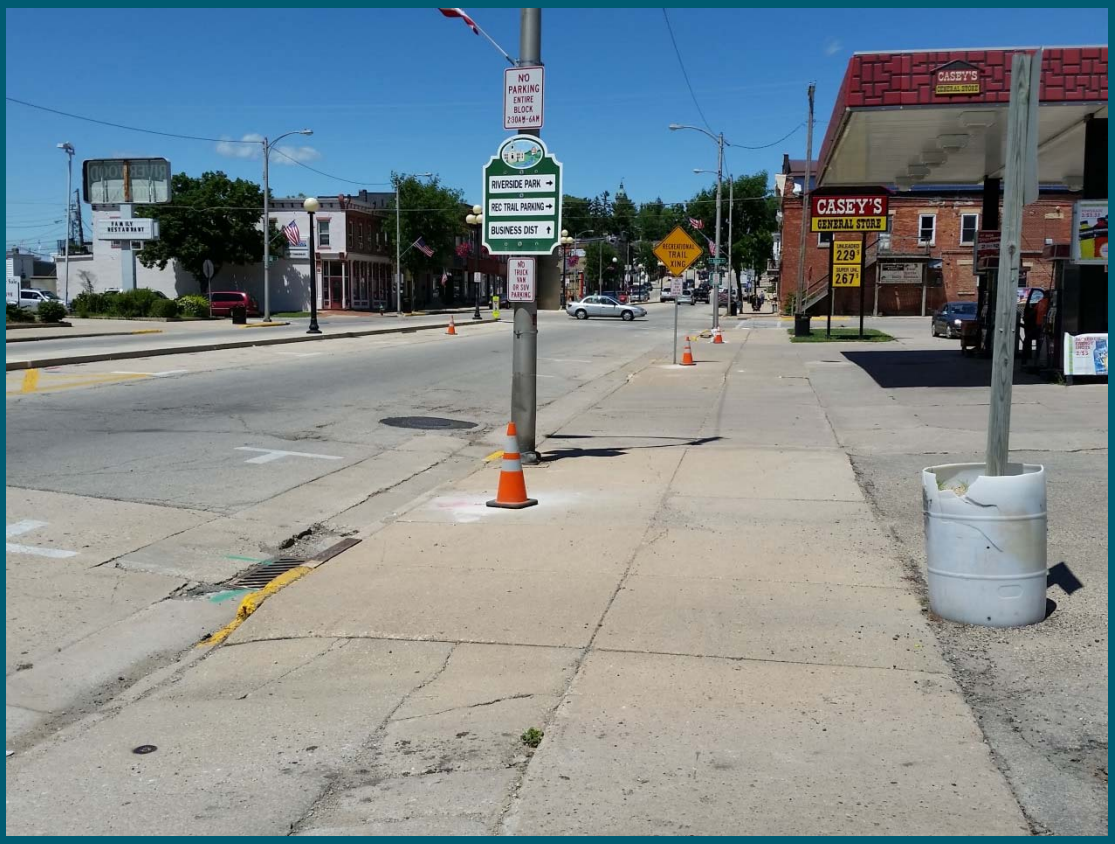
AECOM

Casey's General Store
STH 23 – County Shop Road to Minerva Street
City of Darlington, Lafayette County, Wisconsin



Phase 2.5 Environmental Sampling Investigation

WisDOT Project ID No. 5245-02-02
WDNR BRRTS No. 03-33-000546

December 2016

AECOM
200 Indiana Avenue
Stevens Point, WI 54481
T 715-341-8110
F 715-341-7390
AECOM Project No. 60492955

Phase 2.5 Environmental Sampling Investigation

Casey's General Store
145 South Main Street
City of Darlington, Lafayette County, Wisconsin
STH 23 - County Shop Road to Minerva Street

WisDOT Project No. 5245-02-02
WDNR BRRTS No. 03-33-000546

December 22, 2016
Date

Prepared by:
Marcus Hopkins
Geologist
marcus.hopkins@aecom.com

December 22, 2016
Date

Reviewed by:
Kyle Wagoner, P.G., CHMM
Project Manager
kyle.wagoner@aecom.com

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Acronyms and Abbreviations

bgs	below ground surface
DATCP	Wisconsin Department of Agriculture, Trade, and Consumer Protection
DRO	diesel range organics
EPA	U.S. Environmental Protection Agency
ES	enforcement standards
GPS	Global Positioning System
GRO	gasoline range organics
IDW	Investigation Derived Wastes
LUST	leaking underground storage tank
NR 720	Wisconsin Administrative Code, Chapter NR 720
Pace	Pace Analytical Services, Inc.
PAL	preventive action limits
Phase 1	Phase 1 Hazardous Materials Assessment
Phase 2.5	Phase 2.5 Environmental Sampling Investigation
PID	Photoionization detector
RCL	NR 720 Residual Contaminant Level
ROW	right of way
STH	State Highway
TLE	Temporary Limited Easement
UST	underground storage tank
VES	Veolia Environmental Services
VOC	volatile organic compounds
WAC	Wisconsin Administrative Code
WDNR	Wisconsin Department of Natural Resources
WisDOT	Wisconsin Department of Transportation

1.0 Executive Summary

This report summarizes the results of a Phase 2.5 Environmental Sampling Investigation (Phase 2.5) conducted at Casey's General Store, located at 145 S. Main Street, City of Darlington, Lafayette County, Wisconsin. The Casey's General Store site is a closed leaking underground storage tank (LUST) and is registered with Wisconsin Department of Agriculture, Trade, and Consumer Protection (DATCP) as having seven underground storage tanks (USTs), five of which are identified as being removed in 1990. The types of petroleum products contained in the removed USTs were leaded gasoline, unleaded gasoline, fuel oil and gasohol. The two remaining USTs contain unleaded gasoline and are still in use at Casey's General Store, which currently operates as a gas station and convenience store. The purpose of the Phase 2.5 was to investigate for the presence and extent of petroleum hydrocarbon contamination within the planned construction limits and temporary lease easement (TLE) areas at the Casey's General Store site.

On July 7, 2016, five direct push soil borings (DP5-1 through DP5-5) were advanced within the existing STH 23 right-of-way (ROW) and temporary lease easement (TLE) adjacent to Casey's general Store. The borings were advanced to approximately 10 feet below ground surface (bgs). Up to two soil samples were collected from each boring for petroleum volatile organic compounds (PVOCs) and naphthalene analysis. Field and analytical results of the samples collected during the Phase 2.5 indicated the following:

- The metal detector survey did not identify any potential USTs or associated piping within TLE areas.
- A PID reading of up to 754 ppm in soil cuttings from DP5-2 (7.0 to 8.0 feet bgs) indicates the likely presence of volatile organic compounds.
- PVOCs and naphthalene in soil were detected at concentrations exceeding the Wisconsin Administrative Code, Chapter NR 720 non-industrial direct contact RLCs in the area of DP5-2 (7.0 to 8.0 feet bgs), which is anticipated to be within construction limits.
- Lead in soil was detected at concentrations exceeding the Wisconsin Administrative Code, Chapter NR 720 soil to groundwater pathway RCL of 27 mg/kg at the location of DP5-3 (3.0 to 4.0 feet bgs), which is anticipated to be within construction limits.
- Groundwater was encountered within approximately 7 to 8 feet of the ground surface.
- PVOCs and naphthalene in groundwater were detected at concentrations exceeding Wisconsin Administrative Code, Chapter NR 140 enforcement standards (ES) and preventive action limits (PAL) in groundwater samples collected from DP5-2 and DP5-3.

Based on the Phase 2.5 results, a contract special provision is warranted for the management of petroleum hydrocarbon contaminated soil during construction at the Casey's General Store site.

2.0 Investigation

2.1 Project Background

The Wisconsin Department of Transportation (WisDOT) is developing plans for improvements to State Highway (STH) 23 from County Shop Road to Minerva Street in the City of Darlington, Lafayette County.

Significant project dates include:

- Real Estate Acquisition: July 2017
- PS&E: May, 2019
- Construction: 2020 or 2021

The proposed improvements along the 1.5 mile-long, urban corridor consist of reconstructing STH 23 from County Shop Road to Minerva Street on current alignment with some intersection improvements to accommodate truck turning movements, and other improvements to meet current standards. Numerous areas of ROW acquisition in fee and TLE for grading are anticipated for this project.

Under the proposed improvements, the current estimate for maximum depths of excavation is anticipated to be 3 feet below the proposed final roadway surface elevation for the pavement and 5 to 10 feet below the final roadway surface elevation for water and sewer lines.

JT Engineering, Inc., performed a Phase 1 Hazardous Materials Assessment (Phase 1) for the project and documented their findings in a Phase 1 report, dated March 2016. Based on the Phase 1 results, WisDOT requested a Phase 2.5 investigation at the Casey's General Store site. According to the Phase 1 report, Casey's General Store is a closed LUST site and is registered with DATCP as having seven underground storage tanks, five of which are identified as being removed in 1990. The types of petroleum products contained in the removed USTs were leaded gasoline, unleaded gasoline, fuel oil and gasohol. The two remaining USTs contain unleaded gasoline and are still in use at Casey's General Store, which currently operates as a gas station and convenience store. The LUST case was closed in 2004.

Based on previous site investigations of nearby sites and the proximity of the Pecatonica River, depth to groundwater was estimated to be less than 10 feet below ground surface (bgs).

2.2 Purpose and Scope

The purpose of the Phase 2.5 was to investigate for the presence and extent of petroleum hydrocarbon contamination within existing ROW and proposed TLE areas at the Casey's General Store site.

The Phase 2.5 scope of work included:

- A metal detector survey for potential abandoned USTs and associated piping between the edge of STH 23 pavement to the TLE limit on the east side of STH 23.
- Advancement of five direct-push soil borings within the project limits adjacent to the site to a maximum depth of 10 feet bgs.
- Visual classification of the soil samples obtained from borings and field screening of samples for volatile organic vapors using a photoionization detector (PID).
- Collection of up to two soil samples per boring from the direct contact zone (uppermost 4 feet), interval having the highest PID reading, visible staining, or at the bottom of the boring. Submittal of the soil samples to a laboratory for PVOCs and naphthalene analysis.

- Collection of one representative soil sample from soil cuttings for waste characterization. Submittal of the representative soil sample to the laboratory for Protocol T1 analysis.
- Collection of one groundwater sample directly from each soil boring where groundwater was encountered for laboratory analysis of PVOCs and naphthalene
- Borehole closure in accordance with the requirements of Wisconsin Administrative Code (WAC), Chapter NR 141.
- Taking photographs of the soil boring locations and measurement of the locations from site features for use in preparing a site map.
- Collection of global positioning system (GPS) coordinates from the approximate center of the investigation area.
- Investigation derived waste (IDW) (soil cuttings) generated at the site were containerized and placed in a temporary storage area.
- Contacted Veolia Environmental Services (VES) to coordinate IDW pickup and disposal.
- Preparation of this report summarizing results of the Phase 2.5.

2.3 Site Information

General site information includes:

Location:	Southwest 1/4 of the Northeast 1/4, Section 3, Township 2 North, Range 3 east
Address:	145 S. Main Street, City of Darlington, Wisconsin
County:	Lafayette
Stationing:	approximately STA 52NB+00 to 54NB+00, Right
GPS Coordinates:	Latitude 42.677847 Longitude -90.117559
WTM Coordinates:	X 510,368, Y 245,047

2.4 Description of Field Investigation

On July 7, 2016, five direct-push soil borings (DP5-1 through DP5-5) were advanced along the east side of the STH 23 TLE area adjacent to Casey's General Store. Soil boring depths were set based on anticipated excavated depths during construction. The borings were advanced using a truck-mounted hydraulic direct-push drilling rig operated by Soils & Engineering Services, Inc. Madison, Wisconsin. The locations of the borings are shown in Figure 2. Photographs are presented in Appendix A. Bentley gINT® boring logs (Wisconsin Department of Natural Resources (WDNR) Form 4400-122) are provided in Appendix B.

Soil samples were collected continuously from the direct-push sampler and field screened using a PID. The PID is capable of detecting and measuring relative concentrations of volatile organic vapors in the soil gas. PID readings were recorded on the soil boring logs. Soil gas monitoring procedures are described in Appendix C.

Up to two soil samples were collected from each boring for laboratory analysis by Pace Analytical Services, Inc. (Pace). The samples submitted for laboratory analysis were collected from the direct contact zone (uppermost 4 feet), highest PID reading, visible staining or bottom of boring and were analyzed for PVOCs and naphthalene. Soil sampling procedures are discussed in Appendix D.

One groundwater sample was collected from each soil probe boring in which groundwater was encountered and analyzed for PVOCs and naphthalene. Groundwater sampling procedures are discussed in Appendix D.

After sampling, the borings were abandoned with bentonite in general accordance with the requirements of WAC Chapter NR 141. Abandonment forms (WDNR Form 3300-005) are presented in Appendix E.

Soil cuttings generated during borehole advancement were containerized in a 5-gallon plastic bucket with lid, identified with appropriate WisDOT label, and temporarily stored within the City of Darlington Municipal Building, located at 101-149 Spring Street. A non-hazardous IDW pickup request was emailed to VES with supporting documentation on July 25, 2016. Waste disposal request documentation is presented in Appendix F.

2.5 Subsurface Conditions

Subsurface materials encountered generally included sand and silty clay with trace gravel to the borings termination depths. The ground surface at the boring locations is generally pavement and grass covered.

Field screening results did indicate the presence of volatile organic vapor in soil boring DP5-2.

Based on United States Geological Survey geological mapping, it appears that native materials in the area of the Casey's General Store site consists of stratified lake deposits of clay, silt and sand, underlain by undifferentiated dolomite and limestone of the Galena, Decorah and Platteville formations.

Groundwater was encountered within approximately 8 feet of the ground surface during borehole advancement. Regional groundwater flow direction in the project area is generally expected to the south and southwest. Local groundwater flow is generally in the direction of the Pecatonica River. The regional topography of the project area was generally hilly terrain, sloping downward toward the southwest.

The metal detector survey did not indicate the presence of UST's or associated piping within the investigation area.

2.6 Analytical Parameters and Results

Analytical parameters were selected in general accordance with WisDOT and WDNR guidance for investigations of LUST sites. Soil and groundwater samples submitted to Pace were analyzed for PVOCs plus naphthalene and lead (soil). Analytical results for soil samples were compared against the WAC, Chapter NR 720 non-industrial direct contact and groundwater pathway residual contamination levels (RCLs), updated June 2016. Analytical results for groundwater samples were compared against the WAC, Chapter NR 140 enforcement standards (ES) and preventive action limits (PAL), updated July 2015. Standard analytical procedures are discussed in Appendix G. Analytical results for soil and groundwater are summarized in Tables 1 and 2, respectively. The laboratory report and sample chain of custody form is included in Appendix H.

One representative soil sample was collected from soil cuttings generated during borehole advancement for the purpose of waste characterization. The representative soil sample and was submitted to Pace for Protocol T1 analysis (free liquids, flash point, lead (total), Benzene (total), diesel range organics (DRO) and gasoline range organics (GRO)).

2.6.1 Soil

PVOCs were reported as exceeding the NR 720 non-industrial direct contact RCLs for ethylbenzene and naphthalene, as well as exceeding the NR 720 groundwater pathway RCLs for benzene, methyl-tert-butyl ether, trimethylbenzenes (combined) and xylenes (combined) in the soil sample collected from DP5-2 (7.0 to 8.0 feet bgs).

Lead was reported at a concentration of 101 mg/kg in the soil sample collected from DP5-3 (3 to 4 feet bgs) which exceeds the NR 720 soil to groundwater pathway RCL of 27 mg/kg.

Lead was reported at a concentration of 16.1 mg/kg in the representative soil sample collected for waste characterization which is below the NR 720 soil to groundwater pathway RCL of 27 mg/kg. DRO was also reported at a concentration of 124 mg/kg, however there are currently no NR 720 RCLs established for DRO.

2.6.2 Groundwater

PVOCs in groundwater were reported as exceeding the NR 140 ES for benzene in DP5-2 and DP5-3, as well as exceeding the ES for ethylbenzene and naphthalene in DP5-2. Toluene, methyl tert-butyl ether, trimethylbenzenes (combined) and xylenes (combined) were also detected, but at concentrations below the NR 140 PALs.

2.7 Conclusions and Recommendation

Field and analytical results of the soil samples collected during the Phase 2.5 indicated the following:

- The metal detector survey did not identify any potential USTs or associated piping within TLE areas.
- A PID reading of up to 754 ppm in soil cuttings from DP5-2 (7.0 to 8.0 feet bgs) indicates the likely presence of volatile organic compounds.
- PVOCs and naphthalene in soil were detected at concentrations exceeding the Wisconsin Administrative Code, Chapter NR 720 non-industrial direct contact RLCs in the area of DP5-2 (7.0 to 8.0 feet bgs), which is anticipated to be within construction limits.
- Lead in soil was detected at concentrations exceeding the Wisconsin Administrative Code, Chapter NR 720 soil to groundwater pathway RCL of 27 mg/kg at the location of DP5-3 (3.0 to 4.0 feet bgs), which is anticipated to be within construction limits.
- Groundwater was encountered within approximately 7 to 8 feet of the ground surface.
- PVOCs and naphthalene in groundwater were detected at concentrations exceeding Wisconsin Administrative Code, Chapter NR 140 enforcement standards (ES) and preventive action limits (PAL) in groundwater samples collected from DP5-2 and DP5-3.

Based on the Phase 2.5 results, a contract special provision is warranted for the management of petroleum hydrocarbon contaminated soil during construction at the Casey's General Store site.

3.0 Limitations

AECOM's scope of services was limited to conducting a Phase 2.5 within the planned TLE adjacent to the Casey's General Store site.

AECOM's opinion regarding existing conditions at the site does not constitute a guarantee or warranty as to the potential environmental liability associated with the site. Furthermore, the findings and conclusions given are not scientific certainties, but rather probabilities based on data obtained or activities performed during this assessment and professional judgment concerning the significance of this data. Information was collected in accordance with generally accepted professional standards and practices, accepted in good faith, and are assumed to be factual and accurate.

AECOM is not able to determine whether the site or adjoining land areas contain hazardous waste, oil, or other latent conditions beyond those detected or observed by AECOM at the time the investigation was conducted. The possibility exists for contaminants to migrate through the surface water, air, or groundwater. Detailed analysis and discussion of the environmental risk associated with contaminant transport in these media was beyond the scope of this assessment.

The findings, conclusions, and opinion contained in this report are intended for exclusive use by WisDOT and are applicable only to this Phase 2.5. AECOM has no obligations to other persons or organizations that may use or rely upon this information.

4.0 References

JT Engineering, Inc., Phase 1 Hazardous Materials Assessment Report, STH 23, County Shop Road to Minerva Street, City of Darlington, Lafayette County, Wisconsin, March 29, 2016.

U.S. Geological Survey. 1972. Darlington, Wis., 7.5'-Minute Quadrangle.

S.M. Hindall and E.L. Skinner, Water Resources of Wisconsin – Pecatonica-Sugar River Basin Hydrologic Investigations, Atlas HA-453, 1973.

Wisconsin Administrative Code, Chapter NR 720, Soil Cleanup Standards, Register, November 2013, No. 695.

Wisconsin Administrative Code, Chapter NR 140, Groundwater Quality, Register, July 2015, No. 715

Wisconsin Department of Natural Resources Remediation and Redevelopment Program, RCL spreadsheet, Updated June 2016.

Soil Sample Analytical Results

Table 1

Table 1

Phase 2.5 Soil Sample Analytical Results
Casey's General Store
145 S. Main Street, Darlington, Lafayette County, Wisconsin

AECOM Project No. 60492955
WisDOT Project No. 5245-02-02

		Soil Boring/Sample ID:	**DP5-1**	**DP5-1**	**DP5-2**	**DP5-2**	**DP5-3**	**DP5-4**	**DP5-4**	**DP5-5**	**DP5-5**	**WC**
		Sample Depth (feet):	**1-2'**	**9-10'**	**3-4'**	**7-8'**	**3-4'**	**2-3'**	**7-8'**	**1-2'**	**7-8'**	**-**
		PID Readings (i.u):	**2.9**	**1.2**	**0.8**	**754**	**2.4**	**5.6**	**2.5**	**4.9**	**15.6**	**-**
		Sample Date:	**7/7/2016**	**7/7/2016**	**7/7/2016**	**7/7/2016**	**7/7/2016**	**7/7/2016**	**7/7/2016**	**7/7/2016**	**7/7/2016**	**7/8/2016**
Analyte	**Non-Industrial D-C RCL**	**RCL-gw**	**Results**									
PVOCs+Nap (µg/kg)												
Benzene	1,490	5.1	<25.0	<25.0	<25.0	**<200**	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0
Ethylbenzene	7,470	1,570	<25.0	<25.0	<25.0	**42,300**	<25.0	<25.0	<25.0	<25.0	<25.0	-
Methyl-tert-butyl ether	59,400	27	<25.0	<25.0	<25.0	**560**	<25.0	<25.0	<25.0	<25.0	<25.0	-
Naphthalene	5,150	658.2	<25.0	<25.0	<25.0	**19,100**	<25.0	<25.0	<25.0	<25.0	<25.0	-
Toluene	818,000	1,107.2	<25.0	<25.0	<25.0	<200	<25.0	<25.0	<25.0	<25.0	<25.0	-
1,2,4-Trimethylbenzene	89,800	1,382.1 (combined)	<50.0	<50.0	<50.0	**5,210**	<50.0	<50.0	<50.0	<50.0	<50.0	-
1,3,5-Trimethylbenzene	182,000											
m&p-Xylene	778,000	3,960 (combined)	<75.0	<75.0	<75.0	**4,920**	<75.0	<75.0	<75.0	<75.0	<75.0	-
o-Xylene	434,000											
Metals (mg/kg)												
Lead (total)	400	27.0	1.8	-	-	24.2	**101**	21.3	-	-	20.2	16.1
Waste Characterization												
DRO (mg/kg)	NE	NE	-	-	-	-	-	-	-	-	-	124
GRO (mg/kg)	NE	NE	-	-	-	-	-	-	-	-	-	<3.2
Flashpoint (°F)	NE	NE	-	-	-	-	-	-	-	-	-	>210
Paint Filter	NE	NE	-	-	-	-	-	-	-	-	-	PASS

Notes:

Only results for detected analytes are provided in this table, all other analytes were below the limit of detection.
Non-Industrial D-C RCL refers to the Not-To-Exceed, non-industrial Direct-Contact Residual Contaminant Levels taken from the WDNR's RCLs spreadsheet, updated December 2015.
RCL-gw refers to the Soil-to-Groundwater Residual Contaminant Level, DF = 2, taken from the WDNR's RCLs spreadsheet, updated December 2015.
Bold data indicates RCL exceedence (RCL-gw).
Bold data and cell border indicates RCL exceedence (D-C RCL).
NE: Not Established
WC: Waste Characterization sample (Protocol T1).

Groundwater Sample Analytical Results

Table 2

Table 2

Phase 2.5 Groundwater Sample Analytical Results
Casey's General Store
145 S. Main Street, Darlington, Lafayette County, Wisconsin

AECOM Project No. 60492955
WisDOT Project No. 5245-02-02

		Soil Boring/Sample ID:	DP5-1	DP5-2	DP5-3	DP5-4	DP5-5
		Depth (feet):	7	7	4	8	8
		Sample Date:	7/8/2016	7/8/2016	7/8/2016	7/8/2016	7/8/2016
Analyte	**NR 140 ES**	**NR 140 PAL**	**Results**				
PVOCs+Nap (µg/l)							
Benzene	5	0.5	<0.40	**63.2**	**24.7**	<0.40	<0.40
Ethylbenzene	700	140	<0.39	**966**	0.49J	<0.39	<0.39
Methyl tert-butyl ether	60	12	<0.48	3.5	<0.48	<0.48	0.52J
Naphthalene	100	10	6.7	**296**	0.92J	<0.42	<0.42
Toluene	800	160	<0.39	1.2	0.49J	<0.39	<0.39
1,2,4-Trimethylbenzene	480	96	<0.42	0.79J	<0.42	<0.42	<0.42
1,3,5-Trimethylbenzene	480	96	<0.42	10.5	<0.42	<0.42	<0.42
Xylenes (total)	2,000	400	<1.25	10.49	<1.25	<1.25	1.8J

Notes:

ES: Enforcement Standard listed in Ch. NR140, WAC, July 2015.

PAL: Preventive Action Limit listed in Ch. NR140, WAC, July 2015.

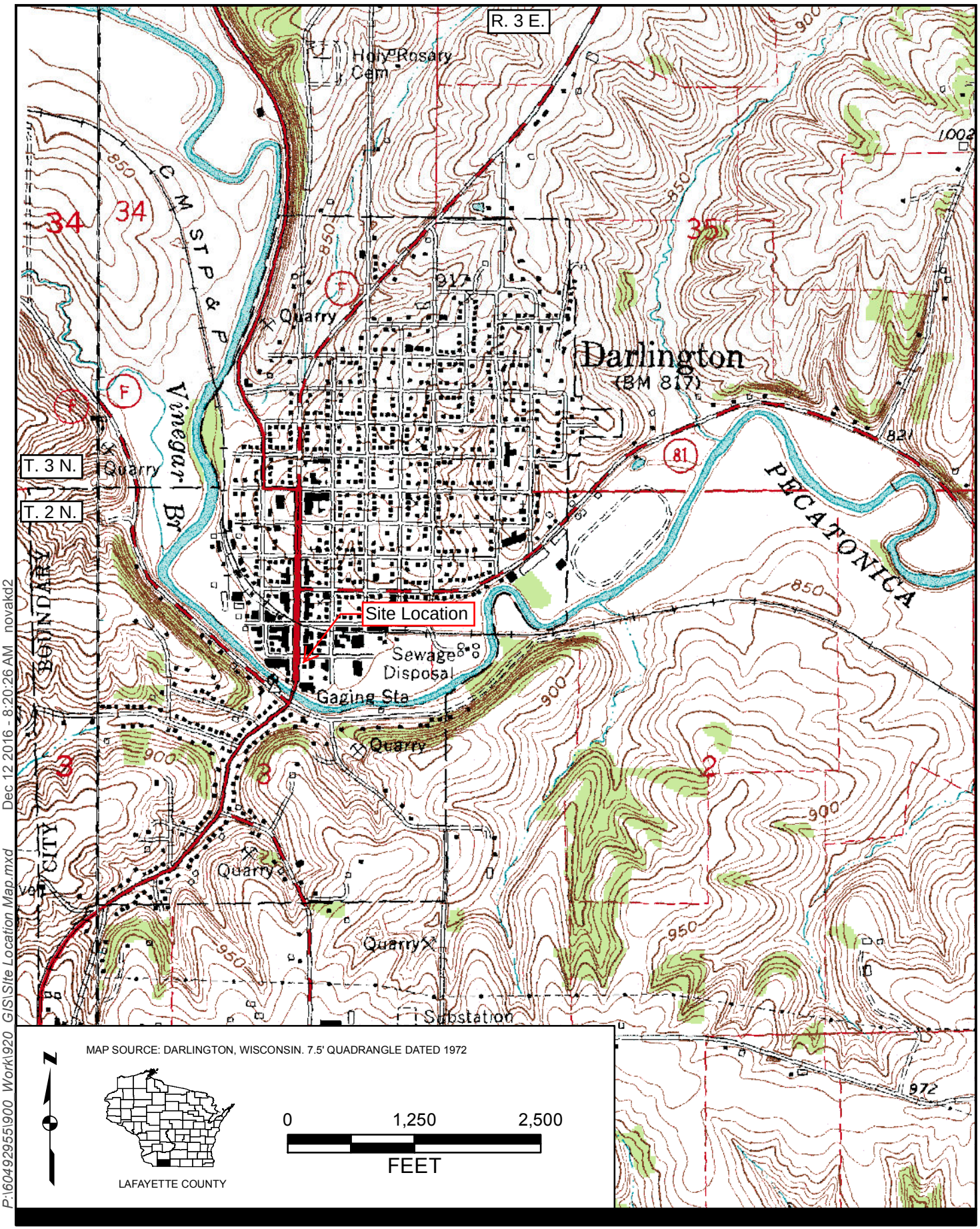
Bold data indicates PAL exceedence.

Bold data and cell border indicates ES exceedence.

J: Estimated concentration at or above the LOD and below the LOQ.

Site Location Map

Figure 1



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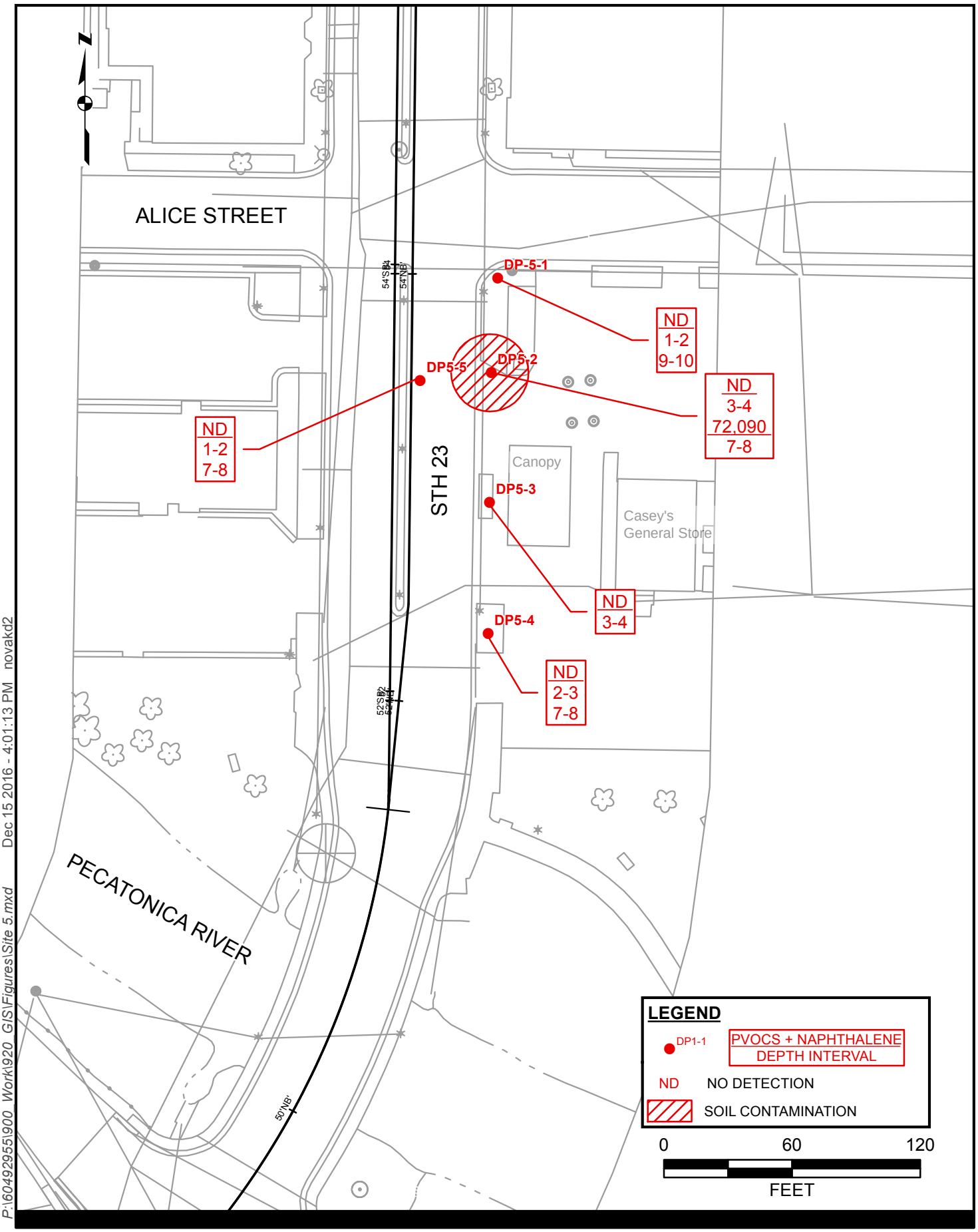
December 16, 2016
AECOM Project No.: 60492955
WisDOT Project No.: 5245-02-02

Site Location Map
Casey's General Store
145 S. Main Street, Darlington, WI
WDNR BRRTS No. 03-33-000546

AECOM
Figure 1

Site Plan – Boring Locations

Figure 2



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December 16, 2016
AECOM Project No.: 60492955
WisDOT Project No.: 5245-02-02

Site Plan
Casey's General Store
145 S. Main Street, Darlington, WI
WDNR BRRTS No. 03-33-000546

AECOM
Figure 2

Photograph Log

Appendix A

AECOM

PHOTOGRAPHIC LOG

Client Name: Wisconsin Department of Transportation	**Site Location:** Casey's General Store 145 S. Main Street, City of Darlington, Lafayette County, WI.	**Project No.** 60492955

Photo No. 1	**Date:** 07/7/16

Direction Photo Taken:

North

Description:

View of indicated borings located at 145 South Main Street.

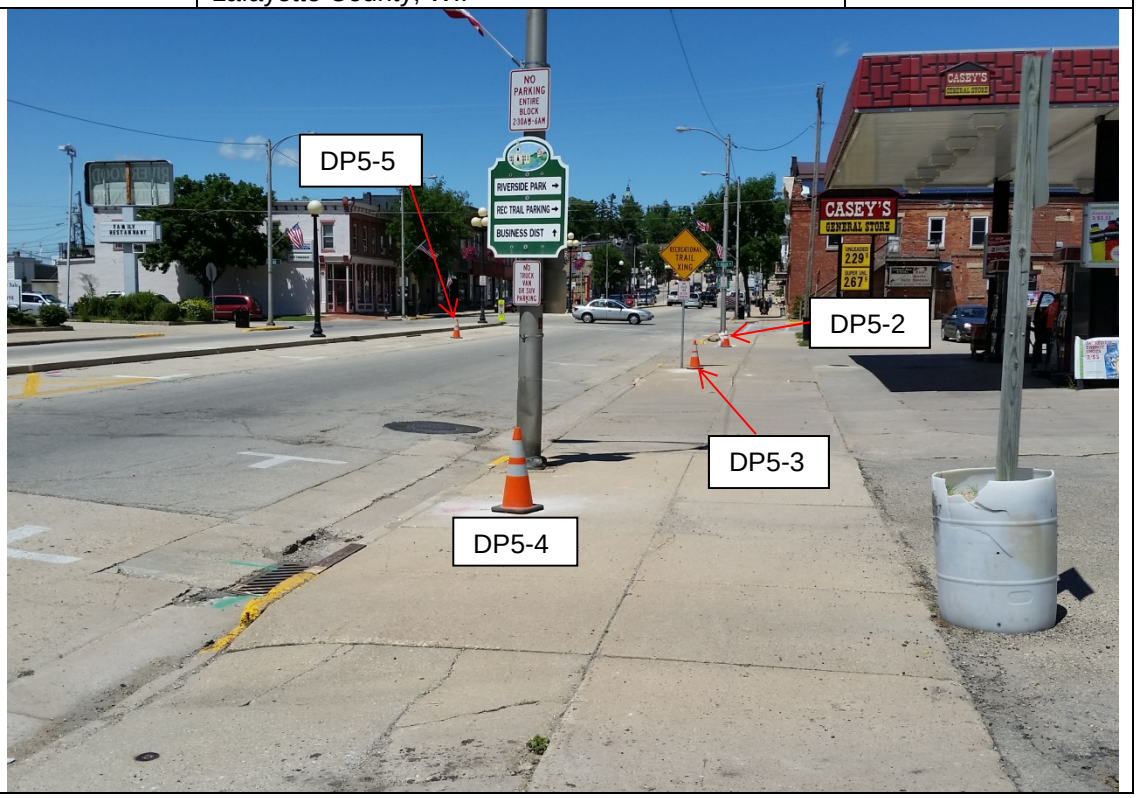


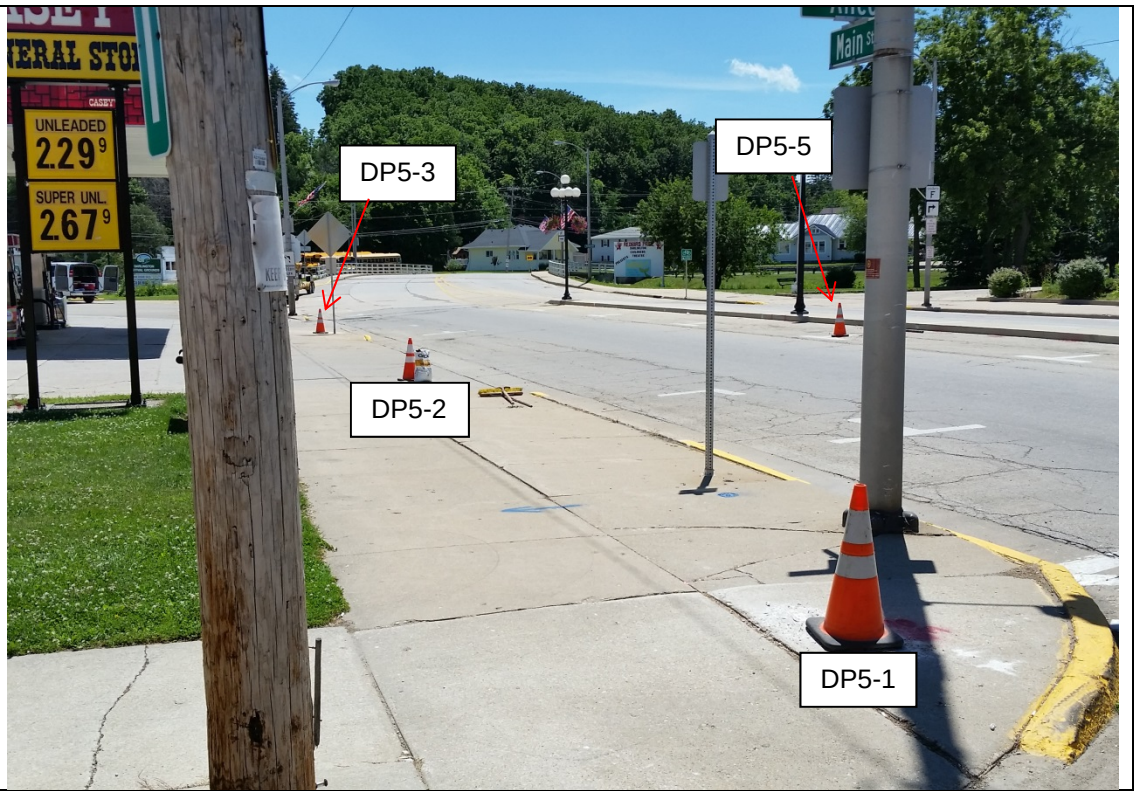
Photo No. 2	**Date:** 07/07/16

Direction Photo Taken:

South

Description:

View of indicated borings located at 145 South Main Street.



Soil Boring Logs

Appendix B

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
Site 5 - Casey's General Store		DP5-1

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Scott Klumb SES	7/7/2016	7/7/2016	split spoon

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SW 1/4 of NE 1/4 of Section 3, T 2 N,R 3 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Lafayette	33	Town of Darlington

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	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	24 16		1	Gray / tan, sand gravel fill				2.9						
	24 12		2		Fill									
			3					1.1						
	24 16		4											
			5	Dark brown to brown, soft to medium firm, silty clay				0.5						
	24 16		6											
			7		CL			1.2						
	24 16		8											
			9					1.2						
			10	End of Boring										

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

Signature	Firm
	AECOM 200 Indiana Avenue, Stevens Point, WI 54481 *

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
Site 5 - Casey's General Store		DP5-2

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Scott Klumb SES	7/7/2016	7/7/2016	split spoon

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SW 1/4 of NE 1/4 of Section 3, T 2 N,R 3 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Lafayette	33	Town of Darlington

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	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	24 8		0	2" Asphlat Sand / gravel fill										
			1	Silty clay, tan to dark brown, soft to medium firm										
	24 18		2											
			3		CL			0.8						
	24 12		4											
			5	Dark brown with dark gray / black staining, sandy clay				193.5						Strong Petro Odor
	24 16		6		CL									
			7					754						Strong Petro Odor
	24 0		8	No Recovery										
			9											
			10	End of Boring										

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

Signature [signature] Firm AECOM
200 Indiana Avenue, Stevens Point, WI 54481 *

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
Site 5 - Casey's General Store		DP5-3

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Scott Klumb SES	7/7/2016	7/7/2016	split spoon

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			4.0 Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SW 1/4 of NE 1/4 of Section 3, T 2 N,R 3 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Lafayette	33	Town of Darlington

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	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	24 14		1	Sand / gravel fill, light brown to gray	Fill			4.4						
	24 10		2 3	Dark brown to brown, soft to medium firm, sandy / silty clay				2.4						
	24 0		4 5	Saturated										
	24 6		6 7		CL									
	24 12		8 9 10											
				End of Boring										

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

Signature	Firm
	AECOM 200 Indiana Avenue, Stevens Point, WI 54481 *

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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
Site 5 - Casey's General Store		DP5-4

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Scott Klumb SES	7/7/2016	7/7/2016	split spoon

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			8.0 Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SW 1/4 of NE 1/4 of Section 3, T 2 N,R 3 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Lafayette	33	Town of Darlington

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	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	24 12		0	4" Asphalt										
			1	Sand, brown to tan				0						
	24 12		2		SC									
			3					5.6						
	24 8		4	Silty clay, black, dark staining										
			5					3.1						
	24 16		6		CL									
			7					2.5						
	24		8	Black, smooth clay, soft Saturated										
			9		CL									
			10	End of Boring										

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

Signature [signature] Firm AECOM
200 Indiana Avenue, Stevens Point, WI 54481 *

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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
Site 5 - Casey's General Store		DP5-5

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Scott Klumb SES	7/7/2016	7/7/2016	split spoon

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SW 1/4 of NE 1/4 of Section 3, T 2 N,R 3 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Lafayette	33	Town of Darlington

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	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	24 20		1	Cobblestone, gravel and asphalt										
				Silty / sandy clay, tan to very dark brown				4.9						
	24 0		2		CL-ML									
			3											
	24 8		4	Silty dark brown, greenish tint, clay, soft ot medium firm										
			5					6.5						
	24 18		6		CL									
			7					15.6						
	24 12		8											
			9	Black clay	CL			1.6						
			10	End of Boring										

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

Signature [signature] Firm AECOM
200 Indiana Avenue, Stevens Point, WI 54481 *

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Soil Gas Monitoring

Appendix C

Soil Gas Monitoring

PID Model: Process Analyzers DL-102

Probe: 10.2 eV Lamp

Calibration Gas: 100 parts per million Isobutylene/Air

The PID was calibrated before and after sampling was conducted.

Soil gas readings for specified depth intervals were obtained using the headspace method. Soil samples were placed in plastic Ziploc bags and the air in each bag was allowed to equilibrate with the soil sample for up to 30 minutes. If the outside air temperature was below 70 degrees Fahrenheit, the soil samples were heated. The PID probe was then inserted into the bag headspace and the instrument reading was recorded.

Standard Sampling Procedures

Appendix D

Standard Sampling Procedures

Soil samples were collected continuously from the soil probe using 2-inch diameter samplers with disposable plastic liners. Samples collected for laboratory analysis were removed from the liners and placed directly into laboratory-supplied glass jars using new protective gloves. Protective gloves were disposed after collecting each sample. The liners were replaced between samples. Soil samples were preserved according to WDNR and U.S. Environmental Protection Agency (EPA) protocol.

Groundwater samples were collected from the soil probe borings/temporary monitoring wells using a stainless steel bailer. Samples were placed into laboratory-supplied containers and preserved in accordance with EPA and WDNR protocol. The stainless steel bailer was decontaminated prior to the collection of each sample with and alconox/water mix and distilled water.

Borehole Abandonment Forms

Appendix E

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-005 (R 4/08)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, 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 used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ Verification Only of Fill and Seal

Route to: ☐ Drinking Water ☐ Watershed/Wastewater ☐ Remediation/Redevelopment ☐ Waste Management ☐ Other:

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Lafayette		

Latitude / Longitude (Degrees and Minutes) ___ ___ ° ___ ___ . ___ ___ ___ 'N / ___ ___ ° ___ ___ . ___ ___ ___ 'W — Method Code (see instructions)

¼ / ¼ SW	¼ NE	Section	Township	Range
or Gov't Lot #		3	2 N	3 ☒ E ☐ W

Well Street Address: 145 S. Main street

Well City, Village or Town: City of Darlington — Well ZIP Code: 53530

Subdivision Name — Lot #

Reason For Removal From Service: Sampling Complete — WI Unique Well # of Replacement Well

2. Facility / Owner Information

Facility Name: Site 5 - Casey's General Store

Facility ID (FID or PWS): DP5-1

License/Permit/Monitoring #

Original Well Owner: WisDOT

Present Well Owner: WisDOT

Mailing Address of Present Owner: 4802 Sheboygan Ave

City of Present Owner: Madison — State: WI — ZIP Code: 53707

3. Well / Drillhole / Borehole Information

☐ Monitoring Well ☐ Water Well ☒ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 7/7/16

If a Well Construction Report is available, please attach.

Construction Type: ☐ Drilled ☐ Driven (Sandpoint) ☐ Dug ☒ Other (specify): Split-spoon

Formation Type: ☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
10'	N/A
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
N/A	N/A

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)? — Depth to Water (feet)

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☒ Yes	☐ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped ☐ Screened & Poured (Bentonite Chips) ☒ Other (Explain): Gravity

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☐ Bentonite Chips ☐ Bentonite - Cement Grout ☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used To Fill Well / Drillhole

	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	10'		

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Soils & Engineering Services, Inc.		7/8/16

Street or Route: 1102 Stewart Street — Telephone Number: (608) 274-7600

City: Madison — State: WI — ZIP Code: 53713-4648 — Signature of Person Doing Work: [signature] — Date Signed: 10/4/2016

DNR Use Only

Date Received	Noted By

Comments

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-005 (R 4/08) Page 1 of 2

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, 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 used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ Verification Only of Fill and Seal

Route to: ☐ Drinking Water ☐ Watershed/Wastewater ☐ Remediation/Redevelopment ☐ Waste Management ☐ Other:

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Lafayette		

Latitude / Longitude (Degrees and Minutes) — Method Code (see instructions)

__ __ ° __ __ . __ __ __ 'N
__ __ ° __ __ . __ __ __ 'W

¼ / ¼	¼	Section	Township	Range
SW	NE	3	2 N	3 ☒ E ☐ W

or Gov't Lot #

Well Street Address: 145 S. Main Street

Well City, Village or Town: City of Darlington — Well ZIP Code: 53530

Subdivision Name — Lot #

Reason For Removal From Service: Sampling Complete — WI Unique Well # of Replacement Well: __ __ __ __ __

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 7/7/16

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (specify): Split-spoon

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
10'	N/A
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
N/A	N/A

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)? — Depth to Water (feet)

2. Facility / Owner Information

Facility Name: Site 5 - Casey's General Store

Facility ID (FID or PWS): DP5-2

License/Permit/Monitoring #

Original Well Owner: WisDOT

Present Well Owner: WisDOT

Mailing Address of Present Owner: 4802 Sheboygan Ave

City of Present Owner	State	ZIP Code
Madison	WI	53707

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☒ Yes	☐ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Screened & Poured (Bentonite Chips) ☒ Other (Explain): Gravity

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☐ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used To Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	10'		

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Soils & Engineering Services, Inc.		7/8/16

Street or Route: 1102 Stewart Street — Telephone Number: (608) 274-7600

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Madison	WI	53713-4648	[signature]	10/4/2016

DNR Use Only

Date Received	Noted By

Comments

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-005 (R 4/08)

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☐ Verification Only of Fill and Seal

Route to: ☐ Drinking Water ☐ Watershed/Wastewater ☐ Remediation/Redevelopment ☐ Waste Management ☐ Other:

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Lafayette		

Latitude / Longitude (Degrees and Minutes) ___ ___ ° ___ ___ . ___ ___ ___ 'N / ___ ___ ° ___ ___ . ___ ___ ___ 'W — Method Code (see instructions)

¼ ¼	¼	Section	Township	Range
SW	NE	3	2 N	3 ☒ E ☐ W

or Gov't Lot #

Well Street Address: 145 S. Main Street

Well City, Village or Town: City of Darlington — Well ZIP Code: 53530

Subdivision Name — Lot #

Reason For Removal From Service: Sampling Complete — WI Unique Well # of Replacement Well

2. Facility / Owner Information

Facility Name: Site 5 - Casey's General Store

Facility ID (FID or PWS): DP5-3

License/Permit/Monitoring #

Original Well Owner: WisDOT

Present Well Owner: WisDOT

Mailing Address of Present Owner: 4802 Sheboygan Ave

City of Present Owner: Madison — State: WI — ZIP Code: 53707

3. Well / Drillhole / Borehole Information

☐ Monitoring Well ☐ Water Well ☒ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 7/7/16

If a Well Construction Report is available, please attach.

Construction Type: ☐ Drilled ☐ Driven (Sandpoint) ☐ Dug ☒ Other (specify): Split-spoon

Formation Type: ☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
10'	N/A
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
N/A	N/A

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)? — Depth to Water (feet)

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☒ Yes	☐ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped ☐ Screened & Poured (Bentonite Chips) ☒ Other (Explain): Gravity

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☐ Bentonite Chips ☐ Bentonite - Cement Grout ☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used To Fill Well / Drillhole

	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	10'		

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Soils & Engineering Services, Inc.		7/8/16

Street or Route: 1102 Stewart Street — Telephone Number: (608) 274-7600

City: Madison — State: WI — ZIP Code: 53713-4648 — Signature of Person Doing Work: [signature] — Date Signed: 10/4/2016

DNR Use Only

Date Received	Noted By
Comments	

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-005 (R 4/08) Page 1 of 2

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☐ Verification Only of Fill and Seal

Route to: ☐ Drinking Water ☐ Watershed/Wastewater ☐ Remediation/Redevelopment ☐ Waste Management ☐ Other:

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Lafayette		

Latitude / Longitude (Degrees and Minutes) — Method Code (see instructions)

__ __ ° __ __ . __ __ __ 'N
__ __ ° __ __ . __ __ __ 'W

¼ of ¼ or Gov't Lot #	¼	Section	Township	Range
¼ SW	¼ NE	3	2 N	3 ☒ E ☐ W

Well Street Address: 145 S. Main Street

Well City, Village or Town: City of Darlington — Well ZIP Code: 53530

Subdivision Name — Lot #

Reason For Removal From Service: Sampling Complete — WI Unique Well # of Replacement Well

2. Facility / Owner Information

Facility Name: Site 5 - Casey's General Store

Facility ID (FID or PWS): DP5-4

License/Permit/Monitoring #

Original Well Owner: WisDOT

Present Well Owner: WisDOT

Mailing Address of Present Owner: 4802 Sheboygan Ave

City of Present Owner: Madison — State: WI — ZIP Code: 53707

3. Well / Drillhole / Borehole Information

☐ Monitoring Well ☐ Water Well ☒ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 7/7/16

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug ☒ Other (specify): Split-spoon

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
10'	N/A
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
N/A	N/A

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)? — Depth to Water (feet)

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☒ Yes	☐ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped ☐ Screened & Poured (Bentonite Chips) ☒ Other (Explain): Gravity

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☐ Bentonite Chips ☐ Bentonite - Cement Grout ☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used To Fill Well / Drillhole

Material Used To Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	10		

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Soils & Engineering Services, Inc.		7/8/16

Street or Route: 1102 Stewart Street — Telephone Number: (608) 274-7600

City: Madison — State: WI — ZIP Code: 53713-4648

Signature of Person Doing Work: [signature] — Date Signed: 10/4/2016

DNR Use Only

Date Received	Noted By

Comments

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-005 (R 4/08)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, 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 used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ Verification Only of Fill and Seal

Route to: ☐ Drinking Water ☐ Watershed/Wastewater ☐ Remediation/Redevelopment ☐ Waste Management ☐ Other:

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Lafayette		

Latitude / Longitude (Degrees and Minutes) — Method Code (see instructions)

__ __ ° __ __ . __ __ __ 'N
__ __ ° __ __ . __ __ __ 'W

¼ ¼	¼	Section	Township	Range
SW	NE	3	2 N	3 ☒ E ☐ W

or Gov't Lot #

Well Street Address: 145 S. Main Street

Well City, Village or Town: City of Darlington — Well ZIP Code: 53530

Subdivision Name — Lot #

Reason For Removal From Service: Sampling Complete — WI Unique Well # of Replacement Well: __ __ __ __ __

2. Facility / Owner Information

Facility Name: Site 5 - Casey's General Store

Facility ID (FID or PWS): DP5-5

License/Permit/Monitoring #

Original Well Owner: WisDOT

Present Well Owner: WisDOT

Mailing Address of Present Owner: 4802 Sheboygan Ave

City of Present Owner: Madison — State: WI — ZIP Code: 53707

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 7/7/16

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (specify): Split-spoon

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
10'	N/A
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
N/A	N/A

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)? — Depth to Water (feet)

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☒ Yes	☐ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Screened & Poured (Bentonite Chips) ☒ Other (Explain): Gravity

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☐ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used To Fill Well / Drillhole

	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	10'		

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Soils & Engineering Services, Inc.		7/8/16

Street or Route: 1102 Stewart Street — Telephone Number: (608) 274-7600

City: Madison — State: WI — ZIP Code: 53713-4648 — Signature of Person Doing Work: [signature] — Date Signed: 10/4/2016

DNR Use Only

Date Received	Noted By

Comments

Waste Disposal Request Documentation

Appendix F

From:	Wagoner, Kyle
To:	Dan.szymaszek@veolia.com
Cc:	Sharlene.TeBeest@dot.wi.gov; kyle.bartowitz@dot.wi.gov; Jeremy Williams (jeremy.williams@cityofdarlingtonwi.org); Hopkins, Marcus
Subject:	Request for Soil Cuttings Pickup & Disposal - STH 23, Darlington (WisDOT 5245-02-02)
Date:	Monday, July 25, 2016 4:25:00 PM
Attachments:	dt1229 (5245-02-02).pdf 20160708_124956.jpg Location Map for Darlington, WI.pdf Pace Lab report (Site #21).pdf Pace Lab report (Site #1).pdf Pace Lab Report (Site #5).pdf Pace Lab Report (Site #9).pdf Pace Lab Report (Site #19).pdf

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Dan-

Please process this pickup & disposal request at your earliest convenience.

Kyle

Kyle Wagoner, P.G., CHMM
Project Manager
Environment
D 715.342.3038
Internal Cisco Extension 2103038
kyle.wagoner@aecom.com

AECOM
200 Indiana Avenue, Stevens Point, WI 54481
T 715.341.8110 F 715.341.7390

NON-HAZARDOUS WASTE INVENTORY RECORD

Wisconsin Department of Transportation
DT1229 6/2016 (For use with DT1208)

DTSD Region and Office Southwest- LaCrosse		
WisDOT Project ID 5245-02-02	County Lafayette	Highway and Termini STH 23 - County Shop Rd to Minerva St.
Site Name Site Nos. 1, 5, 9, 19, and 21		Phase of Investigation 2.5
Consultant Company AECOM		
Consultant Contact Kyle Wagoner		
Contact (Area Code) Telephone Number (715) 342-3038		
Contact Email Address kyle.wagoner@aecom.com		
Consultant ID for this Site 60492955		
Generation Date (m/d/yyyy) 8/1/2016		
Comments, special instructions for pickup or site access 4 buckets of soil cuttings from Project 5245-02-02 have been temporarily stored with 1 bucket from Project 1693-05-02 next to the SW corner of the Municipal Building (see photo) at 627 Main Street, Darlington, WI. The contact in Darlington is Jeremy Williams, DPW, Phone (608) 776-4973, email jeremy.williams@cityofdarlingtonwi.org.		

Waste Description – describe containers of similar size and contents in one row. Insert additional rows as needed.
Number and Label Each Container.

Container ID Number	**Container Size and Type**	**Estimated Volume of Waste**	**Source: Tank, Well, Boring**	**Contents: Soil, Water, Other (Describe)**
Example: 1, 4, 5, 6, 7, 18, 22, 23	Example: 30 gallon metal drum	Example: 8 drums x 30 gal = 240 gallons	Example: monitoring wells # MW3, MW4, and MW7	Example: wash water, alconox
Bucket nos. 1, 2, 3 and 4	5 gallon plastic bucket	20 gallons	Soil borings	soil

Total Number of Containers to be picked up:

Container Location: Attach map or site sketch to Email

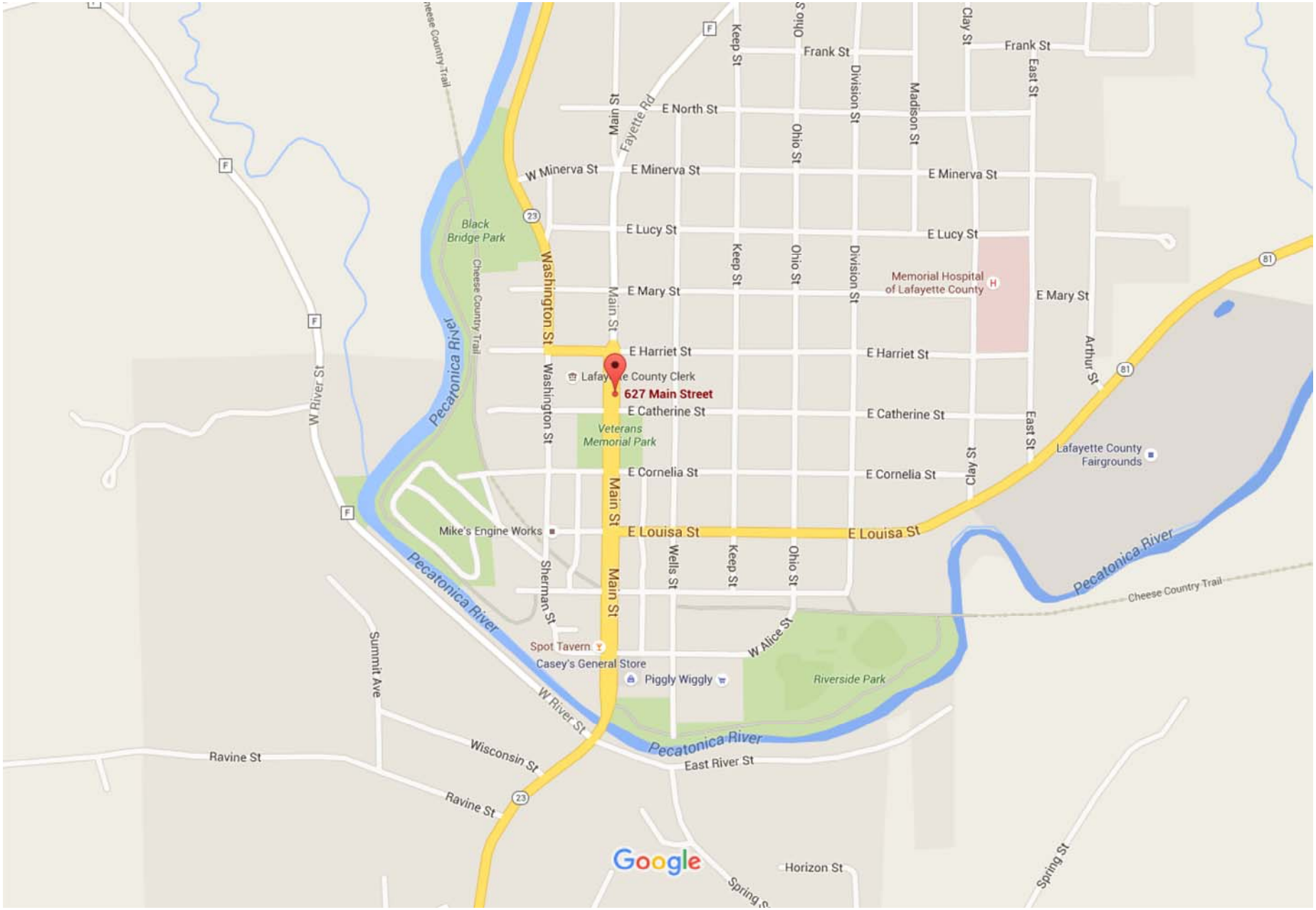
Analytical Results: Attach analytical results to Email

Email one copy of this form to each of the following:

- DOT Hazardous Materials Specialist
- Regional Environmental or Hazardous Materials Coordinator
- Hazardous Waste Contractor

Include a copy of this form as the final appendix in the report for this site.

Google Maps 627 Main St



Standard Analytical Procedures

Appendix G

Standard Analytical Procedures

Samples were analyzed by Pace Analytical Services, Inc., Green Bay, Wisconsin (Wisconsin Certification No. 405132750).

The analytical methods used were:

- PVOCs + Naphthalene by WI MOD GRO
- Lead by EPA Method 6010

Sample detection limits for specific analyses are included in the laboratory analytical report.

Laboratory Report and Chain of Custody Form

Appendix H

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

July 25, 2016

Kyle Wagoner
AECOM, Inc. - Stevens Point
200 INDIANA AVE
Stevens Point, WI 54481

RE: Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

Dear Kyle Wagoner:
Enclosed are the analytical results for sample(s) received by the laboratory on July 12, 2016. 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,

Christopher Hyska

Christopher Hyska
christopher.hyska@pacelabs.com
Project Manager

Enclosures

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

CERTIFICATIONS

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

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
Virginia VELAP ID: 460263
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
US Dept of Agriculture #: S-76505
Virginia VELAP Certification ID: 460263
Virginia VELAP ID: 460263
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40135094001	**DP5-1 (1'-2')**	Solid	07/07/16 14:40	07/12/16 10:10
40135094002	**DP5-1 (9'-10')**	Solid	07/07/16 14:45	07/12/16 10:10
40135094003	**DP5-2 (3'-4')**	Solid	07/07/16 14:54	07/12/16 10:10
40135094004	**DP5-2 (7'-8')**	Solid	07/07/16 15:05	07/12/16 10:10
40135094005	**DP5-3 (3'-4')**	Solid	07/07/16 15:25	07/12/16 10:10
40135094006	**DP5-4 (2'-3')**	Solid	07/07/16 15:50	07/12/16 10:10
40135094007	**DP5-4 (7'-8')**	Solid	07/07/16 16:05	07/12/16 10:10
40135094008	**DP5-5 (1'-2')**	Solid	07/07/16 16:36	07/12/16 10:10
40135094009	**DP5-5 (7'-8')**	Solid	07/07/16 16:45	07/12/16 10:10
40135094010	**WASTE CHAR (SITE 5)**	Solid	07/08/16 12:05	07/12/16 10:10
40135088001	**DP5-4**	Water	07/08/16 13:11	07/12/16 10:10
40135088002	**DP5-3**	Water	07/08/16 13:18	07/12/16 10:10
40135088003	**DP5-1**	Water	07/08/16 13:39	07/12/16 10:10
40135088004	**DP5-2**	Water	07/08/16 13:42	07/12/16 10:10
40135088005	**DP5-5**	Water	07/08/16 13:47	07/12/16 10:10

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

SAMPLE ANALYTE COUNT

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40135094001	**DP5-1 (1'-2')**	WI MOD GRO	PMS	10	PASI-G
		EPA 6010	DLB	1	PASI-G
		ASTM D2974-87	BTH	1	PASI-G
40135094002	**DP5-1 (9'-10')**	WI MOD GRO	PMS	10	PASI-G
		ASTM D2974-87	BTH	1	PASI-G
40135094003	**DP5-2 (3'-4')**	WI MOD GRO	PMS	10	PASI-G
		ASTM D2974-87	BTH	1	PASI-G
40135094004	**DP5-2 (7'-8')**	WI MOD GRO	PMS	10	PASI-G
		EPA 6010	DLB	1	PASI-G
		ASTM D2974-87	BTH	1	PASI-G
40135094005	**DP5-3 (3'-4')**	WI MOD GRO	PMS	10	PASI-G
		EPA 6010	DLB	1	PASI-G
		ASTM D2974-87	BTH	1	PASI-G
40135094006	**DP5-4 (2'-3')**	WI MOD GRO	PMS	10	PASI-G
		EPA 6010	DLB	1	PASI-G
		ASTM D2974-87	BTH	1	PASI-G
40135094007	**DP5-4 (7'-8')**	WI MOD GRO	PMS	10	PASI-G
		ASTM D2974-87	BTH	1	PASI-G
40135094008	**DP5-5 (1'-2')**	WI MOD GRO	PMS	10	PASI-G
		ASTM D2974-87	BTH	1	PASI-G
40135094009	**DP5-5 (7'-8')**	WI MOD GRO	PMS	10	PASI-G
		EPA 6010	DLB	1	PASI-G
		ASTM D2974-87	BTH	1	PASI-G
40135094010	**WASTE CHAR (SITE 5)**	WI MOD DRO	CAH	1	PASI-G
		WI MOD GRO	PMS	3	PASI-G
		EPA 6010	DLB	1	PASI-G
		ASTM D2974-87	BTH	1	PASI-G
		EPA 1010	DEY	1	PASI-G
		EPA 9095	DEY	1	PASI-G
40135088001	**DP5-4**	WI MOD GRO	PMS	10	PASI-G
40135088002	**DP5-3**	WI MOD GRO	PMS	10	PASI-G
40135088003	**DP5-1**	WI MOD GRO	PMS	10	PASI-G
40135088004	**DP5-2**	WI MOD GRO	PMS	10	PASI-G
40135088005	**DP5-5**	WI MOD GRO	PMS	10	PASI-G

REPORT OF LABORATORY ANALYSIS

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

PROJECT NARRATIVE

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

Method: **WI MOD DRO**
Description: WIDRO GCS
Client: AECOM, Inc. - Stevens Point
Date: July 25, 2016

General Information:
1 sample was analyzed for WI MOD DRO. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with WI MOD DRO with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 229731

L0: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

- LCS (Lab ID: 1362923)
  - Diesel Range Organics
- LCSD (Lab ID: 1362924)
  - Diesel Range Organics

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: 229731

P2: Re-extraction or re-analysis could not be performed due to insufficient sample amount.

- WASTE CHAR (SITE 5) (Lab ID: 40135094010)
  - Diesel Range Organics

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

PROJECT NARRATIVE

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

Method: **WI MOD GRO**
Description: WIGRO GCV
Client: AECOM, Inc. - Stevens Point
Date: July 25, 2016

General Information:
15 samples were analyzed for WI MOD GRO. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with TPH GRO/PVOC WI ext. with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: 229824

1q: Analyte recovery in the continuing calibration verification (CCV) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

- DP5-1 (Lab ID: 40135088003)
  - Methyl-tert-butyl ether
- DP5-3 (Lab ID: 40135088002)
  - Methyl-tert-butyl ether

QC Batch: 229970

2q: Inconsistent results obtained between vials. Reported highest concentration obtained.

- DP5-2 (Lab ID: 40135088004)
  - a,a,a-Trifluorotoluene (S)

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

PROJECT NARRATIVE

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

Method: **WI MOD GRO**
Description: WIGRO GCV
Client: AECOM, Inc. - Stevens Point
Date: July 25, 2016

Analyte Comments:

QC Batch: 229970

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- DP5-2 (Lab ID: 40135088004)
  - Ethylbenzene

REPORT OF LABORATORY ANALYSIS

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

PROJECT NARRATIVE

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

Method: **EPA 6010**
Description: 6010 MET ICP
Client: AECOM, Inc. - Stevens Point
Date: July 25, 2016

General Information:
6 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3050 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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

PROJECT NARRATIVE

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

Method: **EPA 1010**
Description: 1010 Flashpoint,Closed Cup
Client: AECOM, Inc. - Stevens Point
Date: July 25, 2016

General Information:
1 sample was analyzed for EPA 1010. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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

PROJECT NARRATIVE

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

Method: **EPA 9095**
Description: 9095 Paint Filter Liquid Test
Client: AECOM, Inc. - Stevens Point
Date: July 25, 2016

General Information:
1 sample was analyzed for EPA 9095. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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

ANALYTICAL RESULTS

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

Sample: DP5-1 (1'-2') **Lab ID: 40135094001** Collected: 07/07/16 14:40 Received: 07/12/16 10:10 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: TPH GRO/PVOC WI ext.								
Benzene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 13:23	71-43-2	W
Ethylbenzene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 13:23	100-41-4	W
Methyl-tert-butyl ether	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 13:23	1634-04-4	W
Naphthalene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 13:23	91-20-3	W
Toluene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 13:23	108-88-3	W
1,2,4-Trimethylbenzene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 13:23	95-63-6	W
1,3,5-Trimethylbenzene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 13:23	108-67-8	W
m&p-Xylene	**<50.0**	ug/kg	100	50.0	1	07/13/16 06:30	07/13/16 13:23	179601-23-1	W
o-Xylene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 13:23	95-47-6	W
Surrogates									
a,a,a-Trifluorotoluene (S)	101	%	80-120		1	07/13/16 06:30	07/13/16 13:23	98-08-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Lead	**1.8**	mg/kg	1.1	0.40	1	07/13/16 13:22	07/14/16 12:51	7439-92-1	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**6.3**	%	0.10	0.10	1		07/19/16 11:58		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

Sample: DP5-1 (9'-10') **Lab ID: 40135094002** Collected: 07/07/16 14:45 Received: 07/12/16 10:10 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: TPH GRO/PVOC WI ext.								
Benzene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 13:48	71-43-2	W
Ethylbenzene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 13:48	100-41-4	W
Methyl-tert-butyl ether	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 13:48	1634-04-4	W
Naphthalene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 13:48	91-20-3	W
Toluene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 13:48	108-88-3	W
1,2,4-Trimethylbenzene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 13:48	95-63-6	W
1,3,5-Trimethylbenzene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 13:48	108-67-8	W
m&p-Xylene	**<50.0**	ug/kg	100	50.0	1	07/13/16 06:30	07/13/16 13:48	179601-23-1	W
o-Xylene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 13:48	95-47-6	W
Surrogates									
a,a,a-Trifluorotoluene (S)	101	%	80-120		1	07/13/16 06:30	07/13/16 13:48	98-08-8	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**18.6**	%	0.10	0.10	1		07/19/16 11:58		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

Sample: DP5-2 (3'-4') **Lab ID: 40135094003** Collected: 07/07/16 14:54 Received: 07/12/16 10:10 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: TPH GRO/PVOC WI ext.								
Benzene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 14:14	71-43-2	W
Ethylbenzene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 14:14	100-41-4	W
Methyl-tert-butyl ether	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 14:14	1634-04-4	W
Naphthalene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 14:14	91-20-3	W
Toluene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 14:14	108-88-3	W
1,2,4-Trimethylbenzene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 14:14	95-63-6	W
1,3,5-Trimethylbenzene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 14:14	108-67-8	W
m&p-Xylene	**<50.0**	ug/kg	100	50.0	1	07/13/16 06:30	07/13/16 14:14	179601-23-1	W
o-Xylene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 14:14	95-47-6	W
Surrogates									
a,a,a-Trifluorotoluene (S)	101	%	80-120		1	07/13/16 06:30	07/13/16 14:14	98-08-8	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**25.7**	%	0.10	0.10	1		07/19/16 11:58		

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ANALYTICAL RESULTS

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

Sample: DP5-2 (7'-8') **Lab ID: 40135094004** Collected: 07/07/16 15:05 Received: 07/12/16 10:10 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: TPH GRO/PVOC WI ext.								
Benzene	**<200**	ug/kg	400	200	8	07/13/16 06:30	07/13/16 16:49	71-43-2	W
Ethylbenzene	**42300**	ug/kg	537	269	8	07/13/16 06:30	07/13/16 16:49	100-41-4	
Methyl-tert-butyl ether	**560**	ug/kg	537	269	8	07/13/16 06:30	07/13/16 16:49	1634-04-4	
Naphthalene	**19100**	ug/kg	537	269	8	07/13/16 06:30	07/13/16 16:49	91-20-3	
Toluene	**<200**	ug/kg	400	200	8	07/13/16 06:30	07/13/16 16:49	108-88-3	W
1,2,4-Trimethylbenzene	**1770**	ug/kg	537	269	8	07/13/16 06:30	07/13/16 16:49	95-63-6	
1,3,5-Trimethylbenzene	**3440**	ug/kg	537	269	8	07/13/16 06:30	07/13/16 16:49	108-67-8	
m&p-Xylene	**2450**	ug/kg	1070	537	8	07/13/16 06:30	07/13/16 16:49	179601-23-1	
o-Xylene	**2470**	ug/kg	537	269	8	07/13/16 06:30	07/13/16 16:49	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	118	%	80-120		8	07/13/16 06:30	07/13/16 16:49	98-08-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Lead	**24.2**	mg/kg	1.4	0.51	1	07/13/16 13:22	07/14/16 12:54	7439-92-1	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**25.5**	%	0.10	0.10	1		07/19/16 11:58		

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ANALYTICAL RESULTS

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

Sample: DP5-3 (3'-4') **Lab ID: 40135094005** Collected: 07/07/16 15:25 Received: 07/12/16 10:10 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: TPH GRO/PVOC WI ext.								
Benzene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 14:40	71-43-2	W
Ethylbenzene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 14:40	100-41-4	W
Methyl-tert-butyl ether	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 14:40	1634-04-4	W
Naphthalene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 14:40	91-20-3	W
Toluene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 14:40	108-88-3	W
1,2,4-Trimethylbenzene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 14:40	95-63-6	W
1,3,5-Trimethylbenzene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 14:40	108-67-8	W
m&p-Xylene	**<50.0**	ug/kg	100	50.0	1	07/13/16 06:30	07/13/16 14:40	179601-23-1	W
o-Xylene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 14:40	95-47-6	W
Surrogates									
a,a,a-Trifluorotoluene (S)	101	%	80-120		1	07/13/16 06:30	07/13/16 14:40	98-08-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Lead	**101**	mg/kg	1.3	0.48	1	07/13/16 13:22	07/14/16 12:56	7439-92-1	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**16.9**	%	0.10	0.10	1		07/19/16 11:58		

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ANALYTICAL RESULTS

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

Sample: DP5-4 (2'-3') **Lab ID: 40135094006** Collected: 07/07/16 15:50 Received: 07/12/16 10:10 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: TPH GRO/PVOC WI ext.								
Benzene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 15:06	71-43-2	W
Ethylbenzene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 15:06	100-41-4	W
Methyl-tert-butyl ether	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 15:06	1634-04-4	W
Naphthalene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 15:06	91-20-3	W
Toluene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 15:06	108-88-3	W
1,2,4-Trimethylbenzene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 15:06	95-63-6	W
1,3,5-Trimethylbenzene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 15:06	108-67-8	W
m&p-Xylene	**<50.0**	ug/kg	100	50.0	1	07/13/16 06:30	07/13/16 15:06	179601-23-1	W
o-Xylene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 15:06	95-47-6	W
Surrogates									
a,a,a-Trifluorotoluene (S)	102	%	80-120		1	07/13/16 06:30	07/13/16 15:06	98-08-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Lead	**21.3**	mg/kg	1.3	0.47	1	07/13/16 13:22	07/14/16 13:03	7439-92-1	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**18.4**	%	0.10	0.10	1		07/19/16 11:58		

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ANALYTICAL RESULTS

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

Sample: DP5-4 (7'-8') **Lab ID: 40135094007** Collected: 07/07/16 16:05 Received: 07/12/16 10:10 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: TPH GRO/PVOC WI ext.								
Benzene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 19:49	71-43-2	W
Ethylbenzene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 19:49	100-41-4	W
Methyl-tert-butyl ether	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 19:49	1634-04-4	W
Naphthalene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 19:49	91-20-3	W
Toluene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 19:49	108-88-3	W
1,2,4-Trimethylbenzene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 19:49	95-63-6	W
1,3,5-Trimethylbenzene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 19:49	108-67-8	W
m&p-Xylene	**<50.0**	ug/kg	100	50.0	1	07/13/16 06:30	07/13/16 19:49	179601-23-1	W
o-Xylene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 19:49	95-47-6	W
Surrogates									
a,a,a-Trifluorotoluene (S)	101	%	80-120		1	07/13/16 06:30	07/13/16 19:49	98-08-8	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**25.7**	%	0.10	0.10	1		07/19/16 11:58		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

Sample: DP5-5 (1'-2') **Lab ID: 40135094008** Collected: 07/07/16 16:36 Received: 07/12/16 10:10 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: TPH GRO/PVOC WI ext.								
Benzene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 20:14	71-43-2	W
Ethylbenzene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 20:14	100-41-4	W
Methyl-tert-butyl ether	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 20:14	1634-04-4	W
Naphthalene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 20:14	91-20-3	W
Toluene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 20:14	108-88-3	W
1,2,4-Trimethylbenzene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 20:14	95-63-6	W
1,3,5-Trimethylbenzene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 20:14	108-67-8	W
m&p-Xylene	**<50.0**	ug/kg	100	50.0	1	07/13/16 06:30	07/13/16 20:14	179601-23-1	W
o-Xylene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 20:14	95-47-6	W
Surrogates									
a,a,a-Trifluorotoluene (S)	101	%	80-120		1	07/13/16 06:30	07/13/16 20:14	98-08-8	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**11.5**	%	0.10	0.10	1		07/19/16 11:59		

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ANALYTICAL RESULTS

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

Sample: DP5-5 (7'-8') **Lab ID: 40135094009** Collected: 07/07/16 16:45 Received: 07/12/16 10:10 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: TPH GRO/PVOC WI ext.								
Benzene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 20:40	71-43-2	W
Ethylbenzene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 20:40	100-41-4	W
Methyl-tert-butyl ether	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 20:40	1634-04-4	W
Naphthalene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 20:40	91-20-3	W
Toluene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 20:40	108-88-3	W
1,2,4-Trimethylbenzene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 20:40	95-63-6	W
1,3,5-Trimethylbenzene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 20:40	108-67-8	W
m&p-Xylene	**<50.0**	ug/kg	100	50.0	1	07/13/16 06:30	07/13/16 20:40	179601-23-1	W
o-Xylene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 20:40	95-47-6	W
Surrogates									
a,a,a-Trifluorotoluene (S)	101	%	80-120		1	07/13/16 06:30	07/13/16 20:40	98-08-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Lead	**20.2**	mg/kg	1.6	0.57	1	07/13/16 13:22	07/14/16 13:06	7439-92-1	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**29.0**	%	0.10	0.10	1		07/19/16 11:59		

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ANALYTICAL RESULTS

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

Sample: WASTE CHAR (SITE 5) **Lab ID: 40135094010** Collected: 07/08/16 12:05 Received: 07/12/16 10:10 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIDRO GCS	Analytical Method: WI MOD DRO Preparation Method: WI MOD DRO								
Diesel Range Organics	**124**	mg/kg	6.3	2.5	3	07/13/16 09:13	07/14/16 12:25		L2,P2
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: TPH GRO/PVOC WI ext.								
Benzene	**<25.0**	ug/kg	50.0	25.0	1	07/13/16 06:30	07/13/16 19:23	71-43-2	W
Gasoline Range Organics	**<3.2**	mg/kg	6.4	3.2	1	07/13/16 06:30	07/13/16 19:23		
Surrogates									
a,a,a-Trifluorotoluene (S)	101	%	80-120		1	07/13/16 06:30	07/13/16 19:23	98-08-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Lead	**16.1**	mg/kg	1.4	0.51	1	07/13/16 13:22	07/14/16 13:08	7439-92-1	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**21.8**	%	0.10	0.10	1		07/19/16 11:59		
1010 Flashpoint,Closed Cup	Analytical Method: EPA 1010								
Flashpoint	**>210**	deg F			1		07/13/16 14:12		
9095 Paint Filter Liquid Test	Analytical Method: EPA 9095								
Free Liquids	**Pass**	no units			1		07/14/16 11:39		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

Sample: DP5-4 **Lab ID: 40135088001** Collected: 07/08/16 13:11 Received: 07/12/16 10:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO								
Benzene	**<0.40**	ug/L	1.0	0.40	1		07/15/16 16:57	71-43-2	
Ethylbenzene	**<0.39**	ug/L	1.0	0.39	1		07/15/16 16:57	100-41-4	
Methyl-tert-butyl ether	**<0.48**	ug/L	1.0	0.48	1		07/15/16 16:57	1634-04-4	
Naphthalene	**<0.42**	ug/L	1.0	0.42	1		07/15/16 16:57	91-20-3	
Toluene	**<0.39**	ug/L	1.0	0.39	1		07/15/16 16:57	108-88-3	
1,2,4-Trimethylbenzene	**<0.42**	ug/L	1.0	0.42	1		07/15/16 16:57	95-63-6	
1,3,5-Trimethylbenzene	**<0.42**	ug/L	1.0	0.42	1		07/15/16 16:57	108-67-8	
m&p-Xylene	**<0.80**	ug/L	2.0	0.80	1		07/15/16 16:57	179601-23-1	
o-Xylene	**<0.45**	ug/L	1.0	0.45	1		07/15/16 16:57	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	99	%	80-120		1		07/15/16 16:57	98-08-8	

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ANALYTICAL RESULTS

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

Sample: DP5-3 **Lab ID: 40135088002** Collected: 07/08/16 13:18 Received: 07/12/16 10:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO								
Benzene	**24.7**	ug/L	1.0	0.40	1		07/14/16 21:43	71-43-2	
Ethylbenzene	**0.49J**	ug/L	1.0	0.39	1		07/14/16 21:43	100-41-4	
Methyl-tert-butyl ether	**<0.48**	ug/L	1.0	0.48	1		07/14/16 21:43	1634-04-4	1q
Naphthalene	**0.92J**	ug/L	1.0	0.42	1		07/14/16 21:43	91-20-3	
Toluene	**0.49J**	ug/L	1.0	0.39	1		07/14/16 21:43	108-88-3	
1,2,4-Trimethylbenzene	**<0.42**	ug/L	1.0	0.42	1		07/14/16 21:43	95-63-6	
1,3,5-Trimethylbenzene	**<0.42**	ug/L	1.0	0.42	1		07/14/16 21:43	108-67-8	
m&p-Xylene	**<0.80**	ug/L	2.0	0.80	1		07/14/16 21:43	179601-23-1	
o-Xylene	**<0.45**	ug/L	1.0	0.45	1		07/14/16 21:43	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	101	%	80-120		1		07/14/16 21:43	98-08-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

Sample: DP5-1 **Lab ID: 40135088003** Collected: 07/08/16 13:39 Received: 07/12/16 10:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO								
Benzene	**<0.40**	ug/L	1.0	0.40	1		07/14/16 17:53	71-43-2	
Ethylbenzene	**<0.39**	ug/L	1.0	0.39	1		07/14/16 17:53	100-41-4	
Methyl-tert-butyl ether	**<0.48**	ug/L	1.0	0.48	1		07/14/16 17:53	1634-04-4	1q
Naphthalene	**6.7**	ug/L	1.0	0.42	1		07/14/16 17:53	91-20-3	
Toluene	**<0.39**	ug/L	1.0	0.39	1		07/14/16 17:53	108-88-3	
1,2,4-Trimethylbenzene	**<0.42**	ug/L	1.0	0.42	1		07/14/16 17:53	95-63-6	
1,3,5-Trimethylbenzene	**<0.42**	ug/L	1.0	0.42	1		07/14/16 17:53	108-67-8	
m&p-Xylene	**<0.80**	ug/L	2.0	0.80	1		07/14/16 17:53	179601-23-1	
o-Xylene	**<0.45**	ug/L	1.0	0.45	1		07/14/16 17:53	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	102	%	80-120		1		07/14/16 17:53	98-08-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

Sample: DP5-2 **Lab ID: 40135088004** Collected: 07/08/16 13:42 Received: 07/12/16 10:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO								
Benzene	**63.2**	ug/L	1.0	0.40	1		07/15/16 18:14	71-43-2	
Ethylbenzene	**966**	ug/L	1.0	0.39	1		07/15/16 18:14	100-41-4	E
Methyl-tert-butyl ether	**3.5**	ug/L	1.0	0.48	1		07/15/16 18:14	1634-04-4	
Naphthalene	**296**	ug/L	1.0	0.42	1		07/15/16 18:14	91-20-3	
Toluene	**1.2**	ug/L	1.0	0.39	1		07/15/16 18:14	108-88-3	
1,2,4-Trimethylbenzene	**0.79J**	ug/L	1.0	0.42	1		07/15/16 18:14	95-63-6	
1,3,5-Trimethylbenzene	**10.5**	ug/L	1.0	0.42	1		07/15/16 18:14	108-67-8	
m&p-Xylene	**9.8**	ug/L	2.0	0.80	1		07/15/16 18:14	179601-23-1	
o-Xylene	**0.69J**	ug/L	1.0	0.45	1		07/15/16 18:14	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	108	%	80-120		1		07/15/16 18:14	98-08-8	2q

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

Sample: DP5-5 **Lab ID: 40135088005** Collected: 07/08/16 13:47 Received: 07/12/16 10:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO								
Benzene	**<0.40**	ug/L	1.0	0.40	1		07/15/16 17:23	71-43-2	
Ethylbenzene	**<0.39**	ug/L	1.0	0.39	1		07/15/16 17:23	100-41-4	
Methyl-tert-butyl ether	**0.52J**	ug/L	1.0	0.48	1		07/15/16 17:23	1634-04-4	
Naphthalene	**<0.42**	ug/L	1.0	0.42	1		07/15/16 17:23	91-20-3	
Toluene	**<0.39**	ug/L	1.0	0.39	1		07/15/16 17:23	108-88-3	
1,2,4-Trimethylbenzene	**<0.42**	ug/L	1.0	0.42	1		07/15/16 17:23	95-63-6	
1,3,5-Trimethylbenzene	**<0.42**	ug/L	1.0	0.42	1		07/15/16 17:23	108-67-8	
m&p-Xylene	**1.8J**	ug/L	2.0	0.80	1		07/15/16 17:23	179601-23-1	
o-Xylene	**<0.45**	ug/L	1.0	0.45	1		07/15/16 17:23	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	104	%	80-120		1		07/15/16 17:23	98-08-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

QC Batch: 229708 Analysis Method: WI MOD GRO
QC Batch Method: TPH GRO/PVOC WI ext. Analysis Description: WIGRO Solid GCV
Associated Lab Samples: 40135094001, 40135094002, 40135094003, 40135094004, 40135094005, 40135094006, 40135094007, 40135094008, 40135094009, 40135094010

METHOD BLANK: 1362877 Matrix: Solid
Associated Lab Samples: 40135094001, 40135094002, 40135094003, 40135094004, 40135094005, 40135094006, 40135094007, 40135094008, 40135094009, 40135094010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/kg	<25.0	50.0	07/13/16 08:49	
1,3,5-Trimethylbenzene	ug/kg	<25.0	50.0	07/13/16 08:49	
Benzene	ug/kg	<25.0	50.0	07/13/16 08:49	
Ethylbenzene	ug/kg	<25.0	50.0	07/13/16 08:49	
Gasoline Range Organics	mg/kg	<1.6	5.0	07/13/16 08:49	
m&p-Xylene	ug/kg	<50.0	100	07/13/16 08:49	
Methyl-tert-butyl ether	ug/kg	<25.0	50.0	07/13/16 08:49	
Naphthalene	ug/kg	<25.0	50.0	07/13/16 08:49	
o-Xylene	ug/kg	<25.0	50.0	07/13/16 08:49	
Toluene	ug/kg	<25.0	50.0	07/13/16 08:49	
a,a,a-Trifluorotoluene (S)	%	101	80-120	07/13/16 08:49	

LABORATORY CONTROL SAMPLE & LCSD: 1362878 1362879

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2,4-Trimethylbenzene	ug/kg	1000	1100	1120	110	112	80-120	2	20	
1,3,5-Trimethylbenzene	ug/kg	1000	1080	1100	108	110	80-120	1	20	
Benzene	ug/kg	1000	1070	1080	107	108	80-120	1	20	
Ethylbenzene	ug/kg	1000	1080	1090	108	109	80-120	1	20	
Gasoline Range Organics	mg/kg	10	10.7	10.7	107	107	80-120	0	20	
m&p-Xylene	ug/kg	2000	2140	2170	107	108	80-120	2	20	
Methyl-tert-butyl ether	ug/kg	1000	1080	1100	108	110	80-120	2	20	
Naphthalene	ug/kg	1000	994	1040	99	104	80-120	4	20	
o-Xylene	ug/kg	1000	1080	1100	108	110	80-120	2	20	
Toluene	ug/kg	1000	1070	1080	107	108	80-120	0	20	
a,a,a-Trifluorotoluene (S)	%				102	101	80-120			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

QC Batch: 229824 Analysis Method: WI MOD GRO
QC Batch Method: WI MOD GRO Analysis Description: WIGRO GCV Water
Associated Lab Samples: 40135088002, 40135088003

METHOD BLANK: 1363624 Matrix: Water
Associated Lab Samples: 40135088002, 40135088003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.42	1.0	07/14/16 13:10	
1,3,5-Trimethylbenzene	ug/L	<0.42	1.0	07/14/16 13:10	
Benzene	ug/L	<0.40	1.0	07/14/16 13:10	
Ethylbenzene	ug/L	<0.39	1.0	07/14/16 13:10	
m&p-Xylene	ug/L	<0.80	2.0	07/14/16 13:10	
Methyl-tert-butyl ether	ug/L	<0.48	1.0	07/14/16 13:10	
Naphthalene	ug/L	<0.42	1.0	07/14/16 13:10	
o-Xylene	ug/L	<0.45	1.0	07/14/16 13:10	
Toluene	ug/L	<0.39	1.0	07/14/16 13:10	
a,a,a-Trifluorotoluene (S)	%	101	80-120	07/14/16 13:10	

LABORATORY CONTROL SAMPLE & LCSD: 1363625 1363626

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2,4-Trimethylbenzene	ug/L	20	19.6	19.9	98	99	80-120	1	20	
1,3,5-Trimethylbenzene	ug/L	20	19.1	19.3	96	97	80-120	1	20	
Benzene	ug/L	20	22.0	21.9	110	109	80-120	0	20	
Ethylbenzene	ug/L	20	20.5	20.6	103	103	80-120	0	20	
m&p-Xylene	ug/L	40	40.8	40.9	102	102	80-120	0	20	
Methyl-tert-butyl ether	ug/L	20	21.7	22.6	109	113	80-120	4	20	
Naphthalene	ug/L	20	19.7	20.8	99	104	80-120	5	20	
o-Xylene	ug/L	20	21.0	21.0	105	105	80-120	0	20	
Toluene	ug/L	20	20.9	21.0	104	105	80-120	1	20	
a,a,a-Trifluorotoluene (S)	%				101	101	80-120			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1364392 1364393

Parameter	Units	40135123001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2,4-Trimethylbenzene	ug/L	<0.42	20	20	16.0	17.1	80	85	48-177	6	20	
1,3,5-Trimethylbenzene	ug/L	<0.42	20	20	18.7	19.2	93	96	73-145	3	20	
Benzene	ug/L	<0.40	20	20	22.8	22.6	114	113	74-139	1	20	
Ethylbenzene	ug/L	<0.39	20	20	21.3	21.2	107	106	74-140	0	20	
m&p-Xylene	ug/L	<0.80	40	40	41.3	41.3	103	103	55-165	0	20	
Methyl-tert-butyl ether	ug/L	<0.48	20	20	23.0	22.7	115	113	80-120	1	20	
Naphthalene	ug/L	<0.42	20	20	19.9	20.4	99	102	73-133	3	20	
o-Xylene	ug/L	<0.45	20	20	21.4	21.2	107	106	73-136	1	20	
Toluene	ug/L	<0.39	20	20	21.8	21.8	109	109	80-128	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1364392 1364393

Parameter	Units	40135123001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
a,a,a-Trifluorotoluene (S)	%						102	101	80-120			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

QC Batch: 229970 Analysis Method: WI MOD GRO
QC Batch Method: WI MOD GRO Analysis Description: WIGRO GCV Water
Associated Lab Samples: 40135088001, 40135088004, 40135088005

METHOD BLANK: 1364506 Matrix: Water
Associated Lab Samples: 40135088001, 40135088004, 40135088005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.42	1.0	07/15/16 15:15	
1,3,5-Trimethylbenzene	ug/L	<0.42	1.0	07/15/16 15:15	
Benzene	ug/L	<0.40	1.0	07/15/16 15:15	
Ethylbenzene	ug/L	<0.39	1.0	07/15/16 15:15	
m&p-Xylene	ug/L	<0.80	2.0	07/15/16 15:15	
Methyl-tert-butyl ether	ug/L	<0.48	1.0	07/15/16 15:15	
Naphthalene	ug/L	<0.42	1.0	07/15/16 15:15	
o-Xylene	ug/L	<0.45	1.0	07/15/16 15:15	
Toluene	ug/L	<0.39	1.0	07/15/16 15:15	
a,a,a-Trifluorotoluene (S)	%	99	80-120	07/15/16 15:15	

LABORATORY CONTROL SAMPLE & LCSD: 1364507 1364508

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2,4-Trimethylbenzene	ug/L	20	21.5	20.7	108	104	80-120	4	20	
1,3,5-Trimethylbenzene	ug/L	20	20.7	20.0	104	100	80-120	4	20	
Benzene	ug/L	20	21.1	20.8	106	104	80-120	2	20	
Ethylbenzene	ug/L	20	20.6	19.8	103	99	80-120	4	20	
m&p-Xylene	ug/L	40	41.7	40.0	104	100	80-120	4	20	
Methyl-tert-butyl ether	ug/L	20	20.5	20.6	102	103	80-120	0	20	
Naphthalene	ug/L	20	20.2	19.9	101	99	80-120	1	20	
o-Xylene	ug/L	20	20.8	20.1	104	100	80-120	4	20	
Toluene	ug/L	20	20.7	20.1	103	101	80-120	3	20	
a,a,a-Trifluorotoluene (S)	%				100	100	80-120			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1364509 1364510

Parameter	Units	40135086008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2,4-Trimethylbenzene	ug/L	2160	1000	1000	3260	3040	110	88	48-177	7	20	
1,3,5-Trimethylbenzene	ug/L	624	1000	1000	1650	1610	103	98	73-145	3	20	
Benzene	ug/L	1940	1000	1000	2940	2970	100	103	74-139	1	20	
Ethylbenzene	ug/L	2040	1000	1000	3030	3050	99	101	74-140	0	20	
m&p-Xylene	ug/L	6380	2000	2000	8380	8340	100	98	55-165	0	20	
Methyl-tert-butyl ether	ug/L	<24.2	1000	1000	975	1020	98	102	80-120	4	20	
Naphthalene	ug/L	693	1000	1000	1660	1700	97	100	73-133	2	20	
o-Xylene	ug/L	2430	1000	1000	3460	3470	102	104	73-136	1	20	
Toluene	ug/L	414	1000	1000	1410	1440	99	103	80-128	2	20	

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QUALITY CONTROL DATA

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1364509 1364510

Parameter	Units	40135086008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
a,a,a-Trifluorotoluene (S)	%						101	98	80-120			HS

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QUALITY CONTROL DATA

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

QC Batch: 229740 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET
Associated Lab Samples: 40135094001, 40135094004, 40135094005, 40135094006, 40135094009, 40135094010

METHOD BLANK: 1362987 Matrix: Solid
Associated Lab Samples: 40135094001, 40135094004, 40135094005, 40135094006, 40135094009, 40135094010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lead	mg/kg	<0.43	1.2	07/14/16 11:48	

LABORATORY CONTROL SAMPLE: 1362988

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lead	mg/kg	50	48.4	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1362989 1362990

Parameter	Units	40135081001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lead	mg/kg	1.2J	51.8	52.1	48.3	48.8	91	91	75-125	1	20	

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QUALITY CONTROL DATA

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

QC Batch: 229731 Analysis Method: WI MOD DRO
QC Batch Method: WI MOD DRO Analysis Description: WIDRO GCS
Associated Lab Samples: 40135094010

METHOD BLANK: 1362922 Matrix: Solid
Associated Lab Samples: 40135094010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Range Organics	mg/kg	<0.80	2.0	07/14/16 09:07	

LABORATORY CONTROL SAMPLE & LCSD: 1362923 1362924

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Diesel Range Organics	mg/kg	40	26.4	27.1	66	68	70-120	3	20	L0

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

QC Batch: 230206 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 40135094001, 40135094002, 40135094003, 40135094004, 40135094005, 40135094006, 40135094007, 40135094008, 40135094009, 40135094010

SAMPLE DUPLICATE: 1365855

Parameter	Units	40135094007 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	25.7	26.2	2	10	

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QUALITY CONTROL DATA

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

QC Batch: 229732
QC Batch Method: EPA 1010
Analysis Method: EPA 1010
Analysis Description: 1010 Flash Point, Closed Cup
Associated Lab Samples: 40135094010

LABORATORY CONTROL SAMPLE: 1362925

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Flashpoint	deg F		80.6			

SAMPLE DUPLICATE: 1363281

Parameter	Units	40135083019 Result	Dup Result	RPD	Max RPD	Qualifiers
Flashpoint	deg F	131	111			

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

QC Batch: 229870
QC Batch Method: EPA 9095
Analysis Method: EPA 9095
Analysis Description: 9095 PAINT FILTER LIQUID TEST
Associated Lab Samples: 40135094010

SAMPLE DUPLICATE: 1363903

Parameter	Units	40135061001 Result	Dup Result	RPD	Max RPD	Qualifiers
Free Liquids	no units	Pass	Pass			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

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 at or above the adjusted LOD.

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

1q	Analyte recovery in the continuing calibration verification (CCV) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
2q	Inconsistent results obtained between vials. Reported highest concentration obtained.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L2	Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results may be biased low.
P2	Re-extraction or re-analysis could not be performed due to insufficient sample amount.
W	Non-detect results are reported on a wet weight basis.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 60492955 STH23-DARLINGTON
Pace Project No.: 40135094

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40135094010	**WASTE CHAR (SITE 5)**	WI MOD DRO	229731	WI MOD DRO	229787
40135094001	**DP5-1 (1'-2')**	TPH GRO/PVOC WI ext.	229708	WI MOD GRO	229762
40135094002	**DP5-1 (9'-10')**	TPH GRO/PVOC WI ext.	229708	WI MOD GRO	229762
40135094003	**DP5-2 (3'-4')**	TPH GRO/PVOC WI ext.	229708	WI MOD GRO	229762
40135094004	**DP5-2 (7'-8')**	TPH GRO/PVOC WI ext.	229708	WI MOD GRO	229762
40135094005	**DP5-3 (3'-4')**	TPH GRO/PVOC WI ext.	229708	WI MOD GRO	229762
40135094006	**DP5-4 (2'-3')**	TPH GRO/PVOC WI ext.	229708	WI MOD GRO	229762
40135094007	**DP5-4 (7'-8')**	TPH GRO/PVOC WI ext.	229708	WI MOD GRO	229762
40135094008	**DP5-5 (1'-2')**	TPH GRO/PVOC WI ext.	229708	WI MOD GRO	229762
40135094009	**DP5-5 (7'-8')**	TPH GRO/PVOC WI ext.	229708	WI MOD GRO	229762
40135094010	**WASTE CHAR (SITE 5)**	TPH GRO/PVOC WI ext.	229708	WI MOD GRO	229762
40135088001	**DP5-4**	WI MOD GRO	229970		
40135088002	**DP5-3**	WI MOD GRO	229824		
40135088003	**DP5-1**	WI MOD GRO	229824		
40135088004	**DP5-2**	WI MOD GRO	229970		
40135088005	**DP5-5**	WI MOD GRO	229970		
40135094001	**DP5-1 (1'-2')**	EPA 3050	229740	EPA 6010	229842
40135094004	**DP5-2 (7'-8')**	EPA 3050	229740	EPA 6010	229842
40135094005	**DP5-3 (3'-4')**	EPA 3050	229740	EPA 6010	229842
40135094006	**DP5-4 (2'-3')**	EPA 3050	229740	EPA 6010	229842
40135094009	**DP5-5 (7'-8')**	EPA 3050	229740	EPA 6010	229842
40135094010	**WASTE CHAR (SITE 5)**	EPA 3050	229740	EPA 6010	229842
40135094001	**DP5-1 (1'-2')**	ASTM D2974-87	230206		
40135094002	**DP5-1 (9'-10')**	ASTM D2974-87	230206		
40135094003	**DP5-2 (3'-4')**	ASTM D2974-87	230206		
40135094004	**DP5-2 (7'-8')**	ASTM D2974-87	230206		
40135094005	**DP5-3 (3'-4')**	ASTM D2974-87	230206		
40135094006	**DP5-4 (2'-3')**	ASTM D2974-87	230206		
40135094007	**DP5-4 (7'-8')**	ASTM D2974-87	230206		
40135094008	**DP5-5 (1'-2')**	ASTM D2974-87	230206		
40135094009	**DP5-5 (7'-8')**	ASTM D2974-87	230206		
40135094010	**WASTE CHAR (SITE 5)**	ASTM D2974-87	230206		
40135094010	**WASTE CHAR (SITE 5)**	EPA 1010	229732		
40135094010	**WASTE CHAR (SITE 5)**	EPA 9095	229870		

40135094

SKW

(Please Print Clearly)

Company Name:	AECOM
Branch/Location:	STEVENS POINT
Project Contact:	KYLE WAGONER
Phone:	(715) 342-3038
Project Number:	60492955
Project Name:	STH 23 - Darlington
Project State:	WI
Sampled By (Print):	Marcus Hopkins
Sampled By (Sign):	[signature]
PO #:	
Regulatory Program:	

Pace Analytical®
www.pacelabs.com

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

CHAIN OF CUSTODY

*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

Quote #:	
Mail To Contact:	KYLE WAGONER
Mail To Company:	AECOM
Mail To Address:	kyle.wagoner@aecom.com
Invoice To Contact:	Same
Invoice To Company:	↓
Invoice To Address:	↓
Invoice To Phone:	↓

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

FILTERED? (YES/NO) — Y/N
PRESERVATION (CODE)* — Pick Letter: F (DVOCs + Nap), A (Lead)

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	DVOCs + Nap	Lead	Protocol T1							CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
001	DP5-1 (1'-2')	7/7/16	1440	S	X	X									1-40mlvF, 1-4ozp^A	
002	DP5-1 (9'-10')	7/7/16	1445	S	X										↓	
003	DP5-2 (3'-4')	7/7/16	1454	S	X										↓	
004	DP5-2 (7'-8')	7/7/16	1505	S	X	X									↓	
005	DP5-3 (3'-4')	7/7/16	1525	S	X	X									↓	
006	DP5-4 (2'-3')	7/7/16	1550	S	X	X									↓	
007	DP5-4 (7'-8')	7/7/16	1605	S	X										↓	
008	DP5-5 (1'-2')	7/7/16	1636	S	X										↓	
009	DP5-5 (7'-8')	7/7/16	1645	S	X	X									↓	
010	Waste Char (site 5)	7/8/16	1205	S			X							1-4ozcg^A, Run 1-4ozag^A	2-40mlvF, 1-4ozp^A	

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge) Date Needed:	Relinquished By: [signature] Date/Time: 7/11/16 1700	Received By: Date/Time:		PACE Project No. 40135094
Transmit Prelim Rush Results by (complete what you want):	Relinquished By: UPS Date/Time: 7/12/16 1010	Received By: [signature] McKay Price Date/Time: 7/12/16 1010		Receipt Temp = RO1 °C
Email #1:	Relinquished By: Date/Time:	Received By: Date/Time:		Sample Receipt pH OK / Adjusted
Email #2:	Relinquished By: Date/Time:	Received By: Date/Time:		Cooler Custody Seal Present / Not Present Intact / Not Intact
Telephone:	Relinquished By: Date/Time:	Received By: Date/Time:		
Fax:				

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

Sample Condition Upon Receipt

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

Project # **WO#: 40135094**

40135094

Client Name: AECOM

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

Tracking #: 1Z A47 8E9 01 9763 1390

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

Thermometer Used ☑

Type of Ice: (Wet) Blue Dry None ☑ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: R01 /Corr:

Biological Tissue is Frozen: ☐ yes ☐ no

Temp Blank Present: ☐ yes ☑ no

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

Person examining contents:
Date: 7-12-16
Initials: mm

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1. yellow copy only mm 71216
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.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☐Yes ☑No ☐N/A	12. 005 - ED DP5-3 no depth, 008 - ED DP5-5 no depth on poly
-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 containers. mm 71216
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):		

Client Notification/ Resolution:
If checked, see attached form for additional comments ☐
Person Contacted: Date/Time:
Comments/ Resolution:

Project Manager Review: Date: 7-12-16

F-GB-C-031-Rev.03 (9April2015) SCUR Form

40135088

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

Pace Analytical® www.pacelabs.com

CHAIN OF CUSTODY

*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

(Please Print Clearly)

Company Name:	AECOM
Branch/Location:	STEVENS POINT
Project Contact:	KYLE WAGONER
Phone:	(715) 342-3038
Project Number:	60492955
Project Name:	STH 23- Darlington
Project State:	WI
Sampled By (Print):	Marcus Hopkins
Sampled By (Sign):	[signature]
PO #:	
Regulatory Program:	

Quote #:	
Mail To Contact:	Kyle Wagoner
Mail To Company:	AECOM
Mail To Address:	kyle.wagoner@aecom.com
Invoice To Contact:	Same
Invoice To Company:	↓
Invoice To Address:	↓
Invoice To Phone:	↓

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

FILTERED? (YES/NO) — Y/N: N, N
PRESERVATION (CODE)* — Pick Letter: B, B

Analyses Requested: PVOCs + Nap; VOCs

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	PVOCs + Nap	VOCs	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
001	DP5-4	7/8/16	1311	WG	X			3-40mlvB	
002	DP5-3	7/8/16	1318	WG	X			↓	
003	DP5-1	7/8/16	1339	WG	X			↓	
004	DP5-2	7/8/16	1342	WG	X			↓	
005	DP5-5	7/8/16	1347	WG	X			↓	
006	DP9-1	7/8/16	1258	WG		X		2-40mlvB	
007	DP9-2	7/8/16	1303	WG		X		↓	

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:
[signature]	7/11/16 1700		
UPS	7/12/16 1010	Mari McKay Pace	

PACE Project No. 40135088
Receipt Temp = ROI °C
Sample Receipt pH OK / Adjusted
Cooler Custody Seal: Present / Not Present; Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

Sample Condition Upon Receipt

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

Pace Analytical™

Project # **WO# : 40135088**

40135088

Client Name: AECOM

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

Tracking #: 1Z A47 8E9 01 9763 1390

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

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

Cooler Temperature Uncorr: R01 /Corr: **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp Blank Present: ☐ yes ☑ no

Person examining contents:
Date: 7-12-16
Initials: mm

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. yellow copy only mm 71216
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.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W				
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. 002 - 2 vials mm 71216
Trip Blank Present:	☐Yes	☑No	☐N/A	15.
Trip Blank Custody Seals Present	☐Yes	☑No	☐N/A	
Pace Trip Blank Lot # (if purchased):				

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: Date/Time:

Comments/ Resolution: 002 & 005 alot of sediment. mm 71216

Project Manager Review: [signature] **Date:** 7-12-16

About AECOM

AECOM (NYSE: ACM) is built to deliver a better world. We design, build, finance and operate infrastructure assets for governments, businesses and organizations in more than 150 countries.

As a fully integrated firm, we connect knowledge and experience across our global network of experts to help clients solve their most complex challenges.

From high-performance buildings and infrastructure, to resilient communities and environments, to stable and secure nations, our work is transformative, differentiated and vital. A Fortune 500 firm, AECOM companies had revenue of approximately US$19 billion during the 12 months ended June 30, 2015.

See how we deliver what others can only imagine at aecom.com and @AECOM.

Contact
Kyle Wagoner
Project Manager
T 715-342-3038
E kyle.wagoner@aecom.com