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Sent: Tuesday, March 15, 2022 9:31 AM
To: Werner.Leah@epa.gov
Cc: Krueger, Sarah E - DNR; 'adrienne.korpela@jacobs.com'; 'staci.goetz@ramboll.com'; Luke, Glenn R
Subject: Former WPSC Green Bay MGP - Supplemental PDI Workplan
Attachments: PDI WP Add 2 Memo FINAL.pdf

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Leah,

As discussed at our last project update call, please find attached for your review the supplemental PDI workplan for additional soil borings and sampling in the north parking lot area of OU1. At this time, we have the drillers scheduled for the week of 4/11. If we could get your feedback on the workplan in time to facilitate that schedule it would be most appreciated. Please do not hesitate to contact me with any questions.

Thanks,

*Frank Dombrowski
Principal Environmental Consultant*

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*Serving WEC Energy Group, We Energies, Wisconsin Public Service, Michigan Gas Utilities,
Minnesota Energy Resources, Peoples Gas and North Shore Gas*

MEMO

To: Frank Dombrowski - WEC Energy Group
From: Abby Small and Staci Goetz – Ramboll
cc: Glenn Luke – WEC Energy Group
Re: Pre-Design Investigation Work Plan Addendum No. 2, Revision 0
Green Bay Former Manufactured Gas Plant, Green Bay, Wisconsin
Wisconsin Public Service Corporation

BACKGROUND AND OBJECTIVE

Ramboll has prepared this Pre-Design Investigation Work Plan, Addendum 2 (PDIWP Addendum 2) on behalf of Wisconsin Public Service Corporation (WPSC) for a portion of the upland operable unit (OU1) of the Green Bay Former Manufactured Gas Plant (MGP). This investigation is to augment information collected under the USEPA-approved August 2020 Pre-Design Investigation Work Plan (PDIWP) (Ramboll, 2020) and support design for an early removal action in the upland north parking lot area. Soil sample collection is proposed to begin in early April 2022 pending work plan approval.

March 14, 2022

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Ref. 70721

Preliminary discussions with potential developers indicate an interest in a mixed-use development on the northern portion of the property owned by WPSC, north of Utility Court and East of the Annex Building. This proposed development may consist of residential housing, commercial uses, green space and parking. By conducting an early removal action in this area in advance of development construction, WPSC will address impacted soil potentially encountered during foundation construction and potential exposure pathways the construction team or building occupants may encounter.

Based on a review of site data collected to date and the preliminary redevelopment plan for residential use, the proposed supplemental PDI activities are intended to address the remaining data gaps for the northern half of the upland portion of the site. PDI data collected will be utilized to prepare a Removal Action Work Plan (RAWP) for an early removal action in the north parking lot. For the purposes of the early removal action, removal and off-site disposal of soil identified as principal threat waste as well as removal and off-site disposal of the top four feet of surface soil in the main parking lot and removal and off-site disposal of the top two feet of surface soil in the Riverwalk area and import of clean soil to address the direct contact pathway will be proposed in a Letter of Intent that will be submitted separately.

CURRENT DATA GAPS

This supplemental PDI focuses on refining the remaining limits of principal threat waste. Because surface soil (0-4 feet in main parking lot and 0-2 feet in the Riverwalk) will be removed throughout the north parking lot, additional delineation of direct contact screening level exceedances is not proposed. For the purposes of

this PDI, a definition of principal threat waste consistent with the definition recently used at WPSC's Marinette Former MGP will be utilized (accounting for the difference in proposed land use – residential versus industrial) and will be defined as soil that meets one or more of the following metrics:

- Non-aqueous phase liquid (NAPL) identified as separated liquid.
- Oil-coated or oil-wetted soil.
- Highly adsorbed phase concentrations of constituents of concern (COCs) exceeding a lifetime incremental cancer risk (CR) of 10^{-3} or a hazard index (HI) of 10 under applicable, residential land use assumptions.

Previously installed soil borings that meet the above definition of principal threat waste are shown on Figure 1. A summary of oil-wetted or oil-coated material observed in previous soil borings is provided on Table 1. Analytical data is provided in Table 2 and Table 3. Note that data collected through May 2020 was previously reported in the September 2020 Upland Remedial Investigation Data Summary Report – Revision 0 (RI Data Summary Report) (Ramboll, 2020b). PDI data collected between September 2020 and November 2020 has been provided in monthly progress reports to USEPA, but not in a formal report. All data were submitted to USEPA via email transmittal on March 1, 2022. Following the implementation of this work plan, a full synopsis of September 2020 through April 2022 sampling activities and results including risk calculations will be provided in a PDI Evaluation Report included with the RAWP. A full discussion of sampling and results are not provided herein. Results are reported as necessary to understand proposed additional PDI data collection activities.

As shown on Figure 1, the extent of principal threat waste is generally limited to the areas surrounding former Excavation Area 3. The following data gaps have been identified as the preliminary remedial action design for an early removal action Letter Of Intent (LOI) is being initiated:

- Refine the limits of principal threat waste identified for removal and off-site disposal. The following borings are proposed to address this data gap:
 - Two additional borings (SB-612 and SB-613) to the southwest of borings SB-553 and SB-589 to bound the oil-wetted/oil-coated remedial area.
 - Although oil-wetted/oil-coated material was not identified in the sidewall samples of Excavation Area 4 (Figure 1), the adsorbed phase COCs exceed a Residential HI of 10 (risk calculations provided in the RI Data Summary Report) primarily driven by concentrations of total cyanide. The extents of the Residential HI>10 are delineated by borings SB-403 and SB-404, but further refinement through the installation of SB-617, SB-618, and SB-619 is proposed to define the scope of the remedial action in this area.
- Determine if principal threat waste remains within Excavation Area 3 or has re-affected the thermally treated soil backfill placed during the 2003 remedial action. Monitoring well MW-411AR is screened mainly within the thermally treated backfill within Excavation Area 3 (Figure 2). As reported in the RI Data Summary Report, concentrations of benzene exceed Wisconsin Groundwater Risk Assessment Framework (RAF) Screening Levels (SLs). While the concentrations have remained stable with time, they remain above the SL. Based on these groundwater concentrations, it is unknown whether principal threat waste either remains within Excavation Area 3 (e.g. within clay fractures) or has re-affected the thermally treated soil backfill. Three soil borings (SB-614, SB-615, and SB-616) are proposed to be installed within Excavation Area 3 to address this data gap.
- Confirm the absence of principal threat waste in areas where limited investigation has occurred, and redevelopment is slated to occur (i.e. gas holder and the southeast corner of the north parking lot –

Figure 1). Nine soil borings (SB-609, SB-610, SB-611, SB-620, SB-621, SB-622, SB-623, SB-624, and SB-625, Figure 1) are proposed to address this data gap.

PROPOSED SUPPLEMENTAL SAMPLING ACTIVITIES

Based on the discussion above, additional investigation will be performed to complete delineation of the nature and extent of principal threat waste. The supplemental PDI activities described below will be performed in accordance with the site-specific information included in the Site Specific Work Plan (SSWP), Revision 2 (NRT, 2015A; NRT, 2015B), the Multi-Site Field Sampling Plan (FSP) – Revision 4 (IBS, 2008), and the PDIWP Revision 1 (Ramboll, 2020a), except where noted.

Soil Boring Advancement and Sampling Methods

Soil borings will be installed at the primary and secondary soil boring locations where data gaps have been identified as shown on Figure 1 and described above. Both primary and secondary soil borings will be advanced in the field and soil samples will be collected to limit the number of mobilizations needed of the drill rig. Soil samples collected from the primary borings will be run for laboratory analysis as described below. Soil samples collected from the secondary borings will be submitted to the analytical laboratory and placed on hold¹ pending the results of the primary soil borings. The vertical and horizontal extent evaluation will involve advancing soil borings for visual observations and evaluation of analytical exceedances of risk threshold criteria. Soil borings will be advanced using a direct-push method. Unless otherwise noted, sampling will be continuous, to define the presence/absence and vertical extent of affected soil at each boring location and extend a minimum of 5-ft into confining clay layer or to a depth of 20-ft bgs, whichever is achieved first. For the purpose of guiding PDI fieldwork, the vertical and horizontal extent of principal threat waste will be considered delineated if:

- no oil-coated or oil-wetted observations are present for two consecutive sample intervals (e.g., 4-feet) or into top of clay; and
- for the evaluation of risk criteria, a Residential CR is less than 10^{-3} and Residential HI is less than 10 within one sample interval.

All borings advanced as part of the PDI will be continuously logged, following Multi-Site standard operating procedure (SOP) SAS-05-02, the presence of fill material, moisture content, photoionization detector readings, the nature of each geologic unit encountered, and visual and olfactory observations indicating the presence of NAPL (e.g., oil-coated, or oil-wetted). Soil boring locations will be recorded per Multi-Site SOP SAS-03-03, and will be abandoned following the methods described in Multi-Site SOP SAS-05-05. Field equipment will be calibrated prior to use, as required by Multi-Site SOP SAS-02-01 from the Multi-Site FSP.

Subsurface soil samples will be collected from all delineation borings as follows:

- For borings that show no visual, olfactory, or photoionization detector (PID) indication of impacts, one sample within the 2-foot interval above the clay confining layer will be collected.
- For borings that indicate the presence of contamination (through visual, olfactory, or PID indication), a sample of impacted material will be collected. A second sample will also be collected below the interval(s).

¹ Analytes that could potentially exceed their hold times while the samples from primary borings are being analyzed will be extracted so hold times will not be exceeded for the samples collected from secondary borings.

of potential MGP residuals, to document vertical extent. A third sample will be collected from within the 2-foot interval above the clay confining layer if not included in the other samples.

No samples will be collected from the surface interval (0-4 ft) because the surface interval is slated for removal and offsite disposal as part of the early removal action.

All soil samples will be submitted to a Wisconsin certified laboratory (Pace Analytical of Green Bay, Wisconsin or EurofinsTest America, Chicago, IL)² for constituents of potential concern (COPCs) identified in the SSWP Revision 2 including:

- Petroleum volatile organic compounds (PVOCs) via USEPA Method 8260 (Benzene, Ethylbenzene, Toluene, Total Xylenes, 1,2,4-Trimethylbenzene)
- Polycyclic aromatic hydrocarbons (PAHs) via USEPA Method 8270 (1-Methylnaphthalene, 2-Methylnaphthalene, Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Fluorene, Indeno(1,2,3-cd)pyrene, Naphthalene, Phenanthrene, Pyrene)
- Total Metals via USEPA Method 6020A (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver) and total mercury via USEPA Method 7471.
- Total cyanide via USEPA Method 9012B

A sampling and analysis plan summary is presented in Table 4.

Quality control (QC) samples will be collected as required by Multi-Site FSP SOP SAS-04-03. Samples will be labeled and packaged in accordance with Multi-Site FSP SOP SAS-03-01 and shipped using chain-of-custody procedures described in Multi-Site FSP SOP SAS-03-02. Equipment will be decontaminated after use in accordance with Multi-Site FSP SOP SAS-04-04.

Schedule and Reporting

Soil sample collection is proposed to begin in early April 2022 pending work plan approval. Results of the supplemental PDI will be presented in a PDI Evaluation Report included with the RAWP for early removal action.

References

Integrys Business Support, 2008. Multi-Site Field Sampling Plan, Revision 4, Remedial Investigation/Feasibility Study, Former Manufactured Gas Plant Sites, CERCLA V-W-06-C-847. September.

NRT, 2015a. Site Specific Work Plan Revision 2, Green Bay Former MGP, Green Bay, Wisconsin. March 20.

NRT, 2015b. Site Specific Work Plan Revision 2, Modified October 2015, Green Bay Former MGP, Green Bay, Wisconsin. October 9.

Ramboll, 2020a. Pre-Design Investigation Work Plan Revision 1, Former Green Bay Manufactured Gas Plant Site. August 12.

² Expedited turn around times will be requested. The laboratory will be selected based on ability to support requested turn around times to meet WPSC goals for incorporating validated PDI results evaluation into the early removal action RAWP.

Ramboll, 2020b. Upland Remedial Investigation Data Summary Report, Former Green Bay Manufactured Gas Plant Site Operable Unit 1. September 18.

Attachments

Figure 1 – Principal Threat Waste Observations and Proposed Sample Location Map

Figure 2 – Shallow Groundwater Benzene Isoconcentration Map

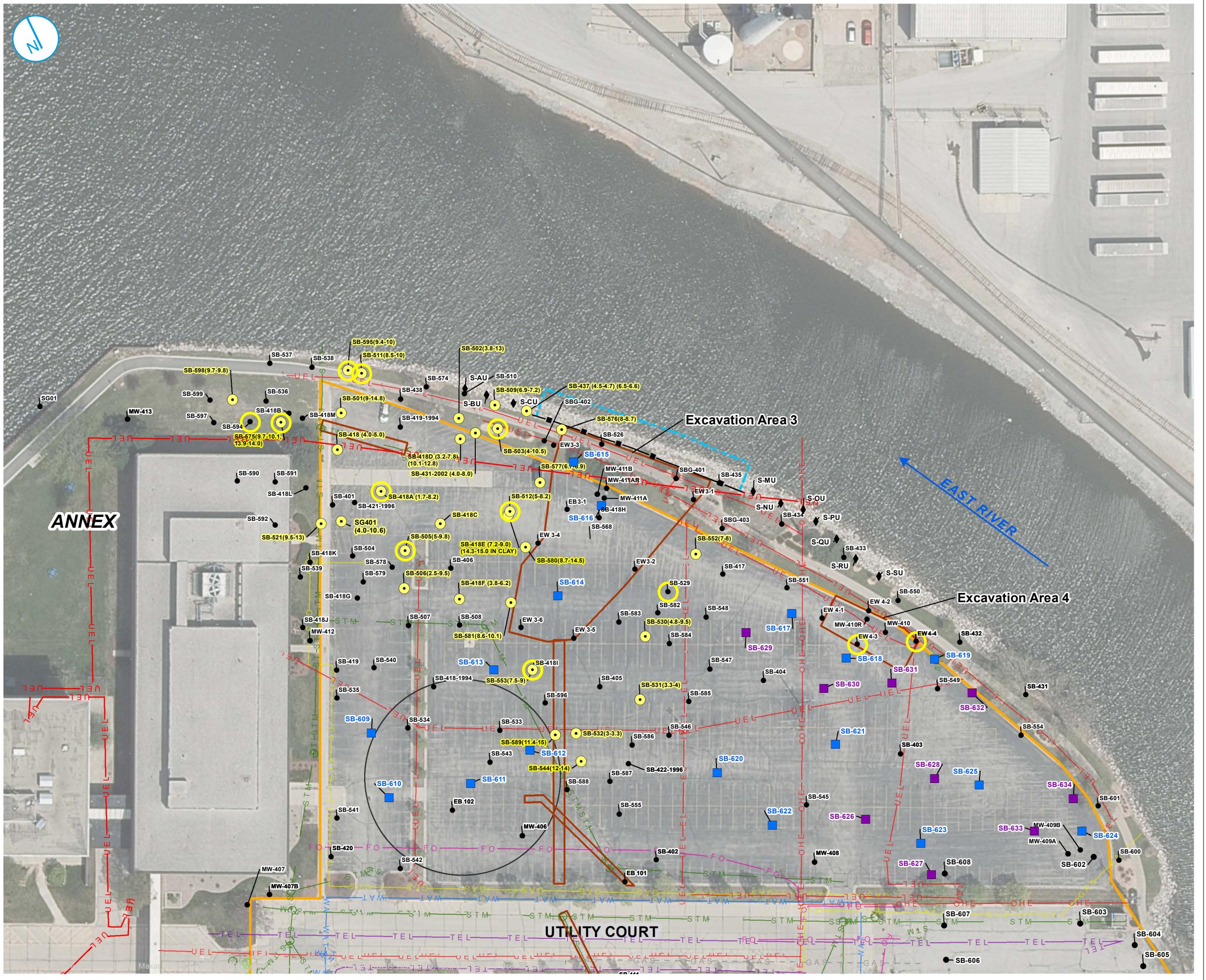
Table 1 – Summary of Post-Excavation Oil-Wetted/Oil-Coated Observations in the North Parking Lot

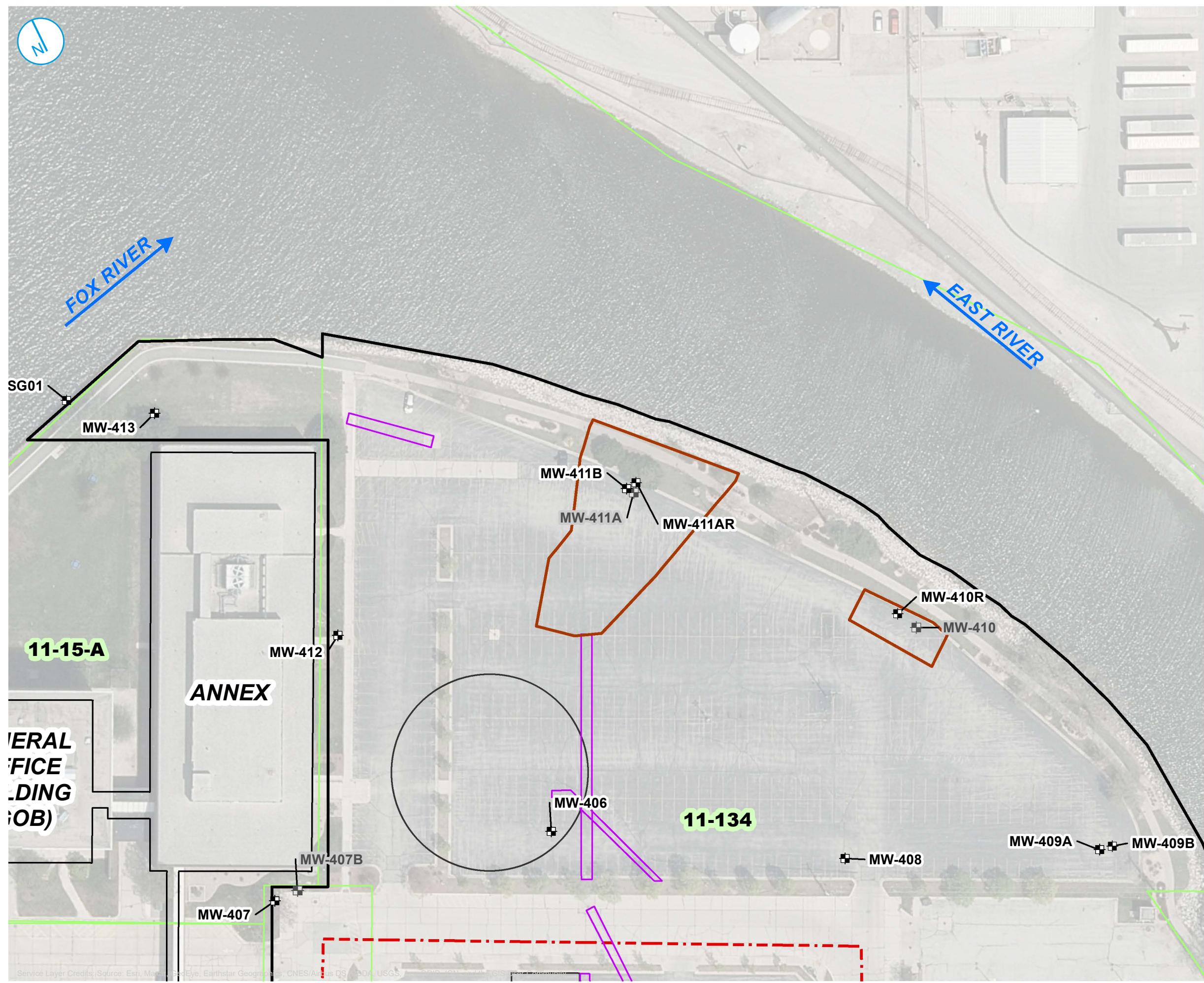
Table 2 – Soil SVOCs Analytical Results Compared to Residential and Industrial SLs - North Parking Lot

Table 3 – Soil VOCs and Inorganic Analytical Results Compared to Residential and Industrial SLs - North Parking Lot

Table 4 – Sampling and Analysis Plan

FIGURES





- MONITORING WELL/STAFF GAUGE LOCATION
- ABANDONED MONITORING WELL LOCATION
- FORMER STRUCTURE
- SOIL REMEDIATION EXCAVATION AREAS (2003)
- SOIL REMEDIATION MGP PIPING RUNS
- UPLAND SITE BOUNDARY
- FORMER MGP
- BUILDING FOOTPRINT
- TAX PARCEL

0 35 70 Feet

GROUNDWATER MONITORING LOCATIONS - NORTH PARKING LOT

FORMER GREEN BAY MANUFACTURED GAS PLANT
WISCONSIN PUBLIC SERVICE CORPORATION
CITY OF GREEN BAY, WISCONSIN

FIGURE 2

RAMBOLL US CORPORATION
A RAMBOLL COMPANY

TABLES

Table 1. Summary of Post-Excavation Oil-Wetted/Oil-Coated Observations in the North Parking Lot

Pre-Design Investigation Work Plan, Addendum 2
 Wisconsin Public Service Corporation
 Former MGP Site - Green Bay
 700 N. Adams Street, Green Bay, WI 54307
 BRRTS# 02-05-000254 USEPA# WIN000509948

Location ID	Top of Interval (ft bgs)	Bottom of Interval (ft bgs)	NAPL Observation	NAPL above Native Clay	NAPL in Native Clay
Historical and Remedial Investigation Borings					
SB-418	4.0	5.0	slight odor, oil-wetted in the form of weathered tar-like material with taffy-like texture at bottom of sleeve	Y	N
SB-418A	1.7	6.2	odor, oil-wetted	N	N
SB-418A	6.2	7.2	odor, oil-wetted, sheen	N	N
SB-418A	7.2	8.2	odor, oil-wetted	N	N
SB-418C	4.8	5.0	odor, stained, oil-wetted, weathered tar-like material	Y	N
SB-418C	5.0	6.2	odor, oil-wetted in the form of weathered tar-like material	Y	N
SB-418C	6.2	10.7	odor, oil-wetted, sheen	Y	N
SB-418D	3.2	6.5	odor, stained to oil-wetted	Y	N
SB-418D	6.5	6.9	strong odor, oil-wetted	Y	N
SB-418D	6.9	7.8	odor, oil-wetted in the form of trace droplets	Y	N
SB-418D	10.1	12.8	strong odor, oil-wetted, sheen	Y	N
SB-418E	7.2	9.0	strong odor, stained, oil-wetted wood (produces droplets when squeezed)	Y	N
SB-418E	14.3	15.0	no odor, trace weathered tar-like material in fractures (larger fractures may have droplets of liquid material in center of weathered material)	N	Y
SB-418F	3.8	4.1	odor, stained, oil-wetted in the form of weathered tar-like material	Y	N
SB-418F	4.1	6.2	odor, oil-coated	Y	N
SB-431-2002	4.0	8.0	Oil stained/wetted SAND, odor.	Y	N
SB-437	4.5	4.7	no odor, oil-wetted weathered tar-like material	Y	N
SB-437	6.5	6.6	no odor, oil-wetted weathered tar-like material in 1/2-inch lens	Y	N
SG-401	4.0	10.0	slight odor, oil-wetted	Y	N
SG-401	10.0	10.6	slight odor, oil-wetted, slight sheen	Y	N
Pre-Design Investigation Borings					
PDI-SB-501	9.0	11.0	oil-wetted (60-80%), 1-5mm fluid droplets, oil-coated (30-50%), sheen (0-20%), moderate odor	Y	N
PDI-SB-501	11.0	14.8	oil-coated (30-50%), 1-5mm, sheen (0-10%), moderate odor	Y	N
PDI-SB-502	3.8	6.5	oil-coated (70-90%), strong odor	Y	N
PDI-SB-502	6.5	7.5	oil-wetted to oil-coated (70-90%)	Y	N
PDI-SB-502	7.5	13.0	oil-wetted (10-30%), 1-10mm fluid droplets, oil-coated (30-50%), sheen (0-20%)	N	Y
PDI-SB-503	4.0	7.0	oil-coated (30-50%), moderate odor	Y	N
PDI-SB-503	7.0	10.5	oil-coated (60-80%), strong odor	Y	N
PDI-SB-505	5.0	6.2	oil-wetted (0-20%), fluid droplets in wood, oil-coated (30-50%), moderate odor	Y	N
PDI-SB-505	6.2	9.0	oil-coated (40-60%), moderate odor	Y	N
PDI-SB-505	9.0	9.8	oil-wetted (20-40%), fluid droplets	Y	N
PDI-SB-506	2.5	6.0	oil-coated (20-40%), strong odor	Y	N
PDI-SB-506	6.0	9.5	oil-coated (10-30%), coating decreases with depth, faint odor	Y	N
PDI-SB-509	6.9	7.2	oil-coated (10-20%), moderate odor	Y	N
PDI-SB-511	8.5	10.0	oil-wetted, weathered (hard)	Y	N
PDI-SB-512	5.0	8.2	oil-wetted to oil-coated (70-90%), 1-10mm fluid droplets, sheen (0-20%), moderate odor	Y	N
PDI-SB-521	9.5	12.5	oil-wetted (20-40%), sheen (10-20%)	Y	N
PDI-SB-521	12.5	13.0	oil-wetted (5-10%), moderate odor	Y	N

Table 1. Summary of Post-Excavation Oil-Wetted/Oil-Coated Observations in the North Parking Lot

Pre-Design Investigation Work Plan, Addendum 2
 Wisconsin Public Service Corporation
 Former MGP Site - Green Bay
 700 N. Adams Street, Green Bay, WI 54307
 BRRTS# 02-05-000254 USEPA# WIN000509948

Location ID	Top of Interval (ft bgs)	Bottom of Interval (ft bgs)	NAPL Observation	NAPL above Native Clay	NAPL in Native Clay
Pre-Design Investigation Borings					
PDI-SB-530	4.8	5.3	oil-coated (60-80%)	Y	N
PDI-SB-530	5.3	9.5	oil-coated (30-50%), moderate odor	Y	N
PDI-SB-531	3.3	4.0	oil-coated (70-90%), faint odor	Y	N
PDI-SB-532	3.0	3.3	oil-coated (70-90%), moderate odor	Y	N
PDI-SB-544	12.0	14.0	oil-wetted to oil-coated (100%) in fractures, fluid to viscous	N	Y
PDI-SB-552	7.0	8.0	oil-wetted (10-20%), staining, moderate odor	Y	N
PDI-SB-553	7.5	8.5	oil-wetted (10-20%), moderate odor	Y	N
PDI-SB-553	8.5	9.0	oil-coated (10-30%)	Y	N
PDI-SB-575	9.7	10.0	oil-coated (35-40%), sheen (100%), moderate odor	Y	N
PDI-SB-575	13.9	14.4	oil-wetted (5-10%) in 1mm to 3mm fractures, viscous, moderate odor	N	Y
PDI-SB-576	8.0	8.7	oil-coated (5-10%), pinhead sized spots, moderate to strong odor	Y	N
PDI-SB-577	6.7	6.9	Staining (30-40%), sheen (10-20%) pinhead sized spots, moderate odor	Y	N
PDI-SB-580	8.7	10.2	oil-coated (80-100%), sheen (20%) 1mm to 3mm diameter spots, moderate odor	Y	N
PDI-SB-580	10.2	11.1	sheen (20-30%) 1mm to 3mm diameter spots	Y	N
PDI-SB-580	11.1	14.5	oil-wetted (0-5%) fractures 1mm to 3mm thick, faint odor	N	Y
PDI-SB-581	8.6	10.1	sheen (0-5%), pinhead size spots, moderate odor	Y	N
PDI-SB-589	11.4	15.0	oil-wetted (0-5%) in 2mm to 4mm diameter fractures, faint odor	N	Y
PDI-SB-595	9.4	10.0	oil-coated (0-5%), 1mm to 2mm spots, brown (10YR 3/3) staining (10-15%), moderate to strong odor	N	Y
PDI-SB-598	9.7	9.8	oil-coated (0-5%) 1mm to 2mm spots, staining (0-5%), faint to moderate odor	N	Y

Notes:

bgs = below ground surface

ft = foot/feet

N = no

NAPL = non-aqueous phase liquid

Y = yes

Table 2. Soil SVOCs Analytical Results Compared to Residential and Industrial SLs - North Parking Lot

Pre-Design Investigation Work Plan, Addendum 2
 Wisconsin Public Service Corporation
 Former MGP Site - Green Bay
 700 N. Adams Street, Green Bay, WI 54307
 BRRTS# 02-05-000254 | USEPA# WIN000509948

9-digit Code	Sample Location	Sample Depth (feet-BGS)	Sample Date	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	Phenol	Phenol																						
				1-Methylnaphthalene	2-Methylnaphthalene	Aceanaphthene	Aceanaphthylene	Anthracene	Benz(a)anthracene	Benz(a)pyrene	Benz(b)fluoranthene	Benz(g,h,i)perylene	Benz(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	Phenol	Phenolics, Total Recoverable																							
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg																						
Reporting Units:				Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag																						
WI Industrial Soil SLs:				73		3,000		45,000		45,000		100,000		21		2.1		21		23,000		210		2,100		2.1		30,000		30,000		21		8.6		100,000		23,000		100,000		NS			
WI Residential Soil SLs:				18		240		3,600		3,600		18,000		1.1		0.11		1.1		1,800		11		110		0.11		2,400		2,400		1.1		2		18,000		1,800		19,000		NS			
072414030	EB 101	8	04/22/2003	0.0095		0.012		0.013	U	0.021	U	0.013	U	0.0071	U	0.0071	U	0.0077	U	0.014	U	0.011	U	0.0081	U	0.0087	U	0.0094	U	0.0071	U	0.013	U	0.041		0.0094	U	0.015	U	--	0.420	U			
072414031	EB 102	6	05/30/2003	0.0082	U	0.0088	U	0.013	U	0.021	U	0.013	U	0.007	U	0.007	U	0.0076	U	0.014	U	0.011	U	0.0081	U	0.0086	U	0.0093	U	0.007	U	0.013	U	0.0088	U	0.0093	U	0.015	U	--	0.190	U			
072414022	EB 3-1	12	05/16/2003	0.087		0.110		0.021		0.033		0.041		0.038		0.032		0.020		0.014		0.025		0.033		0.087		0.068		0.035		0.013		0.310		0.140		0.079		--	0.840				
072414016	EW 3-1	9.5	05/16/2003	1.300		0.190		0.260		0.340		0.200		0.330		0.320		0.410		0.140		0.380		0.310		0.046		0.600		0.420		0.150		0.980		0.170		0.620		--	0.940				
072414017	EW 3-2	6	05/16/2003	4.900		5.000		0.500	U	3.700		3.100		11,000		17,000		14,000		13,000		10,000		3,200		18,000		1,800		12,000		9,700		7,300		16,000		--	1.400						
072414018	EW 3-3	5	05/16/2003	5.100		2.400		1.300		5.800		4.400		11,000		16,000		11,000		7,500		11,000		9,400		2,500		16,000		2,900		7,800		6,400		7,100		16,000		--	1.900				
072414019	EW 3-4	10	05/16/2003	12,000		6,500		2,300		2,300		2,300		2,800		2,400		1,700		1,500		2,100		2,700		0.390	U	4,800		3,000		1,300		42,000		8,400		6,500		--	2,000				
072414020	EW 3-5	6	05/20/2003	1.300		0.690		0.230		1.500		1.300		2,900		2,400		2,600		1,900		2,600		3,200		0.520		4,300		0.890		1,800		3,100		3,500		5,200		--	--				
072414021	EW 3-6	3	05/20/2003	0.075		0.055		0.013	U	0.032		0.023		0.044		0.033		0.031		0.016		0.047		0.056		0.009	U	0.082		0.024		0.015		0.210		0.084		0.110		--	0.880				
072414025	EW 4-1	4.5	05/23/2003	30,000		27,000		1.400		10,000		8,000		28,000		13,000		25,000		13,000		20,000		35,000		5,300		52,000		13,000		36,000		62,000		69,000		--	--						
072414026	EW 4-2	4.5	05/23/2003	1.100		1.100		1.300	U	7,000		6,400		33,000		33,000		21,000		15,000		29,000		30,000		5,900		61,000		1,900		16,000		3,300		9,200		57,000		--	--				
072414027	EW 4-3	4.5	05/23/2003	26,000		20,000		3,800		35,000		20,000		74,000		33,000		65,000		45,000		86,000		100,000		22,000		120,000		20,000		45,000		42,000		110,000		160,000		--	--				
072414028	EW 4-4	4	05/23/2003	0.850	U	0.910	U	1.300	U	6,300		13,000		43,000		41,000		51,000		34,000		45,000		43,000		9,900		78,000		1,900		35,000		1,200		37,000		64,000		--	--				
101915201	HA-401	0 - 2	10/19/2015	0.180		0.257		0.0195	U	0.0139	J	0.0228		0.0452		0.0427		0.0441	J	0.0322		0.0418	J	0.0714		0.0099	J	0.0734		0.0178	J	0.0225		0.180		0.151		0.0769		--	--				
101915202	HA-402	0 - 2	10/19/2015	0.0219		0.0321		0.0186	U	0.0170	J	0.0136	J	0.0378		0.0519		0.0503	J	0.0441		0.0476	J	0.0457		0.0132	J	0.0593		0.0186	U	0.0362		0.0308		0.0361		0.0542		--	--				
101915203	HA-403	0 - 2	10/19/2015	0.0194	U	0.0194	U	0.0194	U	0.0194	U	0.0195		0.0484		0.0548		0.0848	J	0.0616		0.0715	J	0.0835		0.0173	J	0.114		0.0194	U	0.0441		0.0164	J	0.0736		0.0905		--	--				
101915204	HA-404	0 - 2	10/19/2015	0.0221		0.0448		0.0182	U	0.0134	J</																																		

Table 2. Soil SVOCs Analytical Results Compared to Residential and Industrial SLs - North Parking Lot

Pre-Design Investigation Work Plan, Addendum 2

Wisconsin Public Service Corporation

Former MGP Site - Green Bay

Former WGR Site - Green Bay,
700 N. Adams Street, Green Bay, WI 54307

700 N. Adams Street, Green Bay, WI 54307
BBBTS# 02-05-000254 | USEPA# WIN000509948

9-digit Code	Sample Location	Sample Depth (feet-BGS)	Sample Date	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	Phenol	Phenol																
				1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	Phenol	Total Recoverable	Phenol	Phenol																	
				Reporting Units:				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg																
Result Flag				Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag																
WI Industrial Soil SLs:				73	3,000	45,000	45,000	100,000	21	2.1	21	23,000	210	2,100	2.1	30,000	30,000	21	8.6	100,000	23,000	100,000	NS																		
WI Residential Soil SLs:				18	240	3,600	3,600	18,000	1.1	0.11	1.1	1,800	11	110	0.11	2,400	2,400	1.1	2	18,000	1,800	19,000	NS																		
102115166	SB-418I	7 - 9	10/21/2015	4.260	0.144	J	1.460	0.314	0.834	1.660	1.400	1.470	J	1.200	1.680	J	1.850	0.336	4.000	0.623	1.080	0.934	0.879	3.420	--	--															
102115167	SB-418I	13 - 15	10/21/2015	0.0200	U	0.0200	U	0.0200	U	0.0200	U	0.0200	U	0.0200	U	0.0200	U	0.0200	U	0.0200	U	0.0200	U	0.0200	U	--	--														
020816001	SB-418J	6 - 8	02/08/2016	2.820	4.070	0.206	U	0.185	U	0.214	U	0.480	0.413	U	0.413	U	0.229	U	0.948	J	0.151	U	0.445	0.206	U	0.157	U	2.850	3.010	0.875	--	--									
020816002	SB-418J	12 - 14	02/08/2016	0.0100	U	0.0100	U	0.0100	U	0.0090	U	0.0104	U	0.0070	U	0.0072	U	0.0100	U	0.0074	U	0.0100	U	0.0076	U	0.0100	U	0.0100	U	--	--										
020816003	SB-418K	8 - 10	02/08/2016	1.280	J	1.680	J	0.853	U	0.763	U	5.260	9.730	8.600	7.180	J	4.240	J	7.410	J	11.500	1.710	U	24.900	1.640	J	4.010	J	1.370	J	15.600	22.500	--	--							
020816004	SB-418K	16 - 18	02/08/2016	0.0104	U	0.0104	U	0.0104	U	0.0093	U	0.0108	U	0.0079	J	0.0209	U	0.0104	U	0.0080	U	0.0116	U	0.0209	U	0.0077	U	0.0164	J	0.0104	U	0.0104	U	0.0157	J	--	--				
020816005/020816006 (N)	SB-418L	8 - 10	02/08/2016	2.920	J	4.260	J	0.491	U	0.352	J	0.0713	J	0.715	J	0.143	J	0.556	J	0.132	J	0.482	J	1.100	J	0.0982	U	0.852	J	0.272	J	0.0982	U	3.910	J	2.160	J	1.150	J	--	--
020816007	SB-418L	10 - 12	02/08/2016	0.468	J	0.453	U	1.730	0.456	J	2.750	2.470	2.400	J	1.260	J	1.160	J	1.890	J	2.740	J	0.906	U	5.170	1.330	0.974	J	0.453	U	6.740	6.150	--	--							
020816008	SB-418L	14 - 15	02/08/2016	0.0109	J	0.0103	U	0.0416	0.0092	U	0.0371	0.0317	0.0472	J	0.0357	J	0.0275	J	0.0309	J	0.0406	J	0.0206	U	0.0660	0.0241	0.0257	J	0.0103	U	0.0683	0.0709	--	--							
020816009	SB-418M	8 - 10	02/08/2016	0.0122	U	0.0122	U	0.0122	U	0.0109	U	0.0126	U	0.0084	U	0.0087	U	0.0122	U	0.0093	U	0.0135	U	0.0113	U	0.0089	U	0.0122	U	0.0122	U	0.0122	U	--	--						
020816010	SB-418M	10 - 12	02/08/2016	0.0342	0.0104	U	0.0933	0.0393	0.173	0.178	0.232	0.164	J	0.134	0.182	J	0.191	0.0376	J	0.453	0.0721	0.120	0.0440	0.262	0.360	--	--														
101915107	SB-419	1 - 3	10/19/2015	0.0185	U	0.0185	U	0.0185	U	0.0185	U	0.0185	U	0.0185	U	0.0185	U	0.0185	U	0.0185	U	0.0185	U	0.0185	U	0.0245	0.0185	U	0.0185	U	0.0185	U	--	--							
101915108	SB-419	3 - 5	10/19/2015	4.340	7.160	1.090	U	5.700	3.980	12.800	20.900	28.900	J	18.800	21.900	J	15.600	6.390	11.900	0.748	J	19.100	26.900	5.400	12.400	--	--														
072414085	SB-419-1994	1 - 3	12/02/1994	--	--	1.600	U	3.200	U	5.400	37.000	8.800	6.200	14.000	5.800	14.000	5.800	14.000	5.800	29.000	7.000	3.900	95.000	26.000	1.700	2.200	--	--													
101915109	SB-420	1 - 3	10/19/2015	0.0170	U	0.0170	U	0.0170	U	0.0170	U	0.0109	J	0.0117	J	0.0134	J	0.0110	J	0.0120	J	0.0149	J	0.0170	U	0.0234	0.0170	U	0.0083	J	0.0170	U	0.0136	J	0.0212	--	--				
101915110	SB-420	3 - 5	10/19/2015	0.720	J	0.917	J	1.380	1.080	U	3.490	12.800	22.000	16.400	J	12.100	16.000	J	12.600	6.630	12.000	0.799	J	13.600	0.946	J	7.130	10.200	--	--											
102015130	SB-431	0 - 2	10/20/2015	0.0912	U	0.109	J	0.0912	U	0.472	0.447	1.550	1.510	1.370	J	0.600	1.330	J	1.470	0.256	2.500	0.0475	J	0.654	0.250	J	0.505	2.180	--	--											
102015131	SB-431	4 - 6	10/20/2015	0.200	J	0.355	J	0.116	U	1.700	0.678	1.580	1.280	2.350	J	1.310	1.680	J	2.370	0.501	2.360	0.137	1.190	0.423	J	1.450	2.760	--	--												
102015128	SB-432	0 - 2	10/20/2015	0.0185	U	0.0185	U	0.0185	U	0.0185	U	0.0269	0.0287	0.0365	J	0.0208	0.0281	J	0.0352	0.0074	J	0.0546	0.0185	U	0.0184	J	0.0185	U	0.0261	0.0472	--	--									
102015129	SB-432	4 - 6	10/20/2015	0.315	0.0685	J	0.0405	U	0.301	0.219	0.690	0.609	0.657	J	0.273	0.577	J	0.710	0.122	1.110	0.0351	J	0.300	0.162	J	0.305	1.080	--	--												
102015132	SB-433	0 - 2	10/20/2015	0.0180	U	0.0227	J	0.0180	U	0.0111	J	0.0164	J	0.0439	0.0502	0.0606	J	0.0416	0.0602	J	0.0611	0.0126	J	0.0955	0.0180	U	0.0507	0.0799	--	--											
102015133	SB-433	3 - 5	10/20/2015	0.392	U	0.392	U	0.449	0.392	U	0.727	2.210	4.040	4.130	J	2.900	3.590	J	3.050	1.010	2.860	0.392	U	2.570	0.392	U	2.740	2.770	--	--											
102015134	SB-434	0 - 2	10/20/2015	0.0184	U	0.0265	J	0.0184	U	0.0184	U	0.0143	J	0.0350	0.0406	0.0416	J	0.0302	0.0439	J	0.0456	0.0092	J	0.0719	0.0184	U	0.0250	0.0198	J	0.0453	0.0611	--	--								
102015135	SB-434	8 - 10	10/20/2015	0.0285	U	0.0285	U	0.0285	U	0.0285	U	0.0285	U	0.0285	U	0.0285	U	0.0285	U	0.0285	U	0.0285	U	0.0285	U	0.0285	U	0.0285	U	0.0285	U	--	--								
102015136	SB-435	0 - 2	10/20/2015	0.0196	U	0.0196	U	0.0196	U	0.0196	U	0.0131	J	0.0166	J	0.0204	J	0.0160	J	0.0156	J	0.0192	J	0.0196	U	0.0226	0.0196	J	0.0097	J	0.0196	U	0.0108	J	0.0221	--	--				
102015137	SB-435	13 - 15	10/20/2015	0.252	0.0547	J	0.699	0.0853	0.177	0.175	0.203	0.184	J	0.830	0.154	J	0.204	0.0309	0.316	0.0970	0.0820	0.637	0.281	0.353	--	--															
102115154	SB-437	0 - 2	10/21/2015	0.247	0.368	0.0368</td																																			

Table 2. Soil SVOCs Analytical Results Compared to Residential and Industrial SLs - North Parking Lot

Pre-Design Investigation Work Plan, Addendum 2

Wisconsin Public Service Corporation

Former MGP Site - Green Bay

Former WGR Site - Green Bay,
700 N. Adams Street, Green Bay, WI 54307

700 N. Adams Street, Green Bay, WI 54307
BBBTS# 02-05-000254 | USEPA# WIN000509948

9-digit Code	Sample Location	Sample Depth (feet-BGS)	Sample Date	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	Phenol	Phenol																	
				1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(e,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	Phenol	Total Recoverable																			
				Reporting Units:				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg																	
				Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag																
				WI Industrial Soil SLs:	73	3,000	45,000	45,000	100,000	21	2.1	21	23,000	210	2,100	2.1	30,000	30,000	21	8.6	100,000	23,000	100,000	NS																	
				WI Residential Soil SLs:	18	240	3,600	3,600	18,000	1.1	0.11	1.1	1,800	11	110	0.11	2,400	2,400	1.1	2	18,000	1,800	19,000	NS																	
091020104	SB-510	2 - 4	09/10/2020	0.363	UJ	0.363	UJ	0.363	UJ	0.409	0.840	0.903	1.110	J	0.469	0.443	J	0.941	0.133	J	2.080	0.188	J	0.420	0.363	UJ	1.720	1.810	--	--											
091020105	SB-510	8 - 10	09/10/2020	64.800		45.500		10.200	UJ	14.300	25.700	35.500	26.500	J	16.600	13.400	J	39.900	4.230	J	85.200	27.400	J	13.700	46.000		132.000	89.500	--	--											
091020106	SB-510	10 - 12	09/10/2020	0.232		0.175		0.0282		0.0713		0.127	0.162	0.138	J	0.165	0.0879	J	0.0754	J	0.180	0.0263	0.398	J	0.110	0.0754		0.255	0.516	0.365	--	--									
091020107	SB-510	14 - 16	09/10/2020	1.560		1.240		0.273		0.268		0.683	0.731	0.507	J	0.643	0.300	J	0.279	J	0.812	0.0767	J	2.020	0.761	0.263	J	1.140	3.210	1.910	--	--									
091120086	SB-511	2 - 4	09/11/2020	0.422	UJ	0.422	UJ	0.0547	U	1.250	0.428	1.710	1.880	J	2.040	1.090	J	1.920	0.406	J	2.720	0.136	J	1.520	0.815		1.170	3.070	--	--											
091120087	SB-511	8 - 10	09/11/2020	926.000		303.000		109.000		162.000		339.000	318.000	238.000	J	205.000	J	113.000	92.600	J	343.000	44.000	J	618.000	623.000	74.200	J	690.000		1,730	692.000	--	--								
091120088	SB-511	17 - 18	09/11/2020	37.700		43.700		5.760		8.480		13.000	11.300	8.140	J	7.970	J	3.950	3.140	J	11.700	1.430	J	21.100	19.900	3.020	J	67.800		59.300	23.400	--	--								
082720030	SB-512	7 - 9	08/27/2020	1,080		1,760		992.000		112.000	J	523.000	285.000	J	208.000	J	176.000	J	518.000	UJ	74.800	J	236.000	J	71.600	U	556.000	456.000	J	108.000	U	5,100	1,490	646.000	--	--					
082720031	SB-512	9 - 10	08/27/2020	19.500		30.700		17.900		1.870	J	11.300	5.730	J	4.070	J	3.410	J	1.810	U	1.460	J	4.800	J	1.430	U	10.600	9.010	J	2.150	U	102.000		29.500	11.600	--	--				
091020082	SB-521	2 - 4	09/10/2020	0.0183	UJ	0.0183	UJ	0.0024	U	0.0183	UJ	0.0056	J	0.0299	0.0352	0.0446	J	0.0243	0.0196	J	0.0430	0.0070	J	0.0595	0.0030	J	0.0172	J	0.0183	UJ	0.0338	0.0460	--	--							
091020083	SB-521	8 - 10	09/10/2020	1.750		1.940		0.662		0.832		0.710	1.250	1.060	J	1.310	J	0.639	0.639	J	1.340	0.185	J	1.930	0.825	J	0.475	J	4.230		2.430	2.270	--	--							
091020084	SB-521	12 - 14	09/10/2020	2.940		4.820		1.500		0.668		2.030	1.160	1.050	J	0.839	0.470	J	1.150	0.105	J	2.730	1.880	J	0.367	J	9.210		6.550	3.040	--	--									
082620018	SB-526	13 - 15	08/26/2020	0.0110	J	0.0189	J	0.0027	U	0.0026	U	0.0034	J	0.0024	U	0.0029	U	0.0037	U	0.0027	U	0.0040	U	0.0029	U	0.0033	J	0.0025	U	0.0044	J	0.0065	J	0.0031	UR	--	--				
082620005	SB-529	4 - 6	08/26/2020	721.000		1,250		33.800	U	64.600	J	115.000	J	110.000	J	47.800	J	62.700	J	45.700	U	33.300	U	72.800	J	36.000	U	189.000	J	159.000	J	54.300	U	4,630		466.000	204.000	J	--	--	
082620006	SB-529	8 - 10	08/26/2020	0.0662		0.0968		0.0060	U	0.0081	J	0.0101	J	0.0156	J	0.0057	J	0.0096	J	0.0082	U	0.0059	U	0.0101	J	0.0109	J	0.0271	J	0.0181	J	0.0175	J	0.442	0.0502	0.0279	J	--	--		
082620007	SB-530	5 - 7	08/26/2020	41.800	J	82.500		9.800	U	9.530	U	9.380	U	9.770	U	8.580	U	10.500	U	13.300	U	9.660	U	14.200	U	10.500	U	8.940	U	9.060	U	15.700	U	966.000		8.650	U	11.100	UR	--	--
082620008	SB-530	10 - 12	08/26/2020	0.0646	J	0.103	J	0.0149	U	0.0145	U	0.0143	U	0.0244	J	0.0131	U	0.0185	J	0.0202	U	0.0147	U	0.0217	U	0.0159	U	0.0345	J	0.0138	U	0.0240	U	1.220	0.0371	J	0.0321	J	--	--	
082620009	SB-531	4 - 6	08/26/2020	12.000		2.360	J	2.480	J	12.100		11.900	35.500	15.500	J	36.000	J	14.500	15.000	J	41.700	4.590	J	94.200	16.700	13.600	J	8.710		74.300	91.500	J	--	--							
082620010	SB-531	6 - 8	08/26/2020	0.0223	J	0.0117	U	0.0303	J	0.0227	J	0.142	0.485	0.504	J	0.817	J	0.429	0.355	J	0.699	0.107	J	1.910	0.0634	J	0.377	0.0230	J	0.811	1.310	J	--	--							
082620011	SB-532	2 - 4	08/26/2020	37.900	J	5.380	J	1.890	J	3.060	J	1.720	J	8.420	J	1.320	J	9.130	J	3.580	J	3.550	J	10.400	J	1.140	J	23.300	J	6.160	J	3.500	J	4.220	J	32.700	J	20.500	J	--	--
082620011/082620012 (N)	SB-532	2 - 4	08/26/2020	37.900	J	5.380	J	1.890	J	3.060	J	1.720	J	8.420	J	1.320	J	9.130	J	3.580	J	3.550	J	10.400	J	1.140	J	23.300	J	6.160	J	3.500	J	4.220	J	32.700	J	20.500	J	--	--
082620012	SB-532	2 - 4	08/26/2020	0.747		0.149		0.0432	J	0.177		0.167	0.235	0.207	J	0.469	J	0.450	0.191	J	0.333	0.0782	J	0.553	0.108	0.335	0.343	0.779	0.511	J	--	--									
082620013	SB-532	6 - 8	08/26/2020	0.0709		0.0076	J	0.129		0.0129	J	0.0033	J	0.0133	J	0.0023	U	0.0148	J	0.0060	J	0.0058	J	0.0177	J	0.0027	U	0.0397	0.0777	0.0056	J	0.0112	J	0.0854	0.0342	J	--	--			
082620014	SB-533	3 - 5	08/26/2020	0.0741	J	0.101	J	0.0246	U	0.290		0.208	0.957	1.060	J	1.430	J	0.774	0.668	J	1.030	0.206	1.840	0.0475	J	0.718	0.422	0.477	1.430	J	--	--									
082620015	SB-534	7 - 9	08/26/2020	0.0027	U	0.0027	U	0.0024	U	0.0024	U	0.0023	U	0.0024	U	0.0021	U	0.0026																							

Table 2. Soil SVOCs Analytical Results Compared to Residential and Industrial SLs - North Parking Lot

Pre-Design Investigation Work Plan, Addendum 2

Wisconsin Public Service Corporation

Former MGP Site - Green Bay

700 N. Adams Street, Green Bay, WI 54307

BRRTS# 02-05-000254 | USEPA# WIN000509948

9-digit Code	Sample Location	Sample Depth (feet-BGS)	Sample Date	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	Phenol	Phenol																			
				1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benz(a)pyrene	Benz(b)fluoranthene	Benz(g,h,i)perylene	Benz(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	Phenol	Phenol																				
				Reporting Units:				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg																	
				Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag																			
				73		3,000		45,000		45,000		100,000		21		2.1		21		23,000		210		2,100		2.1		30,000		30,000		21		8.6		100,000		23,000		100,000		NS
				18		240		3,600		3,600		18,000		1.1		0.11		1.1		1,800		11		110		0.11		2,400		2,400		1.1		2		18,000		1,800		19,000		NS
091020070	SB-545	2 - 4	09/10/2020	0.0213	U	0.0213	U	0.0028	U	0.0213	J	0.0126	J	0.0300	J	0.0213	U	0.0213	U	0.0475	U	0.0060	J	0.0735	J	0.0186	J	0.0174	J	0.0399	J	0.0808	J	0.0706	--	--						
091020070/091020071 (N)	SB-545	2 - 4	09/10/2020	0.0301		0.0207	U	0.0028	U	0.0380		0.0271		0.109		0.0644		0.170	J	0.0638	J	0.0531	J	0.151		0.0216		0.253		0.0449		0.0612		0.0645		0.218	J	0.252	--	--		
091020071	SB-545	2 - 4	09/10/2020	0.0301		0.0207	U	0.0207	U	0.0380		0.0271		0.109		0.0644		0.170	J	0.0638	J	0.0531	J	0.151		0.0216		0.253		0.0449		0.0612		0.0645		0.218	J	0.252	--	--		
091020072	SB-545	4 - 5.5	09/10/2020	0.0189	UJ	0.0189	UJ	0.0189	UJ	0.0102	J	0.0320		0.0189	UJ	0.0402	J	0.0189	UJ	0.0446		0.0057	J	0.0853		0.0160	J	0.0150	J	0.0189	UJ	0.0980	J	0.0786	--	--						
090920051	SB-546	2 - 4	09/09/2020	0.0336	J	0.0390	J	0.0187	J	0.0676		0.0749		0.226		0.193		0.359	J	0.192	J	0.161	J	0.316		0.0545		0.475		0.0353	J	0.156		0.0857		0.206		0.400	--	--		
090920052	SB-546	4 - 6	09/09/2020	0.0087	J	0.0144	J	0.0027	U	0.0537		0.0297		0.115		0.0678		0.198	J	0.0855		0.0852	J	0.189		0.0281		0.170		0.0123	J	0.0783		0.0407		0.0834		0.168	--	--		
090920053	SB-547	2 - 4	09/09/2020	0.0135	J	0.0179	J	0.0380	J	0.0223	J	0.0610		0.180		0.246		0.301	J	0.316		0.0823	J	0.251		0.0510		0.430		0.0159	J	0.154		0.0242	J	0.168		0.407	--	--		
090920054	SB-547	7.5 - 9.5	09/09/2020	0.0185	J	0.0169	J	0.0032	U	0.0071	J	0.0076	J	0.0048	J	0.0075	J	0.0054	U	0.0029	J	0.0052	J	0.0031	U	0.0131	J	0.0110	J	0.0047	U	0.0678		0.0311		0.0102	J	--	--			
090920055	SB-548	2 - 4	09/09/2020	0.0029	U	0.0029	U	0.0026	UJ	0.0025	U	0.0049	J	0.0027	J	0.0046	J	0.0035	U	0.0026	J	0.0044	J	0.0028	U	0.0088	J	0.0024	U	0.0041	U	0.0282		0.0063	J	0.0071	J	--	--			
090920056	SB-548	8 - 10	09/09/2020	0.0099	J	0.0088	J	0.0040	J	0.0055	J	0.0071	J	0.0084	J	0.0058	J	0.0113	J	0.0321		0.0043	J	0.0086	J	0.0043	U	0.0164	J	0.0083	J	0.545		0.0332		0.0128	J	--	--			
091020066	SB-549	2 - 4	09/10/2020	0.0027	U	0.0027	U	0.0024	U	0.0184	UJ	0.0023	U	0.0184	UJ	0.0184	UJ	0.0184	UJ	0.0184	UJ	0.0025	U	0.0184	UJ	0.0022	U	0.0056	J	0.0184	UJ	0.0027	J	0.0184	UJ	--	--					
091020067	SB-549	8 - 10	09/10/2020	0.0038	U	0.0262	UJ	0.0034	U	0.0032	U	0.0262	UJ	0.0030	U	0.0036	U	0.0262	UJ	0.0033	U	0.0049	U	0.0036	U	0.0262	UJ	0.0065	J	0.0055	U	0.0262	J	0.0164	J	0.0262	UJ	--	--			
091020064	SB-550	2 - 4	09/10/2020	0.369	UJ	0.369	UJ	0.457		0.808		1.290		2.730		3.030		3.750		J	1.950		1.690	J	3.210		0.564		7.140		0.745		1.680		0.485		6.590		5.690	--	--	
091020065	SB-550	11 - 13	09/10/2020	0.0212	U	0.0212	U	0.0028	U	0.0027	U	0.0026	U	0.0024	U	0.0029	U	0.0037	U	0.0027	U	0.0040	U	0.0025	U	0.0025	U	0.0044	U	0.0415		0.0024	U	0.0031	U	--	--					
091020062	SB-551	2 - 4	09/10/2020	0.0027	U	0.0027	U	0.0024	U	0.0023	U	0.0023	U	0.0185	U	0.0185	U	0.0033	U	0.0024	U	0.0035	U	0.0026	U	0.0185	U	0.0022	U	0.0039	U	0.0185	U	0.0021	U	0.0185	U	--	--			
091020063	SB-551	8 - 10	09/10/2020	0.0036	U	0.0036	U	0.0032	U	0.0031	U	0.0032	U	0.0028	U	0.0034	U	0.0043	U	0.0032	U	0.0047	U	0.0034	U	0.0029	U	0.0030	U	0.0052	U	0.0247	J	0.0042	J	0.0036	U					

Table 2. Soil SVOCs Analytical Results Compared to Residential and Industrial SLs - North Parking Lot

Pre-Design Investigation Work Plan, Addendum 2

Wisconsin Public Service Corporation

Former MGP Site - Green Bay

700 N. Adams Street, Green Bay, WI 54307

BRRTS# 02-05-000254 | USEPA# WIN000509948

9-digit Code	Sample Location	Sample Depth (feet-BGS)	Sample Date	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	Phenol	Phenol																						
				1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benz(a)pyrene	Benz(b)fluoranthene	Benz(g,h,i)perylene	Benz(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	Phenol	Phenolics, Total Recoverable																							
Reporting Units:				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg																						
				Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag																						
WI Industrial Soil SLs:				73		3,000		45,000		45,000		100,000		21		2.1		21		23,000		210		2,100		2.1		30,000		30,000		21		8.6		100,000		23,000		100,000		NS			
WI Residential Soil SLs:				18		240		3,600		3,600		18,000		1.1		0.11		1.1		1,800		11		110		0.11		2,400		2,400		1.1		2		18,000		1,800		19,000		NS			
111120127	SB-581	2 - 4	11/11/2020	0.0094	J	0.0121	J	0.0024	U	0.0085	J	0.0057	J	0.0231		0.0269		0.0313	J	0.0198		0.0159	J	0.0265		0.0050	J	0.0383		0.0022	U	0.0157	J	0.0267		0.0125	J	0.0307	--	--					
111120128	SB-581	8 - 10	11/11/2020	1.390	J	1.460	J	0.408	J	2.230		2.380		8.360		7.160		11.500	J	6.770		5.370	J	9.550		1.890		15.400		1.540		6.170		6.800		5.320		16.000	--	--					
111120123	SB-582	2 - 4	11/11/2020	0.0027	U	0.0027	U	0.0046	J	0.0031	J	0.0219		0.0488		0.0499		0.0696	J	0.0445		0.0246	J	0.0607		0.0097	J	0.149		0.0040	J	0.0307		0.0021	J	0.0787		0.105	--	--					
111120124	SB-582	8 - 10	11/11/2020	1.990		0.301	J	0.265	J	0.805	J	1.070		2.660		2.130		3.340	J	1.840		1.510	J	3.270		0.511	J	4.960		1.360		1.560		3.840		4.020	--	5.950							
111120125	SB-583	2 - 4	11/11/2020	0.0150	J	0.0244	J	0.0128	J	0.162		0.100		0.225		0.249		0.367	J	0.249		0.138	J	0.268		0.0576		0.372		0.0220	J	0.204		0.0470		0.164		0.347	--	--					
111120126	SB-583	8 - 10	11/11/2020	48.100		39.900		1.780	U	1.760	J	2.950		3.770		2.280		1.560	U	2.280		2.410	U	1.750	J	1.900	U	6.370	J	4.380		2.860	U	172.000		15.600		6.500	J	--	--				
111120120	SB-584	2 - 4	11/11/2020	0.0026	U	0.0026	U	0.0023	U	0.0023	J	0.0029	J	0.0064	J	0.0046	J	0.0063	J	0.0045	J	0.0030	J	0.0054	J	0.0025	U	0.0094	J	0.0021	U	0.0037	U	0.0026	J	0.0049	J	0.0081	J	--	--				
111120121	SB-584	8 - 10	11/11/2020	2.300	J	4.530	J	1.190	U	1.150	U	1.140	U	1.80	J	1.040	U	1.270	U	1.610	U	1.170	U	1.730	U	1.270	U	1.080	U	1.100	U	1.910	U	76.400		1.050	U	1.350	U	--	--				
111120122	SB-584	10 - 12	11/11/2020	0.0116	J	0.0041	J	0.0026	U	0.0025	U	0.0023	U	0.0028	U	0.0026	U	0.0036	U	0.0024	U	0.0024	U	0.0024	U	0.0042	U	0.770		0.0023	U	0.0030	U	--	--										
111120108	SB-585	2 - 4	11/11/2020	0.0259	J	0.0327	J	0.0090	J	0.190		0.0889		0.264		0.233		0.418	J	0.245		0.174	J	0.349		0.0802		0.412		0.0235	J	0.204		0.0518		0.164		0.443	--	--					
111120109	SB-585	6 - 8	11/11/2020	0.0131	J	0.0123	J	0.0045	U	0.0044	U	0.0124	J	0.0074	J	0.0066	J	0.0205	J	0.0044	U	0.0065	U	0.0048	U	0.0093	J	0.0067	J	0.0072	U	0.161		0.0169	J	0.0138	J	--	--						
111120110	SB-586	2 - 4	11/11/2020	21.400		1.880	J	7.050	J	15.400		27.500		48.200		24.700		37.400	J	18.200		47.400		5.240	J	119.000		27.600		16.800		16.400		95.600		123.000	--	--							
111120111	SB-586	4 - 6	11/11/2020	0.128		0.0122	J	0.0321		0.0605		0.0960		0.131		0.0726		0.119	J	0.0552		0.0464	J	0.136		0.0175	J	0.338		0.114		0.0507		0.0979		0.287		0.338	--	--					
111120112	SB-587	2 - 4	11/11/2020	0.0033	J	0.0032	U	0.0025	U	0.0112	J	0.0156	J	0.0465	J	0.0479	J	0.0676	J	0.0438	J	0.0316	J	0.0550	J	0.0102	J	0.105	J	0.0032	J	0.0347		0.0081	J	0.0452	J	0.0880	J	--	--				
111120112/111120113 (N)	SB-587	2 - 4	11/11/2020	0.0563	J	0.0862	J	0.0215	J	0.164		0.297		0.863	J	0.966	J	1.180	J	0.665	J	0.429	J	0.975	J	0.173		1.830	J	0.103	J	0.573		0.321		1.060	J	1.780	J	--	--				
111120113	SB-587	2 - 4	11/11/2020	0.0563	J	0.0862	J	0.0215	J	0.164		0.297		0.863	J	0.966	J	1.180	J	0.665	J	0.429	J	0.975	J	0.173		1.830	J	0.103	J	0.573		0.321		1.060	J								

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 Wisconsin Public Service Corporation
 Former MGP Site - Green Bay
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9-digit Code	Sample Location	Sample Depth (feet-BGS)	Sample Date	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	Phenol	Phenol																						
				1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benz(a)pyrene	Benz(b)fluoranthene	Benz(g,h,i)perylene	Benz(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	Phenol	Phenolics, Total Recoverable																						
Reporting Units:				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg																						
				Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag																						
WI Industrial Soil SLs:				73		3,000		45,000		45,000		100,000		21		2.1		21		23,000		210		2,100		2.1		30,000		30,000		21		8.6		100,000		23,000		100,000		NS			
WI Residential Soil SLs:				18		240		3,600		3,600		18,000		1.1		0.11		1.1		1,800		11		110		0.11		2,400		2,400		1.1		2		18,000		1,800		19,000		NS			
111220168	SB-600	0 - 2	11/12/2020	0.0548	U	0.0548	U	0.0486	U	0.451	0.568	1.600	J	1.400	J	2.160	J	1.140	0.882	J	1.910	0.300	J	4.020	0.0797	J	0.933	0.375	UJ	1.210	2.990	--	--												
111220169	SB-600	2 - 4	11/12/2020	0.038	UJ	0.038	UJ	0.0056	J	0.0746	0.0880	0.248	0.254	0.373	J	0.226	0.132	J	0.315	0.0620	J	0.439	0.0123	J	0.175	0.038	UJ	0.124	0.398	--	--														
111220170	SB-601	0 - 2	11/12/2020	0.0027	U	0.0027	U	0.0024	U	0.0023	U	0.0070	J	0.0083	J	0.0127	J	0.0093	J	0.0063	J	0.0085	J	0.0026	U	0.0132	J	0.0022	U	0.0073	J	0.0018	U	0.0028	J	0.0097	J	--	--						
111220171	SB-601	2 - 4	11/12/2020	0.0556	U	0.0556	U	0.0914	J	0.143	J	0.517	1.040	J	1.040	J	1.330	J	0.702	0.690	J	1.370	J	0.204	J	2.760	J	0.0884	J	0.595	0.380	UJ	1.380	J	2.090	J	--	--							
111220171/111220172 (N)	SB-601	2 - 4	11/12/2020	0.0556	U	0.0556	U	0.355	J	0.443	J	1.540	3.710	J	2.620	J	3.480	J	1.390	1.460	J	3.980	J	0.436	J	11.300	J	0.575	J	1.220	0.380	UJ	7.340	J	8.800	J	--	--							
111220172	SB-601	2 - 4	11/12/2020	0.112	U	0.112	U	0.355	J	0.443	J	1.540	3.710	J	2.620	J	3.480	J	1.390	1.460	J	3.980	J	0.436	J	11.300	J	0.575	J	1.220	0.767	UJ	7.340	J	8.800	J	--	--							
101915104	SG401	1 - 2	10/19/2015	0.0172	U	0.0097	J	0.0172	U	0.0172	U	0.0116	J	0.0140	J	0.0116	J	0.0124	J	0.0124	J	0.0167	J	0.0172	U	0.0082	J	0.0172	U	0.0154	J	0.0187	--	--											
101915105	SG401	9 - 11	10/19/2015	11.200		17.500		5.210		1.890	J	5.600	2.780	J	2.140	J	1.270	J	0.905	J	1.400	J	2.630	2.240	U	5.630	4.920		15.400	6.480	--	--													
101915106	SG401	13 - 15	10/19/2015	0.0195	U	0.0195	U	0.0195	U	0.0195	U	0.0195	U	0.0195	U	0.0195	U	0.0195	U	0.0195	U	0.0195	U	0.0195	U	0.0195	U	0.0281	U	0.0195	U	--	--												
072414036	SS-2	0.5 - 1.5	05/20/1985	--	--	ND	U	ND	U	ND	U	2.600	5.100	ND	U	3.400		4.700	ND	U	1.400		2.000	ND	U	4.800		ND	U	ND	U	2.100	--	--											
072414035	SS-2	0 - 0.5	05/20/1985	--	--	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	--	--														
072414038	SS-3	0.5 - 1.5	05/20/1985	--	--	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	--	--														
072414037	SS-3	0 - 0.5	05/20/1985	--	--	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	ND	U	--	--														
072414023	Topsoil 1	0 - 0.5	05/27/2003	0.027		0.053		0.012		0.028		0.036		0.092		0.110		0.130		0.060		0.098		0.100		0.021		0.180		0.017		0.057		0.050		0.140		0.170	--	--					
072414024	Topsoil 2	0 - 0.5	05/27/2003	0.011		0.016		0.012		0.020		0.012		0.042		0.055		0.063		0.021		0.057		0.051		0.008		0.075		0.0065		0.019		0.022		0.044		0.083	--	--					
072414032	TP-10	5.5	05/20/2003	0.0087	U	0.0093	U	0.014	U	0.022	U	0.014	U	0.016		0.0076		0.012		0.015	U	0.012		0.016		0.0092	U	0.035		0.0075	U	0.014	U	0.0093	U	0.021		0.033	--	--					
Total Number of Samples Analyzed:				246		246		265		265		265		265		265		265		265		265		265		265		265		265		262		15		8									
Number of Detections:				152		161		113		144		198		216		195		199		173		181		199		125		219		177		210		217		209									

Table 3. Soil VOCs and Inorganic Analytical Results Compared to Residential and Industrial SLs

Pre-Design Investigation Work Plan, Addendum 2

Wisconsin Public Service Corporation

Former MGP Site - Green Bay

700 N. Adams Street, Green Bay, WI 54307 BRRTS#

02-05-000254 | USEPA# WIN000509948

9-digit Code	Sample Location	Sample Depth (feet-BGS)	Sample Date	1,2,4-Trimethylbenzene	PVOC	PVOC	PVOC	PVOC	PVOC	PVOC	PVOC	Metal	Metal	Metal	Metal	Metal	Metal	Metal	Metal	Metal	Cyanide	Cyanide	Cyanide	Organic				
				Benzene	BTEX, Total	Ethylbenzene	Toluene	Xylene, o	Xylenes, m + p	Xylenes, Total	Arsenic, Total	Barium, Total	Cadmium, Total	Chromium, Total	Copper, Total	Lead, Total	Mercury, Total	Nickel, Total	Selenium, Total	Silver, Total	Thallium, Total	Zinc, Total	Cyanide, Amenable	Cyanide, Total	Cyanide, Weak Acid Dissociable	Carbon, Total Organic		
Reporting Units:				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg			
				Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag			
				WI Industrial Soil SLs:	219	5.1	NS	25	818	434	388	260	8	100,000	100	100,000	47,000	800	350	22,000	5,800	5,800	12	100,000	1,200	1,200	1,200	NS
				WI Residential Soil SLs:	219	1.2	NS	5.8	818	434	388	260	8	15,000	7.1	100,000	3,100	400	23	1,500	390	390	0.78	23,000	78	78	78	NS
072414030	EB 101	8	04/22/2003	--	0.025 U	1.225	1.100	0.025 U	--	--	0.075	3.600	69,000	0.230	24,000	--	5.600	0.009	--	0.940	0.041	--	--	0.500	0.500	--	--	
072414031	EB 102	6	05/30/2003	--	0.025 U	0.050 U	0.025 U	0.025 U	--	--	0.050 U	2.500	70,000	0.220	1.300	--	5.200	0.012	--	22,000	0.058 J	--	--	0.130 U	0.120 U	--	--	
072414022	EB 3-1	12	05/16/2003	--	0.025 U	0.050 U	0.025 U	0.025 U	--	--	0.050 U	2.400	64,000	0.260	33,000	--	6.400	0.011	--	0.660	0.032	--	--	0.870	0.870	--	--	
072414016	EW 3-1	9.5	05/16/2003	--	0.410	1.860	0.640	0.210	--	--	0.600	9,100	64,000	0.400	22,000	--	33,000	0.120	--	1,500	0.086	--	--	5,800	5,800	--	25,000	
072414017	EW 3-2	6	05/16/2003	--	2,200	5,940	0.780	0.840	--	--	2,120	8,200	48,000	0.370	13,000	--	72,000	17,000	--	2,700	0.023	--	--	15,000	15,000	--	71,000	
072414018	EW 3-3	5	05/16/2003	--	0.730	3,020	1,000	0.230	--	--	1,060	5,600	86,000	0.390	23,000	--	89,000	0.310	--	2,200	0.050	--	--	16,000	16,000	--	62,000	
072414019	EW 3-4	10	05/16/2003	--	0.710	5,810	1,800	0.500	--	--	2,800	2,400	36,000	0.220	12,000	--	42,000	0.081	--	0.840	0.033	--	--	10,000	10,000	--	12,000	
072414020	EW 3-5	6	05/20/2003	--	0.210	1,310	0.440	0.150	--	--	0.510	3,900	19,000	0.270	18,000	--	31,000	0.050	--	0.380	0.036	--	--	17,000	17,000	--	30,000	
072414021	EW 3-6	3	05/20/2003	--	0.110	1,131	0.240	0.051	--	--	0.730	1,200	9,700	0.084 U	5,600	--	4,700	0.0037	--	0.420	0.024 U	--	--	0.490	0.490	--	2,000	
072414025	EW 4-1	4.5	05/23/2003	--	0.320	3,650	1,200	0.480	--	--	1,650	--	--	--	--	--	--	--	--	--	--	--	380,000	380,000	--	18,000		
072414026	EW 4-2	4.5	05/23/2003	--	0.280	1,020	0.360	0.070	--	--	0.310	8,000	48,000	0.300	12,000	--	7,900	0.250	--	1,300	0.026	--	--	17,000	17,000	5,100	--	
072414027	EW 4-3	4.5	05/23/2003	--	0.670	5,860	0.970	0.920	--	--	3,300	18,000	250,000	0.480	29,000	--	1,900	0.630	--	2,400	0.038	--	--	1,500	1,500	47,000	--	
072414028	EW 4-4	4	05/23/2003	--	0.025 U	0.146	0.025 U	0.025 U	--	--	0.071	--	--	--	--	--	--	--	--	--	--	--	680,000	690,000	14,000	--		
101915201	HA-401	0 - 2	10/19/2015	0.0600 U	0.0600 U	--	0.0600 U	0.0600 U	--	--	0.180 U	2.4	51.2	0.23	17.3	--	11.6	0.028	--	0.43	0.43 U	--	--	0.113 UJ	0.113 U	--	--	
101915202	HA-402	0 - 2	10/19/2015	0.0600 U	0.0600 U	--	0.0600 U	0.0600 U	--	--	0.180 U	1.4	22.9	0.078 J	6.5	--	28.2	0.044	--	0.50 U	0.50 U	--	--	0.00261 UJ	0.930	--	20,700	
101915203	HA-403	0 - 2	10/19/2015	0.0600 U	0.0600 U	--	0.0600 U	0.0600 U	--	--	0.180 U	2.4	58.9	0.15	21.5	--	16.1	0.025	--	0.34 J	0.52 U	--	--	0.187 J	0.187 J	--	--	
101915204	HA-404	0 - 2	10/19/2015	0.0600 U	0.0600 U	--	0.0600 U	0.0600 U	--	--	0.180 U	2.0	38.0	0.41	21.6	--	29.6	1.3	--	0.22 J	0.74	--	--	0.240 J	0.240 J	--	--	
101915205	HA-405	0 - 1.5	10/19/2015	0.0600 U	0.0600 U	--	0.0600 U	0.0600 U	--	--	0.180 U	3.1	65.5	0.51	31.6	--	47.3	0.84	--	0.34 J	0.75	--	--	0.851	1.10	--	32,400	
101915206	HA-406	0 - 2	10/19/2015	0.0600 U	0.0600 U	--	0.0600 U	0.0600 U	--	--	0.180 U	2.3	50.7	0.17	14.5	--	10.8	0.019	--	0.30 J	0.49 U	--	--	0.158 J	0.158 J	--	--	
102015207	HA-407	0 - 2	10/20/2015	0.0600 U	0.0600 U	--	0.0600 U	0.0600 U	--	--	0.180 U	2.2	46.4	0.17	20.6	--	21.6	0.013	--	0.38 J	0.53 U	--	--	0.0921 UJ	0.092 U	--	--	
102015208	HA-408	0 - 2	10/20/2015	0.0600 U	0.0600 U	--	0.0600 U	0.0600 U	--	--	0.180 U	2.4	38.5	0.16	15.9	--	31.5	0.039	--	0.28 J	0.43 U	--	--	1.26 J	5.86	--	--	
102015209	HA-409	0 - 2	10/20/2015	0.0600 U	0.0600 U	--	0.0600 U	0.0600 U	--	--	0.180 U	1.6	29.7	0.099	12.8	--	16.4	0.12	--	0.21 J	0.46 U	--	--	0.274 J	0.2			

Table 3. Soil VOCs and Inorganic Analytical Results Compared to Residential and Industrial SLs

Pre-Design Investigation Work Plan, Addendum 2

Wisconsin Public Service Corporation

Former MGP Site - Green Bay

700 N. Adams Street, Green Bay, WI 54307 BRRTS#

02-05-000254 | USEPA# WIN000509948

9-digit Code	Sample Location	Sample Depth (feet-BGS)	Sample Date	1,2,4-Trimethylbenzene	PVOC	PVOC	PVOC	PVOC	PVOC	PVOC	PVOC	Metal	Metal	Metal	Metal	Metal	Metal	Metal	Metal	Metal	Cyanide	Cyanide	Cyanide	Organic				
				Benzene	BTEX, Total	Ethylbenzene	Toluene	Xylene, o	Xylenes, m + p	Xylenes, Total	Arsenic, Total	Barium, Total	Cadmium, Total	Chromium, Total	Copper, Total	Lead, Total	Mercury, Total	Nickel, Total	Selenium, Total	Silver, Total	Thallium, Total	Zinc, Total	Cyanide, Amenable	Cyanide, Total	Cyanide, Weak Acid Dissociable	Carbon, Total Organic		
Reporting Units:				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg			
				Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag			
				WI Industrial Soil SLs:	219	5.1	NS	25	818	434	388	260	8	100,000	100	100,000	47,000	800	350	22,000	5,800	5,800	12	100,000	1,200	1,200	1,200	NS
				WI Residential Soil SLs:	219	1.2	NS	5.8	818	434	388	260	8	15,000	7.1	100,000	3,100	400	23	1,500	390	390	0.78	23,000	78	78	78	NS
101915116	SB-418B	4 - 6	10/19/2015	0.0600 U	0.0600 U	--	0.0291 J	0.0404 J	--	--	0.180 U	1.3	23.0	0.044 J	11.5	--	5.6 J	0.014	--	0.43 J	0.46 U	--	--	0.550 J	0.550 J	--	--	
101915117	SB-418C	13 - 15	10/19/2015	0.0600 U	0.0600 U	--	0.0315 J	0.0600 U	--	--	0.180 U	3.1	88.1	0.065 J	31.0	--	5.8 J	0.022	--	1.0	0.55 U	--	--	0.353 J	0.311 J	--	--	
102115158	SB-418D	13 - 15	10/21/2015	0.0600 U	0.0600 U	--	0.0600 U	0.0600 U	--	--	0.180 U	2.3	172	0.066 J	29.8	--	6.2 J	0.011 J	--	0.95	0.51 U	--	--	0.351 J	0.351 J	--	--	
102115159	SB-418E	18 - 20	10/21/2015	0.0600 U	0.0600 U	--	0.0600 U	0.0600 U	--	--	0.180 U	3.2	67.6	0.034 J	21.7	--	5.1 J	0.0099 J	--	0.80	0.46 U	--	--	0.101 UJ	0.101 U	--	--	
102115160	SB-418F	8 - 10	10/21/2015	215,000	63,200 U	--	841,000	175,000	--	--	652,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
102115161	SB-418F	8 - 10	10/21/2015	287,000	30,000 U	--	745,000	209,000	--	--	866,000	7.3	140	0.57	14.6	--	46.6	0.074	--	1.1	0.74 U	--	--	0.00321 UJ	13.4	--	--	
102115162	SB-418F	13 - 15	10/21/2015	0.0600 U	0.0600 U	--	0.0388 J	0.0600 U	--	--	0.180 U	2.1 J	49.9 J	0.038 J	14.2 J	--	3.4 J	0.012 U	--	0.48 J	0.61 UJ	--	--	0.500 J	0.500 J	--	--	
102115163/102115164 (N)	SB-418G	13 - 15	10/21/2015	0.0600 U	0.0600 U	--	0.0380 J	0.0600 U	--	--	0.180 U	4.1	120 J	0.081	31.1	--	7.1 J	0.0081 J	--	0.99	0.51 U	--	--	0.463 J	0.463 J	--	--	
102115165	SB-418H	4 - 6	10/21/2015	0.0600 U	0.106	--	0.0382 J	0.0578 J	--	--	0.180 U	4.6	66.7	0.51	17.6	--	182	0.027	--	0.93	0.53 U	--	--	0.651 J	0.651 J	--	--	
102115166	SB-418I	7 - 9	10/21/2015	0.0790 J	0.0600 U	--	0.0600 U	0.0600 U	--	--	0.180 U	15.3	110	0.13 J	25.9	--	198	0.030	--	1.4	0.87 U	--	--	4.58	5.35	--	--	
102115167	SB-418I	13 - 15	10/21/2015	0.0600 U	0.0600 U	--	0.0600 U	0.0600 U	--	--	0.180 U	3.7	65.2	0.054 J	24.8	--	5.9 J	0.0069 J	--	0.78	0.55 U	--	--	0.149 J	0.149 J	--	--	
020816001	SB-418J	6 - 8	02/08/2016	0.317	0.0702 J	--	0.141	0.559	0.403	0.606	1,010	6,700 J-	50,700	0.260 J	13,700	--	57,200	0.220	--	1,800 J-	0.022 U	--	--	6,460 UJ	16,500 J	--	--	
020816002	SB-418J	12 - 14	02/08/2016	0.0250 U	0.0250 U	--	0.0250 U	0.0250 U	0.0250 U	0.0500 U	0.0750 U	2,900 J-	86,600	0.100 U	29,400	--	7,100 J-	0.0063 J	--	1,400 J-	0.023 U	--	--	205 UJ	10.04 J	--	--	
020816003	SB-418K	8 - 10	02/08/2016	0.210	0.384	--	0.182	0.193	0.248	0.312	0.561	6,800	80,300	0.800 U	11,800	--	57,700	0.230	--	1,800 J-	0.034 J	--	--	7,870 UJ	47,700 J	--	--	
020816004	SB-418K	16 - 18	02/08/2016	0.0250 U	0.0250 U	--	0.0250 U	0.0250 U	0.0500 U	0.0750 U	5,600 J-	101,000	0.100 U	40,300	--	7,600 J-	0.0099 J	--	1,300 J-	0.023 U	--	--	249 UJ	0.832 J	--	--		
020816005/020816006 (N)	SB-418L	8 - 10	02/08/2016	0.297	0.114	--	0.296	0.730	0.370	0.704	1,070	7,600 J-	72,400 J	1,500 J	11,800	--	147,000 J	0.240	--	2,500 J-	0.022 U	--	--	1,660 UJ	45,800 J	--	--	
020816007	SB-418L	10 - 12	02/08/2016	0.346	0.455	--	0.161 J	0.0250 U	0.307	0.151 J	0.458 J	49,400	71,500	0.480 J	38,500	--	336,000	1,500	--	1,700 U	0.850 U	--	--	18,400 J	158,000 J	--	--	
020816008	SB-418L	14 - 15	02/08/2016	0.0250 U	0.0250 U	--	0.0250 U	0.0250 U	0.0500 U	0.0750 U	2,500 J-	64,900	0.099 U	28,500	--	6,200 J	0.0099 J	--	1,300 J-	0.022 U	--	--	227 UJ	0.392 J	--	--		
020816009	SB-418M	8 - 10	02/08/2016	0.195	0.218	--	0.0892	0.111	0.0914	0.283	0.375	5,000 J-	137,000	0.710 J	24,400	--	361,000	4,600	--	1,800 J-	1,600 J-	--	--	1,610 UJ	3,890 J	--	--	
020816010	SB-418M	10 - 12	02/08/2016	0.0250 U	0.0250 U	--	0.0250 U	0.0250 U	0.0250 U	0.0500 U	0.0750 U	4,200 J-	89,800	0.110 U	37,000	--	6,900 J-	0.0074 J	--	1,600 J-	0.410 U	--	--	264 UJ	0.132 UJ	--	--	
101915107	SB-419	1 - 3	10/19/2015	0.0600 U	0.0600 U	--	0.0600 U	0.0462 J	--	--	0.180 U	0.96	5.0	0.026 J	5.8	--	1.6	0.0060 J	--	0.46 U	0.46 U	--</						

Table 3. Soil VOCs and Inorganic Analytical Results Compared to Residential and Industrial SLs

Pre-Design Investigation Work Plan, Addendum 2

Wisconsin Public Service Corporation

Former MGP Site - Green Bay

700 N. Adams Street, Green Bay, WI 54307

BRRTS# 02-05-000254 | USEPA# WIN000509948

9-digit Code	Sample Location	Sample Depth (feet-BGS)	Sample Date	PVOC	PVOC	PVOC	PVOC	PVOC	PVOC	PVOC	Metal	Metal	Metal	Metal	Metal	Metal	Metal	Metal	Cyanide	Cyanide	Cyanide	Organic						
				1,2,4-Trimethylbenzene	Benzene	BTEX, Total	Ethylbenzene	Toluene	Xylene, o	Xylenes, m + p	Xylenes, Total	Arsenic, Total	Barium, Total	Cadmium, Total	Chromium, Total	Copper, Total	Lead, Total	Mercury, Total	Nickel, Total	Selenium, Total	Silver, Total	Thallium, Total	Zinc, Total	Cyanide, Amenable	Cyanide, Total	Cyanide, Weak Acid Dissociable	Carbon, Total Organic	
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg			
				Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag	Result Flag			
				WI Industrial Soil SLs:	219	5.1	NS	25	818	434	388	260	8	100,000	100	100,000	47,000	800	350	22,000	5,800	5,800	12	100,000	1,200	1,200	1,200	NS
				WI Residential Soil SLs:	219	1.2	NS	5.8	818	434	388	260	8	15,000	7.1	100,000	3,100	400	23	1,500	390	390	0.78	23,000	78	78	78	NS
072414036	SS-2	0.5 - 1.5	05/20/1985	--	--	--	--	--	--	--	0.860	--	0.700 U	3.000	12.000	51.000	0.040 U	5.400	0.010	0.200 U	ND U	43.000	ND U	0.590	--	--		
072414035	SS-2	0 - 0.5	05/20/1985	--	--	--	--	--	--	--	4.000	--	0.700 U	2.800	8.400	27.000	0.040 U	4.600	0.010 U	0.200 U	1.400	46.000	ND U	0.100 U	--	--		
072414038	SS-3	0.5 - 1.5	05/20/1985	--	--	--	--	--	--	--	0.480	--	0.700 U	2.400 U	3.200	4.300 U	0.040 U	ND U	0.010 U	0.260	ND U	6.800	ND U	0.100 U	--	--		
072414037	SS-3	0 - 0.5	05/20/1985	--	--	--	--	--	--	--	5.800	--	0.700 U	2.400 U	3.800	6.400	0.050	ND U	0.040	0.240	ND U	11.000	ND U	0.100 U	--	--		
072414023	Topsoil 1	0 - 0.5	05/27/2003	--	0.025 U	0.133	0.025 U	0.033	--	--	0.050 U	2.800	59.000	0.670	29.000	--	43.000	0.016 U	--	0.770	1.100	--	--	0.460	0.460	--	--	
072414024	Topsoil 2	0 - 0.5	05/27/2003	--	0.025 U	0.050 U	0.025 U	0.025 U	--	--	0.050 U	2.500	61.000	0.340	24.000	--	30.000	0.270	--	0.500	0.280	--	--	2.000	2.000	--	--	
072414032	TP-10	5.5	05/20/2003	--	0.025 U	0.050 U	0.025 U	0.025 U	--	--	0.050 U	--	--	--	--	--	--	--	--	--	--	--	2.000	2.000	0.130	--		

Total Number of Samples Analyzed:	58	89	16	89	89	9	9	89	74	70	74	74	4	74	74	4	74	74	4	4	77	77	5	13	
Number of Detections:	15	26	12	35	31	5	5	30	74	70	62	72	4	73	69	2	69	28	1	4	45	63	5	13	
Min:	0.0611	0.0375	0.133	0.0291	0.033	0.0914	0.151	0.071	0.48	3.5	0.026	1.3	3.2	1.6	0.0029	4.6	0.01	0.023	1.4	6.8	0.149	0.104	0.13	2,000	
Max:	287	23.1	5.94	841	209	0.403	0.704	866	93.3	704	1.6	55.2	12	7,900	93.6	5.4	22	1.8	1.4	46	1,500	1,500	47	176,000	
WI Industrial Soil SLs:	219	5.1	NS	25	818	434	388	260	8	100000	100	100000	47000	800	350	22000	5800	5800	12	100000	1200	1200	1200	NS	
Number of Samples that Exceed WI Industrial Soil SL:	1	1	0	5	0	0	0	2	10	0	0	0	0	4	0	0	0	0	0	0	1	1	0	0	
WI Residential Soil SLs:	219	1.2	NS	5.8	818	434	388	260	8	15000	7.1	100000	3100	400	23	1500	390	390	0.78	23000	78	78	78	NS	
Number of Samples that Exceed WI Residential Soil SL:	1	5	0	6	0	0	0	2	10	0	0	0	0	4	1	0	0	0	0	1	0	3	5	0	0

[O:CMD 8/6/20; C:SGW 8/7/20; QA:ESM 8/14/20; U:MGP 3/2/22]

Notes:

Analyte concentration exceeds the standard for:

Bold WI Industrial Soil SLs

Underlined WI Residential Soil SLs

Pink Highlighting result exceeds one or more screening criteria

Yellow Highlighting analyte exceedance in statistics for one or more samples

Lab comments, additional data qualifiers and definitions can be found in associated laboratory and validation reports.

-- = Analysis not performed

% = percent

(N) = Normalized sample locations created from combining parent and field duplicate samples following EPA protocol

BGS = Below ground surface

RRRTS = Bureau for Remediation and Redevelopment Tracking System

J = Estimated concentration

J- = Indicates a concentration estimated with low bias

mg/kg = milligrams per kilogram

MGP = manufactured gas plant

ND = analyte not detected

NS = No Screening Level

PVOC = Petroleum Volatile Organic Compound: 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Benzene, Ethylbenzene, Toluene, and Total Xylenes (BTEX)

RAF = Risk Assessment Framework

RI = remedial investigation

RSL = Regional Screening Level (EPA)

SL = Screening Level

U = Concentration was not detected above the reported limit

USEPA = United States Environmental Protection Agency

Screening Levels:

Screening Levels used on this table were presented in the Multi-Site Risk Assessment Framework (RAF) Addendum Revision 6, issued in August 2017.

Since that time, nine revisions of the RSLs have been published by EPA through November 2021. As a result of these nine revisions, there were no updates to the RSLs necessary for the MGP-related constituents evaluated in this table.

Table 4. Sampling and Analysis Plan Summary

Pre-Design Investigation Work Plan, Addendum 2

Wisconsin Public Service Corporation

Former MGP Site - Green Bay

700 N. Adams Street, Green Bay, WI 54307

BRRTS# 02 05 000254 USEPA# WIN000509948

SAMPLE TYPE	SAMPLE FREQUENCY	ESTIMATED NUMBER OF SAMPLES ¹	PARAMETER	METHOD	FIELD DUPLICATES (1 extra volume)	MS/MSD (2 extra volumes)	EQUIPMENT BLANKS	TRIP BLANKS	TOTAL NUMBER OF SAMPLES	ESTIMATED NO. OF CONTAINERS	CONTAINER TYPE	MINIMUM VOLUME	PRESERVATION (Cool All Samples to 4° ± 2°C Unless 'None' Indicated)	HOLDING TIME FROM SAMPLING DATE
Subsurface Investigation per Workplan Addendum	If visual, olfactory, or PID indications of impacts: 1 within impacted interval(s), 1 immediately below impacted interval(s), 1 from bottom of boring.	Continuous	Logging	Multi-Site SOP SAS-05-02									--	
		Up to 3 per boring	PVOCs ¹	8260	1 per 20	1 per 20	Equipment blanks will be collected at a frequency of 1 per soil sampling day with non-dedicated sampling equipment.	VOC trip blanks will accompany each cooler containing VOC samples.	Min: 26 samples collected & 17 samples analyzed; Max: 78 samples collected & analyzed	Min: 26 Max: 78	Glass Vial	2 oz.	NaSO4 and MeOH	48 hours to freeze 14 days to analyze
		Up to 3 per boring	PAHs ²	8270	1 per 20	1 per 20				Min: 26 Max: 78	Glass	4 oz.	--	14 days to extract 40 days to analyze
	If no indication of impacts: 1 sample within 2-ft interval above clay	Up to 3 per boring	Total Metals ³	6020A/7471	1 per 20	1 per 20				Min: 26 Max: 78	Plastic	5 oz.	--	14 days/6 months
		Up to 3 per boring	Total Cyanide	9012B	1 per 20	1 per 20				Min: 26 Max: 78	Glass	4 oz.	--	14 days

Notes:

1. Petroleum volatile organic compounds (PVOCs) include benzene, ethylbenzene, toluene, total xylenes, and 1,2,4-trimethylbenzene

2. Polycyclic aromatic hydrocarbon (PAHs) include 1-Methylnaphthalene, 2-Methylnaphthalene, Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Fluorene, Indeno(1,2,3-cd)pyrene, Naphthalene, Phenanthrene, Pyrene

3. Total Metals include arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver