FID 252260800



November 27, 2015

RECEIVED

jbartley@ReadyEarth.net

Mr. Lee Delcore Wisconsin Department of Natural Resources 1155 Pilgrim Road Plymouth, WI 53073

PLYMOUTH DNR

DEC 01 2015

Change Order Request #1 for the Former Fox Auto Salvage (a/k/a Standard Oil) RE: Property Located at 2423 Racine Street in the Village of Mount Pleasant, ReadyEarth Project No. 13-0603; BRRTS No. 03-52-554541; Wisconsin; PECFA No. 53403-3348-23

Dear Mr. Delcore,

ReadyEarth Consulting, Inc. ("ReadyEarth") submits this letter for the abovereferenced site (the "site") to request approval of project costs beyond the \$20,000 site investigation (SI) cost cap. This letter provides a brief discussion regarding the SI activities conducted to date and the justification for this change order. We request that you review this change order and provide your written approval.

The costs to date that apply to the \$20,000 cap and the additional requested costs are summarized on the attached spreadsheet.

Project Background and Site Investigation Summary

More detailed discussions of the site were presented in our work plan dated September 18, 2014. The attached Figures B.1.a and B.1.b illustrate the site location and general site features. The site is approximately 0.35 acre and is currently utilized as an auto service business. The site had historically been a Standard Oil gasoline filling station, which utilized a 1,000-gallon leaded gasoline underground storage tank (UST) and a 500-gallon waste oil UST. The USTs were reportedly removed in April 1986.

Impacts were detected adjacent to the site during roadwork within the adjoining Hwy 32 right-of-way, and the Wisconsin Department of Transportation (DOT) notified the DNR of impacts assumed to be originating from the site. ReadyEarth conducted site investigation (SI) activities that consisted of advancing twelve probeholes, installing six monitoring wells in accordance with ch. NR 141 Wis. Adm. Code, and conducting two rounds of groundwater sampling.

ReadyEarth Consulting, Inc.

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Soil Evaluation

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On October 14, 2014, ReadyEarth documented the procedures that Probe Technology, Inc. ("PTI") utilized to advance twelve probeholes. The probeholes ranged in depth from as shallow as 8 feet below ground surface (bgs) to a maximum depth of 16 feet bgs. ReadyEarth collected soil samples from each probehole at continuous 2-foot intervals for visual classification, field screening, and potential laboratory analyses.

In general, the soils encountered at the site include brown to gray silty clay and clayey silt. A 1- to 2-foot sand seam was encountered at most of the probeholes at approximately 8 to 9 feet bgs.

ReadyEarth noted PID readings and weathered petroleum odors in probeholes P-1, through P-8, P-11, and P-12. The odors and PID readings noted at P-1, P-2, P-5, and P-6 (proximal to the former UST cavity and dispenser islands) extended from the shallow soils to approximately 10 to 12 feet bgs. The odors and PID readings noted at the other probeholes generally correlated to the apparent depth of groundwater, which appeared to range from approximately 6 to 7 feet bgs.

The field observations suggest that soil impacts may extend off-site to the west beneath the right-of-way of Racine Street (Hwy 32), to the north onto the adjoining property, and to the south beneath the right-of-way of 25th Street. Off-site soil impacts were anticipated based on the results of the previous DOT study.

ReadyEarth submitted twenty soil samples under standard chain-of-custody procedures to Pace Analytical, a Wisconsin-Certified laboratory for analyses. ReadyEarth selected eight of the soil samples for analyses of the full suite of volatile organic compounds (VOCs) and ReadyEarth submitted the remaining twelve soil samples for analyses of petroleum volatile organic compounds (PVOCs) and naphthalene. ReadyEarth also selected nine of the soil samples for analyses of total lead. ReadyEarth selected the laboratory samples based on PID readings, correlation to the apparent depth to water, evaluating direct contact issues, or to evaluate the vertical and lateral extents of impacts. The soil analytical results are summarized on the attached table A.2.

Soil impacts above the residual contaminant levels (RCLs) for the non-industrial direct contact pathway (top 4 feet) were detected in only P-1. That area of the site is already covered with concrete, which adequately mitigates that potential exposure pathway.

Soil impacts above RCLs for the groundwater pathway were detected in P-1, P-2, P-3, P-5, and P-6.

Groundwater Evaluation

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On November 17 through 19, 2014, ReadyEarth documented the procedures that Gestra Engineering, Inc. ("Gestra") utilized to blind drill six borings for the express purpose of installing monitoring wells in accordance with ch. NR 141 Wis. Adm. Code. The drilling was conducted over several days due to extreme and unseasonably cold weather and rough drilling conditions. Gestra utilized a drill rig equipped with 4¼-inch, inside diameter, hollow stem augers to drill borings at select locations and install the wells. ReadyEarth selected the monitoring wells locations based on the locations of former apparent sources areas (former dispenser island, and former UST cavity), field observations, and locations to define the potential impacts laterally.

ReadyEarth conducted groundwater sampling at the site on January 15 and May 6, 2015. During each round, ReadyEarth measured the depth to groundwater, purged each well, and collected groundwater samples. ReadyEarth also conducted a site survey during the initial sampling round. ReadyEarth utilized laboratory-supplied sample containers with the appropriate preservatives and submitted the groundwater samples collected during each event to Pace Analytical for laboratory analyses. For the initial round, ReadyEarth submitted the groundwater samples for analyses of the full VOC suite. During the second round, ReadyEarth submitted the groundwater samples for analyses of PVOCs and naphthalene. The groundwater analytical results are summarized on the attached table A.1.

Based on the survey and groundwater measurements, groundwater appears to predominantly flow to the northeast with a slight radial flow from the former UST cavity area. That predominant flow direction is consistent with the adjacent site to the north at which ReadyEarth has also conducted SI activities. The groundwater measurements are summarized on the attached table A.6, and the groundwater elevation contours and flow directions for the two events are illustrated on the attached B.3.c.1 and B.3.c.2.

The groundwater analytical results from the two rounds are fairly consistent, and indicate that groundwater impacts above enforcement standards (ESs) are present at MW-1, which is located in the central portion of the impacted area; MW-3 (benzene only), which is located along the north property line; and MW-5 (benzene and naphthalene only), which is located along the south property line. The sampling results

indicate that groundwater impacts likely extend off-site to the west beneath the Hwy 32 right-of-way, to the north onto the adjoining property, and to the south beneath the 25th Street right-of-way.

Based on the SI results to date, additional work is required to evaluate the conditions at the site and the adjoining property to the north.

Proposed Additional Scope

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Based on the SI results collected to date, ReadyEarth believes that additional groundwater sampling is necessary to evaluate whether additional off-site investigation is required. The invoiced costs to date that apply to the cap are \$19,996.41. Additional work is required for the site prior to closure, which will cause the total project costs to exceed the \$20,000 cap. The additional costs ReadyEarth is requesting approval for are presented on the attached spreadsheet.

Chapter NR 726 requires a minimum of eight successive quarterly rounds of sampling. However, based on the age of the release and results to date, ReadyEarth believes eight rounds of sampling may be excessive for the site and that the department has the authority to grant closure with less sampling. For the purposes of this change order, ReadyEarth proposes four additional rounds of groundwater sampling. ReadyEarth will submit the groundwater samples for laboratory analyses of PVOCs and naphthalene.

ReadyEarth proposes to conduct transmissivity testing at two wells to estimate the hydraulic conductivity of the saturated soils at the site. ReadyEarth will conduct the transmissivity testing in conjunction with a groundwater sampling event.

ReadyEarth proposes off-site investigation on the adjoining property to the north to determine whether a GIS registry will be required for closure. ReadyEarth proposes advancing up to five off-site probeholes each to approximately 12 feet bgs that will each be completed as temporary wells. ReadyEarth proposes to submit one soil sample from each probehole for laboratory analyses of PVOCs and naphthalene. ReadyEarth proposes to submit one groundwater sample from each temporary well for laboratory analyses of PVOCs and naphthalene. ReadyEarth will abandon each of the temporary wells immediately after sampling.

ReadyEarth proposes to conduct vapor sampling within the service garage at the site. ReadyEarth has already conducted a PID vapor screening as part of the SI activities, which did not indicate any risk for vapor intrusion. However, the groundwater impacts appear to extend beneath the building footprint and a more quantitative evaluation appears warranted to better evaluate that potential pathway. ReadyEarth will utilize the existing vapor sampling port installed during the previous SI activities to collect two rounds of vapor sampling for analyses of PVOCs and naphthalene. ReadyEarth will utilize a sampling apparatus to allow for shut-in and helium shroud tests, and collection of vapor samples with 6-liter summa canisters for analyses of PVOCs and naphthalene. A detailed description of the vapor sampling procedures is attached. ReadyEarth proposes to conduct one round during a winter month and one round during a summer month. ReadyEarth will conduct the vapor sampling in conjunction with groundwater sampling events. There is no UCC cost category for the proposed vapor sampling. As such, the DNR will need to approve a variance for the proposed sampling.

The results of the additional SI activities proposed herein would be documented under the remaining balance of the soil and groundwater investigation report category (\$2,313.90). Due to the additional work to be documented discussed herein, ReadyEarth requests that the DNR approve an additional letter report line item to allow for the additional data interpretation and site evaluation.

The attached spreadsheet presents the anticipated costs for which we are requesting your written approval. This change order does not include costs that do not apply to project caps, such as regulatory correspondence, standardized invoices, and PECFA claim preparation. ReadyEarth is an agent for the claimant of the site and the deductible has been satisfied via lien.

I appreciate your assistance with this site. If you have any questions or comments, please contact me at (262) 522-3520.

Sincerely,

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ReadyEarth Consulting, Inc.

Jason E. Bartley, P.G. President

cc: Mr. Chuck Ricksecker

13-0603h

	Commerce #:	(and a second		53403-3348-23			-			
	Site Name:			Former Fox Auto Salvage		Total Vs. Cap]		Addtl. Req.	
	Site Address:		2423	Racine Street, Mt. Pleasant, WI		\$19,996.41			\$13,381.90	
	Date:	State And And		11/27/2015	1		-			
#	Task	Provider	Ref Code	Activity Reference Code Description	Unit	Total Cap Eligible	Units	Unit Cost	Additional Request	Notes
1	Groundwater Sampling	Consultant	GS05	Sample Collection	Well	\$828.00	24	\$69.00	\$1,656.00	
1	Groundwater Sampling	Consultant	GS10	Incremental Sample Collection (natural attenuation)	Well	\$0.00	0	\$45.40	\$0.00	
1	Groundwater Sampling	Consultant	GS15	Incremental Sample Collection (cadmium & lead)	Well	\$0.00	0	\$25.00	\$0.00	
1	Groundwater Sampling	Consultant	GS20	Measure Water Levels (for wells not being sampled)	Well	\$0.00	0	\$14.00	\$0.00	
1	Groundwater Sampling	Consultant	GS25	Primary Mob/Demob	Site	\$1,196.40	4	\$598.20	\$2,392.80	
1	Groundwater Sampling	Consultant	GS30	Temp Well Abandonment	Well	\$0.00	5	\$25.70	\$128.50	
6	Letter Report/Addendum	Consultant	LRA05	Letter Report/Addendum	Letter	\$0.00	1	\$989.80	\$989.80	
7	Regulatory Correspondence	Consultant	RC05	Regulatory Correspondence	Letter/Update	\$0.00	0	\$122.80	\$0.00	
12	Direct Push	Consultant	DP05	0 - 24 ft bgs W/ Continuous Soil Sampling	Foot	\$775.20	60	\$5.10	\$306.00	
12	Direct Push	Consultant	DP10	> 24 ft bgs W/ Continuous Soil Sampling	Foot	\$0.00	0	\$5.70	\$0.00	
12	Direct Push	Consultant	DP15	Groundwater Profiling (No Soil Sampling)	Foot	\$0.00	0	\$2.20	\$0.00	
12	Direct Push	Consultant	DP20	Groundwater Sample Collection	Each	\$0.00	5	\$34.30	\$171.50	
12	Direct Push	Consultant	DP25	Temporary Well Installation	Each	\$0.00	5	\$47.50	\$237.50	
12	Direct Push	Consultant	DP30	Primary Mob/Demob	Site	\$487.70	1	\$487.70	\$487.70	
12	Direct Push	Commodity	DP35	0 - 24 ft bgs W/ Continuous Soil Sampling	Foot	\$1,003.20	60	\$6.60	\$396.00	
12	Direct Push	Commodity	DP40	> 24 ft bgs W/ Continuous Soil Sampling	Foot	\$0.00	0	\$8.60	\$0.00	
12	Direct Push	Commodity	DP45	Groundwater Profiling (no soil sampling)	Foot	\$0.00	0	\$6.20	\$0.00	
12	Direct Push	Commodity	DP50	Groundwater Sample Collection (cost for tubing)	Foot	\$0.00	0	\$0.40	\$0.00	
12	Direct Push	Commodity	DP55	Expendable Drive Point	Each	\$0.00	0	\$13.80	\$0.00	
12	Direct Push	Commodity	DP60	Borehole Abandonment	Foot	\$182.40	0	\$1.20	\$0.00	
12	Direct Push	Commodity	DP65	Concrete Penetration	Each	\$0.00	0	\$19.10	\$0.00	
12	Direct Push	Commodity	DP70	Groundwater Sample Collection	Each	\$0.00	0	\$37.40	\$0.00	
12	Direct Push	Commodity	DP75	Temporary Well Installation	Foot	\$0.00	60	\$5.00	\$300.00	
12	Direct Push	Commodity	DP80	Mob/Demob (Includes Decon)	Site	\$501.00	1	\$501.00	\$501.00	
19	Hydraulic Conductivity Testing	Consultant	HCT05	Hydraulic Conductivity Testing	Well	\$0.00	2	\$55.80	\$111.60	
19	Hydraulic Conductivity Testing	Consultant	HCT10	Mob/Demob	Site	\$0.00	0	\$621.70	\$0.00	
21	Access Agreements	Consultant	AA05	Access Agreements	Property	\$0.00	1	\$382.80	\$382.80	
23	Soil and Groundwater Investigation Report	Consultant	SGIR05	Soil and Groundwater Investigation Report	Report	\$2,415.00	0	\$4,728.90	\$2,313.90	
26	Site Specific RCL Calculations For Direct Contact Risk	Consultant	SSRCL05	SSRCL Calculations	Site	\$368.30	1	\$368.30	\$368.30	
27	Claim Submittal	Consultant	CS05	Claim Submittal	Claim	\$0.00	0	\$558.00	\$0.00	
28	Standardized Invoice	Consultant	SI05	Standardized Invoice	Invoice	\$0.00	0	\$16.80	\$0.00	
33	Schedule of Laboratory Maximums	Commodity		Laboratory	lab sched.	\$1,416.20	0		\$1,318.00	
34	Consultant Incremental Mob/Demob	Consultant	IMD05	Incremental Mob/Demob	Site	\$0.00	3	\$273.50	\$820.50	transmissivity testing and 2 rounds vapor
36	Change Order Request	Consultant	COR05	Change Order Request	Change Order	\$363.60	0	\$363.60	\$0.00	

Total UCC Vs. Cap = \$19,541.30 Additional UCC = \$12,881.90

Variance	1						
soil disposal roll off	Lump	soil disposal roll off	Lump	\$455.11			\$0.00
Vapor Sampling	Consultant	Vapor sampling and equipment	sample		2	\$250.00	\$500.00
							\$0.00
		•	Total Variance =	\$455.11	Additio	onal Variance =	\$500.00

Total Vs. Cap= \$19,996.41 Change Order= \$13,381.90

	Usual & Customary Cost Schedule Worksheet #9 (effective July 1, 2011)												
	Commerce #:		5	3403-3348-23	NEW TANK								
	Site Name:		Former	Fox Auto Sal	age								
	Site Address:		2423 Racine	Street, Mt. Ple	asant, WI								
	Date:		Nov	ember 27, 201	5								
#	Task	Provider	Ref Code	Unit	Units	Unit Cost	Total Cost	Notes					
	GRO/PVOC	Lab	W1	Sample	0	\$27.80	\$0.00						
	PVOC	Lab	W2	Sample	0	\$25.70	\$0.00						
	PVOC + 1,2 DCA	Lab	W3	Sample	0	\$41.70	\$0.00						
	PVOC + Naphthalene	Lab	W4	Sample	31	\$24.00	\$744.00						
	VOC	Lab	W5	Sample	0	\$68.50	\$0.00						
	PAH	Lab	W6	Sample	0	\$69.50	\$0.00						
	Lead	Lab	W7	Sample	0	\$11.80	\$0.00						
	Cadmium	Lab	W8	Sample	0	\$12.90	\$0.00						
5	Hardness	Lab	W9	Sample	0	\$11.80	\$0.00						
ate	BOD, Total	Lab	W10	Sample	0	\$22.50	\$0.00						
Npc	Nitrate	Lab	W11	Sample	0	\$10.70	\$0.00						
our	Total Kjeldahl	Lab	W12	Sample	0	\$19.30	\$0.00						
Ū	Ammonia	Lab	W13	Sample	0	\$16.10	\$0.00						
	Sulfate	Lab	W14	Sample	0	\$9.70	\$0.00						
	Iron	Lab	W15	Sample	0	\$9.70	\$0.00						
	Manganese	Lab	W16	Sample	0	\$9.70	\$0.00						
	Alkalinity	Lab	W17	Sample	0	\$9.70	\$0.00						
	Methane	Lab	W18	Sample	0	\$43.90	\$0.00						
	Phosphorous	Lab	W19	Sample	0	\$17.20	\$0.00						
	VOC Method 524.2	Lab	W20	Sample	0	\$167.90	\$0.00						
	EDB Method 504	Lab	W21	Sample	0	\$90.90	\$0.00						
	GRO	Lab	S1	Sample	0	\$23.60	\$0.00						
	DRO	Lab	S2	Sample	0	\$28.90	\$0.00						
	GRO/PVOC	Lab	S3	Sample	0	\$26.80	\$0.00						
	PVOC	Lab	S4	Sample	0	\$24.60	\$0.00						
	PVOC + 1,2 DCA + Naphthalene	Lab	S5	Sample	0	\$47.10	\$0.00						
lioi	PVOC + Naphthalene	Lab	S6	Sample	5	\$24.00	\$120.00						
00	voc	Lab	\$7	Sample	0	\$68.50	\$0.00						
	SPLP Extraction VOC only	Lab	S8	Sample	0	\$48.20	\$0.00						
	PAH	Lab	S9	Sample	0	\$69.50	\$0.00						
	Lead	Lab	S10	Sample	0	\$11.80	\$0.00						
	Cadmium	Lab	S11	Sample	0	\$13.90	\$0.00						

U & C Total \$864.00

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Variance					
TO-15 vapor sample analyses	Lab	PVOC + naphthalene	2	\$227.00	\$454.00
			Т	otal Variance=	\$454.00

Total Change Order = \$1,318.00





A.1 Groundwater Analytical Table Fmr. Fox Auto Salvage (a/k/a Fmr. Standard Oil) 2423 Racine Street, Mt. Pleasant

					PVOCs					VOCs				
Sample Location	Sampling Date	Benzene (ppb)	Ethylbenzene (ppb)	MTBE (ppb)	Naphthalene (ppb)	Toluene (ppb)	1,2,4- TMB (ppb)	1,3,5- TMB (ppb)	Total Xylenes (ppb)	isopropyl- benzene (ppb)	n-propyl- benzene (ppb)	p-isopropyl- toluene (ppb)	sec-butyl- benzene (ppb)	tert-butyl- benzene (ppb)
MW-1	1/15/15 5/6/15	4,480 4,330	3,390 3,440	<7.0 <24.2	227 262	282 264	1,110 1,470	263 423	7,091 7,110		145 -	- 20.0	- <87.4	<7.2
MW-2	1/15/15 5/6/15	<0.50 <0.40	<0.50 <0.39	<0.17 <0.48	<2.5 0.53 J	<0.50 <0.39	<0.50 <0.42	<0.50 <0.42	<1.5 <1.2	<0.14 _	<0.50 -	<0.50	-2.2	<0.18 -
MW-3	1/15/15 5/6/15	371 280	3.9 3.8 J	<0.44 <1.9	<6.2 <1.7	30.7 22.3	1.7 J <1.7	1.8 J <1.7	49.0 26.4	- 12.6	10.5 -	<1.2 -	<5.5 -	
MW-4	1/15/15 5/6/15	<0.50 <0.40	<0.50 <0.39	<0.17 <0.48	<2.5 <0.42	<0.50 <0.39	0.59 J <0.42	<0.50 <0.42	<1.5 <1.2	0.48 J -	1.6 -	<0.50	<2.2	<0.18 -
MW-5	1/15/15 5/6/15	44.7 34.5	160 155	<0.35 3.0 J	102 92.0	10.9 11.4	2.5 4.1 J	27.1 37.5	83.1 88.2	- 68.1	- 78.1	-	5.5 J -	0.73 J -
MW-6	1/15/15 5/6/15	<0.50 <0.40	<0.50 <0.39	<0.17 <0.48	<2.5 <0.42	<0.50 <0.39	<0.50 <0.42	<0.50 <0.42	<1.5 <1.2	<0.14 -	<0.50 -	<0.50	<2.2	<0.18 -
PAL (ppb) ES (ppb)		0.5 5	140 700	12 60	10 100	160 800	9 4	6 80	400 2,000	NS NS	NS NS	NS NS	NS NS	NS NS

Notes:

1. NS = No standard has been established through ch NR 140 Wis. Adm. Code.

2. Concentrations in *blue italics* exceed their respective preventive action limits (PALs).

3. Concentrations in red bold exceed their respective enforcement standards (ESs).

A.2 Soil Analytical Results Table Fmr. Fox Auto Salvage (a/k/a Fmr. Standard Oil) 2423 Racine Street, Mt. Pleasant

Test Description		P-1		P.	-2	P	-3	P.	-4	P-5		RCL GW path.	RCL D.C. path.
Sample Date	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14		
Sample Depth	2-4	4-6	14-16	2-4	4-6	2-4	4-6	2-4	4-6	2-4	4-6		
saturated/unsaturated	unsat.												
Petroleum Volatile Organic Compounds (PVOC	s) (µg/kg)						50000 mg 100						
benzene	4,150	4,880	<25.0	394	899	49.2	35.9 J	<25.0	<25.0	<125	<200	5.1	1,490
ethylbenzene	33,500	50,600	<25.0	2,130	11,600	135	<25.0	<25.0	<25.0	406	6,840	1,570	7,470
methyl tert-butyl ether	1,120	<500	<25.0	45.5 J	<100	<25.0	<25.0	<25.0	<25.0	<125	<200	27	59,400
naphthalene	4,650	8,990	<25.0	257	4,800	36.6 J	<40.0	<25.0	<40.0	4,350	7,640	659	5,150
toluene	1,110	1,160 J	<25.0	192	229 J	<25.0	<25.0	<25.0	<25.0	<125	<200	1,107	818,000
1,2,4-trimethylbenzene	14,800	62,600	<25.0	249	820	89.0	<25.0	<25.0	180	775	1,910	1 379	89,800
1,3,5-trimethylbenzene	3,970	20,600	<25.0	279	648	76.2	<25.0	<25.0	<25.0	168 J	3,540	1,070	182,000
total xylenes	29,200	103,290	<75.0	1,222	2,050	293.4	<75.0	<75.0	<75.0	325 J	11,600	3,940	258,000
Volatile Organic Compounds (VOCs) (µg/kg)													
isopropylbenzene	-	5,210	-	-	2,280	-	126	-	<25.0	3,010	-	-	268,000
n-butylbenzene	-	5,910	-	-	2,870	-	249	-	<25.0	3,750	-	-	108,000
n-propylbenzene	-	12,300	-	-	4,220	· -	271	-	<25.0	5,670	-	-	264,000
p-isopropyltoluene	-	1,760	-	-	1,610	-	<25.0	-	<25.0	1,910	-	-	162,000
sec-butylbenzene	-	1,310 J	-	-	738	-	80.2	-	<25.0	1,370	-		145,000
Total Lead (mg/kg)	30.8	-	-	-	10.4	-	8.2	24.7	-	15.9	-	27	400

Test Description	P-6		P-7	P-8		P-9	P-10	P-11	P-12	RCL GW path.	RCL D.C. path.
Sample Date	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14		
Sample Depth	2-4	4-6	4-6	2-4	4-6	4-6	4-6	4-6	6-8		
saturated/unsaturated											
Petroleum Volatile Organic Compounds (PVOC	s) (µg/kg)									1000	
benzene	256	<312	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	5.1	1,490
ethylbenzene	2,150	23,500	<25.0	<25.0	58.6 J	<25.0	<25.0	<25.0	<25.0	1,570	7,470
methyl tert-butyl ether	81.5 J	<312	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	27	59,400
naphthalene	1,050	10,500	<25.0	<25.0	<25.0	<25.0	<40.0	34.3 J	399	659	5,150
toluene	334	<312	<25.0	<25.0	<25.0	117	<25.0	<25.0	<25.0	1,107	818,000
1.2.4-trimethylbenzene	1,940	52,600	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	438	1 370	89,800
1.3.5-trimethylbenzene	932	18,400	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	313	1,010	182,000
total xylenes	2,782	31,048	<75.0	<75.0	79.8 J	<75.0	<75.0	<75.0	264	3,940	258,000
Volatile Organic Compounds (VOCs) (µg/kg)											
isopropylbenzene	-	4,220		-	-	-	<25.0	-	164	-	268,000
n-butylbenzene	-	<312	-	-	-	-	<25.0	-	545	-	108,000
n-propylbenzene	-	9,760	-	-	-	-	<25.0	-	262	-	264,000
p-isopropyltoluene	-	3,230	-	-	-	-	<25.0	-	93.6	-	162,000
sec-butylbenzene	-	1,730	-	-	-	-	<25.0	-	150	-	145,000
Total Lead (mg/kg)	-	18.4	-	-	49.2	-	13	-	8.5	27	400

Notes:

1. Only detected compounds are shown.

2. Concentrations in red bold exceed their respective RCL for the non-industrial direct contact pathway (only within the top 4 feet bgs).

3. Concentrations in *blue italics* exceed their respective RCL for the groundwater pathway.

4. RCLs were obtained from the DNR R&R Program RCL Spreadsheet available online.





A.6 Water Level Elevations Fmr. Fox Auto Salvage (a/k/a Fmr. Standard Oil)

2423 Racine Street, Mt. Pleasant

		¹ Total	Ground	¹ Top of	² Depth to	¹ Depth to	
Well		Well	Surface	Casing	Water Below	Water Below	Groundwater
Number	Date	Depth	Elevation	Elevation	Ground	Casing	Elevation
MW-1	1/15/15	14.67	100.48	100.14	5.81	5.47	94.67
	5/6/15				4.16	3.82	96.32
					0.34	L	100.14
MW-2	1/15/15	14.67	100.21	99.85	6.05	5.69	94.16
	5/6/15				4.60	4.24	95.61
					0.36		99.85
MW-3	1/15/15	14.64	100.16	99.65	6.72	6.21	93.44
	5/6/15				5.45	4.94	94.71
					0.51		99.65
MW-4	1/15/15	14.42	100.64	100.16	5.91	5.43	94.73
	5/6/15				4.15	3.67	96.49
					0.48		100.16
MW-5	1/15/15	11.99	100.00	99.54	4.97	4.51	95.03
	5/6/15				3.58	3.12	96.42
					0.46		99.54
MW-6	1/15/15	17.91	100.03	102.64	5.49	8.10	94.54
	5/6/15				3.86	6.47	96.17
					-2.61		102.64

Notes:

All measurements are presented in feet.
"" Measured from the north rim of the top of well casing.
"" Calculated based on depth to water measurements and survey results.

This section describes the typical procedures ReadyEarth uses to sample sub-slab vapors. ReadyEarth has developed these procedures in general accordance with the current DNR vapor intrusion guidance (PUB-RR-800 and RR-986).

Sub-Slab Vapor Probe Installation Procedures

A 1" diameter hole is drilled to terminate between 1" and 1½" into the concrete slab. A 5/8" diameter hole is then drilled within the larger hole and through the slab into the underlying aggregate or soil. The drilled holes are cleaned out with a shop vacuum and the sides of the hole are scraped to remove the concrete dust. A bead of non-VOC wax is placed around the bottom portion of a galvanized sleeve and coupler (the "probe"), and the probe is inserted into the drilled hole. The probe is seated so that the wax seals the lower portion of the drilled hole and so that the probe is installed approximately flush with the floor. All threaded connections are national pipe thread (NPT) and sealed with Teflon tape. The probe is sealed with a threaded cap and Teflon tape, and the annular space between the probe and floor is sealed with hydraulic cement. The hydraulic cement is allowed to set prior to sampling activities.

Sub-Slab Vapor Probe Sampling Procedures

The probe cap is removed and a ball valve with threads on one end and a barbed fitting on the other is threaded into the probe. The threads are wrapped with Teflon tape and the valve is in the closed position. Dedicated tubing is slipped onto the barbed fitting and routed to a barbed, brass "T" that routes tubing to a 6L summa canister (valve closed) and to an "upper" valve (valve open). The tubing is connected to the summa canister with Swagelok fittings supplied by the laboratory. The summa canister is equipped with a vacuum gauge and a flow controller to collect the sample with a flow rate of less than 200 ml/min (approximately 30 to 45 minutes).

A shut-in test is performed with the upper valve open and applying a vacuum of approximately 7" Hg (approximately 100" water) to the system and monitored over approximately 2 minutes for dissipation. If any leaks are detected, the connections are checked and tightened until it can pass the shut-in test.

Once the system passes the shut in test, the floor valve is opened and a helium shroud is placed over the floor valve. The helium shroud has tubing entering the top to apply helium to the system, a seal on the bottom, and an available sampling port. A helium meter is attached to the sampling apparatus near the upper valve, and helium is applied to the system to at least 40% by volume. The helium meter is monitored over two minutes for any detection. If there is any detection, wax is placed over the concrete floor seal and the test is repeated. In the event of a second failure, the threads of the floor valve would be re-wrapped with Teflon tape and the test would be repeated (ReadyEarth has not had to resort to that measure).

Once the system passes both the shut-in and helium shroud tests, a photoionization detector is placed on the tubing of the upper valve and the system is purged for approximately 1 minute (the stabilized PID reading is recorded). The upper valve is then closed and the summa valve is opened. The start time and initial vacuum reading on the summa canister gauge is recorded. Once the vacuum gauge reads approximately 0 or at least 45 minutes has elapsed, the summa valve is closed, the end time and final vacuum reading are recorded, and the entire sampling apparatus is removed. The probe cap is re-wrapped with Teflon tape and the probe is re-sealed.

ReadyEarth submits the summa canisters under standard chain-of-custody protocol to a Wisconsin-certified laboratory for the analyses required for the site. The chain of custody protocol includes recording start and end times, start and end vacuum readings, unique summa canister number, and unique flow control number.