exceedances of the groundwater quality standards in temporary wells, GP-6 and GP-7, located on the Site.

3.1.3 PAHs

PAHs were not detected during this SI, except at GP-20 (1 to 2 feet bgs), located on the adjacent property to the north of the Site. Of the PAHs detected, only benzo[a]pyrene, reported at a concentration of 15.6 micrograms per kilogram (μg/kg), which is slightly above the non-industrial direct contact RCL of 15 μg/kg. The remaining PAHs detected in probe GP-20 were below the non-industrial and groundwater pathway direct contact criteria.

The previous assessment results indicated the shallow (0 to 2 feet bgs) soil samples from GP-7, GP-8 and GP-9 contained benzo(a)pyrene above the generic non-industrial direct contact RCL and the shallow soil sample from GP-8 also contained chrysene above the generic groundwater pathway RCL. There were no other exceedances of generic RCLs.

3.2 Groundwater Results

Groundwater was not encountered during the Limited SI and evaluation of groundwater for environmental impacts was not included in the scope of the Limited SI. The previous Phase II ESA encountered groundwater at an approximate depth of 23 feet bgs. The groundwater sampling and analysis for metals at GP-6 and GP-7, conducted during the previous assessment, indicated no exceedances of NR 140 Enforcement Standards (ES). The lead concentration at GP-6 was detected at a concentration equal to the NR 140 Preventive Action Level (1.5 ug/L).

4.0 Summary and Conclusions

AECOM performed Limited SI sampling activities on March 4, 2014 at the Prairie Tool and Die Property located in the City of Prairie du Chien, Juneau County, Wisconsin, to further evaluate the extent of soil impacts identified in the August 2007 Phase II ESA.

Based on an evaluation of data obtained during the Limited SI activities performed to date, AECOM concludes the following:

- Soils at the Site generally consisted of silty fine to coarse sand fill with traces of gravel and clay near the surface underlain by native fine- to medium-grained sand to at least 8 feet bgs;

- Groundwater was not encountered prior to reaching the proposed soil probe termination depths;

- Arsenic was reported in each of the soil samples analyzed at concentrations above the generic RCLs; however, none of the samples tested during this SI exceeded the WDNR's Background Threshold Value of 8 mg/kg. Only one of the 8 samples tested during the previous assessment contained arsenic above the BTV at a concentration of 9.2 mg/kg. ;

- Lead was detected at concentrations ranging from 1.6 to 17.9 mg/kg, below the generic RCLs, in samples collected during this SI. Samples collected during the previous assessment exceeded the current generic groundwater pathway RCLs at four locations (GP-7, GP-8, GP-9 and GP-10) and the non-industrial direct contact RCL at one location (GP-9). There were no industrial direct contact RCL exceedances. Groundwater sampling for lead, during the previous assessment resulted in no exceedances of the groundwater quality standards in wells located on the Site.

- There were no PAH concentrations detected during this SI above the generic RCLs except for benzo[a]pyrene which was detected above the non-industrial direct contact RCL in the shallow soil sample collected from GP-20 located on the property to the north of the Site.

Based on these results AECOM does not recommend additional investigation of the Site. We anticipate that this site could receive case closure with a GIS Registry for the low-level soil impacts. Alternatively, a limited hot-spot removal could be conducted to achieve clean closure for the Site.

5.0 General Qualifications

This Limited SI was conducted to evaluate soil conditions at a select area of the property. The results, conclusions and recommendations presented in this report are based upon the data obtained from the specific sampling locations and under the conditions stated in the report. Variations in soil conditions typically exist at most sites between sampling locations and at different times. The report has also been prepared to aid our client in the evaluation of the subsurface conditions. Most of the study was selected accordingly. This report should not be utilized for any purpose other than that specifically stated in evaluating the environmental character of the site at the time of the study.

Factual information regarding operations, conditions, regional geology and hydrogeology, and test data completed throughout the site assessment were obtained, in part from outside agents and third parties and have been assumed by AECOM to be correct and complete. Because some facts stated in this report are subject to professional interpretation, they could result in differing conclusions. In addition, the findings and conclusions contained in this report are based on various quantitative factors as they existed on or near the date during which the field work was completed.

AECOM assumes no responsibility for future discovery and elimination of hazards or their associated liabilities. The assessment conducted by AECOM in no way assures the elimination of all hazards or the fulfillment of a property owner's obligation under any local, state or federal laws or any modifications or changes thereto. It is the responsibility of the property owner to notify authorities of any future conditions that are in violation of the current legal standards.

AECOM has prepared this report at the request of its Client. AECOM assumes responsibility for the accuracy of the report's contents, subject to what is stated elsewhere in this section, but recommends the report be used only for the purpose intended by our Client and AECOM when the report was prepared. The report may be unsuitable for other uses, and reliance on its contents by anyone other than our Client is done at the sole risk of the user. AECOM accepts no responsibility for application or interpretation of the results by anyone other than the Client.

6.0 References

AECOM, November 2010 *Quality Assurance Project Plan for AECOM-WDNR Brownfields Assessment projects.*

AECOM, November 14, 2013, *Sampling and Analysis Plan/Proposal for the Limited Site Investigation at the Prairie Tool & Die Site, located at 525 South Marquette Road, Prairie du Chien, Wisconsin.*

Ayres Associates, August 2007, Phase II Environmental Site Assessment Report for the Herried Property, 525 South Marquette Road, Prairie du Chien, Wisconsin.

United States Geological Survey *Average concentrations of elements in Dane County, Wisconsin* website: http://mrdata.usgs.gov/geochem/county.php?place=f55025&el=As&rf=upper-midwestern.

Table

Table 1 – Soil Laboratory Analytical Results

TABLE 1
SOIL LABORATORY ANALYTICAL RESULTS-INORGANICS
Prairie Tool and Die Property
525 South Marquette Road, Prairie du Chien, Wisconsin
AECOM Project 60311418

	Generic RCLs			GP-6	GP-7	GP-8	GP-9	GP-10	GP-11	GP-12	GP-13	GP-14	GP-15	GP-16		GP-17		GP-18		GP-19		GP-20	
	Direct Contact (Ingestion)		Groundwater	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(1-2')	(1-2')	(1-2')	(7-8')	(1-2')	(7-8')	(1-2')	(7-8')	(1-2')	(7-8')	(1-2')	(7-8')
Parameters	Non-Industrial [A]	Industrial [B]	Pathway [C]	04/20/07	04/20/07	04/20/07	04/20/07	04/20/07	07/18/07	07/18/07	07/18/07	03/04/14	03/04/14	03/04/14	03/04/14	03/04/14	03/04/14	03/04/14	03/04/14	03/04/14	03/04/14	03/04/14	03/04/14
Metals (mg/kg)																							
Arsenic[1]	0.614	2.39	0.584	<0.56	**9.2** [A,B,C]	<0.61	<0.61	<0.61	0.88	0.87	1.3	1.9 [J]	1.7 [J]	2.2	1.3	2.6	1.6 [J]	2.5	2.0	3.2	2.3	3.2	1.2 [J]
Barium	15,300	100,000	164.8	55.9	89.1	163	205	36.8	42.8	49.9	68	49.7	22.7	66.1	25.6	34.6	24.8	46.9	27.2	42.3	20.6	93.8	22.1
Cadmium	70	799	0.752	<0.056	<0.072	<0.061	<0.061	<0.061	0.078	0.11	0.28	0.17 [J]	0.16 [J]	0.19 [J]	0.16 [J]	0.26 [J]	0.17 [J]	0.23 [J]	0.16 [J]	0.22 [J]	0.16 [J]	0.28 [J]	0.13 [J]
Chromium	100,000	100,000	360,000	11.2	22.8	15.1	16.9	13.5	11	8.0	13.4	11.1	5.9	10.4	8.5	10	7.1	11.9	7.5	12.5	9.5	14.5	8.9
Lead	400	800	27	5.6	**179** [C]	**119** [C]	**596** [A,C]	**27.9** [C]	13	9.1	8.6	3.1	1.8	9.2	1.7	11.7	2.0	4.0	1.6	4.9	1.6	17.9	1.7
Selenium	3.13	3.13	0.208	0.68	<0.72	<0.61	0.99	1.0	1.9	2.0	2.5	<0.63	<0.55	<0.57	<0.53	<0.55	<0.51	<0.61	<0.58	<0.67	<0.58	<0.59	<0.53
Silver	391	5,110	0.8497	<0.28	<0.36	<0.31	<0.3	<0.3	<0.3	<0.31	<0.31	<0.23	<0.20	<0.20	<0.19	0.20 [J]	<0.18	<0.22	<0.21	<0.24	<0.21	<0.21	<0.19
Mercury	391	5,110.0	0.52	0.0095	0.034	0.2	0.18	0.015	0.013	0.017	0.052	0.019	<0.0027	0.014	<0.0029	0.018	<0.0029	0.020	<0.0027	0.061	<0.0031	0.037	0.0030
PAHs (µg/kg)																							
acenaphthene	3,440,000	33,000,000	-	< 25	< 57	< 54	< 140	< 52	< 25	< 25	< 25	< 9.2	< 8.6	< 9.0	< 8.6	< 8.8	< 8.5	< 9.0	< 8.5	< 9.4	< 8.6	< 9.3	< 8.6
acenaphthylene	-	-	-	< 32	< 74	120	< 180	< 67	< 33	< 33	450	< 8.2	< 7.7	< 8.1	< 7.7	< 7.8	< 7.6	< 8.0	< 7.6	< 8.4	< 7.7	< 8.3	< 7.7
anthracene	17,200,000	100,000,000	196,744.2	< 3.1	< 7.1	< 6.7	< 17	< 5.5	< 3.2	7.2	< 3.1	< 9.5	< 8.9	< 9.3	< 8.9	< 9.1	< 8.9	< 9.3	< 8.8	< 9.8	< 8.9	< 9.7	< 8.9
benzo[a]anthracene	148	2,110	-	3.7	19	< 120	70	< 2.2	3.3	100	14	< 6.4	< 6.0	< 6.2	< 5.9	< 6.1	< 5.9	< 6.2	< 5.9	< 6.5	< 6.0	13.7	< 5.9
benzo[a]pyrene	15	211	470	3.6	**68** [A]	**100** [A]	**43** [A]	< 6.5	< 3.2	4.3	3.9	< 6.6	< 6.1	< 6.4	< 6.1	< 6.3	< 6.1	< 6.4	< 6.1	< 6.7	< 6.1	**15.6** [A]	< 6.1
benzo[b]fluoranthene	148	2,110	480	< 2.1	100	110	77	< 4.3	11	87	17	< 9.2	< 8.6	< 9.0	< 8.6	< 8.8	< 8.5	< 9.0	< 8.5	< 9.4	< 8.6	24.9	< 8.6
benzo[g,h,i]perylene	-	-	-	< 6.2	41	50	43	< 13	< 6.3	< 6.4	< 6.2	< 7.0	< 6.5	< 6.9	< 6.5	< 6.7	< 6.5	< 6.8	< 6.5	< 7.2	< 6.5	16.8	< 6.5
benzo[k]fluoranthene	1,480	21,100	-	5	57	35	17	< 6.5	5	15	5	< 10.2	< 9.5	< 10	< 9.5	< 9.7	< 9.4	< 9.9	< 9.4	< 10.4	< 9.5	17.0	< 9.5
chrysene	14,800	211,000	145.1	19	140	**230** [C]	90	< 6.5	32	110	13	< 8.5	< 7.9	< 8.3	< 7.9	< 8.1	< 7.9	< 8.3	< 7.9	< 8.7	< 7.9	26.5	< 7.9
dibenzo[a,h]anthracene	15	211	-	< 5.2	< 12	< 11	< 29	< 11	< 5.3	< 5.3	< 5.2	< 6.7	< 6.3	< 6.6	< 6.3	< 6.4	< 6.3	< 6.6	< 6.3	< 6.9	< 6.3	< 6.8	< 6.3
fluoranthene	2,290,000	22,000,000	88,817.9	170	1200	510	570	< 4.3	98	110	23	< 9.2	< 8.6	< 9.0	< 8.6	< 8.8	< 8.5	< 9.0	< 8.5	< 9.4	< 8.6	30.7	< 8.6
fluorene	2,290,000	22,000,000	14,814.8	< 6.2	< 14	< 13	< 35	< 13	< 6.3	< 6.4	< 6.2	< 9.2	< 8.6	< 9.0	< 8.6	< 8.8	< 8.5	< 9.0	< 8.5	< 9.4	< 8.6	< 9.3	< 8.6
indeno[1,2,3-cd]pyrene	148	2,110	-	< 3.1	80	74	< 54	< 6.5	< 3.2	< 8.9	5.6	< 7.0	< 6.5	< 6.8	< 6.5	< 6.7	< 6.5	< 6.8	< 6.5	< 7.2	< 6.5	13.9	< 6.5
1-methylnaphthalene	15,600	53,100	-	< 25	< 57	< 54	< 140	< 52	< 25	< 25	< 25	< 9.2	< 8.6	< 9.0	< 8.6	< 8.8	< 8.5	< 9.0	< 8.5	< 9.4	< 8.6	9.4	< 8.6
2-methylnaphthalene	229,000	2,200,000	-	< 26	160	< 56	190	< 54	< 25	< 27	< 25	< 9.2	< 8.6	< 9.0	< 8.6	< 8.8	< 8.5	< 9.0	< 8.5	< 9.4	< 8.6	11.8	< 8.6
naphthalene	5,150	26,000	658.7	< 22	< 50	< 47	< 120	< 45	< 22	< 22	< 22	< 9.2	< 8.6	< 9.0	< 8.6	< 8.8	< 8.5	< 9.0	< 8.5	< 9.4	< 8.6	11.7	< 8.6
phenanthrene	-	-	-	< 3.1	54	120	160	< 6.5	< 3.2	33	14	< 9.2	< 8.6	< 9.0	< 8.6	< 8.8	< 8.5	< 9.0	< 8.5	< 9.4	< 8.6	25.8	< 8.6
pyrene	1,720,000	16,500,000	54,472.5	620	4500	260	2400	180	82	170	44	< 9.2	< 8.6	< 9.0	< 8.6	< 8.8	< 8.5	< 9.0	< 8.5	< 9.4	< 8.6	25.5	< 8.6

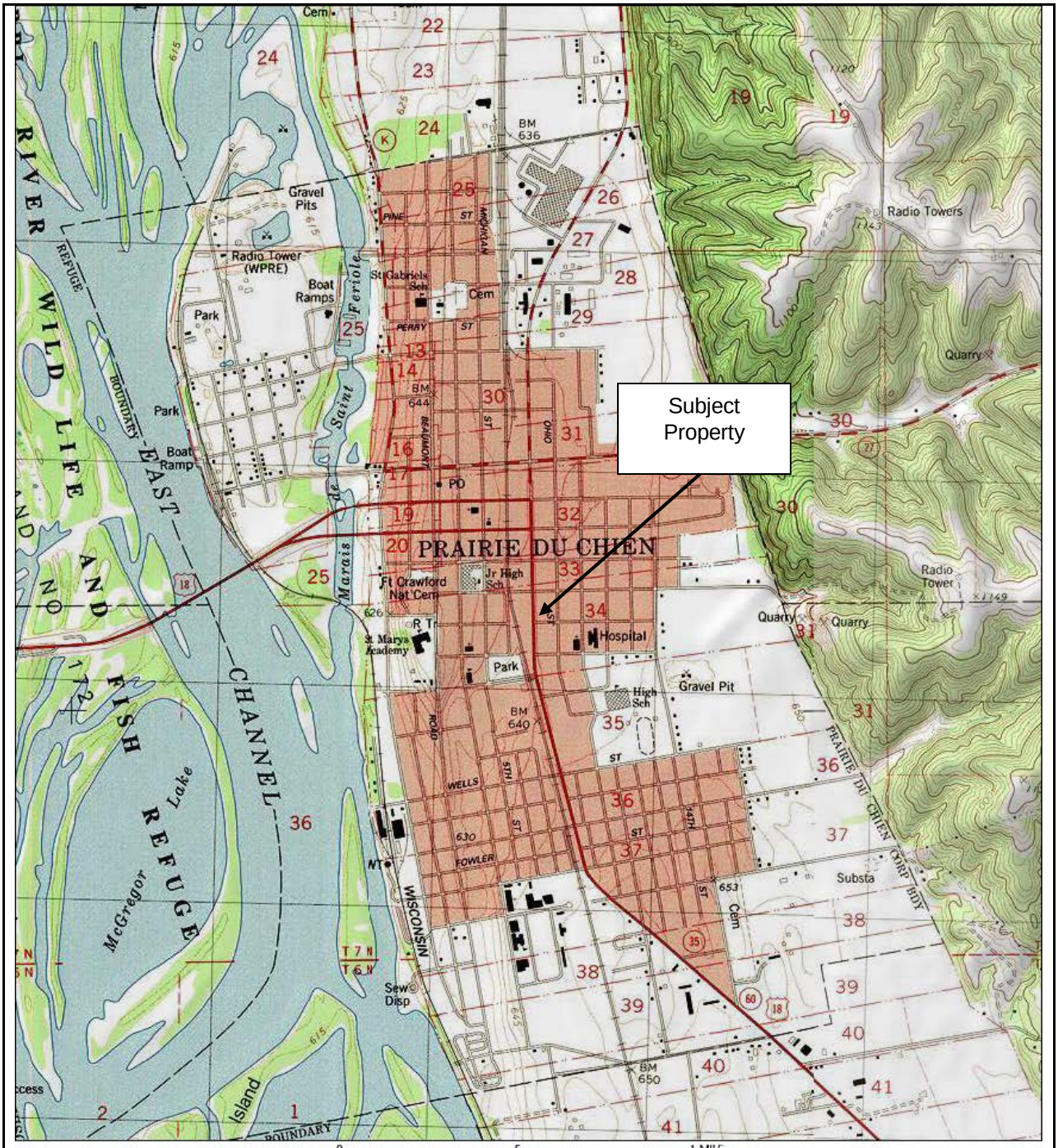
Notes:
[1] = WDNR has established a Background Threshold Value(BTV) for arsenic of 8 mk/kg. Arsenic concentrations below the BTV have not been flagged as an exceedance, above.
[A] = values exceed NR 720 Generic RCL for Non-Industrial Direct Contact.
[B] = values exceed NR 720 Generic RCL for Industrial Direct Contact.
[C] = values exceeds NR 720 Generic RCL for Groundwater Pathway.
[J] = laboratory flag indicating that results reported between the Method Detection Limit (MDL) and Limit of Quantitation (LOQ).
' = sample depth in feet below ground surface.
mg/kg = milligram per kilogram.
µg/kg = microgram per kilogram.
Generic RCLs for the direct contact and groundwater pathway are from the WDNR Pub-RR-890, December 2013, RCL Calculator.
- No Generic RCL established.
RCL = Wisconsin Administrative Code Chapter NR 720 Residual Contaminant Levels.
PAHs = Polynuclear Aromatic Hydrocarbons.

Figures

Figure 1 – Site Location Map

Figure 2 – Soil Probe Location Diagram

Figure 3 – RCL Exceedances in Soil



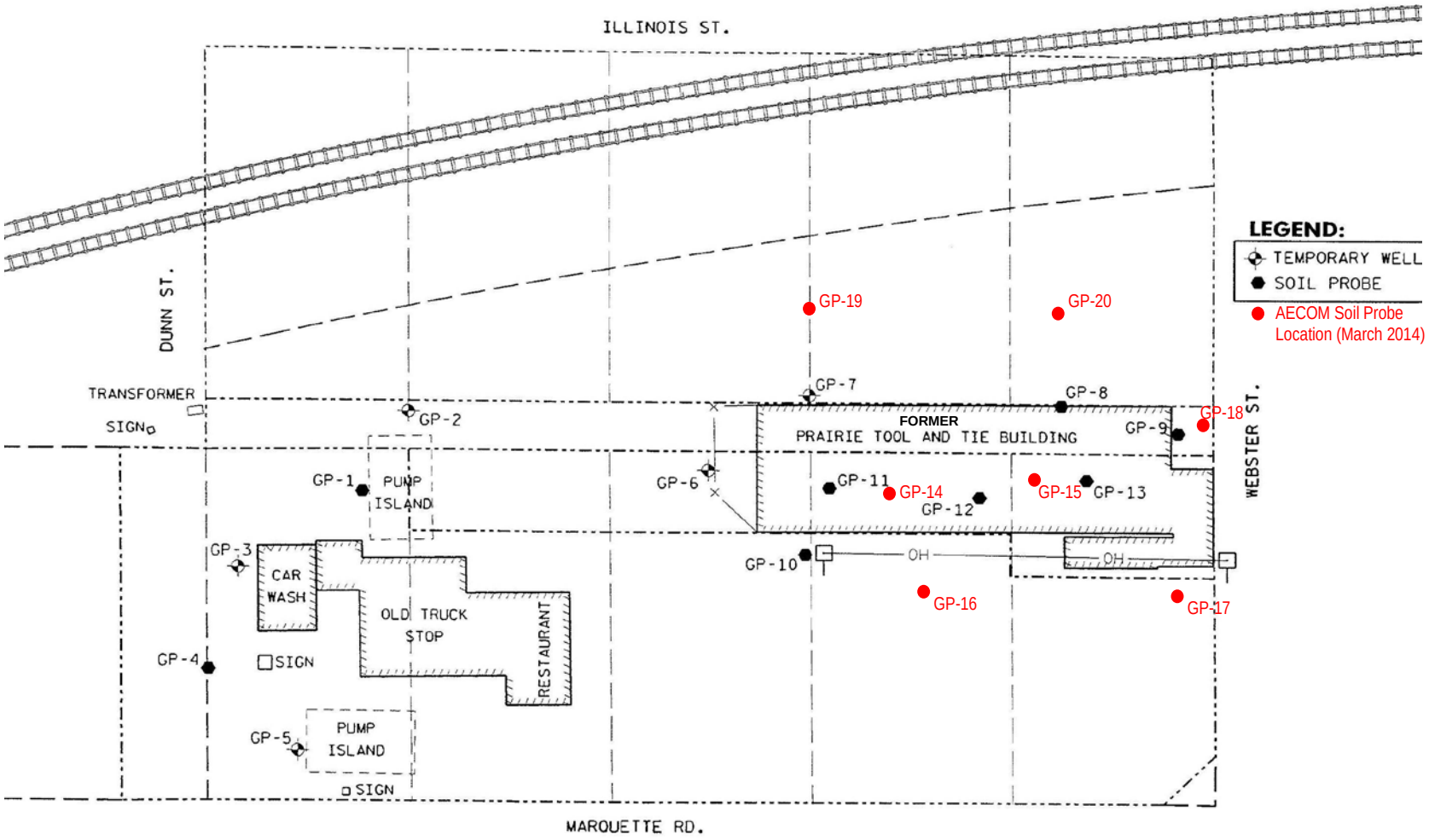
Map created with TOPO!® ©2003 National Geographic (www.nationalgeographic.com/topo)

AECOM

Former Prairie Tool & Die Manufacturing Facility
525 South Marquette Road
Prairie du Chien, WI 53281

Site Location Map

60311418 **Figure 1**

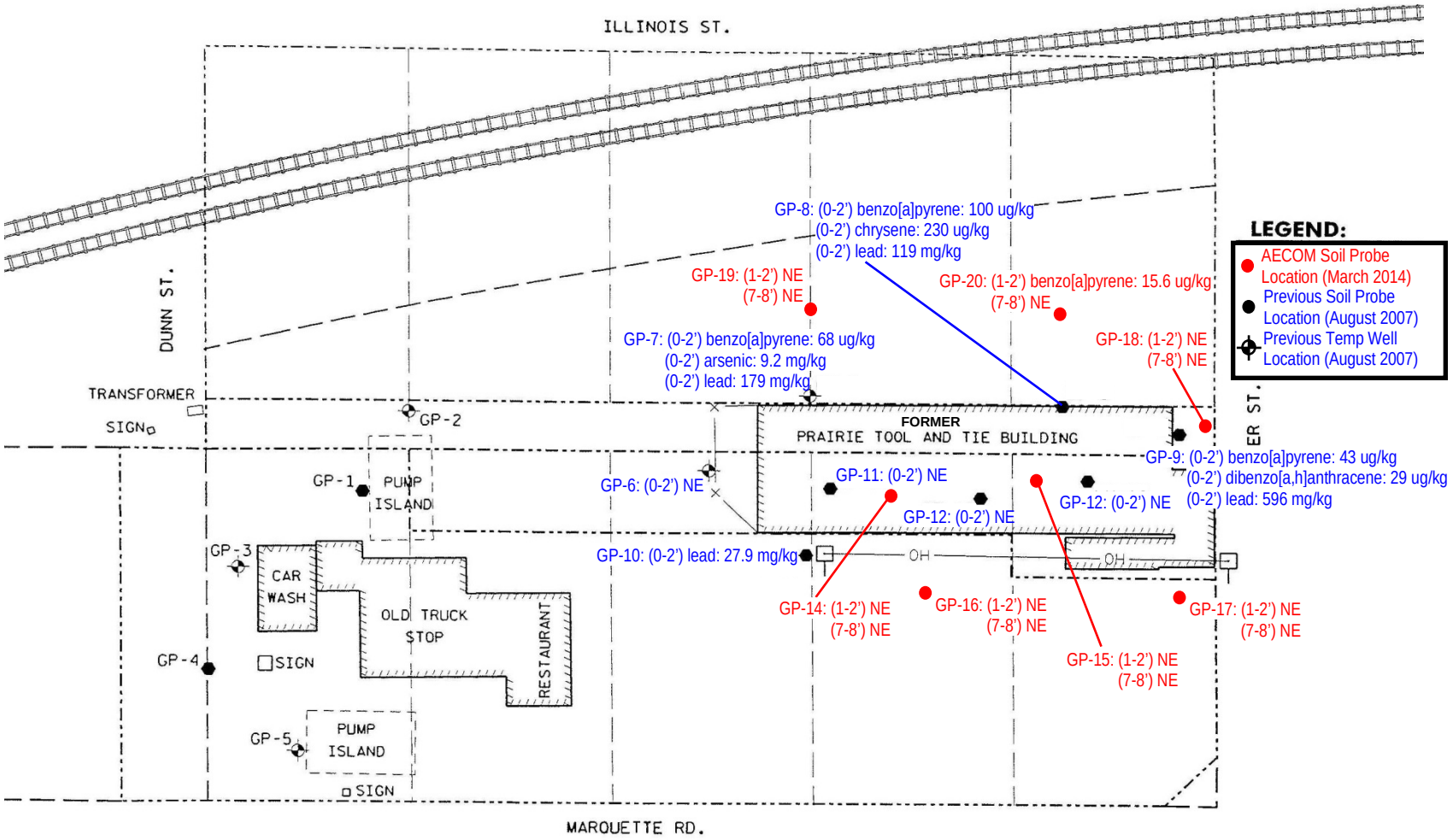


Basemap from Ayres Associates Phase II ESA Report, August 2007

AECOM
1555 N. RiverCenter Dr.
Milwaukee, WI 53212
Suite 214
414.944.6080
www.aecom.com

PROPOSED SOIL PROBE LOCATIONS
PRAIRIE TOOL AND DIE SITE
525 S. MARQUETTE ROAD
PRAIRIE DU CHIEN, WISCONSIN

Drawn:	DMV	11/7/2013
Checked:	KLB	11/13/2013
Approved:	KLB	11/13/2013
PROJECT NUMBER	60311418	
FIGURE NUMBER	2	



NOTES:
1) Basemap from Ayres Associates Phase II ESA Report, August 2007
2) NE = No exceedance
3) ' = sample depth in feet below the surface
4) mg/kg = milligram per kilogram
5) ug/lg = microgram per kilogram

AECOM
1555 N. RiverCenter Dr.
Milwaukee, WI 53212
Suite 214
414.944.6080
www.aecom.com

SPATIAL DISTRIBUTION OF RCL EXCEEDANCES
PRAIRIE TOOL AND DIE SITE
525 S. MARQUETTE ROAD
PRAIRIE DU CHIEN, WISCONSIN

Drawn:	JDW	03/31/2014
Checked:	DMV	04/10/2014
Approved:	DMV	04/10/2014

PROJECT NUMBER: 60311418

FIGURE NUMBER: 3

Appendix A

Soil Boring Logs

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Prairie Tool & Die		GP-14

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Tony On-Site Environmental	3/4/2014	3/4/2014	Geoprobe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		GP-14	Feet MSL	Feet MSL	2.00 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
1/4 of 1/4 of Section , T N, R

Lat 43 ° 2 ' 46.14"
Long 91 ° 8 ' 29.18"

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 48		0	Base Course: Silty Fine to Coarse Sand, little fine to coarse gravel - light brown - frozen (Base Course: SM)	SM									
			1	Fill: Silty Fine to Medium Sand, trace fine gravel and clay - grayish brown - dry to moist (Fill:SM)	Fill			0						
			2					0						Sample PDT-SS1-GP14-2014 taken from 1' to 2'
			3	Fine to Medium Sand, trace fine gravel and silt - brown - moist (SP)				0						
2 GP	48 30		4					0						
			5		SP			0						
			6					0						
			7					0						
			8	End of boring at 8.0 ft. Borehole abandoned using granular bentonite on March 4, 2014.				0						Sample PDT-SS2-GP14-2014 taken from 7' to 8'

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm	Tel:
	AECOM	Fax:

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Prairie Tool & Die		GP-15

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Tony On-Site Environmental	3/4/2014	3/4/2014	Geoprobe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		GP-15	Feet MSL	Feet MSL	2.00 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
1/4 of 1/4 of Section , T N, R

Lat 43 ° 2 ' 46.68"
Long 91 ° 8 ' 29.22"

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 48		1	Base Course: Silty Fine to Coarse Sand, little fine to coarse gravel - light brown - frozen (Base Course: SM)	SM			0						
			2	Fill: Silty Fine to Medium Sand, trace fine gravel and clay - grayish brown - dry to moist (Fill:SM)	Fill			0						Sample PDT-SS1-GP15-2014 taken from 1' to 2'
			3	Fine to Medium Sand, trace fine gravel and silt - brown - moist (SP)				0						
2 GP	48 30		4					0						
			5		SP			0						
			6					0						
			7					0						
			8	End of boring at 8.0 ft. Borehole abandoned using granular bentonite on March 4, 2014.				0						Sample PDT-SS2-GP15-2014 taken from 7' to 8'

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm AECOM	Tel: Fax:

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Prairie Tool & Die		GP-16

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Tony On-Site Environmental	3/4/2014	3/4/2014	Geoprobe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		GP-16	Feet MSL	Feet MSL	2.00 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
1/4 of 1/4 of Section , T N, R

Lat 43 ° 2 ' 46.32"
Long 91 ° 8 ' 28.57"

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 48		1	Asphalt	Asphalt									
				Base Course: Silty Fine to Coarse Sand, little fine to coarse gravel - light brown - frozen (Base Course: SM)	SM									
			2	Fill: Silty Fine to Medium Sand, trace fine gravel and clay - grayish brown - dry to moist (Fill:SM)	Fill			0 0						Sample PDT-SS1-GP16-2014 taken from 1' to 2'
			3	Fine to Medium Sand, trace fine gravel and silt - brown - moist (SP)				0						
2 GP	48 24		4					0						
			5		SP			0						
			6					0						
			7					0						
			8	End of boring at 8.0 ft. Borehole abandoned using granular bentonite on March 4, 2014.				0						Sample PDT-SS2-GP16-2014 taken from 7' to 8'

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm AECOM	Tel: Fax:

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Prairie Tool & Die		GP-17

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Tony On-Site Environmental	3/4/2014	3/4/2014	Geoprobe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		GP-17	Feet MSL	Feet MSL	2.00 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
1/4 of 1/4 of Section , T N, R

Lat 43 ° 2 ' 47.22"
Long 91 ° 8 ' 28.61"

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 48		0	Asphalt	Asphalt									
			1	Fill: Silty Fine to Medium Sand, trace fine gravel and clay - grayish brown - dry to moist (Fill:SM)				0						
			2					0						Sample PDT-SS1-GP17-2014 taken from 1' to 2'
			3					0						
			4		Fill			0						
2 GP	48 24		5					0						
			6					0						
			7	Fine to Medium Sand, trace fine gravel and silt - brown - moist (SP)	SP			0						
			8	End of boring at 8.0 ft. Borehole abandoned using granular bentonite on March 4, 2014.				0						Sample PDT-SS2-GP17-2014 taken from 7' to 8'

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm	
	AECOM	Tel: Fax:

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Prairie Tool & Die		GP-18

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Tony On-Site Environmental	3/4/2014	3/4/2014	Geoprobe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		GP-18	Feet MSL	Feet MSL	2.00 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
1/4 of 1/4 of Section , T N, R

Lat 43 ° 2 ' 47.18"
Long 91 ° 8 ' 29.69"

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 48		0	Base Course: Silty Fine to Coarse Sand, little fine to coarse gravel - light brown - frozen (Base Course: SM)	SM									
			1	Fill: Silty Fine to Medium Sand, trace fine gravel and clay - grayish brown - dry to moist (Fill:SM)	Fill			0						
			2					0						Sample PDT-SS1-GP18-2014 taken from 1' to 2'
			3	Fine to Medium Sand, trace fine gravel and silt - brown - moist (SP)				0						
2 GP	48 30		4					0						
			5		SP			0						
			6					0						
			7					0						
			8	End of boring at 8.0 ft. Borehole abandoned using granular bentonite on March 4, 2014.				0						Sample PDT-SS2-GP18-2014 taken from 7' to 8'

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm AECOM	Tel: Fax:

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Prairie Tool & Die		GP-19

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Tony On-Site Environmental	3/4/2014	3/4/2014	Geoprobe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		GP-19	Feet MSL	Feet MSL	2.00 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
1/4 of 1/4 of Section , T N, R

Lat 43 ° 2 ' 45.82"
Long 91 ° 8 ' 30.08"

Local Grid Location
☐ N Feet ☐ S
☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 48		1	Fill: Silty Fine to Medium Sand, trace fine gravel and clay - grayish brown - dry to moist (Fill:SM)	Fill			0						
			2					0						Sample PDT-SS1-GP19-2014 taken from 1' to 2'
			3	Fine to Medium Sand, trace fine gravel and silt - brown - moist (SP)				0						
2 GP	48 30		4					0						
			5		SP			0						
			6					0						
			7					0						
			8					0						Sample PDT-SS2-GP19-2014 taken from 7' to 8'
				End of boring at 8.0 ft. Borehole abandoned using granular bentonite on March 4, 2014.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm	Tel:
	AECOM	Fax:

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Prairie Tool & Die		GP-20

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Tony On-Site Environmental	3/4/2014	3/4/2014	Geoprobe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		GP-20	Feet MSL	Feet MSL	2.00 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
1/4 of 1/4 of Section , T N, R

Lat 43 ° 2 ' 46.72"
Long 91 ° 8 ' 30.19"

Local Grid Location
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 48		1	Fill: Silty Fine to Medium Sand, trace fine gravel and clay - grayish brown - dry to moist (Fill:SM)	Fill			0						
			2					0						Sample PDT-SS1-GP20-2014 taken from 1' to 2'
			3	Fine to Medium Sand, trace fine gravel and silt - brown - moist (SP)				0						
2 GP	48 30		4					0						
			5		SP			0						
			6					0						
			7					0						
			8					0						Sample PDT-SS2-GP20-2014 taken from 7' to 8'
				End of boring at 8.0 ft. Borehole abandoned using granular bentonite on March 4, 2014.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm	Tel:
	AECOM	Fax:

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

Appendix B

Laboratory Analytical Report (Soil)

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

March 12, 2014

Donna Volk
AECOM, Inc. - MILWAUKEE
1555 N River Center Drive
Suite 214
Milwaukee, WI 53212

RE: Project: 60311418 PRAIRIE TOOL&DIE SITE
Pace Project No.: 4092924

Dear Donna Volk:
Enclosed are the analytical results for sample(s) received by the laboratory on March 06, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kang Khang
kang.khang@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

CERTIFICATIONS

Project: 60311418 PRAIRIE TOOL&DIE SITE
Pace Project No.: 4092924

Green Bay Certification IDs
1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 11888
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
US Dept of Agriculture #: S-76505
Wisconsin Certification #: 405132750

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: 60311418 PRAIRIE TOOL&DIE SITE
Pace Project No.: 4092924

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4092924001	**PDT-SS1-GP14-2014**	Solid	03/04/14 13:00	03/06/14 10:20
4092924002	**PDT-SS1-GP15-2014**	Solid	03/04/14 12:05	03/06/14 10:20
4092924003	**PDT-SS1-GP16-2014**	Solid	03/04/14 13:10	03/06/14 10:20
4092924004	**PDT-SS2-GP16-2014**	Solid	03/04/14 13:15	03/06/14 10:20
4092924005	**PDT-SS1-GP17-2014**	Solid	03/04/14 11:45	03/06/14 10:20
4092924006	**PDT-SS2-GP17-2014**	Solid	03/04/14 11:50	03/06/14 10:20
4092924007	**PDT-SS1-GP18-2014**	Solid	03/04/14 12:15	03/06/14 10:20
4092924008	**PDT-SS2-GP18-2014**	Solid	03/04/14 12:20	03/06/14 10:20
4092924009	**PDT-SS1-GP19-2014**	Solid	03/04/14 12:45	03/06/14 10:20
4092924010	**PDT-SS1-GP19-2014-DUP**	Solid	03/04/14 12:45	03/06/14 10:20
4092924011	**PDT-SS2-GP19-2014**	Solid	03/04/14 12:50	03/06/14 10:20
4092924012	**PDT-SS1-GP20-2014**	Solid	03/04/14 12:30	03/06/14 10:20
4092924013	**PDT-SS2-GP20-2014**	Solid	03/04/14 12:35	03/06/14 10:20

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE ANALYTE COUNT

Project: 60311418 PRAIRIE TOOL&DIE SITE
Pace Project No.: 4092924

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
4092924001	**PDT-SS1-GP14-2014**	EPA 6010	MMZ	7	PASI-G
		EPA 7471	CMS	1	PASI-G
		EPA 8270 by SIM	ARO	20	PASI-G
		ASTM D2974-87	SKW	1	PASI-G
4092924002	**PDT-SS1-GP15-2014**	EPA 6010	MMZ	7	PASI-G
		EPA 7471	CMS	1	PASI-G
		EPA 8270 by SIM	ARO	20	PASI-G
		ASTM D2974-87	SKW	1	PASI-G
4092924003	**PDT-SS1-GP16-2014**	EPA 6010	MMZ	7	PASI-G
		EPA 7471	CMS	1	PASI-G
		EPA 8270 by SIM	ARO	20	PASI-G
		ASTM D2974-87	SKW	1	PASI-G
4092924004	**PDT-SS2-GP16-2014**	EPA 6010	MMZ	7	PASI-G
		EPA 7471	CMS	1	PASI-G
		EPA 8270 by SIM	ARO	20	PASI-G
		ASTM D2974-87	SKW	1	PASI-G
4092924005	**PDT-SS1-GP17-2014**	EPA 6010	MMZ	7	PASI-G
		EPA 7471	CMS	1	PASI-G
		EPA 8270 by SIM	ARO	20	PASI-G
		ASTM D2974-87	SKW	1	PASI-G
4092924006	**PDT-SS2-GP17-2014**	EPA 6010	MMZ	7	PASI-G
		EPA 7471	CMS	1	PASI-G
		EPA 8270 by SIM	ARO	20	PASI-G
		ASTM D2974-87	SKW	1	PASI-G
4092924007	**PDT-SS1-GP18-2014**	EPA 6010	MMZ	7	PASI-G
		EPA 7471	CMS	1	PASI-G
		EPA 8270 by SIM	ARO	20	PASI-G
		ASTM D2974-87	SKW	1	PASI-G
4092924008	**PDT-SS2-GP18-2014**	EPA 6010	MMZ	7	PASI-G
		EPA 7471	CMS	1	PASI-G
		EPA 8270 by SIM	ARO	20	PASI-G
		ASTM D2974-87	SKW	1	PASI-G
4092924009	**PDT-SS1-GP19-2014**	EPA 6010	MMZ	7	PASI-G
		EPA 7471	CMS	1	PASI-G
		EPA 8270 by SIM	ARO	20	PASI-G
		ASTM D2974-87	SKW	1	PASI-G
4092924010	**PDT-SS1-GP19-2014-DUP**	EPA 6010	MMZ	7	PASI-G

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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SAMPLE ANALYTE COUNT

Project: 60311418 PRAIRIE TOOL&DIE SITE
Pace Project No.: 4092924

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 7471	CMS	1	PASI-G
		EPA 8270 by SIM	ARO	20	PASI-G
		ASTM D2974-87	SKW	1	PASI-G
4092924011	**PDT-SS2-GP19-2014**	EPA 6010	MMZ	7	PASI-G
		EPA 7471	CMS	1	PASI-G
		EPA 8270 by SIM	ARO	20	PASI-G
		ASTM D2974-87	SKW	1	PASI-G
4092924012	**PDT-SS1-GP20-2014**	EPA 6010	MMZ	7	PASI-G
		EPA 7471	CMS	1	PASI-G
		EPA 8270 by SIM	ARO	20	PASI-G
		ASTM D2974-87	SKW	1	PASI-G
4092924013	**PDT-SS2-GP20-2014**	EPA 6010	MMZ	7	PASI-G
		EPA 7471	CMS	1	PASI-G
		EPA 8270 by SIM	ARO	20	PASI-G
		ASTM D2974-87	SKW	1	PASI-G

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ANALYTICAL RESULTS

Project: 60311418 PRAIRIE TOOL&DIE SITE
Pace Project No.: 4092924

Sample: PDT-SS1-GP14-2014 **Lab ID: 4092924001** Collected: 03/04/14 13:00 Received: 03/06/14 10:20 Matrix: Solid
Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**1.9J**	mg/kg	2.1	0.58	1	03/07/14 08:01	03/07/14 14:10	7440-38-2	
Barium	**49.7**	mg/kg	0.53	0.092	1	03/07/14 08:01	03/07/14 14:10	7440-39-3	
Cadmium	**0.17J**	mg/kg	0.53	0.054	1	03/07/14 08:01	03/07/14 14:10	7440-43-9	B
Chromium	**11.1**	mg/kg	0.53	0.13	1	03/07/14 08:01	03/07/14 14:10	7440-47-3	
Lead	**3.1**	mg/kg	1.1	0.31	1	03/07/14 08:01	03/07/14 14:10	7439-92-1	
Selenium	**<0.63**	mg/kg	2.1	0.63	1	03/07/14 08:01	03/07/14 14:10	7782-49-2	
Silver	**<0.23**	mg/kg	1.1	0.23	1	03/07/14 08:01	03/07/14 14:10	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	**0.019**	mg/kg	0.0063	0.0031	1	03/10/14 13:35	03/11/14 12:11	7439-97-6	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**<9.2**	ug/kg	18.4	9.2	1	03/10/14 09:08	03/10/14 13:41	83-32-9	
Acenaphthylene	**<8.2**	ug/kg	18.4	8.2	1	03/10/14 09:08	03/10/14 13:41	208-96-8	
Anthracene	**<9.5**	ug/kg	18.4	9.5	1	03/10/14 09:08	03/10/14 13:41	120-12-7	
Benzo(a)anthracene	**<6.4**	ug/kg	18.4	6.4	1	03/10/14 09:08	03/10/14 13:41	56-55-3	
Benzo(a)pyrene	**<6.6**	ug/kg	18.4	6.6	1	03/10/14 09:08	03/10/14 13:41	50-32-8	
Benzo(b)fluoranthene	**<9.2**	ug/kg	18.4	9.2	1	03/10/14 09:08	03/10/14 13:41	205-99-2	
Benzo(g,h,i)perylene	**<7.0**	ug/kg	18.4	7.0	1	03/10/14 09:08	03/10/14 13:41	191-24-2	
Benzo(k)fluoranthene	**<10.2**	ug/kg	18.4	10.2	1	03/10/14 09:08	03/10/14 13:41	207-08-9	
Chrysene	**<8.5**	ug/kg	18.4	8.5	1	03/10/14 09:08	03/10/14 13:41	218-01-9	
Dibenz(a,h)anthracene	**<6.7**	ug/kg	18.4	6.7	1	03/10/14 09:08	03/10/14 13:41	53-70-3	
Fluoranthene	**<9.2**	ug/kg	18.4	9.2	1	03/10/14 09:08	03/10/14 13:41	206-44-0	
Fluorene	**<9.2**	ug/kg	18.4	9.2	1	03/10/14 09:08	03/10/14 13:41	86-73-7	
Indeno(1,2,3-cd)pyrene	**<7.0**	ug/kg	18.4	7.0	1	03/10/14 09:08	03/10/14 13:41	193-39-5	
1-Methylnaphthalene	**<9.2**	ug/kg	18.4	9.2	1	03/10/14 09:08	03/10/14 13:41	90-12-0	
2-Methylnaphthalene	**<9.2**	ug/kg	18.4	9.2	1	03/10/14 09:08	03/10/14 13:41	91-57-6	
Naphthalene	**<9.2**	ug/kg	18.4	9.2	1	03/10/14 09:08	03/10/14 13:41	91-20-3	
Phenanthrene	**<9.2**	ug/kg	18.4	9.2	1	03/10/14 09:08	03/10/14 13:41	85-01-8	
Pyrene	**<9.2**	ug/kg	18.4	9.2	1	03/10/14 09:08	03/10/14 13:41	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	69	%	40-130		1	03/10/14 09:08	03/10/14 13:41	321-60-8	
Terphenyl-d14 (S)	79	%	40-130		1	03/10/14 09:08	03/10/14 13:41	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**9.3**	%	0.10	0.10	1		03/06/14 15:05		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60311418 PRAIRIE TOOL&DIE SITE
Pace Project No.: 4092924

Sample: PDT-SS1-GP15-2014 **Lab ID: 4092924002** Collected: 03/04/14 12:05 Received: 03/06/14 10:20 Matrix: Solid
Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**1.7J**	mg/kg	1.8	0.50	1	03/07/14 08:01	03/07/14 14:13	7440-38-2	
Barium	**22.7**	mg/kg	0.46	0.080	1	03/07/14 08:01	03/07/14 14:13	7440-39-3	
Cadmium	**0.16J**	mg/kg	0.46	0.047	1	03/07/14 08:01	03/07/14 14:13	7440-43-9	B
Chromium	**5.9**	mg/kg	0.46	0.12	1	03/07/14 08:01	03/07/14 14:13	7440-47-3	
Lead	**1.8**	mg/kg	0.92	0.27	1	03/07/14 08:01	03/07/14 14:13	7439-92-1	
Selenium	**<0.55**	mg/kg	1.8	0.55	1	03/07/14 08:01	03/07/14 14:13	7782-49-2	
Silver	**<0.20**	mg/kg	0.92	0.20	1	03/07/14 08:01	03/07/14 14:13	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	**<0.0027**	mg/kg	0.0055	0.0027	1	03/10/14 13:35	03/11/14 12:13	7439-97-6	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**<8.6**	ug/kg	17.2	8.6	1	03/10/14 09:08	03/10/14 13:59	83-32-9	
Acenaphthylene	**<7.7**	ug/kg	17.2	7.7	1	03/10/14 09:08	03/10/14 13:59	208-96-8	
Anthracene	**<8.9**	ug/kg	17.2	8.9	1	03/10/14 09:08	03/10/14 13:59	120-12-7	
Benzo(a)anthracene	**<6.0**	ug/kg	17.2	6.0	1	03/10/14 09:08	03/10/14 13:59	56-55-3	
Benzo(a)pyrene	**<6.1**	ug/kg	17.2	6.1	1	03/10/14 09:08	03/10/14 13:59	50-32-8	
Benzo(b)fluoranthene	**<8.6**	ug/kg	17.2	8.6	1	03/10/14 09:08	03/10/14 13:59	205-99-2	
Benzo(g,h,i)perylene	**<6.5**	ug/kg	17.2	6.5	1	03/10/14 09:08	03/10/14 13:59	191-24-2	
Benzo(k)fluoranthene	**<9.5**	ug/kg	17.2	9.5	1	03/10/14 09:08	03/10/14 13:59	207-08-9	
Chrysene	**<7.9**	ug/kg	17.2	7.9	1	03/10/14 09:08	03/10/14 13:59	218-01-9	
Dibenz(a,h)anthracene	**<6.3**	ug/kg	17.2	6.3	1	03/10/14 09:08	03/10/14 13:59	53-70-3	
Fluoranthene	**<8.6**	ug/kg	17.2	8.6	1	03/10/14 09:08	03/10/14 13:59	206-44-0	
Fluorene	**<8.6**	ug/kg	17.2	8.6	1	03/10/14 09:08	03/10/14 13:59	86-73-7	
Indeno(1,2,3-cd)pyrene	**<6.5**	ug/kg	17.2	6.5	1	03/10/14 09:08	03/10/14 13:59	193-39-5	
1-Methylnaphthalene	**<8.6**	ug/kg	17.2	8.6	1	03/10/14 09:08	03/10/14 13:59	90-12-0	
2-Methylnaphthalene	**<8.6**	ug/kg	17.2	8.6	1	03/10/14 09:08	03/10/14 13:59	91-57-6	
Naphthalene	**<8.6**	ug/kg	17.2	8.6	1	03/10/14 09:08	03/10/14 13:59	91-20-3	
Phenanthrene	**<8.6**	ug/kg	17.2	8.6	1	03/10/14 09:08	03/10/14 13:59	85-01-8	
Pyrene	**<8.6**	ug/kg	17.2	8.6	1	03/10/14 09:08	03/10/14 13:59	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	65	%	40-130		1	03/10/14 09:08	03/10/14 13:59	321-60-8	
Terphenyl-d14 (S)	67	%	40-130		1	03/10/14 09:08	03/10/14 13:59	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**2.9**	%	0.10	0.10	1		03/06/14 15:05		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60311418 PRAIRIE TOOL&DIE SITE
Pace Project No.: 4092924

Sample: PDT-SS1-GP16-2014 **Lab ID: 4092924003** Collected: 03/04/14 13:10 Received: 03/06/14 10:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**2.2**	mg/kg	1.9	0.52	1	03/07/14 08:01	03/07/14 14:15	7440-38-2	
Barium	**66.1**	mg/kg	0.48	0.083	1	03/07/14 08:01	03/07/14 14:15	7440-39-3	
Cadmium	**0.19J**	mg/kg	0.48	0.049	1	03/07/14 08:01	03/07/14 14:15	7440-43-9	B
Chromium	**10.4**	mg/kg	0.48	0.12	1	03/07/14 08:01	03/07/14 14:15	7440-47-3	
Lead	**9.2**	mg/kg	0.96	0.28	1	03/07/14 08:01	03/07/14 14:15	7439-92-1	
Selenium	**<0.57**	mg/kg	1.9	0.57	1	03/07/14 08:01	03/07/14 14:15	7782-49-2	
Silver	**<0.20**	mg/kg	0.96	0.20	1	03/07/14 08:01	03/07/14 14:15	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	**0.014**	mg/kg	0.0065	0.0032	1	03/10/14 13:35	03/11/14 12:15	7439-97-6	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**<9.0**	ug/kg	18.0	9.0	1	03/10/14 09:08	03/10/14 14:16	83-32-9	
Acenaphthylene	**<8.1**	ug/kg	18.0	8.1	1	03/10/14 09:08	03/10/14 14:16	208-96-8	
Anthracene	**<9.3**	ug/kg	18.0	9.3	1	03/10/14 09:08	03/10/14 14:16	120-12-7	
Benzo(a)anthracene	**<6.2**	ug/kg	18.0	6.2	1	03/10/14 09:08	03/10/14 14:16	56-55-3	
Benzo(a)pyrene	**<6.4**	ug/kg	18.0	6.4	1	03/10/14 09:08	03/10/14 14:16	50-32-8	
Benzo(b)fluoranthene	**<9.0**	ug/kg	18.0	9.0	1	03/10/14 09:08	03/10/14 14:16	205-99-2	
Benzo(g,h,i)perylene	**<6.9**	ug/kg	18.0	6.9	1	03/10/14 09:08	03/10/14 14:16	191-24-2	
Benzo(k)fluoranthene	**<10**	ug/kg	18.0	10	1	03/10/14 09:08	03/10/14 14:16	207-08-9	
Chrysene	**<8.3**	ug/kg	18.0	8.3	1	03/10/14 09:08	03/10/14 14:16	218-01-9	
Dibenz(a,h)anthracene	**<6.6**	ug/kg	18.0	6.6	1	03/10/14 09:08	03/10/14 14:16	53-70-3	
Fluoranthene	**<9.0**	ug/kg	18.0	9.0	1	03/10/14 09:08	03/10/14 14:16	206-44-0	
Fluorene	**<9.0**	ug/kg	18.0	9.0	1	03/10/14 09:08	03/10/14 14:16	86-73-7	
Indeno(1,2,3-cd)pyrene	**<6.8**	ug/kg	18.0	6.8	1	03/10/14 09:08	03/10/14 14:16	193-39-5	
1-Methylnaphthalene	**<9.0**	ug/kg	18.0	9.0	1	03/10/14 09:08	03/10/14 14:16	90-12-0	
2-Methylnaphthalene	**<9.0**	ug/kg	18.0	9.0	1	03/10/14 09:08	03/10/14 14:16	91-57-6	
Naphthalene	**<9.0**	ug/kg	18.0	9.0	1	03/10/14 09:08	03/10/14 14:16	91-20-3	
Phenanthrene	**<9.0**	ug/kg	18.0	9.0	1	03/10/14 09:08	03/10/14 14:16	85-01-8	
Pyrene	**<9.0**	ug/kg	18.0	9.0	1	03/10/14 09:08	03/10/14 14:16	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	60	%	40-130		1	03/10/14 09:08	03/10/14 14:16	321-60-8	
Terphenyl-d14 (S)	62	%	40-130		1	03/10/14 09:08	03/10/14 14:16	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**7.5**	%	0.10	0.10	1		03/06/14 15:05		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60311418 PRAIRIE TOOL&DIE SITE
Pace Project No.: 4092924

Sample: PDT-SS2-GP16-2014 **Lab ID: 4092924004** Collected: 03/04/14 13:15 Received: 03/06/14 10:20 Matrix: Solid
Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**1.3J**	mg/kg	1.8	0.49	1	03/07/14 08:01	03/07/14 14:17	7440-38-2	
Barium	**25.6**	mg/kg	0.45	0.078	1	03/07/14 08:01	03/07/14 14:17	7440-39-3	
Cadmium	**0.16J**	mg/kg	0.45	0.046	1	03/07/14 08:01	03/07/14 14:17	7440-43-9	B
Chromium	**8.5**	mg/kg	0.45	0.11	1	03/07/14 08:01	03/07/14 14:17	7440-47-3	
Lead	**1.7**	mg/kg	0.90	0.26	1	03/07/14 08:01	03/07/14 14:17	7439-92-1	
Selenium	**<0.53**	mg/kg	1.8	0.53	1	03/07/14 08:01	03/07/14 14:17	7782-49-2	
Silver	**<0.19**	mg/kg	0.90	0.19	1	03/07/14 08:01	03/07/14 14:17	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	**<0.0029**	mg/kg	0.0059	0.0029	1	03/10/14 13:35	03/11/14 12:17	7439-97-6	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**<8.6**	ug/kg	17.2	8.6	1	03/10/14 09:08	03/10/14 14:33	83-32-9	
Acenaphthylene	**<7.7**	ug/kg	17.2	7.7	1	03/10/14 09:08	03/10/14 14:33	208-96-8	
Anthracene	**<8.9**	ug/kg	17.2	8.9	1	03/10/14 09:08	03/10/14 14:33	120-12-7	
Benzo(a)anthracene	**<5.9**	ug/kg	17.2	5.9	1	03/10/14 09:08	03/10/14 14:33	56-55-3	
Benzo(a)pyrene	**<6.1**	ug/kg	17.2	6.1	1	03/10/14 09:08	03/10/14 14:33	50-32-8	
Benzo(b)fluoranthene	**<8.6**	ug/kg	17.2	8.6	1	03/10/14 09:08	03/10/14 14:33	205-99-2	
Benzo(g,h,i)perylene	**<6.5**	ug/kg	17.2	6.5	1	03/10/14 09:08	03/10/14 14:33	191-24-2	
Benzo(k)fluoranthene	**<9.5**	ug/kg	17.2	9.5	1	03/10/14 09:08	03/10/14 14:33	207-08-9	
Chrysene	**<7.9**	ug/kg	17.2	7.9	1	03/10/14 09:08	03/10/14 14:33	218-01-9	
Dibenz(a,h)anthracene	**<6.3**	ug/kg	17.2	6.3	1	03/10/14 09:08	03/10/14 14:33	53-70-3	
Fluoranthene	**<8.6**	ug/kg	17.2	8.6	1	03/10/14 09:08	03/10/14 14:33	206-44-0	
Fluorene	**<8.6**	ug/kg	17.2	8.6	1	03/10/14 09:08	03/10/14 14:33	86-73-7	
Indeno(1,2,3-cd)pyrene	**<6.5**	ug/kg	17.2	6.5	1	03/10/14 09:08	03/10/14 14:33	193-39-5	
1-Methylnaphthalene	**<8.6**	ug/kg	17.2	8.6	1	03/10/14 09:08	03/10/14 14:33	90-12-0	
2-Methylnaphthalene	**<8.6**	ug/kg	17.2	8.6	1	03/10/14 09:08	03/10/14 14:33	91-57-6	
Naphthalene	**<8.6**	ug/kg	17.2	8.6	1	03/10/14 09:08	03/10/14 14:33	91-20-3	
Phenanthrene	**<8.6**	ug/kg	17.2	8.6	1	03/10/14 09:08	03/10/14 14:33	85-01-8	
Pyrene	**<8.6**	ug/kg	17.2	8.6	1	03/10/14 09:08	03/10/14 14:33	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	56	%	40-130		1	03/10/14 09:08	03/10/14 14:33	321-60-8	
Terphenyl-d14 (S)	64	%	40-130		1	03/10/14 09:08	03/10/14 14:33	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**2.9**	%	0.10	0.10	1		03/06/14 15:05		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60311418 PRAIRIE TOOL&DIE SITE
Pace Project No.: 4092924

Sample: PDT-SS1-GP17-2014 **Lab ID: 4092924005** Collected: 03/04/14 11:45 Received: 03/06/14 10:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**2.6**	mg/kg	1.9	0.50	1	03/07/14 08:01	03/07/14 14:19	7440-38-2	
Barium	**34.6**	mg/kg	0.47	0.081	1	03/07/14 08:01	03/07/14 14:19	7440-39-3	
Cadmium	**0.26J**	mg/kg	0.47	0.047	1	03/07/14 08:01	03/07/14 14:19	7440-43-9	B
Chromium	**10.0**	mg/kg	0.47	0.12	1	03/07/14 08:01	03/07/14 14:19	7440-47-3	
Lead	**11.7**	mg/kg	0.93	0.27	1	03/07/14 08:01	03/07/14 14:19	7439-92-1	
Selenium	**<0.55**	mg/kg	1.9	0.55	1	03/07/14 08:01	03/07/14 14:19	7782-49-2	
Silver	**0.20J**	mg/kg	0.93	0.20	1	03/07/14 08:01	03/07/14 14:19	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	**0.018**	mg/kg	0.0062	0.0031	1	03/10/14 13:35	03/11/14 12:26	7439-97-6	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**<8.8**	ug/kg	17.5	8.8	1	03/10/14 09:08	03/10/14 14:51	83-32-9	
Acenaphthylene	**<7.8**	ug/kg	17.5	7.8	1	03/10/14 09:08	03/10/14 14:51	208-96-8	
Anthracene	**<9.1**	ug/kg	17.5	9.1	1	03/10/14 09:08	03/10/14 14:51	120-12-7	
Benzo(a)anthracene	**<6.1**	ug/kg	17.5	6.1	1	03/10/14 09:08	03/10/14 14:51	56-55-3	
Benzo(a)pyrene	**<6.3**	ug/kg	17.5	6.3	1	03/10/14 09:08	03/10/14 14:51	50-32-8	
Benzo(b)fluoranthene	**<8.8**	ug/kg	17.5	8.8	1	03/10/14 09:08	03/10/14 14:51	205-99-2	
Benzo(g,h,i)perylene	**<6.7**	ug/kg	17.5	6.7	1	03/10/14 09:08	03/10/14 14:51	191-24-2	
Benzo(k)fluoranthene	**<9.7**	ug/kg	17.5	9.7	1	03/10/14 09:08	03/10/14 14:51	207-08-9	
Chrysene	**<8.1**	ug/kg	17.5	8.1	1	03/10/14 09:08	03/10/14 14:51	218-01-9	
Dibenz(a,h)anthracene	**<6.4**	ug/kg	17.5	6.4	1	03/10/14 09:08	03/10/14 14:51	53-70-3	
Fluoranthene	**<8.8**	ug/kg	17.5	8.8	1	03/10/14 09:08	03/10/14 14:51	206-44-0	
Fluorene	**<8.8**	ug/kg	17.5	8.8	1	03/10/14 09:08	03/10/14 14:51	86-73-7	
Indeno(1,2,3-cd)pyrene	**<6.7**	ug/kg	17.5	6.7	1	03/10/14 09:08	03/10/14 14:51	193-39-5	
1-Methylnaphthalene	**<8.8**	ug/kg	17.5	8.8	1	03/10/14 09:08	03/10/14 14:51	90-12-0	
2-Methylnaphthalene	**<8.8**	ug/kg	17.5	8.8	1	03/10/14 09:08	03/10/14 14:51	91-57-6	
Naphthalene	**<8.8**	ug/kg	17.5	8.8	1	03/10/14 09:08	03/10/14 14:51	91-20-3	
Phenanthrene	**<8.8**	ug/kg	17.5	8.8	1	03/10/14 09:08	03/10/14 14:51	85-01-8	
Pyrene	**<8.8**	ug/kg	17.5	8.8	1	03/10/14 09:08	03/10/14 14:51	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	75	%	40-130		1	03/10/14 09:08	03/10/14 14:51	321-60-8	
Terphenyl-d14 (S)	79	%	40-130		1	03/10/14 09:08	03/10/14 14:51	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**4.9**	%	0.10	0.10	1		03/06/14 15:05		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60311418 PRAIRIE TOOL&DIE SITE
Pace Project No.: 4092924

Sample: PDT-SS2-GP17-2014 **Lab ID: 4092924006** Collected: 03/04/14 11:50 Received: 03/06/14 10:20 Matrix: Solid
Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**1.6J**	mg/kg	1.7	0.46	1	03/07/14 08:01	03/07/14 14:26	7440-38-2	
Barium	**24.8**	mg/kg	0.43	0.075	1	03/07/14 08:01	03/07/14 14:26	7440-39-3	
Cadmium	**0.17J**	mg/kg	0.43	0.044	1	03/07/14 08:01	03/07/14 14:26	7440-43-9	B
Chromium	**7.1**	mg/kg	0.43	0.11	1	03/07/14 08:01	03/07/14 14:26	7440-47-3	
Lead	**2.0**	mg/kg	0.86	0.25	1	03/07/14 08:01	03/07/14 14:26	7439-92-1	
Selenium	**<0.51**	mg/kg	1.7	0.51	1	03/07/14 08:01	03/07/14 14:26	7782-49-2	
Silver	**<0.18**	mg/kg	0.86	0.18	1	03/07/14 08:01	03/07/14 14:26	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	**<0.0029**	mg/kg	0.0058	0.0029	1	03/10/14 13:35	03/11/14 12:28	7439-97-6	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**<8.5**	ug/kg	17.1	8.5	1	03/10/14 09:08	03/10/14 16:08	83-32-9	
Acenaphthylene	**<7.6**	ug/kg	17.1	7.6	1	03/10/14 09:08	03/10/14 16:08	208-96-8	
Anthracene	**<8.9**	ug/kg	17.1	8.9	1	03/10/14 09:08	03/10/14 16:08	120-12-7	
Benzo(a)anthracene	**<5.9**	ug/kg	17.1	5.9	1	03/10/14 09:08	03/10/14 16:08	56-55-3	
Benzo(a)pyrene	**<6.1**	ug/kg	17.1	6.1	1	03/10/14 09:08	03/10/14 16:08	50-32-8	
Benzo(b)fluoranthene	**<8.5**	ug/kg	17.1	8.5	1	03/10/14 09:08	03/10/14 16:08	205-99-2	
Benzo(g,h,i)perylene	**<6.5**	ug/kg	17.1	6.5	1	03/10/14 09:08	03/10/14 16:08	191-24-2	
Benzo(k)fluoranthene	**<9.4**	ug/kg	17.1	9.4	1	03/10/14 09:08	03/10/14 16:08	207-08-9	
Chrysene	**<7.9**	ug/kg	17.1	7.9	1	03/10/14 09:08	03/10/14 16:08	218-01-9	
Dibenz(a,h)anthracene	**<6.3**	ug/kg	17.1	6.3	1	03/10/14 09:08	03/10/14 16:08	53-70-3	
Fluoranthene	**<8.5**	ug/kg	17.1	8.5	1	03/10/14 09:08	03/10/14 16:08	206-44-0	
Fluorene	**<8.5**	ug/kg	17.1	8.5	1	03/10/14 09:08	03/10/14 16:08	86-73-7	
Indeno(1,2,3-cd)pyrene	**<6.5**	ug/kg	17.1	6.5	1	03/10/14 09:08	03/10/14 16:08	193-39-5	
1-Methylnaphthalene	**<8.5**	ug/kg	17.1	8.5	1	03/10/14 09:08	03/10/14 16:08	90-12-0	
2-Methylnaphthalene	**<8.5**	ug/kg	17.1	8.5	1	03/10/14 09:08	03/10/14 16:08	91-57-6	
Naphthalene	**<8.5**	ug/kg	17.1	8.5	1	03/10/14 09:08	03/10/14 16:08	91-20-3	
Phenanthrene	**<8.5**	ug/kg	17.1	8.5	1	03/10/14 09:08	03/10/14 16:08	85-01-8	
Pyrene	**<8.5**	ug/kg	17.1	8.5	1	03/10/14 09:08	03/10/14 16:08	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	59	%	40-130		1	03/10/14 09:08	03/10/14 16:08	321-60-8	
Terphenyl-d14 (S)	58	%	40-130		1	03/10/14 09:08	03/10/14 16:08	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**2.4**	%	0.10	0.10	1		03/06/14 15:06		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60311418 PRAIRIE TOOL&DIE SITE
Pace Project No.: 4092924

Sample: PDT-SS1-GP18-2014 **Lab ID: 4092924007** Collected: 03/04/14 12:15 Received: 03/06/14 10:20 Matrix: Solid
Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**2.5**	mg/kg	2.1	0.56	1	03/07/14 08:01	03/07/14 14:28	7440-38-2	
Barium	**46.9**	mg/kg	0.51	0.089	1	03/07/14 08:01	03/07/14 14:28	7440-39-3	
Cadmium	**0.23J**	mg/kg	0.51	0.052	1	03/07/14 08:01	03/07/14 14:28	7440-43-9	B
Chromium	**11.9**	mg/kg	0.51	0.13	1	03/07/14 08:01	03/07/14 14:28	7440-47-3	
Lead	**4.0**	mg/kg	1.0	0.30	1	03/07/14 08:01	03/07/14 14:28	7439-92-1	
Selenium	**<0.61**	mg/kg	2.1	0.61	1	03/07/14 08:01	03/07/14 14:28	7782-49-2	
Silver	**<0.22**	mg/kg	1.0	0.22	1	03/07/14 08:01	03/07/14 14:28	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	**0.020**	mg/kg	0.0057	0.0028	1	03/10/14 13:35	03/11/14 12:30	7439-97-6	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**<9.0**	ug/kg	18.0	9.0	1	03/10/14 09:08	03/10/14 16:25	83-32-9	
Acenaphthylene	**<8.0**	ug/kg	18.0	8.0	1	03/10/14 09:08	03/10/14 16:25	208-96-8	
Anthracene	**<9.3**	ug/kg	18.0	9.3	1	03/10/14 09:08	03/10/14 16:25	120-12-7	
Benzo(a)anthracene	**<6.2**	ug/kg	18.0	6.2	1	03/10/14 09:08	03/10/14 16:25	56-55-3	
Benzo(a)pyrene	**<6.4**	ug/kg	18.0	6.4	1	03/10/14 09:08	03/10/14 16:25	50-32-8	
Benzo(b)fluoranthene	**<9.0**	ug/kg	18.0	9.0	1	03/10/14 09:08	03/10/14 16:25	205-99-2	
Benzo(g,h,i)perylene	**<6.8**	ug/kg	18.0	6.8	1	03/10/14 09:08	03/10/14 16:25	191-24-2	
Benzo(k)fluoranthene	**<9.9**	ug/kg	18.0	9.9	1	03/10/14 09:08	03/10/14 16:25	207-08-9	
Chrysene	**<8.3**	ug/kg	18.0	8.3	1	03/10/14 09:08	03/10/14 16:25	218-01-9	
Dibenz(a,h)anthracene	**<6.6**	ug/kg	18.0	6.6	1	03/10/14 09:08	03/10/14 16:25	53-70-3	
Fluoranthene	**<9.0**	ug/kg	18.0	9.0	1	03/10/14 09:08	03/10/14 16:25	206-44-0	
Fluorene	**<9.0**	ug/kg	18.0	9.0	1	03/10/14 09:08	03/10/14 16:25	86-73-7	
Indeno(1,2,3-cd)pyrene	**<6.8**	ug/kg	18.0	6.8	1	03/10/14 09:08	03/10/14 16:25	193-39-5	
1-Methylnaphthalene	**<9.0**	ug/kg	18.0	9.0	1	03/10/14 09:08	03/10/14 16:25	90-12-0	
2-Methylnaphthalene	**<9.0**	ug/kg	18.0	9.0	1	03/10/14 09:08	03/10/14 16:25	91-57-6	
Naphthalene	**<9.0**	ug/kg	18.0	9.0	1	03/10/14 09:08	03/10/14 16:25	91-20-3	
Phenanthrene	**<9.0**	ug/kg	18.0	9.0	1	03/10/14 09:08	03/10/14 16:25	85-01-8	
Pyrene	**<9.0**	ug/kg	18.0	9.0	1	03/10/14 09:08	03/10/14 16:25	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	61	%	40-130		1	03/10/14 09:08	03/10/14 16:25	321-60-8	
Terphenyl-d14 (S)	61	%	40-130		1	03/10/14 09:08	03/10/14 16:25	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**7.3**	%	0.10	0.10	1		03/11/14 15:43		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60311418 PRAIRIE TOOL&DIE SITE
Pace Project No.: 4092924

Sample: PDT-SS2-GP18-2014 **Lab ID: 4092924008** Collected: 03/04/14 12:20 Received: 03/06/14 10:20 Matrix: Solid
Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**2.0**	mg/kg	1.9	0.53	1	03/07/14 08:01	03/07/14 14:30	7440-38-2	
Barium	**27.2**	mg/kg	0.49	0.084	1	03/07/14 08:01	03/07/14 14:30	7440-39-3	
Cadmium	**0.16J**	mg/kg	0.49	0.049	1	03/07/14 08:01	03/07/14 14:30	7440-43-9	B
Chromium	**7.5**	mg/kg	0.49	0.12	1	03/07/14 08:01	03/07/14 14:30	7440-47-3	
Lead	**1.6**	mg/kg	0.97	0.28	1	03/07/14 08:01	03/07/14 14:30	7439-92-1	
Selenium	**<0.58**	mg/kg	1.9	0.58	1	03/07/14 08:01	03/07/14 14:30	7782-49-2	
Silver	**<0.21**	mg/kg	0.97	0.21	1	03/07/14 08:01	03/07/14 14:30	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	**<0.0027**	mg/kg	0.0055	0.0027	1	03/10/14 13:35	03/11/14 12:32	7439-97-6	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**<8.5**	ug/kg	17.0	8.5	1	03/10/14 09:08	03/10/14 16:42	83-32-9	
Acenaphthylene	**<7.6**	ug/kg	17.0	7.6	1	03/10/14 09:08	03/10/14 16:42	208-96-8	
Anthracene	**<8.8**	ug/kg	17.0	8.8	1	03/10/14 09:08	03/10/14 16:42	120-12-7	
Benzo(a)anthracene	**<5.9**	ug/kg	17.0	5.9	1	03/10/14 09:08	03/10/14 16:42	56-55-3	
Benzo(a)pyrene	**<6.1**	ug/kg	17.0	6.1	1	03/10/14 09:08	03/10/14 16:42	50-32-8	
Benzo(b)fluoranthene	**<8.5**	ug/kg	17.0	8.5	1	03/10/14 09:08	03/10/14 16:42	205-99-2	
Benzo(g,h,i)perylene	**<6.5**	ug/kg	17.0	6.5	1	03/10/14 09:08	03/10/14 16:42	191-24-2	
Benzo(k)fluoranthene	**<9.4**	ug/kg	17.0	9.4	1	03/10/14 09:08	03/10/14 16:42	207-08-9	
Chrysene	**<7.9**	ug/kg	17.0	7.9	1	03/10/14 09:08	03/10/14 16:42	218-01-9	
Dibenz(a,h)anthracene	**<6.3**	ug/kg	17.0	6.3	1	03/10/14 09:08	03/10/14 16:42	53-70-3	
Fluoranthene	**<8.5**	ug/kg	17.0	8.5	1	03/10/14 09:08	03/10/14 16:42	206-44-0	
Fluorene	**<8.5**	ug/kg	17.0	8.5	1	03/10/14 09:08	03/10/14 16:42	86-73-7	
Indeno(1,2,3-cd)pyrene	**<6.5**	ug/kg	17.0	6.5	1	03/10/14 09:08	03/10/14 16:42	193-39-5	
1-Methylnaphthalene	**<8.5**	ug/kg	17.0	8.5	1	03/10/14 09:08	03/10/14 16:42	90-12-0	
2-Methylnaphthalene	**<8.5**	ug/kg	17.0	8.5	1	03/10/14 09:08	03/10/14 16:42	91-57-6	
Naphthalene	**<8.5**	ug/kg	17.0	8.5	1	03/10/14 09:08	03/10/14 16:42	91-20-3	
Phenanthrene	**<8.5**	ug/kg	17.0	8.5	1	03/10/14 09:08	03/10/14 16:42	85-01-8	
Pyrene	**<8.5**	ug/kg	17.0	8.5	1	03/10/14 09:08	03/10/14 16:42	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	53	%	40-130		1	03/10/14 09:08	03/10/14 16:42	321-60-8	
Terphenyl-d14 (S)	59	%	40-130		1	03/10/14 09:08	03/10/14 16:42	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**2.2**	%	0.10	0.10	1		03/11/14 15:43		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
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ANALYTICAL RESULTS

Project: 60311418 PRAIRIE TOOL&DIE SITE
Pace Project No.: 4092924

Sample: PDT-SS1-GP19-2014 **Lab ID: 4092924009** Collected: 03/04/14 12:45 Received: 03/06/14 10:20 Matrix: Solid
Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**3.2**	mg/kg	2.3	0.61	1	03/07/14 08:01	03/07/14 14:04	7440-38-2	
Barium	**42.3**	mg/kg	0.56	0.098	1	03/07/14 08:01	03/07/14 14:04	7440-39-3	
Cadmium	**0.22J**	mg/kg	0.56	0.057	1	03/07/14 08:01	03/07/14 14:04	7440-43-9	B
Chromium	**12.5**	mg/kg	0.56	0.14	1	03/07/14 08:01	03/07/14 14:04	7440-47-3	
Lead	**4.9**	mg/kg	1.1	0.33	1	03/07/14 08:01	03/07/14 14:04	7439-92-1	
Selenium	**<0.67**	mg/kg	2.3	0.67	1	03/07/14 08:01	03/07/14 14:04	7782-49-2	
Silver	**<0.24**	mg/kg	1.1	0.24	1	03/07/14 08:01	03/07/14 14:04	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	**0.061**	mg/kg	0.0075	0.0038	1	03/10/14 13:35	03/11/14 12:03	7439-97-6	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**<9.4**	ug/kg	18.8	9.4	1	03/10/14 09:08	03/10/14 12:49	83-32-9	
Acenaphthylene	**<8.4**	ug/kg	18.8	8.4	1	03/10/14 09:08	03/10/14 12:49	208-96-8	
Anthracene	**<9.8**	ug/kg	18.8	9.8	1	03/10/14 09:08	03/10/14 12:49	120-12-7	
Benzo(a)anthracene	**<6.5**	ug/kg	18.8	6.5	1	03/10/14 09:08	03/10/14 12:49	56-55-3	
Benzo(a)pyrene	**<6.7**	ug/kg	18.8	6.7	1	03/10/14 09:08	03/10/14 12:49	50-32-8	
Benzo(b)fluoranthene	**<9.4**	ug/kg	18.8	9.4	1	03/10/14 09:08	03/10/14 12:49	205-99-2	
Benzo(g,h,i)perylene	**<7.2**	ug/kg	18.8	7.2	1	03/10/14 09:08	03/10/14 12:49	191-24-2	
Benzo(k)fluoranthene	**<10.4**	ug/kg	18.8	10.4	1	03/10/14 09:08	03/10/14 12:49	207-08-9	
Chrysene	**<8.7**	ug/kg	18.8	8.7	1	03/10/14 09:08	03/10/14 12:49	218-01-9	
Dibenz(a,h)anthracene	**<6.9**	ug/kg	18.8	6.9	1	03/10/14 09:08	03/10/14 12:49	53-70-3	
Fluoranthene	**<9.4**	ug/kg	18.8	9.4	1	03/10/14 09:08	03/10/14 12:49	206-44-0	
Fluorene	**<9.4**	ug/kg	18.8	9.4	1	03/10/14 09:08	03/10/14 12:49	86-73-7	
Indeno(1,2,3-cd)pyrene	**<7.2**	ug/kg	18.8	7.2	1	03/10/14 09:08	03/10/14 12:49	193-39-5	
1-Methylnaphthalene	**<9.4**	ug/kg	18.8	9.4	1	03/10/14 09:08	03/10/14 12:49	90-12-0	
2-Methylnaphthalene	**<9.4**	ug/kg	18.8	9.4	1	03/10/14 09:08	03/10/14 12:49	91-57-6	
Naphthalene	**<9.4**	ug/kg	18.8	9.4	1	03/10/14 09:08	03/10/14 12:49	91-20-3	
Phenanthrene	**<9.4**	ug/kg	18.8	9.4	1	03/10/14 09:08	03/10/14 12:49	85-01-8	
Pyrene	**<9.4**	ug/kg	18.8	9.4	1	03/10/14 09:08	03/10/14 12:49	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	59	%	40-130		1	03/10/14 09:08	03/10/14 12:49	321-60-8	
Terphenyl-d14 (S)	61	%	40-130		1	03/10/14 09:08	03/10/14 12:49	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**11.6**	%	0.10	0.10	1		03/11/14 15:43		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60311418 PRAIRIE TOOL&DIE SITE
Pace Project No.: 4092924

Sample: PDT-SS1-GP19-2014-DUP **Lab ID: 4092924010** Collected: 03/04/14 12:45 Received: 03/06/14 10:20 Matrix: Solid
Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**3.0**	mg/kg	2.4	0.65	1	03/07/14 08:01	03/07/14 14:32	7440-38-2	
Barium	**63.3**	mg/kg	0.60	0.10	1	03/07/14 08:01	03/07/14 14:32	7440-39-3	
Cadmium	**0.25J**	mg/kg	0.60	0.061	1	03/07/14 08:01	03/07/14 14:32	7440-43-9	B
Chromium	**13.4**	mg/kg	0.60	0.15	1	03/07/14 08:01	03/07/14 14:32	7440-47-3	
Lead	**6.7**	mg/kg	1.2	0.35	1	03/07/14 08:01	03/07/14 14:32	7439-92-1	
Selenium	**<0.71**	mg/kg	2.4	0.71	1	03/07/14 08:01	03/07/14 14:32	7782-49-2	
Silver	**<0.26**	mg/kg	1.2	0.26	1	03/07/14 08:01	03/07/14 14:32	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	**0.26**	mg/kg	0.0069	0.0035	1	03/10/14 13:35	03/11/14 12:34	7439-97-6	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**<10.3**	ug/kg	20.6	10.3	1	03/10/14 09:08	03/10/14 17:00	83-32-9	
Acenaphthylene	**<9.2**	ug/kg	20.6	9.2	1	03/10/14 09:08	03/10/14 17:00	208-96-8	
Anthracene	**<10.7**	ug/kg	20.6	10.7	1	03/10/14 09:08	03/10/14 17:00	120-12-7	
Benzo(a)anthracene	**<7.1**	ug/kg	20.6	7.1	1	03/10/14 09:08	03/10/14 17:00	56-55-3	
Benzo(a)pyrene	**<7.4**	ug/kg	20.6	7.4	1	03/10/14 09:08	03/10/14 17:00	50-32-8	
Benzo(b)fluoranthene	**<10.3**	ug/kg	20.6	10.3	1	03/10/14 09:08	03/10/14 17:00	205-99-2	
Benzo(g,h,i)perylene	**<7.8**	ug/kg	20.6	7.8	1	03/10/14 09:08	03/10/14 17:00	191-24-2	
Benzo(k)fluoranthene	**<11.4**	ug/kg	20.6	11.4	1	03/10/14 09:08	03/10/14 17:00	207-08-9	
Chrysene	**<9.5**	ug/kg	20.6	9.5	1	03/10/14 09:08	03/10/14 17:00	218-01-9	
Dibenz(a,h)anthracene	**<7.5**	ug/kg	20.6	7.5	1	03/10/14 09:08	03/10/14 17:00	53-70-3	
Fluoranthene	**<10.3**	ug/kg	20.6	10.3	1	03/10/14 09:08	03/10/14 17:00	206-44-0	
Fluorene	**<10.3**	ug/kg	20.6	10.3	1	03/10/14 09:08	03/10/14 17:00	86-73-7	
Indeno(1,2,3-cd)pyrene	**<7.8**	ug/kg	20.6	7.8	1	03/10/14 09:08	03/10/14 17:00	193-39-5	
1-Methylnaphthalene	**<10.3**	ug/kg	20.6	10.3	1	03/10/14 09:08	03/10/14 17:00	90-12-0	
2-Methylnaphthalene	**<10.3**	ug/kg	20.6	10.3	1	03/10/14 09:08	03/10/14 17:00	91-57-6	
Naphthalene	**<10.3**	ug/kg	20.6	10.3	1	03/10/14 09:08	03/10/14 17:00	91-20-3	
Phenanthrene	**<10.3**	ug/kg	20.6	10.3	1	03/10/14 09:08	03/10/14 17:00	85-01-8	
Pyrene	**<10.3**	ug/kg	20.6	10.3	1	03/10/14 09:08	03/10/14 17:00	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	68	%	40-130		1	03/10/14 09:08	03/10/14 17:00	321-60-8	
Terphenyl-d14 (S)	75	%	40-130		1	03/10/14 09:08	03/10/14 17:00	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**19.0**	%	0.10	0.10	1		03/11/14 15:43		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60311418 PRAIRIE TOOL&DIE SITE
Pace Project No.: 4092924

Sample: PDT-SS2-GP19-2014 **Lab ID: 4092924011** Collected: 03/04/14 12:50 Received: 03/06/14 10:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**2.3**	mg/kg	2.0	0.53	1	03/07/14 08:01	03/07/14 14:34	7440-38-2	
Barium	**20.6**	mg/kg	0.49	0.086	1	03/07/14 08:01	03/07/14 14:34	7440-39-3	
Cadmium	**0.16J**	mg/kg	0.49	0.050	1	03/07/14 08:01	03/07/14 14:34	7440-43-9	B
Chromium	**9.5**	mg/kg	0.49	0.12	1	03/07/14 08:01	03/07/14 14:34	7440-47-3	
Lead	**1.6**	mg/kg	0.99	0.29	1	03/07/14 08:01	03/07/14 14:34	7439-92-1	
Selenium	**<0.58**	mg/kg	2.0	0.58	1	03/07/14 08:01	03/07/14 14:34	7782-49-2	
Silver	**<0.21**	mg/kg	0.99	0.21	1	03/07/14 08:01	03/07/14 14:34	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	**<0.0031**	mg/kg	0.0062	0.0031	1	03/10/14 13:35	03/11/14 12:36	7439-97-6	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**<8.6**	ug/kg	17.2	8.6	1	03/10/14 09:08	03/10/14 17:17	83-32-9	
Acenaphthylene	**<7.7**	ug/kg	17.2	7.7	1	03/10/14 09:08	03/10/14 17:17	208-96-8	
Anthracene	**<8.9**	ug/kg	17.2	8.9	1	03/10/14 09:08	03/10/14 17:17	120-12-7	
Benzo(a)anthracene	**<6.0**	ug/kg	17.2	6.0	1	03/10/14 09:08	03/10/14 17:17	56-55-3	
Benzo(a)pyrene	**<6.1**	ug/kg	17.2	6.1	1	03/10/14 09:08	03/10/14 17:17	50-32-8	
Benzo(b)fluoranthene	**<8.6**	ug/kg	17.2	8.6	1	03/10/14 09:08	03/10/14 17:17	205-99-2	
Benzo(g,h,i)perylene	**<6.5**	ug/kg	17.2	6.5	1	03/10/14 09:08	03/10/14 17:17	191-24-2	
Benzo(k)fluoranthene	**<9.5**	ug/kg	17.2	9.5	1	03/10/14 09:08	03/10/14 17:17	207-08-9	
Chrysene	**<7.9**	ug/kg	17.2	7.9	1	03/10/14 09:08	03/10/14 17:17	218-01-9	
Dibenz(a,h)anthracene	**<6.3**	ug/kg	17.2	6.3	1	03/10/14 09:08	03/10/14 17:17	53-70-3	
Fluoranthene	**<8.6**	ug/kg	17.2	8.6	1	03/10/14 09:08	03/10/14 17:17	206-44-0	
Fluorene	**<8.6**	ug/kg	17.2	8.6	1	03/10/14 09:08	03/10/14 17:17	86-73-7	
Indeno(1,2,3-cd)pyrene	**<6.5**	ug/kg	17.2	6.5	1	03/10/14 09:08	03/10/14 17:17	193-39-5	
1-Methylnaphthalene	**<8.6**	ug/kg	17.2	8.6	1	03/10/14 09:08	03/10/14 17:17	90-12-0	
2-Methylnaphthalene	**<8.6**	ug/kg	17.2	8.6	1	03/10/14 09:08	03/10/14 17:17	91-57-6	
Naphthalene	**<8.6**	ug/kg	17.2	8.6	1	03/10/14 09:08	03/10/14 17:17	91-20-3	
Phenanthrene	**<8.6**	ug/kg	17.2	8.6	1	03/10/14 09:08	03/10/14 17:17	85-01-8	
Pyrene	**<8.6**	ug/kg	17.2	8.6	1	03/10/14 09:08	03/10/14 17:17	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	64	%	40-130		1	03/10/14 09:08	03/10/14 17:17	321-60-8	
Terphenyl-d14 (S)	70	%	40-130		1	03/10/14 09:08	03/10/14 17:17	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**3.0**	%	0.10	0.10	1		03/11/14 15:43		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60311418 PRAIRIE TOOL&DIE SITE
Pace Project No.: 4092924

Sample: PDT-SS1-GP20-2014 **Lab ID: 4092924012** Collected: 03/04/14 12:30 Received: 03/06/14 10:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**3.2**	mg/kg	2.0	0.54	1	03/07/14 08:01	03/07/14 14:37	7440-38-2	
Barium	**93.8**	mg/kg	0.50	0.086	1	03/07/14 08:01	03/07/14 14:37	7440-39-3	
Cadmium	**0.28J**	mg/kg	0.50	0.051	1	03/07/14 08:01	03/07/14 14:37	7440-43-9	B
Chromium	**14.5**	mg/kg	0.50	0.12	1	03/07/14 08:01	03/07/14 14:37	7440-47-3	
Lead	**17.9**	mg/kg	1.0	0.29	1	03/07/14 08:01	03/07/14 14:37	7439-92-1	
Selenium	**<0.59**	mg/kg	2.0	0.59	1	03/07/14 08:01	03/07/14 14:37	7782-49-2	
Silver	**<0.21**	mg/kg	1.0	0.21	1	03/07/14 08:01	03/07/14 14:37	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	**0.037**	mg/kg	0.0062	0.0031	1	03/10/14 13:35	03/11/14 12:38	7439-97-6	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**<9.3**	ug/kg	18.6	9.3	1	03/10/14 09:08	03/11/14 14:37	83-32-9	
Acenaphthylene	**<8.3**	ug/kg	18.6	8.3	1	03/10/14 09:08	03/11/14 14:37	208-96-8	
Anthracene	**<9.7**	ug/kg	18.6	9.7	1	03/10/14 09:08	03/11/14 14:37	120-12-7	
Benzo(a)anthracene	**13.7J**	ug/kg	18.6	6.5	1	03/10/14 09:08	03/11/14 14:37	56-55-3	
Benzo(a)pyrene	**15.6J**	ug/kg	18.6	6.7	1	03/10/14 09:08	03/11/14 14:37	50-32-8	
Benzo(b)fluoranthene	**24.9**	ug/kg	18.6	9.3	1	03/10/14 09:08	03/11/14 14:37	205-99-2	
Benzo(g,h,i)perylene	**16.8J**	ug/kg	18.6	7.1	1	03/10/14 09:08	03/11/14 14:37	191-24-2	
Benzo(k)fluoranthene	**17.0J**	ug/kg	18.6	10.3	1	03/10/14 09:08	03/11/14 14:37	207-08-9	
Chrysene	**26.5**	ug/kg	18.6	8.6	1	03/10/14 09:08	03/11/14 14:37	218-01-9	
Dibenz(a,h)anthracene	**<6.8**	ug/kg	18.6	6.8	1	03/10/14 09:08	03/11/14 14:37	53-70-3	
Fluoranthene	**30.7**	ug/kg	18.6	9.3	1	03/10/14 09:08	03/11/14 14:37	206-44-0	
Fluorene	**<9.3**	ug/kg	18.6	9.3	1	03/10/14 09:08	03/11/14 14:37	86-73-7	
Indeno(1,2,3-cd)pyrene	**13.9J**	ug/kg	18.6	7.1	1	03/10/14 09:08	03/11/14 14:37	193-39-5	
1-Methylnaphthalene	**9.4J**	ug/kg	18.6	9.3	1	03/10/14 09:08	03/11/14 14:37	90-12-0	
2-Methylnaphthalene	**11.8J**	ug/kg	18.6	9.3	1	03/10/14 09:08	03/11/14 14:37	91-57-6	
Naphthalene	**11.7J**	ug/kg	18.6	9.3	1	03/10/14 09:08	03/11/14 14:37	91-20-3	
Phenanthrene	**25.8**	ug/kg	18.6	9.3	1	03/10/14 09:08	03/11/14 14:37	85-01-8	
Pyrene	**25.5**	ug/kg	18.6	9.3	1	03/10/14 09:08	03/11/14 14:37	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	72	%	40-130		1	03/10/14 09:08	03/11/14 14:37	321-60-8	
Terphenyl-d14 (S)	64	%	40-130		1	03/10/14 09:08	03/11/14 14:37	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**10.6**	%	0.10	0.10	1		03/11/14 15:44		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60311418 PRAIRIE TOOL&DIE SITE
Pace Project No.: 4092924

Sample: PDT-SS2-GP20-2014 **Lab ID: 4092924013** Collected: 03/04/14 12:35 Received: 03/06/14 10:20 Matrix: Solid
Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**1.2J**	mg/kg	1.8	0.49	1	03/07/14 08:01	03/07/14 14:39	7440-38-2	
Barium	**22.1**	mg/kg	0.45	0.078	1	03/07/14 08:01	03/07/14 14:39	7440-39-3	
Cadmium	**0.13J**	mg/kg	0.45	0.046	1	03/07/14 08:01	03/07/14 14:39	7440-43-9	B
Chromium	**8.9**	mg/kg	0.45	0.11	1	03/07/14 08:01	03/07/14 14:39	7440-47-3	
Lead	**1.7**	mg/kg	0.90	0.26	1	03/07/14 08:01	03/07/14 14:39	7439-92-1	
Selenium	**<0.53**	mg/kg	1.8	0.53	1	03/07/14 08:01	03/07/14 14:39	7782-49-2	
Silver	**<0.19**	mg/kg	0.90	0.19	1	03/07/14 08:01	03/07/14 14:39	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	**<0.0030**	mg/kg	0.0060	0.0030	1	03/10/14 13:35	03/11/14 12:40	7439-97-6	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546								
Acenaphthene	**<8.6**	ug/kg	17.1	8.6	1	03/10/14 09:08	03/10/14 17:34	83-32-9	
Acenaphthylene	**<7.7**	ug/kg	17.1	7.7	1	03/10/14 09:08	03/10/14 17:34	208-96-8	
Anthracene	**<8.9**	ug/kg	17.1	8.9	1	03/10/14 09:08	03/10/14 17:34	120-12-7	
Benzo(a)anthracene	**<5.9**	ug/kg	17.1	5.9	1	03/10/14 09:08	03/10/14 17:34	56-55-3	
Benzo(a)pyrene	**<6.1**	ug/kg	17.1	6.1	1	03/10/14 09:08	03/10/14 17:34	50-32-8	
Benzo(b)fluoranthene	**<8.6**	ug/kg	17.1	8.6	1	03/10/14 09:08	03/10/14 17:34	205-99-2	
Benzo(g,h,i)perylene	**<6.5**	ug/kg	17.1	6.5	1	03/10/14 09:08	03/10/14 17:34	191-24-2	
Benzo(k)fluoranthene	**<9.5**	ug/kg	17.1	9.5	1	03/10/14 09:08	03/10/14 17:34	207-08-9	
Chrysene	**<7.9**	ug/kg	17.1	7.9	1	03/10/14 09:08	03/10/14 17:34	218-01-9	
Dibenz(a,h)anthracene	**<6.3**	ug/kg	17.1	6.3	1	03/10/14 09:08	03/10/14 17:34	53-70-3	
Fluoranthene	**<8.6**	ug/kg	17.1	8.6	1	03/10/14 09:08	03/10/14 17:34	206-44-0	
Fluorene	**<8.6**	ug/kg	17.1	8.6	1	03/10/14 09:08	03/10/14 17:34	86-73-7	
Indeno(1,2,3-cd)pyrene	**<6.5**	ug/kg	17.1	6.5	1	03/10/14 09:08	03/10/14 17:34	193-39-5	
1-Methylnaphthalene	**<8.6**	ug/kg	17.1	8.6	1	03/10/14 09:08	03/10/14 17:34	90-12-0	
2-Methylnaphthalene	**<8.6**	ug/kg	17.1	8.6	1	03/10/14 09:08	03/10/14 17:34	91-57-6	
Naphthalene	**<8.6**	ug/kg	17.1	8.6	1	03/10/14 09:08	03/10/14 17:34	91-20-3	
Phenanthrene	**<8.6**	ug/kg	17.1	8.6	1	03/10/14 09:08	03/10/14 17:34	85-01-8	
Pyrene	**<8.6**	ug/kg	17.1	8.6	1	03/10/14 09:08	03/10/14 17:34	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	52	%	40-130		1	03/10/14 09:08	03/10/14 17:34	321-60-8	
Terphenyl-d14 (S)	58	%	40-130		1	03/10/14 09:08	03/10/14 17:34	1718-51-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**2.7**	%	0.10	0.10	1		03/11/14 15:44		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 60311418 PRAIRIE TOOL&DIE SITE
Pace Project No.: 4092924

QC Batch: MERP/4138 Analysis Method: EPA 7471
QC Batch Method: EPA 7471 Analysis Description: 7471 Mercury
Associated Lab Samples: 4092924001, 4092924002, 4092924003, 4092924004, 4092924005, 4092924006, 4092924007, 4092924008, 4092924009, 4092924010, 4092924011, 4092924012, 4092924013

METHOD BLANK: 939282 Matrix: Solid
Associated Lab Samples: 4092924001, 4092924002, 4092924003, 4092924004, 4092924005, 4092924006, 4092924007, 4092924008, 4092924009, 4092924010, 4092924011, 4092924012, 4092924013

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	mg/kg	<0.0033	0.0067	03/11/14 11:59	

LABORATORY CONTROL SAMPLE: 939283

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/kg	.17	0.17	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 939284 939285

Parameter	Units	4092924009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/kg	0.061	.19	.19	0.24	0.23	93	89	85-115	3	20	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 60311418 PRAIRIE TOOL&DIE SITE
Pace Project No.: 4092924

QC Batch: MPRP/9914 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET
Associated Lab Samples: 4092924001, 4092924002, 4092924003, 4092924004, 4092924005, 4092924006, 4092924007, 4092924008, 4092924009, 4092924010, 4092924011, 4092924012, 4092924013

METHOD BLANK: 938541 Matrix: Solid
Associated Lab Samples: 4092924001, 4092924002, 4092924003, 4092924004, 4092924005, 4092924006, 4092924007, 4092924008, 4092924009, 4092924010, 4092924011, 4092924012, 4092924013

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	<0.54	2.0	03/07/14 14:00	
Barium	mg/kg	<0.087	0.50	03/07/14 14:00	
Cadmium	mg/kg	0.053J	0.50	03/07/14 14:00	
Chromium	mg/kg	<0.13	0.50	03/07/14 14:00	
Lead	mg/kg	<0.29	1.0	03/07/14 14:00	
Selenium	mg/kg	<0.59	2.0	03/07/14 14:00	
Silver	mg/kg	<0.21	1.0	03/07/14 14:00	

LABORATORY CONTROL SAMPLE: 938542

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	50	49.3	99	80-120	
Barium	mg/kg	50	49.5	99	80-120	
Cadmium	mg/kg	50	49.6	99	80-120	
Chromium	mg/kg	50	50.1	100	80-120	
Lead	mg/kg	50	49.4	99	80-120	
Selenium	mg/kg	50	48.7	97	80-120	
Silver	mg/kg	25	24.2	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 938543 938544

Parameter	Units	4092924009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	3.2	56.1	56.2	56.0	56.4	94	95	75-125	1	20	
Barium	mg/kg	42.3	56.1	56.2	100	95.5	103	95	75-125	5	20	
Cadmium	mg/kg	0.22J	56.1	56.2	55.0	55.1	98	98	75-125	0	20	
Chromium	mg/kg	12.5	56.1	56.2	67.9	67.4	99	98	75-125	1	20	
Lead	mg/kg	4.9	56.1	56.2	61.4	60.8	101	99	75-125	1	20	
Selenium	mg/kg	<0.67	56.1	56.2	52.7	53.0	94	94	75-125	1	20	
Silver	mg/kg	<0.24	28	28.2	26.2	26.0	93	92	75-125	1	20	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
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(920)469-2436

QUALITY CONTROL DATA

Project: 60311418 PRAIRIE TOOL&DIE SITE
Pace Project No.: 4092924

QC Batch: OEXT/21542 Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3546 Analysis Description: 8270/3546 MSSV PAH by SIM
Associated Lab Samples: 4092924001, 4092924002, 4092924003, 4092924004, 4092924005, 4092924006, 4092924007, 4092924008, 4092924009, 4092924010, 4092924011, 4092924012, 4092924013

METHOD BLANK: 939250 Matrix: Solid
Associated Lab Samples: 4092924001, 4092924002, 4092924003, 4092924004, 4092924005, 4092924006, 4092924007, 4092924008, 4092924009, 4092924010, 4092924011, 4092924012, 4092924013

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1-Methylnaphthalene	ug/kg	<8.3	16.7	03/10/14 10:05	
2-Methylnaphthalene	ug/kg	<8.3	16.7	03/10/14 10:05	
Acenaphthene	ug/kg	<8.3	16.7	03/10/14 10:05	
Acenaphthylene	ug/kg	<7.5	16.7	03/10/14 10:05	
Anthracene	ug/kg	<8.6	16.7	03/10/14 10:05	
Benzo(a)anthracene	ug/kg	<5.8	16.7	03/10/14 10:05	
Benzo(a)pyrene	ug/kg	<6.0	16.7	03/10/14 10:05	
Benzo(b)fluoranthene	ug/kg	<8.3	16.7	03/10/14 10:05	
Benzo(g,h,i)perylene	ug/kg	<6.3	16.7	03/10/14 10:05	
Benzo(k)fluoranthene	ug/kg	<9.2	16.7	03/10/14 10:05	
Chrysene	ug/kg	<7.7	16.7	03/10/14 10:05	
Dibenz(a,h)anthracene	ug/kg	<6.1	16.7	03/10/14 10:05	
Fluoranthene	ug/kg	<8.3	16.7	03/10/14 10:05	
Fluorene	ug/kg	<8.3	16.7	03/10/14 10:05	
Indeno(1,2,3-cd)pyrene	ug/kg	<6.3	16.7	03/10/14 10:05	
Naphthalene	ug/kg	<8.3	16.7	03/10/14 10:05	
Phenanthrene	ug/kg	<8.3	16.7	03/10/14 10:05	
Pyrene	ug/kg	<8.3	16.7	03/10/14 10:05	
2-Fluorobiphenyl (S)	%	59	40-130	03/10/14 10:05	
Terphenyl-d14 (S)	%	68	40-130	03/10/14 10:05	

LABORATORY CONTROL SAMPLE: 939251

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	ug/kg	333	241	72	47-130	
2-Methylnaphthalene	ug/kg	333	236	71	48-130	
Acenaphthene	ug/kg	333	250	75	55-130	
Acenaphthylene	ug/kg	333	244	73	55-130	
Anthracene	ug/kg	333	272	82	66-130	
Benzo(a)anthracene	ug/kg	333	252	75	55-130	
Benzo(a)pyrene	ug/kg	333	258	77	56-130	
Benzo(b)fluoranthene	ug/kg	333	260	78	53-130	
Benzo(g,h,i)perylene	ug/kg	333	267	80	51-130	
Benzo(k)fluoranthene	ug/kg	333	255	76	52-130	
Chrysene	ug/kg	333	260	78	58-130	
Dibenz(a,h)anthracene	ug/kg	333	264	79	55-130	
Fluoranthene	ug/kg	333	282	85	62-130	
Fluorene	ug/kg	333	254	76	58-130	
Indeno(1,2,3-cd)pyrene	ug/kg	333	269	81	54-130	
Naphthalene	ug/kg	333	231	69	41-130	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 60311418 PRAIRIE TOOL&DIE SITE
Pace Project No.: 4092924

LABORATORY CONTROL SAMPLE: 939251

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phenanthrene	ug/kg	333	275	82	60-130	
Pyrene	ug/kg	333	262	79	51-130	
2-Fluorobiphenyl (S)	%			74	40-130	
Terphenyl-d14 (S)	%			80	40-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 939252 939253

Parameter	Units	4092924009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1-Methylnaphthalene	ug/kg	<9.4	377	377	260	275	69	73	42-130	6	32	
2-Methylnaphthalene	ug/kg	<9.4	377	377	263	265	70	70	34-130	1	35	
Acenaphthene	ug/kg	<9.4	377	377	253	264	67	70	31-130	4	35	
Acenaphthylene	ug/kg	<8.4	377	377	251	269	66	71	32-130	7	25	
Anthracene	ug/kg	<9.8	377	377	255	264	68	70	39-131	3	38	
Benzo(a)anthracene	ug/kg	<6.5	377	377	240	253	64	67	29-130	5	30	
Benzo(a)pyrene	ug/kg	<6.7	377	377	252	260	67	69	35-130	3	33	
Benzo(b)fluoranthene	ug/kg	<9.4	377	377	251	265	67	70	21-142	5	44	
Benzo(g,h,i)perylene	ug/kg	<7.2	377	377	260	270	69	72	12-134	4	33	
Benzo(k)fluoranthene	ug/kg	<10.4	377	377	233	250	62	66	35-130	7	37	
Chrysene	ug/kg	<8.7	377	377	249	260	66	69	37-130	4	38	
Dibenz(a,h)anthracene	ug/kg	<6.9	377	377	267	272	71	72	23-130	2	27	
Fluoranthene	ug/kg	<9.4	377	377	245	260	65	69	29-137	6	50	
Fluorene	ug/kg	<9.4	377	377	257	275	68	73	32-130	7	32	
Indeno(1,2,3-cd)pyrene	ug/kg	<7.2	377	377	266	275	70	73	17-134	4	28	
Naphthalene	ug/kg	<9.4	377	377	247	250	65	66	24-130	1	40	
Phenanthrene	ug/kg	<9.4	377	377	254	266	67	71	27-135	5	46	
Pyrene	ug/kg	<9.4	377	377	260	262	69	70	24-130	1	49	
2-Fluorobiphenyl (S)	%						66	64	40-130			
Terphenyl-d14 (S)	%						69	63	40-130			

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: 60311418 PRAIRIE TOOL&DIE SITE
Pace Project No.: 4092924

QC Batch: PMST/9480 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 4092924001, 4092924002, 4092924003, 4092924004, 4092924005, 4092924006

SAMPLE DUPLICATE: 938471

Parameter	Units	4092909010 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	6.6	7.1	7	10	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(920)469-2436

QUALITY CONTROL DATA

Project: 60311418 PRAIRIE TOOL&DIE SITE
Pace Project No.: 4092924

QC Batch: PMST/9484 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 4092924007, 4092924008, 4092924009, 4092924010, 4092924011, 4092924012, 4092924013

SAMPLE DUPLICATE: 939926

Parameter	Units	4093079003 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	6.7	6.6	0	10	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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Green Bay, WI 54302
(920)469-2436

QUALIFIERS

Project: 60311418 PRAIRIE TOOL&DIE SITE
Pace Project No.: 4092924

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 60311418 PRAIRIE TOOL&DIE SITE
Pace Project No.: 4092924

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4092924001	**PDT-SS1-GP14-2014**	EPA 3050	MPRP/9914	EPA 6010	ICP/8719
4092924002	**PDT-SS1-GP15-2014**	EPA 3050	MPRP/9914	EPA 6010	ICP/8719
4092924003	**PDT-SS1-GP16-2014**	EPA 3050	MPRP/9914	EPA 6010	ICP/8719
4092924004	**PDT-SS2-GP16-2014**	EPA 3050	MPRP/9914	EPA 6010	ICP/8719
4092924005	**PDT-SS1-GP17-2014**	EPA 3050	MPRP/9914	EPA 6010	ICP/8719
4092924006	**PDT-SS2-GP17-2014**	EPA 3050	MPRP/9914	EPA 6010	ICP/8719
4092924007	**PDT-SS1-GP18-2014**	EPA 3050	MPRP/9914	EPA 6010	ICP/8719
4092924008	**PDT-SS2-GP18-2014**	EPA 3050	MPRP/9914	EPA 6010	ICP/8719
4092924009	**PDT-SS1-GP19-2014**	EPA 3050	MPRP/9914	EPA 6010	ICP/8719
4092924010	**PDT-SS1-GP19-2014-DUP**	EPA 3050	MPRP/9914	EPA 6010	ICP/8719
4092924011	**PDT-SS2-GP19-2014**	EPA 3050	MPRP/9914	EPA 6010	ICP/8719
4092924012	**PDT-SS1-GP20-2014**	EPA 3050	MPRP/9914	EPA 6010	ICP/8719
4092924013	**PDT-SS2-GP20-2014**	EPA 3050	MPRP/9914	EPA 6010	ICP/8719
4092924001	**PDT-SS1-GP14-2014**	EPA 7471	MERP/4138	EPA 7471	MERC/5400
4092924002	**PDT-SS1-GP15-2014**	EPA 7471	MERP/4138	EPA 7471	MERC/5400
4092924003	**PDT-SS1-GP16-2014**	EPA 7471	MERP/4138	EPA 7471	MERC/5400
4092924004	**PDT-SS2-GP16-2014**	EPA 7471	MERP/4138	EPA 7471	MERC/5400
4092924005	**PDT-SS1-GP17-2014**	EPA 7471	MERP/4138	EPA 7471	MERC/5400
4092924006	**PDT-SS2-GP17-2014**	EPA 7471	MERP/4138	EPA 7471	MERC/5400
4092924007	**PDT-SS1-GP18-2014**	EPA 7471	MERP/4138	EPA 7471	MERC/5400
4092924008	**PDT-SS2-GP18-2014**	EPA 7471	MERP/4138	EPA 7471	MERC/5400
4092924009	**PDT-SS1-GP19-2014**	EPA 7471	MERP/4138	EPA 7471	MERC/5400
4092924010	**PDT-SS1-GP19-2014-DUP**	EPA 7471	MERP/4138	EPA 7471	MERC/5400
4092924011	**PDT-SS2-GP19-2014**	EPA 7471	MERP/4138	EPA 7471	MERC/5400
4092924012	**PDT-SS1-GP20-2014**	EPA 7471	MERP/4138	EPA 7471	MERC/5400
4092924013	**PDT-SS2-GP20-2014**	EPA 7471	MERP/4138	EPA 7471	MERC/5400
4092924001	**PDT-SS1-GP14-2014**	EPA 3546	OEXT/21542	EPA 8270 by SIM	MSSV/6526
4092924002	**PDT-SS1-GP15-2014**	EPA 3546	OEXT/21542	EPA 8270 by SIM	MSSV/6526
4092924003	**PDT-SS1-GP16-2014**	EPA 3546	OEXT/21542	EPA 8270 by SIM	MSSV/6526
4092924004	**PDT-SS2-GP16-2014**	EPA 3546	OEXT/21542	EPA 8270 by SIM	MSSV/6526
4092924005	**PDT-SS1-GP17-2014**	EPA 3546	OEXT/21542	EPA 8270 by SIM	MSSV/6526
4092924006	**PDT-SS2-GP17-2014**	EPA 3546	OEXT/21542	EPA 8270 by SIM	MSSV/6526
4092924007	**PDT-SS1-GP18-2014**	EPA 3546	OEXT/21542	EPA 8270 by SIM	MSSV/6526
4092924008	**PDT-SS2-GP18-2014**	EPA 3546	OEXT/21542	EPA 8270 by SIM	MSSV/6526
4092924009	**PDT-SS1-GP19-2014**	EPA 3546	OEXT/21542	EPA 8270 by SIM	MSSV/6526
4092924010	**PDT-SS1-GP19-2014-DUP**	EPA 3546	OEXT/21542	EPA 8270 by SIM	MSSV/6526
4092924011	**PDT-SS2-GP19-2014**	EPA 3546	OEXT/21542	EPA 8270 by SIM	MSSV/6526
4092924012	**PDT-SS1-GP20-2014**	EPA 3546	OEXT/21542	EPA 8270 by SIM	MSSV/6526
4092924013	**PDT-SS2-GP20-2014**	EPA 3546	OEXT/21542	EPA 8270 by SIM	MSSV/6526
4092924001	**PDT-SS1-GP14-2014**	ASTM D2974-87	PMST/9480		
4092924002	**PDT-SS1-GP15-2014**	ASTM D2974-87	PMST/9480		
4092924003	**PDT-SS1-GP16-2014**	ASTM D2974-87	PMST/9480		
4092924004	**PDT-SS2-GP16-2014**	ASTM D2974-87	PMST/9480		
4092924005	**PDT-SS1-GP17-2014**	ASTM D2974-87	PMST/9480		
4092924006	**PDT-SS2-GP17-2014**	ASTM D2974-87	PMST/9480		
4092924007	**PDT-SS1-GP18-2014**	ASTM D2974-87	PMST/9484		
4092924008	**PDT-SS2-GP18-2014**	ASTM D2974-87	PMST/9484		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
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(920)469-2436

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 60311418 PRAIRIE TOOL&DIE SITE
Pace Project No.: 4092924

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4092924009	**PDT-SS1-GP19-2014**	ASTM D2974-87	PMST/9484		
4092924010	**PDT-SS1-GP19-2014-DUP**	ASTM D2974-87	PMST/9484		
4092924011	**PDT-SS2-GP19-2014**	ASTM D2974-87	PMST/9484		
4092924012	**PDT-SS1-GP20-2014**	ASTM D2974-87	PMST/9484		
4092924013	**PDT-SS2-GP20-2014**	ASTM D2974-87	PMST/9484		

UPPER MIDWEST REGION
MN: 612-607-1700 **WI:** 920-469-2436

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CHAIN OF CUSTODY

4092924

(Please Print Clearly)	
Company Name:	AECOM
Branch/Location:	MILWAUKEE, WI
Project Contact:	DONNA VOLK
Phone:	414-944-6171
Project Number:	60311418
Project Name:	PRAIRIE TOOL + DIE SITE
Project State:	WISCONSIN
Sampled By (Print):	JUSTIN D. WARNER
Sampled By (Sign):	Justin D. Warner
PO #:	Regulatory Program:

Quote #:	
Mail To Contact:	DONNA VOLK
Mail To Company:	AECOM
Mail To Address:	1555 RIVERCENTER DR, #214 MILWAUKEE, WI 53212
Invoice To Contact:	DONNA VOLK
Invoice To Company:	AECOM
Invoice To Address:	-SAME-
Invoice To Phone:	414-944-6171

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

Data Package Options (billable)
☐ EPA Level III
☐ EPA Level IV

MS/MSD
☐ On your sample (billable)
☐ NOT needed on your sample

Matrix Codes

A = Air	W = Water
B = Biota	DW = Drinking Water
C = Charcoal	GW = Ground Water
O = Oil	SW = Surface Water
S = Soil	WW = Waste Water
SI = Sludge	WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	FILTERED? (YES/NO) Y/N	PRESERVATION (CODE)* Pick Letter	Analyses Requested: RCRA METALS EPA Methods 6010+7470	PAH EPA Method 8270	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
					N	A					
001	PDT-SS1-GP14-2014	3/4/2014	1:00	S			✓	✓	1 to 2 FT.	1-4oz pA 1-4oz agA	
002	PDT-SS1-GP15-2014		12:05				✓	✓	1 TO 2FT.		
003	PDT-SS1-GP16-2014		1:10				✓	✓	1 TO 2 FT.		
004	PDT-SS2-GP16-2014		1:15				✓	✓	7 TO 8 FT.		
005	PDT-SS1-GP17-2014		11:45				✓	✓	1 TO 2 FT.		
006	PDT-SS2-GP17-2014		11:50				✓	✓	7 TO 8 FT.		
007	PDT-SS1-GP18-2014		12:15				✓	✓	1 TO 2 FT.		
008	PDT-SS2-GP18-2014		12:20				✓	✓	7 TO 8 FT.		
009	PDT-SS1-GP19-2014		12:45				✓	✓	1 TO 2FT, USE FOR MS/MSD	BATCH IF ENOUGH SAMPLE	
010	PDT-SS1-GP19-2014-DUP		12:45				✓	✓	1 TO 2FT, QA/QC		
011	PDT-SS2-GP19-2014		12:50				✓	✓	7 TO 8 FT		
012	PDT-SS1-GP20-2014		12:30				✓	✓	1 TO 2 FT		
013	PDT-SS2-GP20-2014		12:35				✓	✓	7 TO 8 FT		

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1:	
Email #2:	
Telephone:	
Fax:	

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
Justin D. Warner	3/04/2014 @16:30		
UPS	3/6/14 1020	Maughn Pace GB	3/6/14 1020

PACE Project No.: 4092924

Receipt Temp = R01 °C

Sample Receipt pH: OK / Adjusted

Cooler Custody Seal: Present / Not Present — Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

Sample Condition Upon Receipt

Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Pace Analytical™

Proje **WO# : 4092924**

4092924

Client Name: AECOM

Courier: ☐ Fed Ex ☑ UPS ☐ Client ☐ Pace Other: _____

Tracking #: 1Z R4A 779 03 9141 0090

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☑ no Seals intact: ☐ yes ☑ no

Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☑ Other Ziploc

Thermometer Used N/A **Type of Ice:** (Wet) Blue Dry None ☑ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 2.01 /Corr: **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp Blank Present: ☐ yes ☑ no

Person examining contents:
Date: 3/6/14
Initials: MH

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☑No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10. recieved cracked Lid for 001 4ozag mH 3/6/14
Filtered volume received for Dissolved tests	☐Yes ☑No ☐N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12. NO collection time on 003, 004, 010, mH 3/6/14
-Includes date/time/ID/Analysis Matrix: S		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	☐Yes ☐No ☑N/A	13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ NaOH +ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	☐Yes ☐No ☑N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	☐Yes ☑No	Initial when completed / Lab Std #ID of preservative / Date/ Time:
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	14.
Trip Blank Present:	☐Yes ☐No ☑N/A	15.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

If checked, see attached form for additional comments ☐

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** 3/6/14

Appendix C

Previous Phase II Assessment Report

Phase 2 Environmental Site Assessment Report

Herreid Property
525 South Marquette Road
Prairie du Chien, Wisconsin 53821

Prepared for:

City of Prairie du Chien
214 East Blackhawk Avenue
Prairie du Chien, Wisconsin 53821

August 2007

Phase 2 Environmental Site Assessment Report

Herreid Property
525 South Marquette Road
Prairie du Chien, Wisconsin 53821

This report prepared by:

Thomas P. Gaieck, PG
Hydrogeologist

This report reviewed by:

Scott C. Wilson, PSS, CPSS/SC
Manager – Environmental Services

AYRES ASSOCIATES
Engineers/Photogrammetrists/Scientists/Surveyors

1802 Pankratz Street
Madison, WI 53704
(608) 443-1200, FAX (608) 443-1250

Ayres Associates Project No. 53-0533.00
j:\es\projects\53062400\herreid phase 2 esa report.doc

NR 712.09 SUBMITTAL CERTIFICATION

"I, Scott C. Wilson, hereby certify that I am a scientist as that term is defined in s. NR 712.03(3), Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to NR 726, Wis. Adm. Code."

Scott C. Wilson, PSS, CPSS/SC - Manager — Date

"I, Thomas P. Gaieck, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03(3), Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to NR 726, Wis. Adm. Code."

Thomas P. Gaieck, PG Hydrogeologist — 1/25/08 Date

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Executive Summary

This report presents results of Phase 2 Environmental Site Assessment (ESA) activities conducted on the Herreid property, located at 525 South Marquette Road, Prairie du Chien, WI. The site is bounded by Marquette Road, Webster Street, Dunn Street (vacated), and an empty lot situated adjacent to the Burlington Northern Railroad. The objective of the assessment was to evaluate potential environmental liabilities identified in the Phase 1 Environmental Site Assessment (ESA) of the property.

The subject property contains a former truck stop with car wash and restaurant, as well as a former tool and die manufacturing facility. The truck stop began operation in the 1950's and ceased operation within the last five years. The tool and die manufacturing facility operated on the subject property for over 80 years, beginning in the 1920's. A Phase 1 ESA of the property identified several petroleum spills on the truck stop portion of the property. Moreover, six underground storage tanks were closed and removed from the property in 1992. These tanks were replaced by the current UST system. The floor inside the tool and die manufacturing facility was observed to be stained; subsurface impacts resulting from spillage of solvents, lubricating fluids, and metals may have occurred. Also, operations in the paint booth, on the south side of the facility, may have caused environmental contamination.

Five soil probes and five temporary monitoring wells were advanced on the site on April 20, 2007, to assess possible subsurface impacts resulting from historical use of the property and its' uses. Soil probes were advanced to 24-feet below land surface to assess possible impacts to the vadose zone. Temporary monitoring wells were installed to 28 feet bls. Three shallow soil probes were subsequently advanced to two feet bls within the tool and die building on July 18, 2007. Soil samples were collected continuously at each probe and well location and screened for volatile organic vapors using an HNu equipped with an 11.7 eV lamp. Soil samples were analyzed for constituents of concern, depending on their location.

Soil and groundwater samples collected across the entire site were analyzed for volatile organic compounds (VOC) and polycyclic aromatic hydrocarbons (PAH). Heavy metals were analyzed in soil samples collected in proximity of the car wash and tool and die facility. One round of groundwater samples was also analyzed for heavy metals.

Subsurface material encountered during assessment activities is comprised of fluvial sediments consisting of poorly-graded sand. Groundwater was encountered at approximately 23 feet bls. Chemical analysis of soil samples detected concentrations of chromium and lead above non-industrial residual contaminant levels along the west side of the tool and die building. One soil sample collected in proximity of the overhead door on the northwest corner of the building contained lead greater than the industrial RCL. Arsenic was detected at concentrations greater than the non-industrial RCL in each soil sample collected beneath the floor of the tool and die building. One soil sample collected outside the southwest portion of the building contained arsenic greater than the industrial RCL.

Concentrations of PAH were also detected above the non-industrial RCL in soil samples collected from probes along the west side of the tool and die building and in one sample collected beneath the floor of the facility. Low levels of acetone and toluene reported in several soil samples were also detected in the methanol blank, indicating that acetone and toluene are laboratory contaminants.

Ground water sample analysis detected bromodichloromethane, dibromochloromethane, and chloroform in well GP-6 located on the south side of the tool and die facility. Bromodichloromethane and chloroform were also detected in well GP-7, installed on the west side of the tool and die facility. Bromodichloromethane and chloroform were detected above

enforcement standards in both rounds of samples collected from GP-6. Bromodichloromethane was also detected above enforcement standards in the initial groundwater sample collected from GP-7. The subsequent round of sampling did not detect this compound above laboratory method detection limits. No other VOC were detected in groundwater samples collected from wells installed across the site.

Laboratory analysis did not detect heavy metal concentration greater than enforcement standards in any groundwater sample collected across the site. Fluoroanthene, detected in GP-3 and GP-6, was the only PAH compound detected. The concentration of fluoroanthene detected was below enforcement standards.

Based upon chemical analysis and observations made during this assessment, additional environmental activities are warranted to mitigate the risk to direct human contact with the area of heavy metal and PAH contamination at the tool and die facility. Additional groundwater monitoring is also warranted to assess trends in VOC detected in wells installed adjacent to the tool and die building.

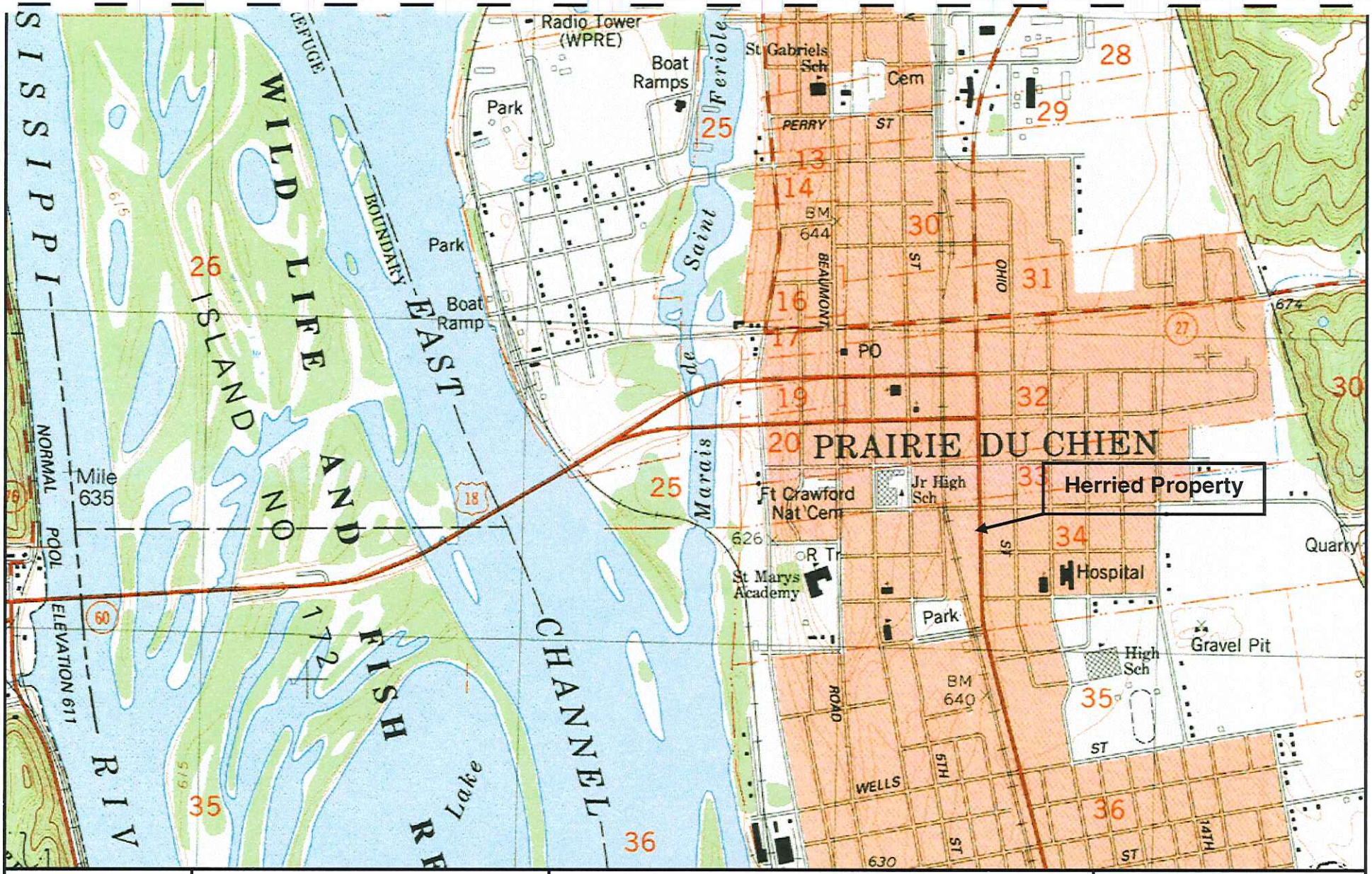
Acknowledgement

On behalf of the City of Prairie du Chien, Ayres Associates would like to extend its sincere appreciation to the Wisconsin Department of Natural Resources (WDNR) for its funding support. The WDNR Site Assessment Grant Program graciously awarded the City of Prairie du Chien a grant to assist in funding the environment activities outlined in this report. Without this funding support, this Brownfield site may have laid idle indefinitely. We are indebted to the Department for making this financial assistance available for this important redevelopment project.

Introduction

The City of Prairie du Chien authorized Ayres Associates to perform a Phase 2 Environmental Site Assessment of the Herreid property. The property consists of a former truck stop and car wash, and a former tool and die manufacturer, located at the intersection of Webster Street and South Marquette Road (Figure 1). Phase 1 Environmental Site Assessment (ESA) activities identified several petroleum spills on the truck stop portion of the site during the 50 years of its operation. The UST system at the truck stop was upgraded in 1992. During UST closure assessment and system upgrade activities conducted in 1992, soil contamination was noted in proximity of the pump islands. Phase 1 ESA also indicated that the floor in the tool and die building was noticeably stained. Activities conducted in the paint booth on the south end of the building may have caused environmental contamination.

Phase 2 Environmental Site Assessment (ESA) activities were conducted at the site on April 20 and July 18, 2007. The objective of the ESA was to evaluate potential environmental liabilities to the project identified in the Phase I ESA. This report documents the results of assessment activities conducted on the Herreid property.



WISCONSIN

QUADRANGLE LOCATION

PRAIRIE DU CHIEN, IOWA–WIS.

SW/4 PRAIRIE DU CHIEN 15' QUADRANGLE

N4300–W9107.5/7.5

1983

Figure 1 - Herreid Property,
Webster Street and Marquette Road,
Prairie du Chien, Wisconsin
Phase 2 - August 2007

AYRES ASSOCIATES

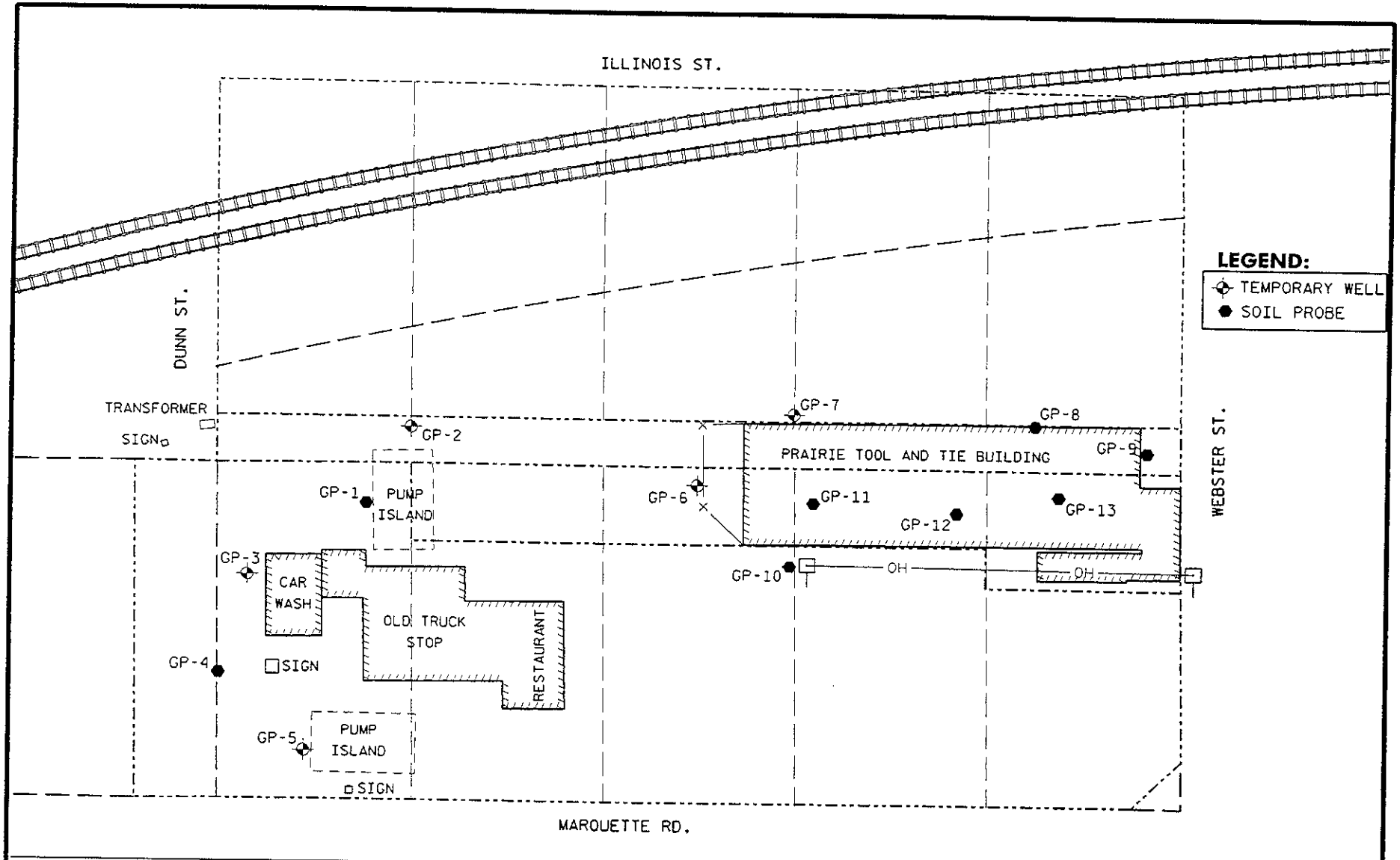
Contamination Assessment Activities

A total of eight soil probes (GP-1, GP-4 and GP-8 through GP-10) and five temporary monitoring wells (GP-2, GP-3, and GP-5 through GP-7) were installed on the property on April 20, 2007 to assess subsurface contamination. Three shallow soil probes were subsequently advanced to two feet below land surface (bls) within the tool and die building on July 18, 2007. Soil probes installed in April were advanced to 24 feet bls. Temporary monitoring wells were installed to 28 feet bls to intersect the water table. Soil probe and temporary well locations are shown on Figure 2

Soil was continuously sampled from each probe and temporary well borehole, and characterized according to the Unified Soil Classification System (USCS). Volatile organic vapors were screened in each sample using an HNu equipped with an 11.7 eV lamp. Methods and procedures used during soil probing activities are contained in Appendix A. Boring logs are included in Appendix B.

One soil sample collected from each soil probe and temporary monitoring well were submitted for laboratory analysis. Soil samples collected from each location were analyzed for volatile organic compounds (VOC) and polycyclic aromatic hydrocarbons (PAH). Soil collected from GP-3, and GP-6 through GP-13 were also analyzed for heavy metals. Groundwater samples collected from each temporary monitoring well were analyzed for VOC, PAH and heavy metals during the initial sampling round conducted April 20. The subsequent sampling round performed on July 18 was conducted to verify the VOC detected in GP-6 and GP-7.

Material encountered across the site was comprised of fluvial deposits consisting of medium- to coarse-grained sand to the total depth explored of 28 feet bls. Saturated conditions were encountered at approximately 23 feet bls. Incidental odors, and volatile organic vapor concentrations above background levels, were not noted in any soil samples collected during this assessment.



AYRES ASSOCIATES

SITE LOCATION

MAPPING SOURCE:

NORTH

30 0 60

GRAPHIC SCALE IN FEET

FIGURE 2

SOIL PROBE LOCATION MAP

HERREID PROPERTY

DATE: 08-08-07
JOB NUMBER: 53-0624.10

m:\:DGN=53062410=WD=53062410_02.DGN
modlbw.tbl
8/9/2007
8:53:00 AM

Analytical Results

Laboratory analysis detected heavy metals and PAH in soil samples collected from probes advanced in proximity of the tool and die building, at concentrations above residual contaminant levels (RCL). Concentrations of chromium and lead were detected above the non-industrial RCL in surface soil sampled from GP-7, GP-8, and GP-9. The concentration of lead in soil sampled from GP-9 was also above the industrial RCL. Arsenic was detected above the industrial RCL in GP-7, and in soil sampled beneath the floor of the tool and die building in soil probes GP-11, GP-12, and GP-13. Benzo(a)pyrene and benzo(b)fluoranthene were detected above the suggested non-industrial direct contact RCL in soil sampled from GP-7 and GP-8. Benzo(a)pyrene was also detected above the non-industrial RCL in GP-9. Soil sampled in GP-12 contained benzo(a)anthracene above the non-industrial RCL.

Toluene and xylenes were reported in several soil samples analyzed for VOC. These compounds were also detected in the methanol blank and their detection in the soil samples is considered an artifact of laboratory contamination. Acetone was also reported in several soil samples and was flagged by the laboratory as a suspected laboratory contaminant. No other VOC, were reported for any soil samples submitted for analysis.

Groundwater sampled from temporary wells GP-6 and GP-7, installed adjacent to the tool and die facility, contained the trihalomethanes bromodichloromethane, dibromochloromethane, and chloroform. Bromodichloromethane and chloroform were detected above enforcement standards in both rounds of samples collected from GP-6 on April 20 and July 18. Bromodichloromethane, which was detected above enforcement standards in the sample collected from GP-7 on April 20, was not detected above laboratory method detection limits in the sample collected on July 18. No other VOCs were detected in groundwater samples collected at the site. Except for low levels of fluoranthene detected in GP-3 and GP-6, PAH compounds were not detected. Low levels of heavy metals were detected in groundwater samples collected from each temporary well. None of the concentrations reported were above enforcement standards.

Soil sample analytical results are summarized in Tables 1 and 2. Groundwater sample analytical results are summarized in Tables 3 and 4. Laboratory reports are contained in Appendix C.

Table 1
Herreid Property
Prairie du Chien
Soil Analytical Results
RCRA Metals

Sample I.D.	Date	Depth	Arsenic	Barium	Cadmium	Chromium	Lead	Selenium	Silver	Mercury
		feet	<---------- Milligrams per Kilogram (mg/kg) ---------- ->							
GP-3	4/20/2007	0-2	<0.56	25	<0.056	6.5	1.8	<0.56	<0.28	0.0023
GP-6	4/20/2007	0-2	<0.56	55.9	<0.056	11.2	5.6	0.68	<0.28	0.0095
GP-7	4/20/2007	0-2	**9.2**	89.1	<0.072	**22.8**	**179**	<0.72	<0.36	0.034
GP-8	4/20/2007	0-2	<0.61	163	<0.061	**15.1**	**119**	<0.61	<0.31	0.2
GP-9	4/20/2007	0-2	<0.61	205	<0.061	**16.9**	**596**	0.99	<0.3	0.18
GP-10	4/20/2007	0-2	<0.61	36.8	<0.061	13.5	27.9	1	<0.3	0.015
GP-11	7/18/2007	0-2	**0.88**	42.8	0.078	11	13	1.9	<0.3	0.013
GP-12	7/18/2007	0-2	**0.87**	49.9	0.11	8	9.1	2	<0.31	0.017
GP-13	7/18/2007	0-2	**1.3**	68	0.28	13.4	8.6	2.5	<0.31	0.052
NR 720.11(5) RCLs	Industrial		1.6	NE	510	200	500	NE	NE	NE
	Non Industrial		0.039	NE	8	14	50	NE	NE	NE

NE = Not Established in NR 720

BOLD Exceeds NR 720 Wisconsin Administrative Code Industrial Residual Contaminat Levels (RCLs).

Table 2
Herreid Property
Prairie du Chien
Soil Analytical Results
Polycyclic Aromatic Hydrocarbons (PAH)

Sample I.D.	Date	Depth	Anthracene	Acenaphthene	Acenaphthylene	Benzo(a) anthracene	Benzo(e) pyrene	Benzo(b) fluoranthene	Benzo(g,h,i) perylene	Benzo(k) fluoranthene	Chrysene	Dibenzo(a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	1-methyl naphthalene	2-methyl naphthalene
		feet	<- - - - - Milligrams per Kilogram (mg/kg) - - - - ->																	
GP-1	4/20/2007	0-2	<0.0031	<0.025	<0.032	<0.001	<0.0031	0.004	<0.0062	<0.0031	<0.0031	<0.0052	<0.0021	<0.0062	<0.0031	<0.022	<0.0031	0.031	<0.025	<0.026
GP-2	4/20/2007	2-4	<0.0032	<0.026	<0.033	<0.0011	<0.0032	<0.0022	<0.0065	<0.0032	<0.0032	<0.0054	<0.0022	<0.0065	<0.0032	<0.023	<0.0032	<0.0032	<0.026	<0.027
GP-3	4/20/2007	0-2	<0.0031	<0.025	<0.032	<0.001	<0.0031	<0.0021	<0.0063	<0.0031	<0.0031	<0.0052	<0.0021	<0.0063	<0.0031	<0.022	<0.0031	<0.0031	<0.025	<0.026
GP-4	4/20/2007	0-2	<0.0063	<0.05	<0.065	<0.0021	<0.0063	<0.0042	<0.013	<0.0063	<0.0063	<0.01	<0.0042	<0.013	<0.0063	<0.044	<0.0063	<0.0063	<0.05	<0.052
GP-5	4/20/2007	2-4	<0.0032	<0.025	<0.033	<0.0011	<0.0032	<0.0021	<0.0063	<0.0032	<0.0032	<0.0053	<0.0021	<0.0063	<0.0032	<0.022	<0.0032	<0.0032	<0.025	<0.026
GP-6	4/20/2007	0-2	<0.0031	<0.025	<0.032	0.0037	0.0036	<0.0021	<0.0062	0.005	0.019	<0.0052	0.17	<0.0062	<0.0031	<0.022	<0.0031	0.62	<0.025	<0.026
GP-7	4/20/2007	0-2	<0.0071	<0.057	<0.074	0.019	0.068	0.1	0.041	0.057	0.14	<0.012	1.2	<0.014	0.08	<0.05	0.054	4.5	<0.057	0.16
GP-8	4/20/2007	0-2	<0.0067	<0.054	0.12	0.12	0.1	0.11	0.05	0.035	0.23	<0.011	0.51	<0.013	0.074	<0.047	0.12	0.26	<0.054	<0.056
GP-9	4/20/2007	0-2	<0.017	<0.14	<0.18	0.07	0.043	0.077	0.043	0.017	0.09	<0.029	0.57	<0.035	0.054	<0.12	0.16	2.4	<0.14	0.19
GP-10	4/20/2007	0-2	<0.0065	<0.052	<0.067	<0.0022	<0.0065	<0.0043	<0.013	<0.0065	<0.0065	<0.011	<0.0043	<0.013	<0.0065	<0.045	<0.0065	0.18	<0.052	<0.054
GP-11	7/18/2007	0-2	<0.0032	<0.025	<0.033	0.0033	<0.0032	0.011	<0.0063	0.0051	0.032	<0.0053	0.098	<0.0063	<0.0032	<0.022	<0.0032	0.082	<0.025	<0.026
GP-12	7/18/2007	0-2	0.0072	<0.025	<0.033	0.1	0.0043	0.087	<0.0064	0.015	0.11	<0.0053	0.11	<0.0064	0.0089	<0.022	0.033	0.17	<0.025	<0.027
GP-13	7/18/2007	0-2	<0.0031	<0.025	0.45	0.014	0.0039	0.017	<0.0062	0.005	0.013	<0.0052	0.023	<0.0062	0.0056	<0.022	0.014	0.044	<0.025	<0.026
Ground Water Pathway RCL			3,000	38	0.7	17	48	360	6,800	870	37	38	500	100	680	0.4	1.8	8,700	23	20
Non-Industrial Direct Contact RCL			5,000	900	18	0.088	0.0088	0.088	1.8	0.88	8.8	0.0088	600	600	0.088	20	18	500	1,100	600
Industrial Direct Contact RCL			300,000	60,000	360	3.9	0.39	3.9	39	39	390	0.39	40,000	40,000	3.9	110	390	30,000	70,000	40,000

RCL = Wisconsin Department of Natural Resources suggested Residual Contaminant Levels documented in Publication RR-519-97, Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons (PAHs) Interim Guidance

Bold = Exceeds Non-Industrial Direct Contact RCL

Table 3
Herreid Property
Prairie du Chien
Ground Water Analytical Results

RCRA Metals

Sample I.D.	Date	Arsenic	Barium	Cadmium	Chromium	Lead	Selenium	Silver	Mercury
		micrograms per liter (ug/L)							
GP-2	4/20/2007	<0.8	81.7	<0.4	<0.7	3	7.2	<0.8	<0.08
GP-3	4/20/2007	<0.8	80.9	<0.4	0.76	1.6	10.8	<0.8	<0.08
GP-5	4/20/2007	<0.8	69.1	<0.4	0.87	1.7	6.3	<0.8	<0.08
GP-6	4/20/2007	<0.8	56.3	<0.4	0.85	1.5	8.6	0.99	<0.08
GP-7	4/20/2007	<0.8	53.3	<0.4	1.3	<1.3	4.7	<0.8	<0.08
PREVENTIVE ACTION LIMIT		1	400	0.5	10	1.5	10	10	0.2
ENFORCEMENT STANDARD		10	2,000	5	100	15	50	50	2

Table 4
Herreid Property
Prairie du Chien
Ground Water Analytical Results
Volatile Organic Compounds

	Date	Bromodichloro methane	Dibromochloro methane	Chloroform
		micrograms per liter (ug/L)		
GP-2	4/20/2007	<0.15	<0.6	<0.5
GP-3	4/20/2007	<0.15	<0.6	<0.5
GP-5	4/20/2007	<0.15	<0.6	<0.5
GP-6	4/20/2007	1.9	0.75	7.2
	7/18/2007	6.4	3.2	20
GP-7	4/20/2007	1.4	<0.6	4.7
	7/18/2007	<0.19	<0.23	0.44
PREVENTIVE ACTION LIMIT		0.06	6	0.6
ENFORCEMENT STANDARD		0.6	60	6

BOLD = exceeds enforcement standards

Conclusion and Recommendations

Phase 2 ESA activities were conducted on the Herreid property situated at the intersection of Webster Street and South Marquette Road, Prairie du Chien, to assess possible subsurface contamination associated with recognized environmental conditions identified during Phase 1 ESA activities. The southern portion of the property is occupied by a former truck stop and has a history of documented petroleum spills. A former tool and die manufacturing facility has occupied the northern part of the property for over 80 years.

Phase 2 ESA activities included advancement of 13 soil probes, installation of five temporary monitoring wells, field screening of soil samples for presence of volatile organic vapors, characterization of soil samples based upon the Unified Soil Classification System, and collection of soil and ground water samples for laboratory analysis.

Assessment activities conducted on April 20, 2007 indicated the presence of arsenic, chromium, lead and PAH contamination above non-industrial direct contact RCL in soil sampled within two feet of ground surface, adjacent to the west side of the former tool and die building. The concentration of arsenic in GP-7 and lead in GP-9 was also above the industrial RCL. Three shallow probes were advanced within the former tool and die building on July 18, 2007, to assess if contamination detected outside the building was also present beneath the floor. Laboratory analysis of soil sampled within two feet of ground surface in each probe advanced within the building contained arsenic concentrations greater then the non-industrial RCL. One soil sample collected beneath the floor of the building also contained PAH concentrations greater than non-industrial RCL. Contaminants of concern were not detected above RCL in any soil samples collected from soil probes advanced on the truck stop portion of the property.

Contamination in groundwater was also detected in proximity of the tool and die building. The only contaminants detected were three trihalomethanes, including bromodichloromethene, dibromochloromethane, and chloroform. These compounds were detected in GP-6 and GP-7, installed adjacent to the southwest portion of the building. Both rounds of samples, collected on April 20 and July 18 from GP-6, contained bromodichlormethane and chloroform concentrations greater than enforcement standards. Only the initial sample collected from GP-7 contained bromodichloromethane greater than enforcement standards. Groundwater samples from three temporary wells installed on the truck stop portion of the property did not contain contaminant concentrations greater than enforcement standards.

Contamination detected in soil on the Herreid property, in proximity of the former tool and die facility, is consistent with the manufacturing processes conducted in the building. The use of metals at the site appears to have contributed to the elevated arsenic, chromium and lead concentrations in surface soil. Lubricants and oils used in the building have likely caused the near surface PAH contamination. The trihalomethanes detected in groundwater are typically associated with chlorination and disinfection of potable water. These compounds have also been used in the past by industry for parts cleaning and as flame retardants.

Ayres Associates recommends that soil containing contaminants at concentrations above direct contact levels be managed in accordance with applicable State and Federal environmental regulations during redevelopment of the property. Remedial measures should mitigate risk to human health from direct contact with contaminated soil on the properties. Additional ground water monitoring is recommended to evaluate trihalomethane concentrations detected in temporary monitoring wells installed adjacent to the tool and die facility.

Appendix A
Methods and Procedures

SAMPLE HANDLING, SCREENING AND ANALYSIS

Soil Screening

Soil samples were screened using an HNU photo ionization detector (PID). The HNU was equipped with an 11.7 eV lamp and calibrated for direct reading in vapor parts per million (vppm) of total organic vapors using an isobutylene standard. The HNU was calibrated daily, and periodic calibration checks were made with an isobutylene standard.

The field instrument was "zeroed" in the field at the location of screening prior to commencement of screening activities. Ambient air (background) readings were made and recorded at various intervals during field activities. Potential sources of ambient organic vapor levels were noted, along with their context to the screening location. Additional information regarding atmospheric conditions (approximate air temperature, approximate wind speed and direction) were also recorded. Efforts were made to locate the field screening upwind from the excavation. Sample containers used for field screening purposes consisted of one-gallon Ziploc™ polyethylene freezer bags. Sample containers were pre-screened to insure that no organic vapors existed within the freezer bags prior to sample collection.

Field screening was accomplished by recording the highest and/or most stable reading obtained after allowing the manufacturer's specified minimum reading time to elapse. The instrument was allowed to evacuate all sample-derived organic vapors as evidenced by comparing the meter reading with the noted ambient air reading collected prior to sample screening. Any changes in the background reading during the screening process were noted.

Logs were kept regarding relative horizontal and vertical location of each sampling point, screening location, background organic vapor level, organic vapor screening levels, approximate screening duration, and obvious identifiable zones of contamination. In addition, pertinent information regarding PID calibration and operation was recorded.

Soil Sample Collection for Analytical Purposes

Soil samples collected for analytical purposes were chosen on the basis of visual and olfactory observations and in-field conditions at the time of sample collection.

Samples intended for laboratory analysis were immediately placed in sample containers provided by the analytical laboratory. Containers were sealed upon collection. Each sample was then labeled with a sample number, location, date, the initials of the sampler, and the parameters to be analyzed. The samples were then placed in a clean cooler with ice. The samples were maintained on ice throughout shipment to the laboratory.

Chain of Custody

Upon collection of soil and/or ground water samples intended for laboratory analysis, a chain of custody record was initiated. The chain of custody included the following information: project, job number, shipped by, shipped to, shipping method, sampling point, location, ID number, date collected, sample type, number and type of containers, analysis required, sampler(s), signature(s), etc. As few people as possible handled the samples.

Sample Holding

Representative nonhazardous soil samples will be retained in the laboratory for 30 days after submission of the project report. Unless otherwise requested, nonhazardous soil samples will be disposed of after a minimum holding time of 30 days. Upon request, the samples will be shipped to the client, or to a destination designated by the client, at an additional cost.

All soil samples that contain, or may potentially contain, hazardous materials will remain the property of the client, who shall be responsible for proper disposal. Samples not consumed by analysis will be returned to the client for proper disposal, at an additional cost.