

Hnat, John J - DNR

From: Hatfield, Chris <Chris.Hatfield@stantec.com>
Sent: Friday, May 26, 2017 2:32 PM
To: Hnat, John J - DNR
Subject: Whitefish Bay Cleaners (02-41-550821)
Attachments: Whitefish Bay Cleaners Workplan 02-41-550821.pdf

John,

I mailed a copy of the attached workplan to the WDNR office for review and approval. We have not moved forward with the work since it is a DERF site and want to make sure costs are eligible for reimbursement. Since the client is a bit financially strained, I put this project on the back burner awaiting WDNR response. He would like to move ahead with the work this summer.

Let me know when you think we can expect a response from the WDNR. If you have any questions feel free to contact me.

Thanks

Chris Hatfield

Senior Geologist
Stantec

12075 Corporate Parkway Suite 200, Mequon WI 53092-2649

Phone: (262) 643-9171

Cell: (414) 687-3640

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Chris.Hatfield@stantec.com



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LETTER OF TRANSMITTAL



12075 N. Corporate Parkway Phone: 262-241-3133
 Suite 200 Direct Line: 262-643-9171
 Mequon, Wisconsin 53092 FAX: 262-241-4901

DATE 8/9/16 PROJECT : 193702517
ATTENTION: John Hnat
RE: Workplan and Cost Estimate – Whitefish Bay Cleaners

TO: John Hnat, PG, CPG
Wisconsin Department of Natural Resources
2300 N. Dr. Martin Luther King, Jr. Drive
Milwaukee, Wisconsin 53212-3128

WE ARE SENDING YOU:


- Attached
- Shop drawings
- Copy of letter
- Change order
- Under separate cover
- Specifications
- Samples

1	Workplan and Cost Estimate – Additional Investigation Whitefish Bay Cleaners, 419 West Silver Spring Drive, Glendale, Wisconsin (BRRS #02-41-550821)

John,

Our workplan and cost estimate for the above reference DERF site is attached. Please let me know if you have any questions. Thanks

COPY TO: file

SIGNED: 
 Christopher C. Hatfield



Stantec Consulting Services Inc.
12075 Corporate Parkway, Suite 200
Mequon, WI 53092
Tel: (262) 241-4466
Fax: (262) 241-4901

July 20, 2016
File No.: 193702517

Mr. John J. Hnat, P.G., C.P.G.
Wisconsin Department of Natural Resources
2300 North Dr. Martin Luther King, Jr. Drive
Milwaukee, Wisconsin 53212-3128

**Reference: Workplan and Cost Estimate – Additional Investigation
Whitefish Bay Cleaners, 419 West Silver Spring Drive, Glendale, Wisconsin
WDNR BRRS #02-41-550821**

Dear Mr. Hnat:

Stantec Consulting Services Inc. (Stantec) continues to investigate a tetrachloroethene (PCE) release at the above-referenced property (the Site). Based on a recent conversation with you, the Wisconsin Department of Natural Resources (WDNR) requires additional investigation to further evaluate the extent of near-surface soil contamination and vertical extent of groundwater contamination. Therefore, Stantec developed this workplan and cost estimate for additional investigation. To ensure the additional investigation is eligible for reimbursement under the Drycleaner Environmental Response Fund (DERF), estimated costs are summarized on the attached WDNR Form 4400-214D.

BACKGROUND INFORMATION

Whitefish Bay Cleaners, an active dry cleaner business, has operated at 419 West Silver Spring Drive, Glendale, Wisconsin (the Site) for more than 30 years. Dry cleaning businesses have continuously operated at the Site since the 1950s. Giles Engineering Associates, Incorporated (Giles) completed a Preliminary Site Assessment (PSA) at the Site during December 2007 and PCE was detected in soil and groundwater. Giles concluded that spillage and/or leakage of PCE associated with dry cleaning activities was the source of the release. Giles reported the results of the PSA to the WDNR who subsequently requested a site investigation and appropriate remedial action be completed.

During November 2013, Stantec, on behalf of Whitefish Bay Cleaners, submitted a Site Investigation Workplan to the WDNR. During August 2014, Stantec oversaw the collection of sub-surface soil samples from boreholes B-1 through B-7 and installation of groundwater monitoring wells MW1 through MW4 and TW1 at the Site or in the adjacent public alleyway. Soil sampling results are summarized on Table 1. During September 2014, Stantec collected groundwater samples from the wells. The Site layout and borehole and groundwater monitoring wells locations are shown on Figure 1.

PCE in soil and groundwater extended off-site to the south and west requiring additional investigation. During May 2016, Stantec provided the WDNR with the soil and groundwater sampling results and recommended installation of additional groundwater monitoring wells. During June 2016 the WDNR responded to Stantec's recommendations with additional suggestions related to future investigation. More specifically, the WDNR requested that samples be collected from the groundwater monitoring wells since the wells had not been sampled since 2014. In addition, the WDNR requested that a vapor intrusion assessment be conducted at the Site.

Therefore, during June 2016 Stantec collected samples from each groundwater monitoring well at the Site. Groundwater elevation measurements and laboratory analysis results are summarized on Table 2 and 3, respectively. In every well, the PCE concentrations in groundwater during June 2016



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Reference: **Workplan and Cost Estimate – Additional Investigation**
 Whitefish Bay Cleaners, 419 West Silver Spring Drive, Glendale, Wisconsin

were less than the initial groundwater sampling event. Soil and groundwater sampling results indicated that released PCE has migrated off-site to the west and south and documented a south to southwest groundwater flow across the Site.

The Site investigation data collected to date provided valuable information. However, additional investigation to further evaluate the extent of PCE in soil and groundwater and an assessment of vapor migration is warranted. Therefore, Stantec proposes a phased approach for the additional investigation as outlined below.

WORKPLAN

The additional investigation includes soil sample collection and groundwater monitoring well installation in the adjacent alleyway and property south of the Site. In addition, sub-slab soil vapor samples will be collected inside the Site building and the adjacent buildings east and west of the Site. Our workplan to complete the additional investigation is provided below.

Obtain Off-Site Access Agreements

To further evaluate the extent of released PCE in soil, soil vapor, and groundwater, additional boreholes, vapor monitoring points, and monitoring wells are needed beyond the Site boundaries. Therefore, Stantec, on behalf of Whitefish Bay Cleaners, will request access to these properties. Stantec will also request access to adjacent property buildings for sub-slab vapor sample collections. Access agreements will be drafted for the property owners' review and approval.

Stantec will obtain a permit from the City of Glendale (the City) for any borehole or monitoring well installed in City right-of-ways. The necessary access agreements and City permits will be obtained before completing work on these properties.

Evaluate Buried Utility Corridors

Stantec will add the locations and determine the depths of buried utilities that extend through or are near areas of PCE contamination and evaluate the potential of the buried utilities to act as a contaminant migration pathway.

Complete Additional Soil Investigation

Stantec proposes to collect soil samples from two boreholes located south and west of the Site using direct push soil sampling techniques. Groundwater monitoring wells will also be constructed in these boreholes and are discussed in the next section. The goal of the additional sampling is to evaluate if released PCE in soil extends onto the adjacent property to the south. The proposed soil borehole locations are shown in Figure 1.

Soil samples will be continuously collected, described, and field screened using a photoionization detector (PID) to a total depth of 16 feet below grade (fbg). One near surface soil sample (0 to 4 fbg) from each borehole will be submitted for volatile organic compound (VOC) laboratory analysis. Based on field screening results, a second soil sample from each borehole collected between 4 fbg and the groundwater table will be laboratory analyzed for VOCs.

Complete Additional Groundwater Investigation

Stantec proposes to install groundwater monitoring wells south and west of MW4 to further evaluate the lateral extent of PCE in groundwater and groundwater flow direction at and near the Site. The monitoring wells will be installed using hollow stem auger drilling methods to a total anticipated depth of 16 fbg. The proposed monitoring well locations are shown in Figure 1.



July 21, 2016
Page 3 of 6

Reference: **Workplan and Cost Estimate – Additional Investigation**
 Whitefish Bay Cleaners, 419 West Silver Spring Drive, Glendale, Wisconsin

The monitoring wells will be constructed in accordance with state requirements (Chapter NR 141, Wisconsin Administrative Code). Specifically, the wells will be constructed of 2-inch diameter polyvinyl chloride (PVC) threaded casing utilizing 5-feet of 0.010-inch slot PVC screen. No glues, solvents, or lubricants will be used in well construction. The horizontal and vertical locations of the wells will be surveyed to determine the groundwater flow direction and gradient. The wells will be completed with flush-mounted protective covers.

The monitoring wells will be developed using a variable capacity bailer or centrifugal pump to remove the effects of drilling and well installation and to maximize well yield. During development, measurements of specific conductance, pH, temperature, and turbidity will be recorded. Development will continue until 10 saturated well volumes are removed from the wells or the wells produce sediment-free water.

The newly installed wells (MW5 and MW6) and the current existing wells (MW1 through MW4 and TW1) will be purged and sampled in accordance with WDNR groundwater sampling procedures (WDNR Publication No. WR-168). Groundwater samples will be submitted for laboratory analysis for VOCs. A duplicate sample will be collected and laboratory analyzed for VOCs from one well during each sampling event. All non-disposable well development and sampling equipment will be thoroughly cleaned between wells. Groundwater produced from each well will be stored in 55-gallon drums on-site. Appropriate disposal of the groundwater will be determined after receipt of laboratory analyses. Drums will be disposed of following receipt of laboratory analytical results.

Sub-Slab Vapor Monitoring Point Installation and Sampling

Per the request of the WDNR, six sub-slab vapor monitoring points will be installed through the concrete floors of the Site building and adjacent buildings east and west of the Site to evaluate sub-slab vapor concentrations. Two of the sub-slab vapor monitoring points will be installed in the small basement area in the northeast corner of the Site building. Two other sub-slab vapor monitoring points will be constructed in the basement of the building east of the Site. The adjacent building west of the Site does not have a basement, so the remaining two sub-slab vapor monitoring points will be installed through the concrete floor in the eastern portion of this building. The proposed locations of the vapor sample points are shown on Figure 1. These locations may be adjusted depending upon building accessibility. The sub-slab vapor monitoring points will be constructed in general conformance with WDNR guidance document RR-986.

Leak testing will be conducted on each vapor point using a shroud filled with helium and placed over the vapor point at least one day after installation. The quality control measures will be implemented using the two-step method described in the WDNR guidance document RR-986. If helium is detected in a sampling point, the sampling point will be resealed and retested for helium. After successful helium tests at each sampling "grab" samples will be collected from each location using a six-liter Summa canister. The air samples will be analyzed by Pace Analytical for VOCs using EPA Method TO-15.

Analyze and Tabulate Data and Evaluate Need for Additional Investigation

Stantec will complete the required soil borehole logs and monitoring well construction forms for the additional boreholes and monitoring wells (WDNR Forms 4400-113A and 4400-122). Soil, soil vapor, and groundwater analysis results will be tabulated and the site figures will be updated to reflect the additional investigation completed. The results will be provided to the WDNR and discussions with the WDNR will occur to determine the appropriate additional investigation required.



Reference: **Workplan and Cost Estimate – Additional Investigation
Whitefish Bay Cleaners, 419 West Silver Spring Drive, Glendale, Wisconsin**

Incorporate Additional Data into Site Investigation Report

If little or no additional investigation appears warranted, a comprehensive site investigation report will be completed. The report will include sufficient text, tables, figures, field data, and laboratory reports necessary to support the findings and conclusions. Project work will be supervised by a Stantec Professional Geologist. The report will be submitted to the WDNR. Information collected during the site investigation will be used to determine appropriate response actions.

PROBABLE COST AND SCHEDULE

The cost presented below is based on the quantities listed in the workplan. For budgeting purposes, the proposed work will be divided into cost categories consistent with the WDNR Linking Spreadsheet with off-site access coordination, data tabulation, and reporting incorporated into the various cost categories. A summary of probable costs are included on the enclosed WDNR Form 4400-214D. The probable costs are presented below.

WDNR LINKING SPREADSHEET COST CATEGORY A – SOIL INVESTIGATION

Consulting Services

Associate Geologist	1 hour @ \$155/hr	\$ 155.00
Registered Geologist	3 hours @ \$108/hr	\$ 324.00
Geologist/CAD Technician	10 hours @ \$85/hr	\$ 850.00
Administrative Aid	1 hours @ \$71/hr	<u>\$ 71.00</u>
	Subtotal	\$1,400.00

Direct Push Services

Subtotal	\$800.00
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COST CATEGORY A TOTAL \$ 2,200.00

WDNR LINKING SPREADSHEET COST CATEGORY B – GROUNDWATER INVESTIGATION

Consulting Services

Associate Geologist	2 hour @ \$155/hr	\$ 310.00
Registered Geologist	10 hours @ \$108/hr	\$ 1,080.00
Geologist/CAD Technician	22 hours @ \$85/hr	\$ 1,870.00
Administrative Aid	3 hours @ \$71/hr	<u>\$ 213.00</u>
	Subtotal	\$3,473.00

Well Installation

Subtotal	\$1,500.00
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COST CATEGORY B TOTAL \$ 4,973.00

WDNR LINKING SPREADSHEET COST CATEGORY E – AIR/VAPOR INVESTIGATION

Consulting Services

Associate Geologist	1 hour @ \$155/hr	\$ 155.00
Registered Geologist	10 hours @ \$108/hr	\$ 1,080.00
Geologist/CAD Technician	22 hours @ \$85/hr	\$ 1,870.00
Administrative Aid	3 hours @ \$71/hr	<u>\$ 213.00</u>
	Subtotal	\$3,318.00



Reference: **Workplan and Cost Estimate – Additional Investigation
Whitefish Bay Cleaners, 419 West Silver Spring Drive, Glendale, Wisconsin**

Equipment

Helium Detector Rental	1 day @ \$100/day	\$ 100.00
Coring Device Rental	1 day @ \$100/day	\$ 100.00
Vapor Monitoring Point Construction Supplies	6 each @ \$25/each	\$ 150.00
Helium Tank Rental	1 day @ \$65/day	<u>\$ 65.00</u>
	Subtotal	\$ 415.00
	COST CATEGORY E TOTAL	\$3,733.00

WDNR LINKING SPREADSHEET COSTS CATEGORY G - LABORATORY ANALYSIS

<u>Soil VOCs</u>	4 samples @ \$64/each	\$ 256.00
<u>Air VOCs</u>	6 samples @ \$210/each	\$ 1,260.00
<u>Water VOCs</u>	8 samples @ \$64/each	<u>\$ 512.00</u>
	COST CATEGORY G TOTAL	\$ 2,028.00

WDNR LINKING SPREADSHEET COSTS CATEGORY H – MISCELLANEOUS COSTS

Soil and Purge Water Barrel Disposal (3 drums total)

Consulting Services

Registered Geologist 1 hours @ \$108/hr \$ 108.00

Disposal Contractor

3 drums @ \$ 140/drum \$ 420.00

COST CATEGORY H TOTAL \$ 528.00

TOTAL COSTS CATEGORIES A THROUGH H

\$13,462.00

**Note: unit rates for subcontractor services will remain unchanged from previous WDNR approved rates or will be re-bid.*

Initial contacts with off-site property owners will be made immediately after approval of this workplan and cost estimate by the WDNR. Scheduling of the onsite work will be dependent upon off-site access approval and may be quite variable. Groundwater sampling will occur less than 2-weeks after the groundwater monitoring well installation. Stantec anticipates the proposed scope of work to be completed within 4-months of WDNR approval of this workplan and cost estimate.

Please contact us if you have any questions or comments.

Regards,

STANTEC CONSULTING SERVICES INC.

Chris Hatfield
Senior Geologist
Phone: (262) 643-9171
Fax: (262) 241-8222
Chris.Hatfield@stantec.com



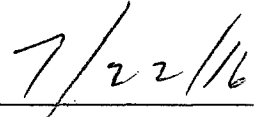
July 21, 2016
Page 6 of 6

Reference: **Workplan and Cost Estimate – Additional Investigation
Whitefish Bay Cleaners, 419 West Silver Spring Drive, Glendale, Wisconsin**

Client Approval

I, Charles Mathers, approve the scope and probable costs presented above.


Signature – Title


Date

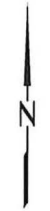
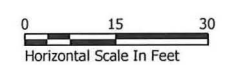
Enclosures

c: Charles Mathers, Whitefish Bay Cleaners

THE CONTRACTOR SHALL VERIFY THE RESOURCES, RECORDS, AND DATA FOR ALL SURVEYS. FOR THIS SCALE, THE DRAWINGS ARE APPROXIMATE. ALL DIMENSIONS SHALL BE REFERENCED TO STANTEC SURVEY POINTS. REPRODUCTION OR USE FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY STANTEC IS FORBIDDEN.

LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- DRY CLEANING MACHINES
- BOREHOLE LOCATION AND IDENTIFICATION (GILES ENGINEERING)
- BOREHOLE LOCATION AND IDENTIFICATION (STANTEC)
- GROUNDWATER MONITORING WELL LOCATION AND IDENTIFICATION (STANTEC) WITH GROUNDWATER ELEVATION
- BOREHOLE IN BASEMENT LOCATION AND IDENTIFICATION (STANTEC)
- PROPOSED GROUNDWATER MONITORING WELL LOCATION
- PROPOSED SUB-SLAB SOIL VAPOR MONITORING POINT
- GROUNDWATER ELEVATION CONTOUR (JUNE 22, 2026)
- GROUNDWATER FLOW DIRECTION



File Path: \\02702517_10\Users\jacob\work\193702517_Milwaukee_FIG 2.dwg
 Drawing name: C:\Users\jacob\work\193702517_Milwaukee_FIG 2.dwg
 Xref:

NO.	REVISION	DATE

SURVEY	EJM
DRAWN	EJM
DESIGNED	
CHECKED	
APPROVED	
PROJ. NO.	193702517
SHEET NUMBER	FIG 1

**Table 1: Soil Sample Field Screening and Volatile Organic Compound Laboratory Results
Whitefish Bay Cleaners, Glendale, Wisconsin**

Borehole Number	Sample					Relevant and Significant VOCs					
	Number	Date	Depth (feet below grade)	PID Response (iui)	Description	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Naphthalene	Tetrachloroethene (PCE)	Trichloroethene (TCE)	Vinyl Chloride
Non-Industrial WDNR Direct Contact RCL						156,000	1.56E+06	5,150	30,700	1,260	67
WDNR RCL for Groundwater Protection**						41.2	58.8	658.2	4.5	3.6	0.10
B1	S101	08/27/14	0-2.5	<1	sand	-	-	-	-	-	-
	S102		2.5-5	<1	sand	<7.1	<14	<28	<9.6	<11	<6.0
	S103		5-7.5	<1	sand	-	-	-	-	-	-
	S104		7.5-10	2.1	sand	-	-	-	-	-	-
	S105		10-12.5	2.3	sand	<6.5	<13	64 "J"	33 "J"	<9.9	<5.5
	S106		12.5-15	2.6	sand	-	-	-	-	-	-
	S107		15-17.5	2.2	sand	-	-	-	-	-	-
	S108		17.5-20	17.3	silty clay	-	-	-	-	-	-
B2	S201	08/27/14	0-2.5	1.8	sand	-	-	-	-	-	-
	S202		2.5-5	1.9	sand	<7.1	<14	<28	88	<11	<6.0
	S203		5-7.5	2.4	sand	-	-	-	-	-	-
	S204		7.5-10	2.1	sand	<7.4	<15	<30	220	<11	<6.3
	S205		10-12.5	1.5	sand	-	-	-	-	-	-
	S206		12.5-15	1.2	sand	-	-	-	-	-	-
	S207		15-17.5	-	silty clay	-	-	-	-	-	-
	S208		17.5-20	-	silty clay	-	-	-	-	-	-
B3	S301	08/27/14	0-2.5	14.4	sand	-	-	-	-	-	-
	S302		2.5-5	23.2	sand	<6.7	<14	<27	5000	<10	<5.6
	S303		5-7.5	28.9	sand	<7.2	<15	<29	2900	<11	<6.1
	S304		7.5-10	14.5	sand	-	-	-	-	-	-
	S305		10-12.5	9.2	silty clay	-	-	-	-	-	-
	S306		12.5-15	3.1	silty clay	-	-	-	-	-	-
	S307		15-17.5	2	silty clay	-	-	-	-	-	-
	S308		17.5-20	1.2	silty clay	-	-	-	-	-	-
B4	S401	08/27/14	0-2.5	8.0	sand	<7.3	<15	<29	160	<11	<6.2
	S402		2.5-5	6.5	sand	-	-	-	-	-	-
	S403		5-7.5	27.1	sand	-	-	-	-	-	-
	S404		7.5-10	20.7	sand	<7.2	<15	<29	4400	<11	<6.1
	S405		10-12.5	78.1	silty clay	<7.5	<15	<30	10000	<11	<6.3
	S406		12.5-15	68.2	silty clay	-	-	-	-	-	-
	S407		15-17.5	64.2	silty clay	-	-	-	-	-	-
	S408		17.5-20	50.3	silty clay	-	-	-	-	-	-
B5	S501	08/27/14	0-1.5	7.5	sand	<6.6	<13	<26	800	<10	<5.6
	S502		1.5-3	3.2	sand	<6.9	<14	<28	1300	<10	<5.8
	S503		3-4.5	2.0	silty clay	-	-	-	-	-	-
B6	S601	08/27/14	0-2	1.3	sand	<6.9	<14	<28	130	<10	<5.8
	S602		2-4	1.4	sand	-	-	-	-	-	-
	S603		4-6	1.5	sand	<7.9	<16	<32	110	<12	<6.7
	S604		6-8	<1	sand	-	-	-	-	-	-
	S605		8-10	<1	sand	-	-	-	-	-	-
	S606		10-12	4.9	silty clay	-	-	-	-	-	-
B7	S701	08/27/14	0-2	7.5	sand	<6.0	<12	<24	1400	<9.1	<5.1
	S702		2-4	3.0	sand	-	-	-	-	-	-
	S703		4-6	7.0	sand	-	-	-	-	-	-
	S704		6-8	14.2	sand	-	-	-	-	-	-
	S705		8-10	9.5	sand	-	-	-	-	-	-
	S706		10-12	19.9	sand	<6.8	<14	<27	4900	<10	<5.8

Notes: WDNR soil RCL Summary table (June 2014) used to establish RCLs for groundwater protection and direct contact.

- <x = compound not detected to a detection limit of x
- = not laboratory analyzed
- XXX = exceeds WDNR RCL for direct contact risk
- XXX = exceeds WDNR RCL for protection of groundwater

Table 2 Water Level Data, Whitefish Bay Cleaners, Glendale, WI

Well I.D.	Ground Surface Elevation (msl)	Reference Point Elevation (msl)	Top / Bottom Well Screen Elevation (fbg)	Date	Depth to Water (feet)		Water Table Elevation (feet)
					Below Reference Point	Below Grade	
MW1	103.87	103.68	10/20	09/02/14	11.12	11.31	92.56
				06/22/16	11.54	11.73	92.14
MW2	102.54	102.16	10/20	09/02/14	9.86	10.24	92.30
				06/22/16	10.19	10.57	91.97
MW3	103.19	102.77	10/20	09/02/14	10.43	10.85	92.34
				06/22/16	10.89	11.31	91.88
MW4	102.6	102.1	10/20	09/02/14	9.80	10.30	92.30
				06/22/16	10.27	10.77	91.83
TW1	103.96	103.83	7/12	09/02/14	11.29	11.42	92.54
				06/22/16	11.72	11.85	92.11

Table 3
Groundwater Monitoring Well Volatile Organic Compound Laboratory Results
Whitefish Bay Cleaners, Glendale, WI

Sample Location/ Label	Sample Date	Sampling Company	Laboratory Sample ID	Sample Type	Groundwater Elevation (feet)	Relavent and Significant Volatile Organic Compounds Concentrations (mircograms per liter)				
						Dichloroethene, cis-1,2-	Dichloroethene, trans-1,2-	Tetrachloroethene (PCE)	Trichloroethene (TCE)	Vinyl chloride
NR 140, Wis. Adm. Code PAL ^A					n/v	7	20	0.5	0.5	0.02
NR 140, Wis. Adm. Code ES ^B					n/v	70	100	5	5	0.2
MW1	09/02/14	STANTEC	500-83412-2	grab	92.56	<1.0	<1.0	150	3.3	<0.50
	06/22/16	STANTEC	500-113436-1	grab	92.14	<1.0	<1.0	43	<0.50	<0.50
MW2	09/02/14	STANTEC	500-83412-3	grab	92.30	<1.0	<1.0	2.5	<0.50	<0.50
	06/22/16	STANTEC	500-113436-2	grab	91.97	<1.0	<1.0	3.1	<0.50	<0.50
MW3	09/02/14	STANTEC	500-83412-4	grab	92.34	0.96 J	<1.0	29	5.7	<0.50
	06/22/16	STANTEC	500-113436-3	grab	91.88	11	<1.0	590	120	<0.50
	06/22/16	STANTEC	500-113436-6	Field Duplicate	-	10	<1.0	460	100	<0.50
MW4	09/02/14	STANTEC	500-83412-5	grab	92.30	12	<10	9000	20	<5.0
	06/22/16	STANTEC	500-113436-4	grab	91.83	<10	<10	3200	10	<5.0
TW1	09/02/14	STANTEC	500-83412-1	grab	92.54	<1.0	<1.0	440	1.7	<0.50
	06/22/16	STANTEC	500-113436-5	grab	92.11	1.2	<1.0	210	12	<0.50
TRIP BLANK	06/22/16	STANTEC	500-113436-7	Trip Blank	-	<1.0	<1.0	<1.0	<0.50	<0.50

Notes:

- NR140 Wisconsin Department of Natural Resources
- ^A Chapter NR 140, Wisconsin Administrative Code (NR 140, Wis. Adm. Code) preventative action limit (PAL) - Public Health
- ^B Chapter NR 140, Wisconsin Administrative Code (NR 140, Wis. Adm. Code) enforcement limit (ES)
- XXX** exceeds Chapter NR 140, Wisconsin Administrative Code (NR 140, Wis. Adm. Code) preventative action limit (PAL)
- XXX** exceeds NR 140, Wis. Adm. Code enforcement limit (ES)
- 15.2 Measured concentration did not exceed the indicated standard.
- <0.03 Analyte was not detected at a concentration greater than the laboratory reporting limit.
- n/v No standard/guideline value.
- Parameter not analyzed / not available.
- s6 Standard is applicable to the sum of 1,2,4 and 1,3,5-Trimethylbenzene.
- J The reported result is an estimated value.



