

From: Klauk, Robert H - DNR
Sent: Thursday, December 21, 2017 8:57 AM
To: Neste, David E - DNR
Subject: FW: Former Leo Tucker Auto Salvage Update, BRRTS #02-38-169979
Attachments: 2012.09.24 MW LOCATION.pdf; Figure 2 Soil Boring Locations.pdf; T4A-GWData-RCRAMetals.pdf; Table 3a - Laboratory Analytical Results RCRA Metals and PCBs.pdf; Table 3b - Laboratory Analytical Results VOCs.pdf; Table 3c - Laboratory Analytical Results PAHs.pdf; Table 1 - Soil Field Screening.pdf

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From: Brand, Jeff [mailto:Jeff.Brand@stantec.com]
Sent: Wednesday, December 20, 2017 4:09 PM
To: Klauk, Robert H - DNR <Robert.Klauk@wisconsin.gov>
Cc: Caine, Lynelle <Lynelle.Caine@stantec.com>
Subject: Former Leo Tucker Auto Salvage Update, BRRTS #02-38-169979

Stantec is providing a project status update for the Former Leo Tucker Auto Salvage (BRRTS# 02-38-169979), N6817 Left Foot Lake Road, Crivitz, Wisconsin (the Site). This email presents the results of the additional soil sampling at the Site to date.

On October 25, 2017 Stantec mobilized to the site to advance additional soil borings as requested by the WDNR in areas where solid waste had formerly been present. Upon arriving on-site, it appeared that the piles of tires and some of the solid waste had been removed, however, solid waste consisting of miscellaneous debris, empty automobile gas tanks, etc. still remained on-site. Stantec proceeded with advancing six additional soil borings in the former and existing pile locations and if necessary moved the solid waste aside to access soil beneath. Soil borings (SB23 – SB28) were advanced using a hand auger to a depth of 2 feet below grade (fbg). Soil samples were subsequently collected from each of the borings. Soil boring locations are illustrated on the attached Figure 2. Each two-foot soil sampling interval was divided into two aliquots; one used for field screening purposes and one used to supply materials for potential submittal to the laboratory for chemical analysis. The laboratory aliquot for each soil sample was immediately placed into laboratory provided containers, sealed and placed in a cooler with ice. The other portion of each sample was placed into plastic Ziploc® bags and used to field screen for the presence of VOCs using a photoionization detector (PID) equipped with an 11.7 electronvolt (eV) lamp. All non-disposable soil sampling equipment was washed with a detergent solution and double-rinsed with tap water before and after each soil sample was collected to prevent sample cross-contamination. The PID data for samples collected from each borehole are presented on Table 1. All soil borings were immediately abandoned upon completion of sampling.

Five soil samples exhibiting the highest PID were submitted for laboratory analysis for volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), resource conservation and recovery act (RCRA) metals, and polychlorinated biphenyls (PCBs). Laboratory analysis of the additional soil samples collected at the Site detected lead above the Wisconsin Department of Natural Resources (WDNR) residual contaminant level (RCL) for the protection of groundwater in sample S2601. No other compounds were detected in any of the samples above regulatory limits. The results of groundwater samples previously collected from all the monitoring wells at the Site, including MW2 located closest to SB26, contained no laboratory detectable concentrations of lead in the groundwater. These results indicate that lead impacted soil is not having

a significant adverse effect on groundwater quality. Please note that all of the monitoring wells have been abandoned previously. Soil analytical results can be found on the attached Tables 3a, 3b, and 3c. Groundwater sample results summarizing the lead concentrations are included in the attached Table 4a. Based on the results of the additional soil sampling at the Site, we believe that the Site is ready for closure and will begin preparing a closure request upon the client's consent.

Please contact myself or Lynelle at [920-655-7211](tel:920-655-7211) if you would have any questions. Thanks.

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Table 4a - Groundwater Sample Laboratory Results for RCRA Metals
Former Leo Tucker Property, Crivitz, Wisconsin

Well Number	Date Collected	RCRA Metals							
		Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
NR 140 PAL (µg/l)		1	400	0.5	10	1.5	0.2	10	10
NR 140 ES (µg/l)		10	2000	5	100	15	2	50	50
		Concentrations (micrograms per liter)							
MW-1	11/08/12	<4.7	14.7	0.39 J	<2.4	<1.4	<0.10	<5.8	<2.3
MW-2	11/08/12	<4.7	15.3	<0.39	<2.4	<1.4	<0.10	<5.8	<2.3
MW-3	11/08/12	<4.7	4.9 J	<0.39	<2.4	<1.4	<0.10	<5.8	<2.3
MW-4	11/08/12	<4.7	10.2	<0.39	<2.4	<1.4	<0.10	<5.8	<2.3
FD3 (MW-4)	11/08/12	<4.7	9.9	<0.39	<2.4	<1.4	<0.10	<5.8	<2.3
EB1	11/08/12	<4.7	<1.2	<0.39	<2.4	<1.4	<0.10	<5.8	<2.3

Note: All groundwater samples analyzed for metals were field filtered prior to preservation and analysis.

X = Concentration detected above NR 140 PAL

X = Concentration detected above NR 140 ES

<x = Analyte not detected above method detection limit

"J" = Analyte detected between Limit of Detection and Limit of Quantitation

EB = Equipment Blank

FD = Field Duplicate

NE = Not Established

NR 140 ES = Chapter NR 140 Wisc. Adm. Code Enforcement Standard

NR 140 PAL = Chapter NR 140 Wisc. Adm. Code Preventive Action Limit

RCRA = Resource Conservation and Recovery Act

µg/l = Micrograms per liter

Table 3c Soil Sample Laboratory Results for PAHs, Former Leo Tucker Property, Crivitz, Wisconsin

Boring Number	Sample Number	Depth (fbg)	Estimated Depth to Ground-water (fbg)	Date Collected	Acenaphthalene	Acenaphthylene	Anthracene	Benzo(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(g,h,i) perylene	Benzo(k) fluoranthene	Chrysene	Dibenzo(a,h) anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methyl naphthalene	2-Methyl naphthalene	Naphthalene	Phenanthrene	Pyrene
WDNR RCL for Protection from Direct Contact Risk (Non-Industrial) (non-industrial)					3,590,000	NE	17,900,000	1,140	115	1,150	NE	11,500	115,000	115	2,390,000	2,390,000	1,150	17,600	239,000	5,520	NE	1,790,000
WDNR RCL for Protection of Groundwater					NE	NE	196,949	NE	470	479.3	NE	NE	144.6	NE	88,877.8	14,829.9	NE	NE	NE	658.2	NE	54,545.5
Concentrations (micrograms per kilogram)																						
B1	3_SB1(0-2)	0-2	7-10	09/19/12	<8.7	<8.7	<1.8	<8.7	<8.7	<2.5	<8.7	<8.7	<2.0	<8.7	<8.7	<8.7	<8.7	<7.9	<1.6	<3.3	<2.2	<8.7
B2	3_SB2(0-2)	0-2	7-10	09/19/12	<8.5	<8.5	<1.7	<8.5	<8.5	<2.4	<8.5	<8.5	<1.9	<8.5	<8.5	<8.5	<8.5	<7.7	<1.6	<3.2	<2.2	<8.5
B3	3_SB3(0-2)	0-2	7-10	09/19/12	<8.8	<8.8	<1.8	<8.8	<8.8	<2.5	<8.8	<8.8	<2.0	<8.8	<8.8	<8.8	<8.8	<8.0	<1.6	<3.3	<2.2	<8.8
B4	3_SB4(0-2)	0-2	7-10	09/19/12	<9.2	<9.2	<1.9	<9.2	<9.2	<2.7	<9.2	<9.2	<2.1	<9.2	<9.2	<9.2	<9.2	<8.4	<1.7	<3.5	<2.3	<9.2
B5	3_SB5(0-2)	0-2	7-10	09/19/12	<8.8	<8.8	<1.8	<8.8	<8.8	<2.5	<8.8	<8.8	<2.0	<8.8	<8.8	<8.8	<8.8	<8.0	1.8 J	<3.3	<2.2	<8.8
B6	3_SB6(0-2)	0-2	7-10	09/19/12	<8.9	<8.9	<1.8	<8.9	<8.9	<2.6	<8.9	<8.9	<2.0	<8.9	<8.9	<8.9	<8.9	<8.1	<1.7	<3.3	<2.3	<8.9
B7	3_SB7(0-2)	0-2	7-10	09/19/12	<8.6	<8.6	<1.8	<8.6	<8.6	<2.5	<8.6	<8.6	<2.0	<8.6	<8.6	<8.6	<8.6	<7.9	<1.6	<3.3	<2.2	<8.6
B8	3_SB8(0-2)	0-2	7-10	09/19/12	<8.7	<8.7	<1.8	<8.7	<8.7	<2.5	<8.7	<8.7	<2.0	<8.7	<8.7	<8.7	<8.7	<8.0	<1.6	<3.3	<2.2	<8.7
B9	3_SB9(0-2)	0-2	7-10	09/19/12	<8.5	<8.5	<1.7	<8.5	<8.5	<2.5	<8.5	<8.5	<1.9	<8.5	<8.5	<8.5	<8.5	<7.8	<1.6	<3.2	<2.2	<8.5
B10	3_SB10(0-2)	0-2	7-10	09/19/12	<8.8	<8.8	<1.8	<8.8	<8.8	<2.5	<8.8	<8.8	<2.0	<8.8	<8.8	<8.8	<8.8	<8.0	<1.6	<3.3	<2.2	<8.8
B11	3_SB11(0-2)	0-2	7-10	09/19/12	<9.0	<9.0	<1.9	<9.0	<9.0	<2.6	<9.0	<9.0	<2.1	<9.0	<9.0	<9.0	<9.0	<8.2	<1.7	<3.4	<2.3	<9.0
B12	3_SB12(0-2)	0-2	7-10	09/19/12	<8.6	<8.6	<1.8	<8.6	<8.6	<2.5	<8.6	<8.6	<1.9	<8.6	<8.6	<8.6	<8.6	<7.8	<1.6	<3.2	<2.2	<8.6
B13	3_SB13(0-2)	0-2	7-10	09/19/12	<8.6	<8.6	<1.8	<8.6	<8.6	<2.5	<8.6	<8.6	<2.0	<8.6	<8.6	<8.6	<8.6	<7.8	<1.6	<3.2	<2.2	<8.6
B14	3_SB14(0-2)	0-2	7-10	09/19/12	<9.0	<9.0	<1.8	<9.0	<9.0	<2.6	<9.0	<9.0	<2.1	<9.0	<9.0	<9.0	<9.0	<8.2	<1.7	<3.4	<2.3	<9.0
B15	3_SB15(0-2)	0-2	7-10	09/19/12	<8.7	<8.7	<1.8	<8.7	<8.7	<2.5	<8.7	<8.7	<2.0	<8.7	<8.7	<8.7	<8.7	<7.9	<1.6	<3.3	<2.2	<8.7
B16	3_SB16(0-2)	0-2	7-10	09/19/12	<8.6	<8.6	<1.8	<8.6	<8.6	<2.5	<8.6	<8.6	<2.0	<8.6	<8.6	<8.6	<8.6	<7.8	<1.6	<3.2	<2.2	<8.6
B17	3_SB17(0-2)	0-2	7-10	09/19/12	<8.5	<8.5	<1.8	<8.5	<8.5	<2.5	<8.5	<8.5	<1.9	<8.5	<8.5	<8.5	<8.5	<7.8	<1.6	<3.2	<2.2	<8.5
B18	3_SB18(0-2)	0-2	7-10	09/19/12	<8.7	<8.7	<1.8	<8.7	<8.7	<2.5	<8.7	<8.7	<2.0	<8.7	<8.7	<8.7	<8.7	<7.9	<1.6	<3.3	<2.2	<8.7
B19	3_SB19(0-2)	0-2	7-10	09/19/12	<8.5	<8.5	<1.7	<8.5	<8.5	<2.5	<8.5	<8.5	<1.9	<8.5	<8.5	<8.5	<8.5	<7.8	<1.6	<3.2	<2.2	<8.5
B20	3_SB20(0-2)	0-2	7-10	09/19/12	<8.7	<8.7	<1.8	<8.7	<8.7	<2.5	<8.7	<8.7	2.3 J	<8.7	<8.7	<8.7	<8.7	<7.9	<1.6	5.5 J	<2.2	<8.7
B21	3_SB21(0-2)	0-2	7-10	09/19/12	<8.7	<8.7	<1.8	<8.7	<8.7	<2.5	<8.7	<8.7	<2.0	<8.7	<8.7	<8.7	<8.7	<7.9	<1.6	<3.3	<2.2	<8.7
B22	3_SB22(0-2)	0-2	7-10	09/19/12	<8.5	<8.5	<1.7	<8.5	<8.5	<2.5	<8.5	<8.5	<1.9	<8.5	<8.5	<8.5	<8.5	<7.8	<1.6	<3.2	<2.2	<8.5
B23	S2301	0-2	7-10	10/25/17	<5.9	<4.3	<5.5	<4.4	26 J	<7.0	29 J	<9.6	<8.9	<6.3	<6.1	<4.6	<8.5	<8.0	<6.0	<5.0	<4.6	<6.5
B24	S2401	0-2	7-10	10/25/17	<6.0	<4.4	<5.6	<4.5	<6.5	<7.2	<11	<9.9	<9.1	<6.5	<6.2	<4.7	<8.7	<8.2	<6.2	<5.2	<4.7	<6.7
B26	S2601	0-2	7-10	10/25/17	<6.0	<4.4	<5.6	<4.5	<6.5	<7.2	<11	<9.9	<9.1	<6.5	<6.2	<4.7	<8.7	<8.2	<6.2	<5.1	<4.7	<6.6
B27	S2701	0-2	7-10	10/25/17	<5.8	<4.3	<5.4	<4.4	<6.3	<7.0	<10	<9.6	<8.9	<6.3	<6.0	<4.6	<8.4	<7.9	<6.0	<5.0	<4.5	<6.5
B28	S2801	0-2	7-10	10/25/17	<6.1	<4.5	<5.7	<4.6	<6.6	<7.4	<11	<10	<9.3	<6.6	<6.3	<4.8	<8.8	<8.3	<6.3	<5.2	<4.8	<6.8

Key:

- <x = compound not detected to a detection limit of x
- = not laboratory analyzed
- XXX = exceeds WDNR Non-Industrial RCL for direct contact risk
- XXX = exceeds WDNR Non-Industrial RCL for direct contact risk
- XXX = exceeds WDNR RCL for protection of groundwater and/or BTV
- NE = not established by WAC (Wis. Adm. Code) or WDNR Soil RCL Summary Table
- * = The WDNR has determined state-wide soil BTVs (February 2013).
Therefore, reported values less than BTVs are not considered a direct contact or groundwater pathway concern with
- ** = sample collected below the observed low water table
- "J" = analyte detected between the limit of detection and limit of quantification
- iu = instrument units as isobutylene
- PID = photoionization detector
- RCL = residual contaminant level

Notes: WDNR soil RCL Summary table (March 2017) used to establish RCLs for groundwater protection and direct contact.

Table 3b Soil Sample Laboratory Results for VOCs, Former Leo Tucker Property, Crivitz, Wisconsin

Boring Number	Sample Number	Depth (fbg)	Estimated Depth to Groundwater (fbg)	Date Collected	Volatile Organic Compounds																					
					Benzene	tert-Butylbenzene	sec-Butylbenzene	n-Butylbenzene	Chloromethane	1,1-Dichloroethane	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	p-Isopropyltoluene	Naphthalene	n-Propylbenzene	Tetrachloroethene (PCE)	Trichlorofluoromethane	Toluene	1,1,1-Trichloroethane (1,1,1-TCA)	Trichloroethene (TCE)	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Vinyl Chloride	Total Xylenes
WDNR RCL for Protection from Direct Contact Risk (Non-Industrial) (non-industrial)					1,600	183,000	145,000	108,000	159,000	5,060	156,000	1,560,000	8,020	NE	162,000	5,520	NE	33,000	1,230,000	818,000	640,000	1,300	219,000	182,000	67	260,000
WDNR RCL for Protection of Groundwater					5.1	NE	NE	NE	15.5	483.4	41.2	62.6	1,570	NE	NE	658.2	NE	4.5	NE	1,107.2	140.2	3.6	1,382.1 total	0.10	3,940	
					Concentrations (micrograms per kilogram)																					
B1	3_SB1(2-4)	2-4	7-10	09/19/12	<25	<25	<25	<40.4	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<75	
B2	3_SB2(0-2)	0-2	7-10	09/19/12	<25	<25	<25	<40.4	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<75	
B3	3_SB3(0-2)	0-2	7-10	09/19/12	<25	<25	<25	<40.4	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<75	
B4	3_SB4(0-2)	0-2	7-10	09/19/12	<25	<25	<25	<40.4	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<75	
B5	3_SB5(2-4)	2-4	7-10	09/19/12	<25	<25	<25	<40.4	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<75	
B6	3_SB6(0-2)	0-2	7-10	09/19/12	<25	<25	<25	<40.4	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<75	
B7	3_SB7(0-2)	0-2	7-10	09/19/12	<25	<25	<25	<40.4	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<75	
B8	3_SB8(0-2)	0-2	7-10	09/19/12	<25	<25	<25	<40.4	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<75	
B9	3_SB9(4-6)	4-6	7-10	09/19/12	<25	<25	<25	<40.4	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<75	
B10	3_SB10(0-2)	0-2	7-10	09/19/12	<25	<25	<25	<40.4	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<75	
B11	3_SB11(2-4)	2-4	7-10	09/19/12	<25	<25	<25	<40.4	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<75	
B12	3_SB12(2-4)	2-4	7-10	09/19/12	<25	<25	<25	<40.4	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<75	
B13	3_SB13(0-2)	0-2	7-10	09/19/12	<25	<25	<25	<40.4	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<75	
B14	3_SB14(0-2)	0-2	7-10	09/19/12	<25	<25	<25	<40.4	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<75	
B15	3_SB15(0-2)	0-2	7-10	09/19/12	<25	<25	<25	<40.4	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<75	
B16	3_SB16(0-2)	0-2	7-10	09/19/12	<25	<25	<25	<40.4	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<75	
B17	3_SB17(2-4)	2-4	7-10	09/19/12	<25	<25	<25	<40.4	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<75	
B18	3_SB18(2-4)	2-4	7-10	09/19/12	<25	<25	<25	<40.4	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<75	
B19	3_SB19(0-2)	0-2	7-10	09/19/12	<25	<25	<25	<40.4	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<75	
B20	3_SB20(0-2)	0-2	7-10	09/19/12	<25	<25	<25	<40.4	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<75	
B21	3_SB21(0-2)	0-2	7-10	09/19/12	<25	<25	<25	<40.4	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<75	
B22	3_SB22(0-2)	0-2	7-10	09/19/12	<25	<25	<25	<40.4	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<75	
TB1	TB1	---	7-10	09/19/12	<25	<25	<25	<40.4	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<75	
FD1	FD1	---	7-10	09/19/12	<25	<25	<25	<40.4	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<75	
B23	S2301	0-2	7-10	10/25/17	<7.4	<20	<20	<20	<26	<21	<21	<18	<9.3	<19	<18	<17	<21	<19	<22	<7.5	<19	<8.3	<18	<19	<13	<11
B24	S2401	0-2	7-10	10/25/17	<7.7	<21	<21	<21	<17	<22	<22	<19	<9.7	<20	<19	<18	<22	<20	<23	<7.8	<20	<8.7	<19	<20	<14	<12
B26	S2601	0-2	7-10	10/25/17	<7.8	<21	<21	<21	<17	<22	<22	<19	<9.8	<20	<19	<18	<22	<20	<23	<7.8	<20	<8.8	<19	<20	<14	<12
B27	S2701	0-2	7-10	10/25/17	<8.1	<22	<22	<21	<18	<23	<23	<19	<10	<21	<20	<18	<23	<20	<24	<8.1	<21	<9.1	<20	<21	<14	<12
B28	S2801	0-2	7-10	10/25/17	<8.1	<22	<22	<21	<18	<23	<23	<19	<10	<21	<20	<18	<23	<20	<24	<8.1	<21	<9.1	<20	<21	<15	<12

Key:

WDNR soil RCL Summary table (March 2017) used to establish RCLs for groundwater protection and direct contact.

- <x = compound not detected to a detection limit of x
- = not analyzed
- XXX = exceeds WDNR RCL for direct contact risk (Non-Industrial)
- XXX = exceeds WDNR RCL for protection of groundwater
- µg/kg = micrograms per kilogram
- NE = not established by Wisconsin Administrative Code (Wis. Adm. Code) or WDNR Soil RCL Summary Table
- * = laboratory report states that detected methylene chloride is suspected laboratory contaminant therefore RCLs do not apply for methylene chloride
- ** = sample collected below the observed low water table
- "J" = analyte detected between limit of detection and limit of quantification
- iu = Instruments Units of Isobutylene
- RCL = residual contaminant level

Table 3a Soil Sample Laboratory Results for RCRA Metals and PCBs, Former Leo Tucker Property, Crivitz, Wisconsin

Boring Number	Sample Number	Depth (fbg)	Soil Description	Estimated Depth to Groundwater (fbg)	Date Collected	RCRA Metals (mg/kg)								Polychlorinated Biphenyls (PCBs) (mg/kg)							
						Arsenic (total)	Barium (total)	Cadmium (total)	Chromium (total) ++	Lead (total)	Mercury (total)	Selenium (total)	Silver (total)	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Total PCBs
WDNR RCL for Protection from Direct Contact Risk (Non-Industrial)						8* [0.613]	15,300	70	NE	400	3.13	391	391	3.93	0.19	0.17	0.21	0.21	0.213	0.216	0.208
WDNR RCL for Protection of Groundwater						8* [0.584]	364* [164.8]	1* [0.752]	360,000	52* [27]	0.208	0.52	0.85	NE	NE	NE	NE	NE	NE	NE	0.0094
Background Threshold (BVT)						8	364	1	44	52	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Concentrations (milligrams per kilogram)																					
B1	3_SB1(0-2)	0-2	Sand	7-10	09/19/12	1.4 J	23.3	<0.028	9.4	3.5	0.013	<0.44	<0.20	---	---	---	---	---	---	---	
B2	3_SB2(0-2)	0-2	Sand	7-10	09/19/12	1.7 J	21.8	<0.030	8.6	3.1	0.0045 J	<0.47	<0.21	---	---	---	---	---	---	---	
B3	3_SB3(0-2)	0-2	Sand	7-10	09/19/12	1.3 J	11.8	<0.033	8.6	1.3	0.0072	<0.51	<0.23	---	---	---	---	---	---	---	
B4	3_SB4(0-2)	0-2	Sand	7-10	09/19/12	1.4 J	11.4	<0.032	7.1	2.0	0.0080	<0.50	<0.23	---	---	---	---	---	---	---	
B5	3_SB5(0-2)	0-2	Sand	7-10	09/19/12	1.7 J	16.0	<0.032	10.1	1.5	0.0073	<0.50	<0.23	<0.0248	<0.0248	<0.0248	<0.0248	<0.0248	<0.0248	<0.0248	
B6	3_SB6(0-2)	0-2	Sand	7-10	09/19/12	1.5 J	18.0	<0.030	9.1	2.3	0.0071	<0.47	<0.21	---	---	---	---	---	---	---	
B7	3_SB7(0-2)	0-2	Sand	7-10	09/19/12	1.1 J	26.8	<0.032	8.6	2.6	0.0096	<0.49	<0.22	---	---	---	---	---	---	---	
B8	3_SB8(0-2)	0-2	Sand	7-10	09/19/12	1.8	27.5	0.16 J	9.3	9.0	0.0080	<0.44	<0.20	---	---	---	---	---	---	---	
B9	3_SB9(0-2)	0-2	Sand	7-10	09/19/12	1.0 J	14.5	<0.028	7.1	1.2	0.0064 J	<0.44	<0.20	<0.0241	<0.0241	<0.0241	<0.0241	<0.0241	<0.0241	<0.0241	
B10	3_SB10(0-2)	0-2	Sand	7-10	09/19/12	1.5 J	15.1	<0.029	7.1	9.2	0.0096	<0.45	<0.20	---	---	---	---	---	---	---	
B11	3_S11(0-2)	0-2	Sand	7-10	09/19/12	1.6 J	19.9	<0.029	9.3	2.4	0.0087	<0.45	<0.20	---	---	---	---	---	---	---	
B12	3_SB12(0-2)	0-2	Sand	7-10	09/19/12	1.0 J	4.3	<0.031	6.0	0.90 J	0.0076	<0.47	<0.22	<0.0243	<0.0243	<0.0243	<0.0243	<0.0243	<0.0243	<0.0243	
B13	3_SB13(0-2)	0-2	Sand	7-10	09/19/12	1.7 J	14.4	0.043 J	9.2	3.0	0.0071	<0.47	<0.21	---	---	---	---	---	---	---	
B14	3_SB14(0-2)	0-2	Sand	7-10	09/19/12	1.8 J	23.8	0.061 J	10.5	24.6	0.013	<0.50	<0.23	---	---	---	---	---	---	---	
B15	3_SB15(0-2)	0-2	Sand	7-10	09/19/12	1.2 J	31.0	<0.030	7.4	3.0	0.0097	<0.47	<0.21	---	---	---	---	---	---	---	
B16	3_SB16(0-2)	0-2	Sand	7-10	09/19/12	1.9 J	26.4	<0.030	10.9	3.0	0.0080	<0.47	<0.21	<0.0244	<0.0244	<0.0244	<0.0244	<0.0244	<0.0244	<0.0244	
B17	3_SB17(0-2)	0-2	Sand	7-10	09/19/12	0.98 J	28.5	<0.030	7.9	2.7	0.0092	<0.47	<0.21	---	---	---	---	---	---	---	
B18	3_SB18(0-2)	0-2	Sand	7-10	09/19/12	1.1 J	18.6	<0.029	7.9	2.1	0.010	<0.45	<0.20	<0.0246	<0.0246	<0.0246	<0.0246	<0.0246	<0.0246	<0.0246	
B19	3_SB19(0-2)	0-2	Sand	7-10	09/19/12	1.8 J	27.8	<0.030	10.8	2.8	0.0035 J	<0.47	<0.21	---	---	---	---	---	---	---	
B20	3_SB20(0-2)	0-2	Sand	7-10	09/19/12	1.3 J	23.1	<0.027	8.3	2.1	0.0085	<0.43	<0.19	---	---	---	---	---	---	---	
B21	3_SB21(0-2)	0-2	Sand	7-10	09/19/12	1.4 J	18.5	<0.031	9.8	1.8	0.0065	<0.48	<0.22	<0.0246	<0.0246	<0.0246	<0.0246	<0.0246	<0.0246	<0.0246	
B22	3_SB22(0-2)	0-2	Sand	7-10	09/19/12	1.1 J	11.2	<0.031	8.9	1.5	0.0095	<0.48	<0.22	---	---	---	---	---	---	---	
B23	S2301	0-2	Sand	7-10	10/25/17	1.1	11	0.098 J	6.9	3.2	0.0068 J	<0.51	<0.11	<0.0061	<0.0076	<0.0075	<0.0057	<0.0068	<0.0037	<0.0085	<0.0459
B24	S2401	0-2	Sand	7-10	10/25/17	0.60 J	9.5	0.075 J	5.9	0.87	0.0056 J	<0.60	<0.13	<0.0058	<0.0072	<0.0071	<0.0054	<0.0065	<0.0035	<0.0081	<0.0436
B26	S2601	0-2	Sand	7-10	10/25/17	1.1	19	0.13 J	8.7	130	<0.0056	<0.59	<0.13	<0.0059	<0.0074	<0.0073	<0.0055	<0.0066	<0.0036	<0.0082	<0.0445
B27	S2701	0-2	Sand	7-10	10/25/17	0.80 J	11	0.086 J	9.4	1.4	0.0074 J	<0.56	<0.12	<0.0059	<0.0073	<0.0072	<0.0055	<0.0066	<0.0036	<0.0082	<0.0443
B28	S2801	0-2	Sand	7-10	10/25/17	0.87 J	21	0.10 J	8.1	1.8	0.0099 J	<0.60	<0.13	<0.0061	<0.0076	<0.0076	<0.0057	<0.0068	<0.0037	<0.0085	<0.0460

Key:

- <x = compound not detected to a detection limit of x
- = not laboratory analyzed
- XX* [XXX] = standard in bold are background threshold values (BTVs) being utilized for the purpose of evaluation under ch. NR700 WAC. The established WAC RCL is noted in brackets.
- XXX = exceeds WDNR Non-Industrial RCL for direct contact risk
- XXX = exceeds WDNR Industrial RCL for direct contact risk
- XXX = exceeds WDNR RCL for protection of groundwater and/or BTV
- NE = not established by WAC (Wis. Adm. Code) or WDNR Soil RCL Summary Table
- * = The WDNR has determined state-wide soil BTVs (February 2013). Therefore, reported values less than BTVs are not considered a direct contact or groundwater pathway concern with respect to site releases requiring further remediation action. However, the detection could represent a personal health risk if detected above health based standards.
- ** = sample collected below the observed low water table

- "J" = analyte detected between the limit of detection and limit of quantification
- iui = instrument units as isobutylene
- PID = photoionization detector
- RCL = residual contaminant level
- NE = not established by Wisconsin Administrative Code (Wis. Adm. Code)
- RCRA = Resource Conservation and Recovery Act
- fbg = feet below grade

Notes: WDNR soil RCL Summary table (March 2017) used to establish RCLs for groundwater protection and direct contact. For the purpose of this evaluation under ch. NR 700, background threshold values are being considered as representative of background conditions. However, constituent concentrations less than background threshold values may represent a potential health risk if concentrations are greater than health-based standards.

Table 1 - Soil Sample Field Screening Results, Former Leo Tucker Property, Crivitz, Wisconsin

Boring Number	Sample Number	Sample Depth (feet)	Sample Odor	Sample Description	Date Collected	PID Headspace Analysis		
						Time Collected	Time Analyzed	PID Response (IUI)
3_SB1	3_SB1(0-2)*	0-2	None	Topsoil/Sand	9/19/2012	927	945	1.2
	3_SB1(2-4)*	2-4	None	Sand	9/19/2012	927	945	1.6
	3_SB1(4-6)	4-6	None	Sand	9/19/2012	929	946	1.1
	3_SB1(6-8)	6-8	None	Sand	9/19/2012	929	946	1.8
	3_SB1(8-10)	8-10	None	Sand	9/19/2012	932	950	1.4
	3_SB1(10-12)	10-12	None	Sand	9/19/2012	932	950	1.3
3_SB2	3_SB2(0-2)*	0-2	None	Topsoil/Sand	9/19/2012	947	1000	11.2
	3_SB2(2-4)	2-4	None	Sand	9/19/2012	947	1000	2.8
	3_SB2(4-6)	4-6	None	Sand	9/19/2012	949	1003	1.5
	3_SB2(6-8)	6-8	None	Sand	9/19/2012	949	1003	1.6
	3_SB2(8-10)	8-10	None	Sand	9/19/2012	950	1008	8.6
	3_SB2(10-12)	10-12	None	Sand	9/19/2012	950	1008	1.6
	3_SB2(12-14)	12-14	None	Sand	9/19/2012	954	1013	2
	3_SB2(14-16)	14-16	None	Sand	9/19/2012	954	1013	1.3
3_SB3	3_SB3(0-2)*	0-2	None	Sand	9/19/2012	1010	1030	3.1
	3_SB3(2-4)	2-4	None	Sand	9/19/2012	1010	1030	2.6
	3_SB3(4-6)	4-6	None	Sand	9/19/2012	1013	1031	3.1
	3_SB3(6-8)	6-8	None	Sand	9/19/2012	1013	1031	2.6
3_SB4	3_SB4(0-2)*	0-2	None	Sand	9/19/2012	1036	1053	3.2
	3_SB4(2-4)	2-4	None	Sand	9/19/2012	1036	1053	2.7
3_SB5	3_SB5(0-2)*	0-2	None	Silty Sand	9/19/2012	1102	1118	1.5
	3_SB5(2-4)*	2-4	None	Sand	9/19/2012	1102	1118	1.7
	3_SB5(4-6)	4-6	None	Sand	9/19/2012	1104	1120	1.5
	3_SB5(6-8)	6-8	None	Sand	9/19/2012	1104	1120	1.3
	3_SB5(8-10)	8-10	None	Sand	9/19/2012	1106	1122	2
	3_SB5(10-12)	10-12	None	Sand	9/19/2012	1106	1122	1
3_SB6	3_SB6(0-2)*	0-2	None	Silty Sand	9/19/2012	1045	1100	2.8
	3_SB6(2-4)	2-4	None	Sand	9/19/2012	1045	1100	2.6
3_SB7	3_SB7(0-2)*	0-2	None	Topsoil/Sand	9/19/2012	1122	1138	1.6
	3_SB7(2-4)	2-4	None	Sand	9/19/2012	1122	1138	1.2
	3_SB7(4-6)	4-6	None	Sand	9/19/2012	1125	1140	0.7
	3_SB7(6-8)	6-8	None	Sand	9/19/2012	1125	1140	0.4
	3_SB7(8-10)	8-10	None	Sand	9/19/2012	1127	1143	4.7
	3_SB7(10-12)	10-12	None	Sand	9/19/2012	1127	1143	0.6
3_SB8	3_SB8(0-2)*	0-2	None	Topsoil/Sand	9/19/2012	1146	1203	1.4
	3_SB8(2-4)	2-4	None	Sand	9/19/2012	1146	1203	0.9
3_SB9	3_SB9(0-2)*	0-2	None	Silty Sand	9/19/2012	1227	1245	1.6
	3_SB9(2-4)	2-4	None	Sand	9/19/2012	1227	1245	1.8
	3_SB9(4-6)*	4-6	None	Sand	9/19/2012	1229	1246	2.3
	3_SB9(6-8)	6-8	None	Sand	9/19/2012	1229	1246	0.7
	3_SB9(8-10)	8-10	None	Sand	9/19/2012	1231	1248	1.6
	3_SB9(10-12)	10-12	None	Sand	9/19/2012	1231	1248	0.6
3_SB10	3_SB10(0-2)*	0-2	None	Sand	9/19/2012	1244	1303	1.3
	3_SB10(2-4)	2-4	None	Sand	9/19/2012	1244	1303	0.8
	3_SB10(4-6)	4-6	None	Sand	9/19/2012	1245	1305	1.1
	3_SB10(6-8)	6-8	None	Sand	9/19/2012	1245	1305	1
	3_SB10(8-10)	8-10	None	Sand	9/19/2012	1247	1308	1
	3_SB10(10-12)	10-12	None	Sand	9/19/2012	1247	1308	0.8
	3_SB10(12-14)	12-14	None	Sand	9/19/2012	1250	1310	1.3
	3_SB10(14-16)	14-16	None	Sand	9/19/2012	1250	1310	0.4

Table 2 - Soil Sample Field Screening Results, Former Leo Tucker Property, Crivitz, Wisconsin

Boring Number	Sample Number	Sample Depth (feet)	Sample Odor	Sample Description	Date Collected	PID Headspace Analysis		
						Time Collected	Time Analyzed	PID Response (IUI)
3_SB11	3_SB11(0-2)*	0-2	None	Silty Sand	9/19/2012	1210	1227	0.6
	3_SB11(2-4)*	2-4	None	Sand	9/19/2012	1210	1227	0.8
3_SB12	3_SB12(0-2)*	0-2	None	Sand	9/19/2012	1333	1350	2.5
	3_SB12(2-4)*	2-4	None	Sand	9/19/2012	1333	1350	2.7
	3_SB12(4-6)	4-6	None	Sand	9/19/2012	1335	1353	1.9
	3_SB12(6-8)	6-8	None	Sand	9/19/2012	1335	1353	1.6
	3_SB12(8-10)	8-10	None	Sand	9/19/2012	1340	1355	2.1
	3_SB12(10-12)	10-12	None	Sand	9/19/2012	1340	1355	1
3_SB13	3_SB13(0-2)*	0-2	None	Topsoil/Sand	9/19/2012	1312	1330	1.7
	3_SB13(2-4)	2-4	None	Sand	9/19/2012	1312	1330	1.2
3_SB14	3_SB14(0-2)*	0-2	None	Topsoil/Sand	9/19/2012	1358	1414	1.8
	3_SB14(2-4)	2-4	None	Sand	9/19/2012	1358	1414	1.7
3_SB15	3_SB15(0-2)*	0-2	None	Topsoil/Sand	9/19/2012	1443	1500	2.6
	3_SB15(2-4)	2-4	None	Sand	9/19/2012	1443	1500	2.1
3_SB16	3_SB16(0-2)*	0-2	None	Topsoil/Sand	9/19/2012	1405	1420	3.3
	3_SB16(2-4)	2-4	None	Sand	9/19/2012	1405	1420	2.4
	3_SB16(4-6)	4-6	None	Sand	9/19/2012	1410	1425	3.2
	3_SB16(6-8)	6-8	None	Sand	9/19/2012	1410	1425	1.3
	3_SB16(8-10)	8-10	None	Sand	9/19/2012	1412	1428	3.3
	3_SB16(10-12)	10-12	---	No Recovery	9/19/2012	---	---	---
	3_SB16(12-14)	12-14	None	Sand	9/19/2012	1415	1430	1.5
3_SB17	3_SB17(0-2)*	0-2	None	Sand	9/19/2012	1452	1512	2
	3_SB17(2-4)*	2-4	None	Sand	9/19/2012	1452	1512	2.2
3_SB18	3_SB18(0-2)*	0-2	None	Sand	9/19/2012	1511	1522	1.5
	3_SB18(2-4)*	2-4	None	Sand	9/19/2012	1511	1522	1.8
3_SB19	3_SB19(0-2)*	0-2	None	Sand	9/19/2012	1530	1546	13
	3_SB19(2-4)	2-4	None	Sand	9/19/2012	1530	1546	1.5
3_SB20	3_SB20(0-2)*	0-2	None	Sand	9/19/2012	1539	1556	3.6
	3_SB20(2-4)	2-4	None	Sand	9/19/2012	1539	1556	2
	3_SB20(4-6)	4-6	None	Sand	9/19/2012	1540	1557	1.5
	3_SB20(6-8)	6-8	None	Sand	9/19/2012	1540	1557	2.1
	3_SB20(8-10)	8-10	None	Sand	9/19/2012	1542	1559	1
	3_SB20(10-12)	10-12	None	Sand	9/19/2012	1542	1559	1.1
	3_SB20(12-14)	12-14	None	Sand	9/19/2012	1545	1601	1.7
3_SB21	3_SB21(0-2)*	0-2	None	Sand	9/19/2012	1605	1621	2.2
	3_SB21(2-4)	2-4	None	Sand	9/19/2012	1605	1621	2.1
3_SB22	3_SB22(0-2)*	0-2	None	Sand	9/19/2012	1555	1611	8.8
	3_SB22(2-4)	2-4	None	Sand	9/19/2012	1555	1611	1.6
B23	S2301	0-2	None	Sand	10/25/2017	1021	1036	0.7
B24	S2401	0-2	None	Sand	10/25/2017	1035	1050	0.7
B25	S2501	0-2	None	Sand	10/25/2017	1100	1115	0.3
B26	S2601	0-2	None	Sand	10/25/2017	1130	1145	1.6
B27	S2701	0-2	None	Sand	10/25/2017	1200	1215	2.1
B28	S2801	0-2	None	Sand	10/25/2017	1225	1240	2.9




Note: PID = Photoionization Detector
iui = Instruments units as isobutylene
* = Submitted for laboratory analysis
--- = Not Analyzed or Unknown



SCALE IN FEET



LEGEND

-  APPROXIMATE PROPERTY LINE
-  MONITORING WELL LOCATION
-  PRIVATE WELL LOCATION



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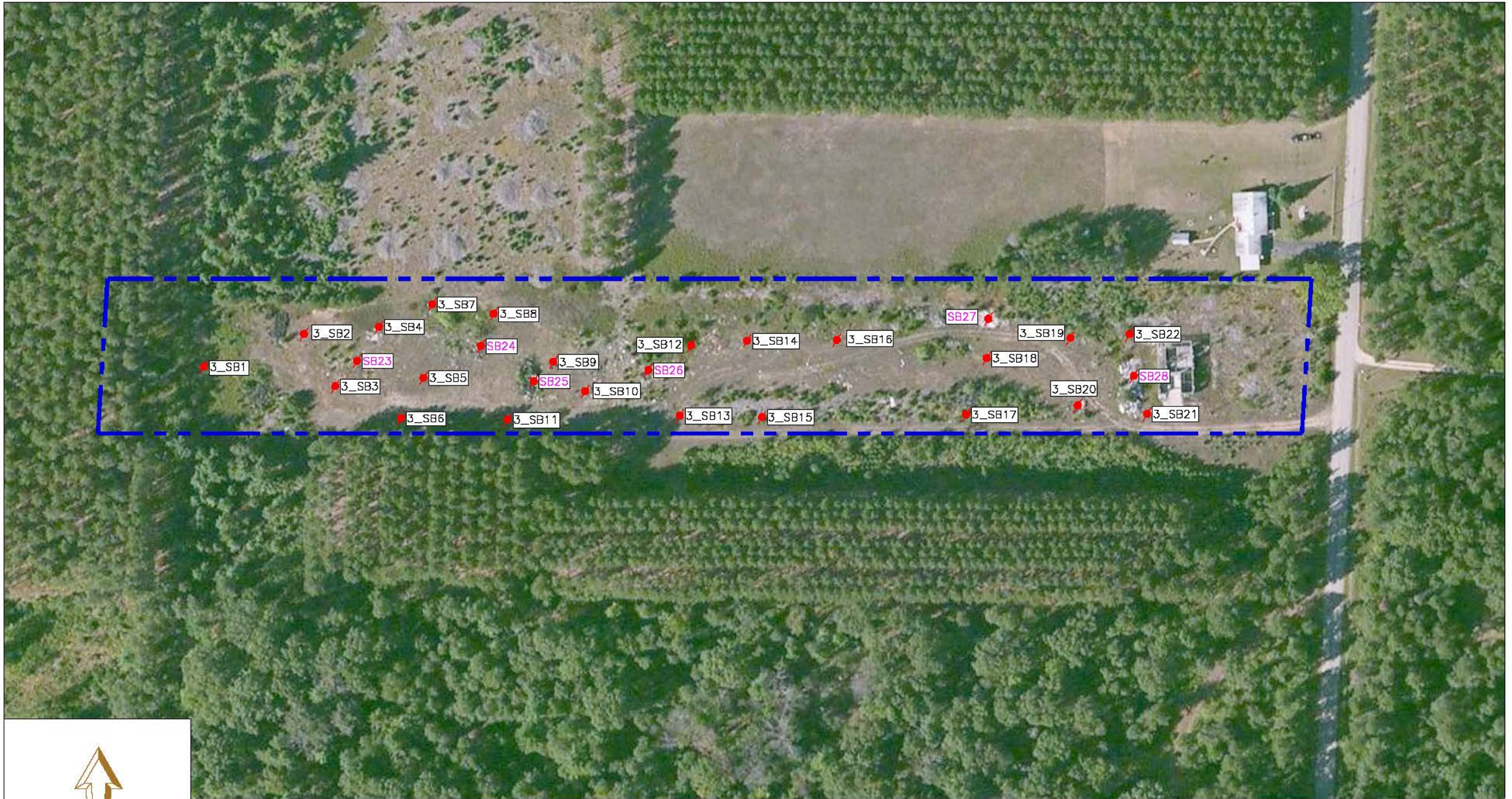
DATE: 09/24/12 | DRAWN BY: JRB | PROJECT MANAGER: LPC

SITE LAYOUT WITH MONITORING WELL LOCATIONS

FORMER LEO TUCKER PROPERTY
 N6817 LEFT FOOT ROAD
 CRIVITZ, WISCONSIN

PROJECT NUMBER: 193700605

FIGURE 3



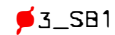
SCALE IN FEET



LEGEND



APPROXIMATE PROPERTY LINE



SOIL BORING LOCATION



HAND AUGER SOIL BORING LOCATION ON 10/25/17



1165 Scheuring Road, De Pere, Wisconsin 54115
 Phone: 920-592-8400 Fax: 920-592-8444

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DATE: 11/10/17 | DRAWN BY: JRB | PROJECT MANAGER: LPC

SITE LAYOUT WITH SOIL BORING LOCATIONS

FORMER LEO TUCKER PROPERTY
 N6817 LEFT FOOT ROAD
 CRIVITZ, WISCONSIN

PROJECT NUMBER: 193704745