



December 31, 2017

Mr. Tom Verstegen  
Wisconsin Department of Natural Resources  
625 E. County Road Y, Suite 700  
Oshkosh, Wisconsin 54901

**RE: Site Status Update  
Old Dutch Mill  
N2271 HWY 45  
Campbellsport, WI 53010  
Endeavor Project No. P101393.40**

**COMM No. 53010-2927-71-A  
BRRTS No. 03-20-183944**

Dear Tom:

Endeavor Environmental Services, Inc. (Endeavor) has prepared this site status update to provide a summary of recent environmental activities performed at the above referenced site.

Endeavor submitted a Bid Deferment dated May 16, 2017, which included collection of an additional round of groundwater from select monitoring wells, site potable and basement sump. WDNR provided a Public Bidding Deferred-Cost Cap Approval dated May 31, 2017.

#### **Site Environmental Activities**

On September 27, 2017, Endeavor personnel were on-site to collect groundwater samples from monitoring wells MW-4, MW-5, potable well PW-N2271 and residence basement sump. Depth to groundwater measurements were collected from the entire monitoring well network. Each monitoring well sampled was purged via bailer. The groundwater samples collected from the monitoring wells were submitted to Pace Analytical Services, Inc. (Pace), of Green Bay, Wisconsin, for a combination of petroleum volatile organic compounds (PVOCs) plus naphthalene and/or polycyclic aromatic hydrocarbons (PAHs). The house potable was purged for 25 minutes and samples collected and submitted to Pace for PAHs and volatile organic compounds (VOCs) by Method 524.2. It is also important to note that the potable well pump failed and was replaced by a licensed plumber a couple days prior to the referenced sampling event. The basement sump was sampled for PVOCs and PAHs.

#### **Summary of Groundwater Sample Analytical Results**

The groundwater sample laboratory analytical results associated with the aforementioned event reported no concentrations of analyzed constituents exceeding Wisconsin Administrative Code (WAC), NR 140 enforcement standards (ESs). Monitoring well MW-5 reported detections of total trimethylbenzenes (189.3 ppb) and naphthalene (37.3 ppb) above their respective WAC, NR140 preventive action limits (PALs). The potable well sample reported chloroform (1.6 ppb) above its respective WAC, NR140 PAL. This detection is likely due to decontamination/chlorination efforts completed by the licensed plumber during replacement of



the potable well pump. The sump sample reported detections of acenaphthylene (0.0070 ppb), 1-methylnaphthalene (0.013 ppb), 2-methylnaphthalene (0.0064 ppb) and naphthalene (0.036 ppb) above their respective laboratory reporting limits; however, these were flagged by the laboratory as estimated concentrations above the adjusted method detection limit and below the adjusted reporting limit. Table A.1 provides a summary of the groundwater sample laboratory analytical results. The groundwater sample laboratory analytical report for the September 27, 2017, event is provided in Appendix A.

Depth to groundwater measurements were collected from the entire monitoring well network during September 27, 2017, groundwater sampling event. The depth to groundwater was referenced to the top of casing elevation, if available, and used to calculate the groundwater table elevation. Table A.1 provides a summary of the depth to groundwater measurements and corresponding groundwater elevations.

Figure 1 illustrates the potentiometric surface based on the September 27, 2017, measurement data. Figure 2 illustrates the extent of groundwater contamination exceeding NR140 ESs associated with the September 27, 2017, sampling event.

### **Statistical Analysis**

Endeavor performed Mann-Kendall statistical tests on the monitoring well MW-5 reporting contaminant concentrations exceeding WAC, NR 140 preventive action limits. The five most recent groundwater sampling events were included in the statistical analysis. Mann-Kendall statistical test illustrated that all contaminant trends were reported as decreasing. The Mann-Kendall statistical tests are provided in Appendix B.

### **Conclusions**

The most recent groundwater sampling event confirmed the lack of NR140 ES exceedances at the subject site. The Mann-Kendall Statistical test confirmed that the contaminant trend for analyzed constituents were decreasing.

Upon Department concurrence and approval, Endeavor will commence preparation of the Site Investigation Report and subsequent closure documentation.

### **Conditions**

The opinions rendered in this correspondence are based upon the information collected during the above outlined activities and represents Endeavor's professional judgment regarding the status of the above-referenced site and, as such, are not a guarantee.

Endeavor's professional judgment is based upon generally accepted environmental practices and procedures designed to assess environmental liability with respect to current and customary standards of due care in the consulting industry at this time.

Table A.1.  
Groundwater Analytical Table  
Old Dutch Mill  
Campbellsport, Wisconsin

Volatile Organic Compounds:

Sample ID	Sample Date	Benzene	Ethyl- benzene	Toluene	Total Xylenes	Total TMBs	MTBE	Naphthalene	sec- Butylbenzene	p-isopropyl- toluene	n-Propyl- benzene	Chloroform	Lead	GW Depth (ft bgs)	Groundwater elevation
GP-1-W	8/24/2006	<2.0	12	<3.4	29.5	323	<3.0	17	<4.4	39	44	<1.8	7.2	--	--
GP-2-W	8/24/2006	92	900	6,100	2,750	1,010	<30	390	<44	47	120	<18	4	--	--
GP-3-W	8/24/2006	<8.2	49	<13	131	450	<12	69	<18	54	77	<7.4	0.5	--	--
GP-5-W	8/24/2006	<0.41	<0.54	<0.67	<2.63	<1.80	<0.61	<0.74	<0.89	<0.67	<0.81	<0.37	<0.40	--	--
GP-7-W	8/24/2006	<0.41	<0.54	<0.67	<2.63	<1.80	<0.61	<0.74	<0.89	<0.67	<0.81	<0.37	<0.40	--	--
GP-8-W	8/24/2006	<0.82	41	<1.3	15.7	131	<1.2	26	5.4	17	33	<0.74	100*	--	--
GP-9-W	8/24/2006	<0.41	<0.54	<0.67	<2.63	<1.80	<0.61	<0.74	<0.89	<0.67	<0.81	<0.37	<0.40	--	--
GP-10-W	8/24/2006	<0.41	<0.54	20	<2.63	<1.80	<0.61	1.0	<0.89	0.78	<0.81	<0.37	<0.40	--	--
PW-N2271	1/1/2016	<0.50	<0.50	<0.50	<1.50	<1.0	<0.17	<2.5	<2.2	<0.50	<0.50	<2.5	NA	--	--
	8/23/2016	<0.41	<0.54	<0.67	<2.63	<1.80	<0.61	<0.74	<0.89	<0.67	<0.81	<0.35	0.46	--	--
	9/27/2017	<0.11	<0.14	0.67	<0.24	NA	NA	NA	NA	<0.088	NA	1.6	NA	--	--
GP-13	2/2/2016	1.78	16.9	13.4	130	98.4	<0.49	NA	NA	NA	NA	NA	NA	6.15	--
	8/23/2016	<0.46	<0.73	<0.39	<2.06	<1.51	<0.49	<2.6	NA	NA	NA	NA	NA	6.96	--
	11/3/2016	<0.30	<0.40	<0.37	<1.3	<0.66	<0.12	<0.18	NA	NA	NA	NA	NA	6.29	--
MW-1	2/2/2016	<0.46	<0.73	0.40 J	<2.06	<1.51	<0.49	NA	NA	NA	NA	NA	NA	7.66	998.62
	5/10/2016	<0.44	<0.71	<0.44	<3.1	<3.1	<1.1	<1.6	NA	NA	NA	NA	NA	6.79	999.49
	8/23/2016	<0.46	<0.73	<0.39	<2.06	<1.51	<0.49	<2.6	NA	NA	NA	NA	NA	8.00	998.28
	11/3/2016	<0.30	<0.40	<0.37	<1.3	<0.66	<0.12	<0.18	NA	NA	NA	NA	NA	7.36	998.92
	9/27/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	7.98	998.30
MW-2	2/2/2016	<0.46	<0.73	0.39 J	<2.06	<1.51	<0.49	NA	NA	NA	NA	NA	NA	4.75	998.41
	5/10/2016	<0.44	<0.71	<0.44	<3.1	<3.1	<1.1	<1.6	NA	NA	NA	NA	NA	3.89	999.27
	8/23/2016	<0.46	<0.73	0.42 J	<2.06	<1.51	<0.49	<2.6	NA	NA	NA	NA	NA	5.09	998.07
	11/3/2016	<0.30	<0.40	<0.37	<1.3	<0.66	<0.12	<0.18	NA	NA	NA	NA	NA	4.50	998.66
	9/27/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5.09	998.07
MW-3	2/2/2016	<0.46	<0.73	0.49 J	<2.06	<1.51	<0.49	NA	NA	NA	NA	NA	NA	1.86	998.46
	5/10/2016	<0.44	<0.71	<0.44	<3.1	<3.1	<1.1	<1.6	NA	NA	NA	NA	NA	0.98	999.34
	8/23/2016	<0.46	<0.73	<0.39	<2.06	<1.51	<0.49	<2.6	NA	NA	NA	NA	NA	2.21	998.11
	11/3/2016	<0.37	<0.40	<0.37	<1.3	<0.66	<0.12	<0.18	NA	NA	NA	NA	NA	1.57	998.75
	9/27/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	2.13	998.19
MW-4	2/2/2016	<0.46	<0.73	2.19	<2.06	<1.51	<0.49	NA	NA	NA	NA	NA	NA	4.62	998.48
	5/10/2016	<0.44	<0.71	<0.44	<3.1	<3.1	<1.1	<1.6	NA	NA	NA	NA	NA	3.73	999.37
	8/23/2016	<0.46	<0.73	0.62 J	<2.06	<1.51	<0.49	<2.6	NA	NA	NA	NA	NA	4.95	998.15
	11/3/2016	<0.30	<0.40	<0.37	<1.3	<0.66	<0.12	<0.18	NA	NA	NA	NA	NA	4.31	998.79
	9/27/2017	<0.40	<0.39	<0.39	<1.25	<0.84	<0.48	NA	NA	NA	NA	NA	NA	4.93	998.17
MW-5	2/2/2016	<23	410	370	837	847	<24.5	NA	NA	NA	NA	NA	NA	5.03	998.45
	5/10/2016	<22	163	73	294.1	598 J	<55	304	NA	NA	NA	NA	NA	4.12	999.36
	8/23/2016	4.8 J	183	56	292	579	<4.9	173	NA	NA	NA	NA	NA	5.37	998.11
	11/3/2016	0.63 J	88	29	170	330	<0.12	89	NA	NA	NA	NA	NA	4.28	999.20
	9/27/2017	<2.0	79.1	30.3	135.6	189.3	<2.4	NA	NA	NA	NA	NA	NA	5.33	998.15
Sump	9/27/2017	<0.40	<0.39	<0.39	<1.25	<0.84	<0.48	NA	NA	NA	NA	NA	NA	--	--
NR 140 enforcement standard		5	700	800	2,000	480	60	100	NS	NS	NS	6	15	--	--
NR 140 preventive action limit		0.5	140	160	400	96	12	10	NS	NS	NS	0.6	1.5	--	--

Notes: <sup>(1)</sup> Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit

All concentrations reported are in parts per billion (ug/L)

(\*) - unfiltered sample

**Bold value** represents exceedance of NR 140 enforcement standard

*Italic value* represents exceedance of NR 140 preventive action limit

TMB: trimethylbenzene NA: not analyzed/not applicable

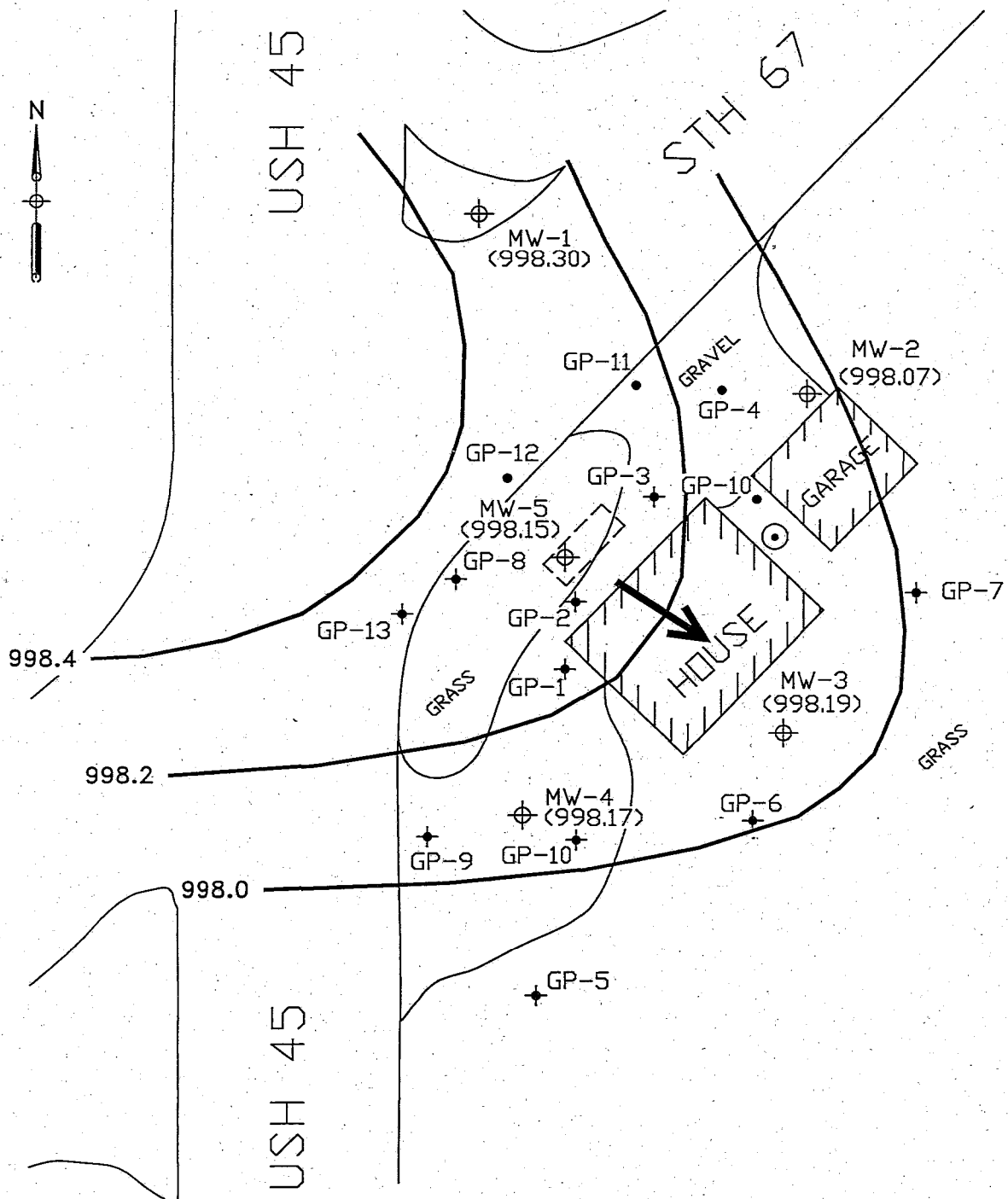
MTBE: methyl tert-butyl ether NS: no standard

Table A.1 (continued)  
Groundwater Analytical Table  
Old Dutch Mill  
Campbellsport, Wisconsin

Polycyclic Aromatic Hydrocarbons

Sample ID	Sample Date	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	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene
GP-1-W	8/24/2006	<0.86	<0.85	<1.2	<1.6	<1.9	<1.6	<2.0	<2.0	<2.0	<2.0	<1.6	<0.95	<2.0	64	85	44	<1.2	<1.5
GP-2-W	8/24/2006	4.5	<3.9	<5.6	<7.5	<8.8	<7.5	<9.3	<9.3	<9.1	<9.1	<7.5	6.7	<9.1	2,500	5,900	5,200	10	<7.0
GP-3-W	8/24/2006	<0.82	1.5	1.4	3.2	3.8	3.5	2.5	3.4	4	<1.9	9.5	1.1	<1.9	370	850	320	4.4	7
GP-5-W	8/24/2006	<0.0082	0.048	0.034	0.13	0.25	0.28	0.26	0.19	0.17	0.061	0.29	<0.0091	0.2	0.088	0.2	0.11	0.089	<0.24
GP-7-W	8/24/2006	<0.0082	<0.0081	<0.012	<0.016	<0.018	0.016	<0.019	<0.019	<0.019	<0.019	0.033	<0.0091	<0.019	0.039	0.079	0.06	0.018	0.025
GP-8-W	8/24/2006	<1.1	2.4	2.4	16	21	20	13	16	16	2.7	25	<1.2	10	97	210	110	3.1	24
GP-9-W	8/24/2006	0.051	0.071	0.14	0.38	0.75	0.44	0.38	0.36	0.36	0.099	0.82	0.084	0.31	0.037	0.08	0.099	0.4	0.61
GP-10-W	8/24/2006	0.19	0.046	0.047	0.1	0.74	0.14	0.12	0.12	0.12	<0.075	0.24	0.066	0.096	0.71	0.12	0.97	0.28	0.2
PW-N2271	8/24/2006	<0.0082	<0.0081	<0.012	<0.016	0.21	<0.016	0.019	<0.019	<0.019	<0.019	<0.015	<0.0091	<0.019	<0.010	0.015	0.029	<0.011	<0.015
	1/1/2016	<0.0050	<0.0049	<0.0040	<0.0051	<0.0044	<0.0053	0.010 J	<0.0056	<0.0042	0.016 J	<0.0094	<0.0040	0.016 J	<0.0031	0.0037 J	0.012 J	<0.0077	<0.0077
	9/27/2017	<0.0061	<0.0050	<0.010	<0.0076	<0.011	<0.0057	<0.0068	<0.0076	<0.013	<0.010	<0.011	<0.0080	<0.018	<0.0059	<0.0049	<0.018	<0.014	<0.0076
MW-1	2/2/2016	<0.02	<0.021	0.024 J	0.042 J	0.032 J	0.054 J	0.031 J	0.020 J	0.035 J	<0.025	0.082	0.019 J	0.022 J	0.029 J	0.029 J	0.030 J	0.055	0.071
MW-2	2/2/2016	<0.02	<0.021	<0.02	<0.019	<0.019	<0.019	<0.024	<0.018	<0.017	<0.025	<0.018	<0.017	<0.018	<0.018	<0.017	0.021 J	0.026 J	<0.018
MW-3	2/2/2016	<0.02	<0.021	<0.02	0.033 J	0.026 J	0.039 J	0.036 J	0.039 J	0.031 J	<0.025	0.026 J	<0.017	0.033 J	<0.018	0.022 J	0.025 J	0.025 J	0.024 J
MW-4	2/2/2016	<0.02	<0.021	<0.02	<0.019	<0.019	<0.019	<0.024	<0.018	<0.017	<0.025	<0.018	<0.017	<0.018	<0.018	0.020 J	0.031 J	0.028 J	<0.018
	9/27/2017	<0.0061	<0.0050	<0.010	<0.0076	<0.011	<0.0057	<0.0068	<0.0076	<0.013	<0.010	<0.011	<0.0080	<0.018	<0.0059	<0.0049	<0.018	<0.014	<0.0076
MW-5	2/2/2016	<2	<2.1	<2	<1.9	<1.9	<1.9	<2.4	<1.8	<1.7	<2.5	<1.8	<1.7	<1.8	70	152	268	<1.7	<1.8
	9/27/2017	<0.018	<0.015	<0.031	<0.023	<0.032	<0.017	<0.020	<0.023	<0.039	<0.030	<0.032	<0.024	<0.053	9.9	15.3	37.3	<0.041	<0.023
Sump	9/27/2017	<0.0061	0.0070 J	<0.010	<0.0076	<0.011	<0.0057	<0.0068	<0.0076	<0.013	<0.010	<0.011	<0.0080	<0.018	0.013 J	0.0064 J	0.036 J	<0.014	<0.0076
NR 140 enforcement standard		NS	NS	3,000	NS	0.2	0.2	NS	NS	0.2	NS	400	400	NS	NS	NS	100	NS	250
NR 140 preventive action limit		NS	NS	600	NS	0.02	0.02	NS	NS	0.02	NS	80	80	NS	NS	NS	10	NS	50

Notes: <sup>1</sup> Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit  
All concentrations reported are in parts per billion (ug/L)  
Bold value represents exceedance of NR 140 enforcement standard  
NS: no standard



LEGEND






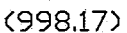

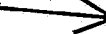
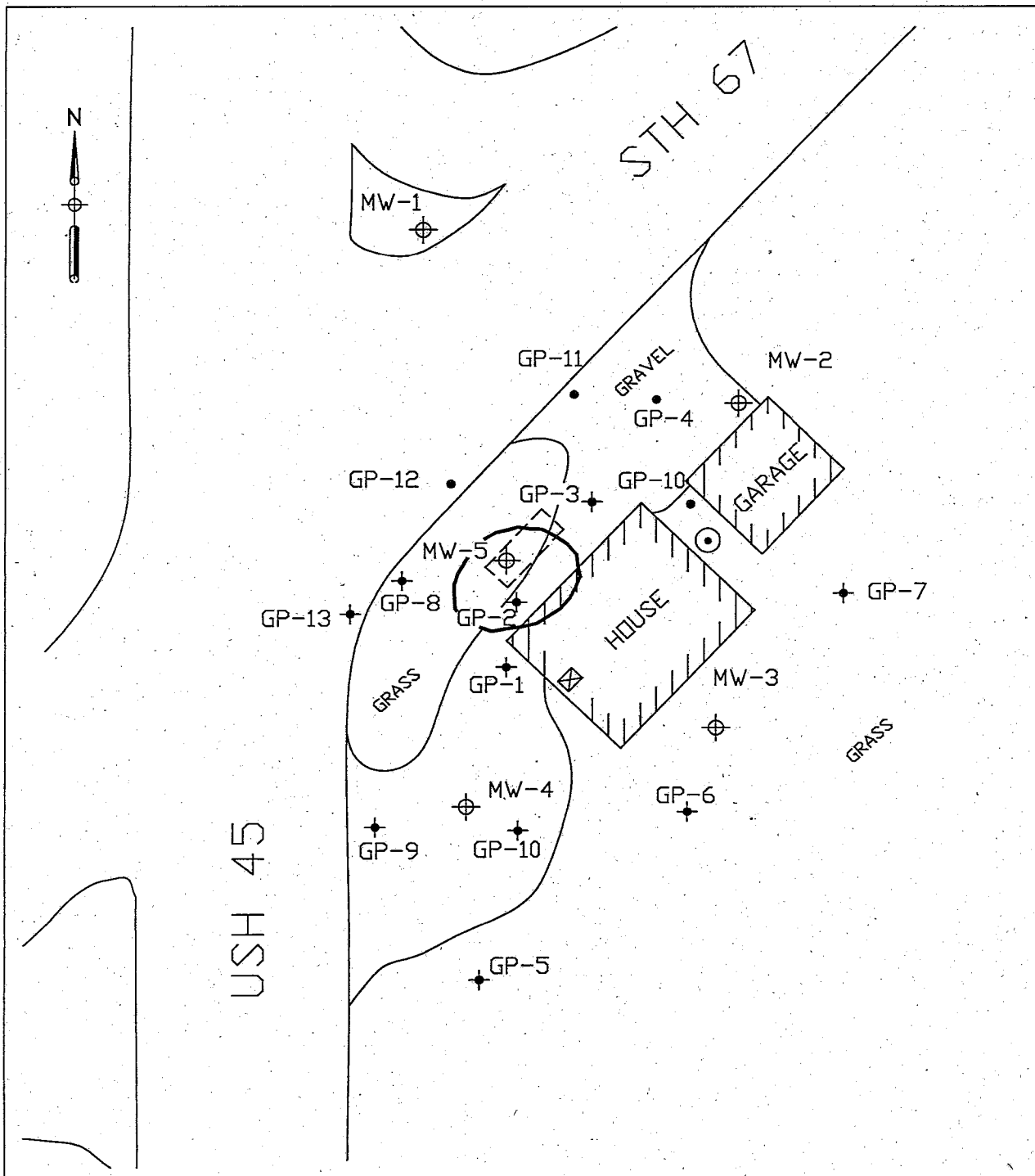







-  POTABLE WELL
-  GEOPROBE SOIL BORING
-  GEOPROBE SOIL BORING WITH TEMP WELL
-  APPROXIMATE LOCATION OF FORMER UST BASIN
-  GROUND WATER MONITORING WELL
-  GROUNDWATER ABOVE MEAN SEA LEVEL (998.17)
-  GROUNDWATER ELEVATION CONTOUR
-  GROUNDWATER FLOW DIRECTION

FIGURE 1  
 POTENTIOMETRIC SURFACE  
 (9/27/2017)  
 OLD DUTCH MILL  
 CAMPBELLSPORT, WISCONSIN

SCALE	SHEET NO.	DWG. NO.	DATE	SIZE	DRWN BY	FILE	REVISED	DATE
1' = 40'	1 OF 1	P101393.401.60	11/29/17	A	SVII	360		



**LEGEND**

-  POTABLE WELL
-  GEOPROBE SOIL BORING
-  GEOPROBE SOIL BORING WITH TEMP WELL
-  APPROXIMATE LOCATION OF FORMER UST BASIN
-  GROUND WATER MONITORING WELL
-  EXTENT OF GROUNDWATER CONTAMINATION EXCEEDING NR 140 ESs
-  BASEMENT SUMP

**FIGURE 2**  
 EXTENT OF GROUNDWATER CONTAMINATION EXCEEDING NR 140 ESs (9/27/2017)  
 OLD DUTCH MILL  
 CAMPBELLSPORT, WISCONSIN

SCALE	SHEET NO.	DWG NO.	DATE	SIZE	DRWN BY	FILE	REVISED	DATE
1" = 40'	1 DF 1	P101393.40.2.61	1/29/2017	A	SVI	360	SVI	12/21/07



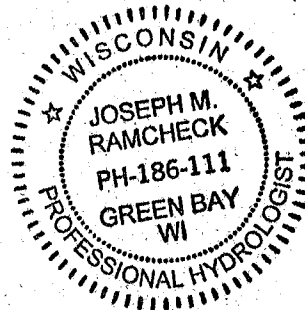
The services provided by Endeavor personnel during this project have been conducted in a manner consistent with the degree, care, and technical skill exercised by environmental consulting professionals currently practiced in this area under similar budget and time constraints. Beyond this, no warranty is implied or expressed. This letter does not constitute legal advice, nor does Endeavor purport to provide legal advice.

If you have any questions regarding this site status update, please feel free to contact me at (920) 437-2997 at your convenience.

Sincerely,

A handwritten signature in black ink, appearing to read "J.M. Ramcheck", is written over a horizontal line.

Joseph M. Ramcheck, P.H.  
Senior Hydrologist/Senior Project Manager



I, Joseph M. Ramcheck, hereby certify that I am a hydrologist as that term is defined in Section 470.04(3) Wisconsin Statutes, and that, to the best of my knowledge, all of the information contained in this document is correct and that the document was prepared in compliance with all applicable requirements in chapters NR700 to NR726, Wisconsin Administrative Code.

cc: Mr. William & Tracy Ostrander, Responsible Party  
File



## **APPENDIX A**

### **Groundwater Sample Laboratory Analytical Report**





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

October 06, 2017

Joe Ramcheck  
Endeavor Environmental Services, Inc.  
2280-B Salscheider Court  
Green Bay, WI 54313

RE: Project: P101393.40 OLD DUTCH MILL  
Pace Project No.: 40157495

Dear Joe Ramcheck:

Enclosed are the analytical results for sample(s) received by the laboratory on September 27, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Christopher Hyska  
christopher.hyska@pacelabs.com  
(920)469-2436  
Project Manager

Enclosures



### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## CERTIFICATIONS

Project: P101393.40 OLD DUTCH MILL  
Pace Project No.: 40157495

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### Minnesota Certification IDs

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414-2485  
A2LA Certification #: 2926.01  
Alabama Certification #: 40770  
Alaska Contaminated Sites Certification #: UST-078  
Alaska DW Certification #: MN00064  
Arizona Certification #: AZ0014  
Arkansas Certification #: 88-0680  
California Certification #: MN00064  
CNMI Saipan Certification #: MP0003  
Colorado Certification #: MN00064  
Connecticut Certification #: PH-0256  
EPA Region 8+Wyoming Certification #: via MN 027-053-137  
Florida Certification #: E87605  
Georgia Certification #: 959  
Guam EPA Certification #: MN00064  
Hawaii Certification #: MN00064  
Idaho Certification #: MN00064  
Illinois Certification #: 200011  
Indiana Certification #: C-MN-01  
Iowa Certification #: 368  
Kansas Certification #: E-10167  
Kentucky DW Certification #: 90062  
Kentucky WW Certification #: 90062  
Louisiana DEQ Certification #: 03086  
Louisiana DW Certification #: MN00064  
Maine Certification #: MN00064  
Maryland Certification #: 322  
Massachusetts Certification #: M-MN064

Michigan Certification #: 9909  
Minnesota Certification #: 027-053-137  
Mississippi Certification #: MN00064  
Montana Certification #: CERT0092  
Nebraska Certification #: NE-OS-18-06  
Nevada Certification #: MN00064  
New Hampshire Certification #: 2081  
New Jersey Certification #: MN002  
New York Certification #: 11647  
North Carolina DW Certification #: 27700  
North Carolina WW Certification #: 530  
North Dakota Certification #: R-036  
Ohio DW Certification #: 41244  
Ohio VAP Certification #: CL101  
Oklahoma Certification #: 9507  
Oregon NwTPH Certification #: MN300001  
Oregon Secondary Certification #: MN200001  
Pennsylvania Certification #: 68-00563  
Puerto Rico Certification #: MN00064  
South Carolina Certification #: 74003001  
Tennessee Certification #: TN02818  
Texas Certification #: T104704192  
Utah Certification #: MN00064  
Virginia Certification #: 460163  
Washington Certification #: C486  
West Virginia DW Certification #: 9952 C  
West Virginia DEP Certification #: 382  
Wisconsin Certification #: 999407970  
Wyoming via EPA Region 8 Certification #: 8TMS-L

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### Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302  
Florida/NELAP Certification #: E87948  
Illinois Certification #: 200050  
Kentucky UST Certification #: 82  
Louisiana Certification #: 04168  
Minnesota Certification #: 055-999-334  
New York Certification #: 12064  
North Dakota Certification #: R-150

Virginia VELAP ID: 460263  
South Carolina Certification #: 83006001  
Texas Certification #: T104704529-14-1  
Wisconsin Certification #: 405132750  
Wisconsin DATCP Certification #: 105-444  
USDA Soil Permit #: P330-16-00157  
Federal Fish & Wildlife Permit #: LE51774A-0

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## REPORT OF LABORATORY ANALYSIS

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### SAMPLE SUMMARY

Project: P101393.40 OLD DUTCH MILL  
Pace Project No.: 40157495

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Lab ID	Sample ID	Matrix	Date Collected	Date Received
40157495001	SUMP	Water	09/27/17 09:50	09/27/17 15:00
40157495002	POTABLE	Water	09/27/17 10:00	09/27/17 15:00
40157495003	MW-4	Water	09/27/17 11:15	09/27/17 15:00
40157495004	MW-5	Water	09/27/17 11:20	09/27/17 15:00
40157495005	TRIP BLANK	Water	09/27/17 00:00	09/27/17 15:00

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### SAMPLE ANALYTE COUNT

Project: P101393.40 OLD DUTCH MILL  
Pace Project No.: 40157495

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40157495001	.SUMP	WI MOD GRO	ALD	9	PASI-G
		EPA 8270 by HVI	TPO	20	PASI-G
40157495002	POTABLE	EPA 8270 by HVI	TPO	20	PASI-G
		EPA 524.2	DJB	34	PASI-M
40157495003	MW-4	WI MOD GRO	ALD	9	PASI-G
		EPA 8270 by HVI	TPO	20	PASI-G
40157495004	MW-5	WI MOD GRO	ALD	9	PASI-G
		EPA 8270 by HVI	TPO	20	PASI-G
40157495005	TRIP BLANK	EPA 524.2	DJB	34	PASI-M

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### SUMMARY OF DETECTION

Project: P101393.40 OLD DUTCH MILL  
Pace Project No.: 40157495

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>40157495001</b>	<b>SUMP</b>					
EPA 8270 by HVI	Acenaphthylene	0.0070J	ug/L	0.025	09/29/17 16:37	B
EPA 8270 by HVI	1-Methylnaphthalene	0.013J	ug/L	0.030	09/29/17 16:37	B
EPA 8270 by HVI	2-Methylnaphthalene	0.0064J	ug/L	0.024	09/29/17 16:37	B
EPA 8270 by HVI	Naphthalene	0.036J	ug/L	0.092	09/29/17 16:37	
<b>40157495002</b>	<b>POTABLE</b>					
EPA 524.2	Chloroform	1.6	ug/L	1.5	10/03/17 14:28	
EPA 524.2	Toluene	0.67	ug/L	0.57	10/03/17 14:28	
<b>40157495004</b>	<b>MW-5</b>					
WI MOD GRO	Ethylbenzene	79.1	ug/L	5.0	09/28/17 12:12	
WI MOD GRO	Toluene	30.3	ug/L	5.0	09/28/17 12:12	
WI MOD GRO	1,2,4-Trimethylbenzene	138	ug/L	5.0	09/28/17 12:12	
WI MOD GRO	1,3,5-Trimethylbenzene	51.3	ug/L	5.0	09/28/17 12:12	
WI MOD GRO	m&p-Xylene	94.8	ug/L	10.0	09/28/17 12:12	
WI MOD GRO	o-Xylene	40.8	ug/L	5.0	09/28/17 12:12	
EPA 8270 by HVI	1-Methylnaphthalene	9.9	ug/L	0.088	09/29/17 13:52	
EPA 8270 by HVI	2-Methylnaphthalene	15.3	ug/L	0.074	09/29/17 13:52	
EPA 8270 by HVI	Naphthalene	37.3	ug/L	0.27	09/29/17 13:52	

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## PROJECT NARRATIVE

Project: P101393.40 OLD DUTCH MILL

Pace Project No.: 40157495

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Method: WI MOD GRO

Description: WIGRO GCV

Client: Endeavor Environmental Services, Inc.

Date: October 06, 2017

### General Information:

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

### Hold Time:

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

### Initial Calibrations (including MS Tune as applicable):

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

### Continuing Calibration:

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

### Surrogates:

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

### Method Blank:

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

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

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

### Additional Comments:

Analyte Comments:

QC Batch: 268854

D3: Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

- MW-5 (Lab ID: 40157495004)
- a,a,a-Trifluorotoluene (S)

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## PROJECT NARRATIVE

Project: P101393.40 OLD DUTCH MILL  
Pace Project No.: 40157495

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**Method:** EPA 8270 by HVI  
**Description:** 8270 MSSV PAH by HVI  
**Client:** Endeavor Environmental Services, Inc.  
**Date:** October 06, 2017

### General Information:

4 samples were analyzed for EPA 8270 by HVI. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

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

### Sample Preparation:

The samples were prepared in accordance with EPA 3510 with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

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

### Continuing Calibration:

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

### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

### Surrogates:

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

### Method Blank:

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

QC Batch: 268875

B: Analyte was detected in the associated method blank.

- BLANK for HBN 268875 [OEXT/363 (Lab ID: 1579606)
- 1-Methylnaphthalene
- 2-Methylnaphthalene
- Acenaphthylene

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

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

### Additional Comments:

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: P101393.40 OLD DUTCH MILL  
Pace Project No.: 40157495

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**Method:** EPA 524.2  
**Description:** 524.2 MSV  
**Client:** Endeavor Environmental Services, Inc.  
**Date:** October 06, 2017

**General Information:**

2 samples were analyzed for EPA 524.2. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**Hold Time:**

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

**Initial Calibrations (including MS Tune as applicable):**

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

**Continuing Calibration:**

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

**Internal Standards:**

All internal standards were within QC limits with any exceptions noted below.

**Surrogates:**

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

**Method Blank:**

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

**Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**

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

**Additional Comments:**

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

## REPORT OF LABORATORY ANALYSIS

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**ANALYTICAL RESULTS**

Project: P101393.40 OLD DUTCH MILL  
 Pace Project No.: 40157495

Sample: SUMP Lab ID: 40157495001 Collected: 09/27/17 09:50 Received: 09/27/17 15:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>WIGRO GCV</b>		Analytical Method: WI MOD GRO							
Benzene	<0.40	ug/L	1.0	0.40	1		09/28/17 10:55	71-43-2	
Ethylbenzene	<0.39	ug/L	1.0	0.39	1		09/28/17 10:55	100-41-4	
Methyl-tert-butyl ether	<0.48	ug/L	1.0	0.48	1		09/28/17 10:55	1634-04-4	
Toluene	<0.39	ug/L	1.0	0.39	1		09/28/17 10:55	108-88-3	
1,2,4-Trimethylbenzene	<0.42	ug/L	1.0	0.42	1		09/28/17 10:55	95-63-6	
1,3,5-Trimethylbenzene	<0.42	ug/L	1.0	0.42	1		09/28/17 10:55	108-67-8	
m&p-Xylene	<0.80	ug/L	2.0	0.80	1		09/28/17 10:55	179601-23-1	
o-Xylene	<0.45	ug/L	1.0	0.45	1		09/28/17 10:55	95-47-6	
<b>Surrogates</b>									
a,a,a-Trifluorotoluene (S)	99	%	80-120		1		09/28/17 10:55	98-08-8	
<b>8270 MSSV PAH by HVI</b>		Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510							
Acenaphthene	<0.0061	ug/L	0.030	0.0061	1	09/28/17 08:53	09/29/17 16:37	83-32-9	
Acenaphthylene	0.0070J	ug/L	0.025	0.0050	1	09/28/17 08:53	09/29/17 16:37	208-96-8	B
Anthracene	<0.010	ug/L	0.052	0.010	1	09/28/17 08:53	09/29/17 16:37	120-12-7	
Benzo(a)anthracene	<0.0076	ug/L	0.038	0.0076	1	09/28/17 08:53	09/29/17 16:37	56-55-3	
Benzo(a)pyrene	<0.011	ug/L	0.053	0.011	1	09/28/17 08:53	09/29/17 16:37	50-32-8	
Benzo(b)fluoranthene	<0.0057	ug/L	0.029	0.0057	1	09/28/17 08:53	09/29/17 16:37	205-99-2	
Benzo(g,h,i)perylene	<0.0068	ug/L	0.034	0.0068	1	09/28/17 08:53	09/29/17 16:37	191-24-2	
Benzo(k)fluoranthene	<0.0076	ug/L	0.038	0.0076	1	09/28/17 08:53	09/29/17 16:37	207-08-9	
Chrysene	<0.013	ug/L	0.065	0.013	1	09/28/17 08:53	09/29/17 16:37	218-01-9	
Dibenz(a,h)anthracene	<0.010	ug/L	0.050	0.010	1	09/28/17 08:53	09/29/17 16:37	53-70-3	
Fluoranthene	<0.011	ug/L	0.053	0.011	1	09/28/17 08:53	09/29/17 16:37	206-44-0	
Fluorene	<0.0080	ug/L	0.040	0.0080	1	09/28/17 08:53	09/29/17 16:37	86-73-7	
Indeno(1,2,3-cd)pyrene	<0.018	ug/L	0.088	0.018	1	09/28/17 08:53	09/29/17 16:37	193-39-5	
1-Methylnaphthalene	0.013J	ug/L	0.030	0.0059	1	09/28/17 08:53	09/29/17 16:37	90-12-0	B
2-Methylnaphthalene	0.0064J	ug/L	0.024	0.0049	1	09/28/17 08:53	09/29/17 16:37	91-57-6	B
Naphthalene	0.036J	ug/L	0.092	0.018	1	09/28/17 08:53	09/29/17 16:37	91-20-3	
Phenanthrene	<0.014	ug/L	0.069	0.014	1	09/28/17 08:53	09/29/17 16:37	85-01-8	
Pyrene	<0.0076	ug/L	0.038	0.0076	1	09/28/17 08:53	09/29/17 16:37	129-00-0	
<b>Surrogates</b>									
2-Fluorobiphenyl (S)	56	%	35-84		1	09/28/17 08:53	09/29/17 16:37	321-60-8	
Terphenyl-d14 (S)	69	%	10-129		1	09/28/17 08:53	09/29/17 16:37	1718-51-0	

Sample: POTABLE Lab ID: 40157495002 Collected: 09/27/17 10:00 Received: 09/27/17 15:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8270 MSSV PAH by HVI</b>		Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510							
Acenaphthene	<0.0061	ug/L	0.030	0.0061	1	09/28/17 08:53	09/29/17 16:56	83-32-9	
Acenaphthylene	<0.0050	ug/L	0.025	0.0050	1	09/28/17 08:53	09/29/17 16:56	208-96-8	
Anthracene	<0.010	ug/L	0.052	0.010	1	09/28/17 08:53	09/29/17 16:56	120-12-7	
Benzo(a)anthracene	<0.0076	ug/L	0.038	0.0076	1	09/28/17 08:53	09/29/17 16:56	56-55-3	
Benzo(a)pyrene	<0.011	ug/L	0.053	0.011	1	09/28/17 08:53	09/29/17 16:56	50-32-8	

**REPORT OF LABORATORY ANALYSIS**

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**ANALYTICAL RESULTS**

Project: P101393.40 OLD DUTCH MILL  
 Pace Project No.: 40157495

Sample: POTABLE Lab ID: 40157495002 Collected: 09/27/17 10:00 Received: 09/27/17 15:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8270 MSSV PAH by HVI</b>									
Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510									
Benzo(b)fluoranthene	<0.0057	ug/L	0.029	0.0057	1	09/28/17 08:53	09/29/17 16:56	205-99-2	
Benzo(g,h,i)perylene	<0.0068	ug/L	0.034	0.0068	1	09/28/17 08:53	09/29/17 16:56	191-24-2	
Benzo(k)fluoranthene	<0.0076	ug/L	0.038	0.0076	1	09/28/17 08:53	09/29/17 16:56	207-08-9	
Chrysene	<0.013	ug/L	0.065	0.013	1	09/28/17 08:53	09/29/17 16:56	218-01-9	
Dibenz(a,h)anthracene	<0.010	ug/L	0.050	0.010	1	09/28/17 08:53	09/29/17 16:56	53-70-3	
Fluoranthene	<0.011	ug/L	0.053	0.011	1	09/28/17 08:53	09/29/17 16:56	206-44-0	
Fluorene	<0.0080	ug/L	0.040	0.0080	1	09/28/17 08:53	09/29/17 16:56	86-73-7	
Indeno(1,2,3-cd)pyrene	<0.018	ug/L	0.088	0.018	1	09/28/17 08:53	09/29/17 16:56	193-39-5	
1-Methylnaphthalene	<0.0059	ug/L	0.030	0.0059	1	09/28/17 08:53	09/29/17 16:56	90-12-0	
2-Methylnaphthalene	<0.0049	ug/L	0.024	0.0049	1	09/28/17 08:53	09/29/17 16:56	91-57-6	
Naphthalene	<0.018	ug/L	0.092	0.018	1	09/28/17 08:53	09/29/17 16:56	91-20-3	
Phenanthrene	<0.014	ug/L	0.069	0.014	1	09/28/17 08:53	09/29/17 16:56	85-01-8	
Pyrene	<0.0076	ug/L	0.038	0.0076	1	09/28/17 08:53	09/29/17 16:56	129-00-0	
<b>Surrogates</b>									
2-Fluorobiphenyl (S)	56	%	35-84		1	09/28/17 08:53	09/29/17 16:56	321-60-8	
Terphenyl-d14 (S)	72	%	10-129		1	09/28/17 08:53	09/29/17 16:56	1718-51-0	
<b>524.2 MSV</b>									
Analytical Method: EPA 524.2									
Benzene	<0.11	ug/L	0.37	0.11	1		10/03/17 14:28	71-43-2	
Bromodichloromethane	<0.14	ug/L	0.48	0.14	1		10/03/17 14:28	75-27-4	
Bromoform	<1.0	ug/L	3.5	1.0	1		10/03/17 14:28	75-25-2	
Carbon tetrachloride	<0.17	ug/L	0.57	0.17	1		10/03/17 14:28	56-23-5	
Chlorobenzene	<0.11	ug/L	0.38	0.11	1		10/03/17 14:28	108-90-7	
Chloroform	1.6	ug/L	1.5	0.46	1		10/03/17 14:28	67-66-3	
1,2-Dibromo-3-chloropropane	<1.0	ug/L	3.4	1.0	1		10/03/17 14:28	96-12-8	
Dibromochloromethane	<0.13	ug/L	0.45	0.13	1		10/03/17 14:28	124-48-1	
1,2-Dibromoethane (EDB)	<0.14	ug/L	0.46	0.14	1		10/03/17 14:28	106-93-4	
1,2-Dichlorobenzene	<0.077	ug/L	0.26	0.077	1		10/03/17 14:28	95-50-1	
1,4-Dichlorobenzene	<0.073	ug/L	0.24	0.073	1		10/03/17 14:28	106-46-7	
1,2-Dichloroethane	<0.11	ug/L	0.37	0.11	1		10/03/17 14:28	107-06-2	
1,1-Dichloroethene	<0.18	ug/L	0.60	0.18	1		10/03/17 14:28	75-35-4	
cis-1,2-Dichloroethene	<0.073	ug/L	0.24	0.073	1		10/03/17 14:28	156-59-2	
trans-1,2-Dichloroethene	<0.21	ug/L	0.70	0.21	1		10/03/17 14:28	156-60-5	
1,2-Dichloropropane	<0.20	ug/L	0.68	0.20	1		10/03/17 14:28	78-87-5	
Ethylbenzene	<0.14	ug/L	0.45	0.14	1		10/03/17 14:28	100-41-4	
p-Isopropyltoluene	<0.088	ug/L	0.29	0.088	1		10/03/17 14:28	99-87-6	
Methylene Chloride	<1.2	ug/L	3.9	1.2	1		10/03/17 14:28	75-09-2	
Styrene	<0.10	ug/L	0.35	0.10	1		10/03/17 14:28	100-42-5	
Tetrachloroethene	<0.12	ug/L	0.38	0.12	1		10/03/17 14:28	127-18-4	
Toluene	0.67	ug/L	0.57	0.17	1		10/03/17 14:28	108-88-3	
1,2,4-Trichlorobenzene	<0.11	ug/L	0.38	0.11	1		10/03/17 14:28	120-82-1	
1,1,1-Trichloroethane	<0.13	ug/L	0.44	0.13	1		10/03/17 14:28	71-55-6	
1,1,2-Trichloroethane	<0.12	ug/L	0.41	0.12	1		10/03/17 14:28	79-00-5	
Trichloroethene	<0.11	ug/L	0.36	0.11	1		10/03/17 14:28	79-01-6	
Trichlorofluoromethane	<0.080	ug/L	0.27	0.080	1		10/03/17 14:28	75-69-4	
Vinyl chloride	<0.074	ug/L	0.25	0.074	1		10/03/17 14:28	75-01-4	

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### ANALYTICAL RESULTS

Project: P101393.40 OLD DUTCH MILL

Pace Project No.: 40157495

Sample: POTABLE Lab ID: 40157495002 Collected: 09/27/17 10:00 Received: 09/27/17 15:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>524.2 MSV</b>		Analytical Method: EPA 524.2							
Xylene (Total)	<0.24	ug/L	0.81	0.24	1		10/03/17 14:28	1330-20-7	
m&p-Xylene	<0.24	ug/L	0.81	0.24	1		10/03/17 14:28	179601-23-1	
o-Xylene	<0.073	ug/L	0.24	0.073	1		10/03/17 14:28	95-47-6	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	100	%	75-125		1		10/03/17 14:28	460-00-4	
Toluene-d8 (S)	101	%	75-125		1		10/03/17 14:28	2037-26-5	
1,2-Dichloroethane-d4 (S)	100	%	75-125		1		10/03/17 14:28	17060-07-0	

Sample: MW-4 Lab ID: 40157495003 Collected: 09/27/17 11:15 Received: 09/27/17 15:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>WIGRO GCV</b>		Analytical Method: WI MOD GRO							
Benzene	<0.40	ug/L	1.0	0.40	1		09/28/17 11:21	71-43-2	
Ethylbenzene	<0.39	ug/L	1.0	0.39	1		09/28/17 11:21	100-41-4	
Methyl-tert-butyl ether	<0.48	ug/L	1.0	0.48	1		09/28/17 11:21	1634-04-4	
Toluene	<0.39	ug/L	1.0	0.39	1		09/28/17 11:21	108-88-3	
1,2,4-Trimethylbenzene	<0.42	ug/L	1.0	0.42	1		09/28/17 11:21	95-63-6	
1,3,5-Trimethylbenzene	<0.42	ug/L	1.0	0.42	1		09/28/17 11:21	108-67-8	
m&p-Xylene	<0.80	ug/L	2.0	0.80	1		09/28/17 11:21	179601-23-1	
o-Xylene	<0.45	ug/L	1.0	0.45	1		09/28/17 11:21	95-47-6	
<b>Surrogates</b>									
a,a,a-Trifluorotoluene (S)	99	%	80-120		1		09/28/17 11:21	98-08-8	
<b>8270 MSSV PAH by HVI</b>		Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510							
Acenaphthene	<0.0061	ug/L	0.030	0.0061	1	09/28/17 08:53	09/29/17 17:14	83-32-9	
Acenaphthylene	<0.0050	ug/L	0.025	0.0050	1	09/28/17 08:53	09/29/17 17:14	208-96-8	
Anthracene	<0.010	ug/L	0.052	0.010	1	09/28/17 08:53	09/29/17 17:14	120-12-7	
Benzo(a)anthracene	<0.0076	ug/L	0.038	0.0076	1	09/28/17 08:53	09/29/17 17:14	56-55-3	
Benzo(a)pyrene	<0.011	ug/L	0.053	0.011	1	09/28/17 08:53	09/29/17 17:14	50-32-8	
Benzo(b)fluoranthene	<0.0057	ug/L	0.029	0.0057	1	09/28/17 08:53	09/29/17 17:14	205-99-2	
Benzo(g,h,i)perylene	<0.0068	ug/L	0.034	0.0068	1	09/28/17 08:53	09/29/17 17:14	191-24-2	
Benzo(k)fluoranthene	<0.0076	ug/L	0.038	0.0076	1	09/28/17 08:53	09/29/17 17:14	207-08-9	
Chrysene	<0.013	ug/L	0.065	0.013	1	09/28/17 08:53	09/29/17 17:14	218-01-9	
Dibenz(a,h)anthracene	<0.010	ug/L	0.050	0.010	1	09/28/17 08:53	09/29/17 17:14	53-70-3	
Fluoranthene	<0.011	ug/L	0.053	0.011	1	09/28/17 08:53	09/29/17 17:14	206-44-0	
Fluorene	<0.0080	ug/L	0.040	0.0080	1	09/28/17 08:53	09/29/17 17:14	86-73-7	
Indeno(1,2,3-cd)pyrene	<0.018	ug/L	0.088	0.018	1	09/28/17 08:53	09/29/17 17:14	193-39-5	
1-Methylnaphthalene	<0.0059	ug/L	0.030	0.0059	1	09/28/17 08:53	09/29/17 17:14	90-12-0	
2-Methylnaphthalene	<0.0049	ug/L	0.024	0.0049	1	09/28/17 08:53	09/29/17 17:14	91-57-6	
Naphthalene	<0.018	ug/L	0.092	0.018	1	09/28/17 08:53	09/29/17 17:14	91-20-3	
Phenanthrene	<0.014	ug/L	0.069	0.014	1	09/28/17 08:53	09/29/17 17:14	85-01-8	
Pyrene	<0.0076	ug/L	0.038	0.0076	1	09/28/17 08:53	09/29/17 17:14	129-00-0	

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### ANALYTICAL RESULTS

Project: P101393.40 OLD DUTCH MILL

Pace Project No.: 40157495

Sample: MW-4 Lab ID: 40157495003 Collected: 09/27/17 11:15 Received: 09/27/17 15:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8270 MSSV PAH by HVI</b> Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510									
<i>Surrogates</i>									
2-Fluorobiphenyl (S)	53	%	35-84		1	09/28/17 08:53	09/29/17 17:14	321-60-8	
Terphenyl-d14 (S)	61	%	10-129		1	09/28/17 08:53	09/29/17 17:14	1718-51-0	

Sample: MW-5 Lab ID: 40157495004 Collected: 09/27/17 11:20 Received: 09/27/17 15:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>WIGRO GCV</b> Analytical Method: WI MOD GRO									
Benzene	<2.0	ug/L	5.0	2.0	5		09/28/17 12:12	71-43-2	
Ethylbenzene	79.1	ug/L	5.0	2.0	5		09/28/17 12:12	100-41-4	
Methyl-tert-butyl ether	<2.4	ug/L	5.0	2.4	5		09/28/17 12:12	1634-04-4	
Toluene	30.3	ug/L	5.0	1.9	5		09/28/17 12:12	108-88-3	
1,2,4-Trimethylbenzene	138	ug/L	5.0	2.1	5		09/28/17 12:12	95-63-6	
1,3,5-Trimethylbenzene	51.3	ug/L	5.0	2.1	5		09/28/17 12:12	108-67-8	
m&p-Xylene	94.8	ug/L	10.0	4.0	5		09/28/17 12:12	179601-23-1	
o-Xylene	40.8	ug/L	5.0	2.2	5		09/28/17 12:12	95-47-6	
<i>Surrogates</i>									
a,a,a-Trifluorotoluene (S)	104	%	80-120		5		09/28/17 12:12	98-08-8	D3

**8270 MSSV PAH by HVI** Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510

Acenaphthene	<0.018	ug/L	0.091	0.018	3	09/28/17 08:53	09/29/17 13:52	83-32-9	
Acenaphthylene	<0.015	ug/L	0.075	0.015	3	09/28/17 08:53	09/29/17 13:52	208-96-8	
Anthracene	<0.031	ug/L	0.16	0.031	3	09/28/17 08:53	09/29/17 13:52	120-12-7	
Benzo(a)anthracene	<0.023	ug/L	0.11	0.023	3	09/28/17 08:53	09/29/17 13:52	56-55-3	
Benzo(a)pyrene	<0.032	ug/L	0.16	0.032	3	09/28/17 08:53	09/29/17 13:52	50-32-8	
Benzo(b)fluoranthene	<0.017	ug/L	0.086	0.017	3	09/28/17 08:53	09/29/17 13:52	205-99-2	
Benzo(g,h,i)perylene	<0.020	ug/L	0.10	0.020	3	09/28/17 08:53	09/29/17 13:52	191-24-2	
Benzo(k)fluoranthene	<0.023	ug/L	0.11	0.023	3	09/28/17 08:53	09/29/17 13:52	207-08-9	
Chrysene	<0.039	ug/L	0.20	0.039	3	09/28/17 08:53	09/29/17 13:52	218-01-9	
Dibenz(a,h)anthracene	<0.030	ug/L	0.15	0.030	3	09/28/17 08:53	09/29/17 13:52	53-70-3	
Fluoranthene	<0.032	ug/L	0.16	0.032	3	09/28/17 08:53	09/29/17 13:52	206-44-0	
Fluorene	<0.024	ug/L	0.12	0.024	3	09/28/17 08:53	09/29/17 13:52	86-73-7	
Indeno(1,2,3-cd)pyrene	<0.053	ug/L	0.26	0.053	3	09/28/17 08:53	09/29/17 13:52	193-39-5	
1-Methylnaphthalene	9.9	ug/L	0.088	0.018	3	09/28/17 08:53	09/29/17 13:52	90-12-0	
2-Methylnaphthalene	15.3	ug/L	0.074	0.015	3	09/28/17 08:53	09/29/17 13:52	91-57-6	
Naphthalene	37.3	ug/L	0.27	0.055	3	09/28/17 08:53	09/29/17 13:52	91-20-3	
Phenanthrene	<0.041	ug/L	0.21	0.041	3	09/28/17 08:53	09/29/17 13:52	85-01-8	
Pyrene	<0.023	ug/L	0.11	0.023	3	09/28/17 08:53	09/29/17 13:52	129-00-0	
<i>Surrogates</i>									
2-Fluorobiphenyl (S)	54	%	35-84		3	09/28/17 08:53	09/29/17 13:52	321-60-8	
Terphenyl-d14 (S)	45	%	10-129		3	09/28/17 08:53	09/29/17 13:52	1718-51-0	

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**ANALYTICAL RESULTS**

Project: P101393.40 OLD DUTCH MILL  
 Pace Project No.: 40157495

Sample: TRIP BLANK Lab ID: 40157495005 Collected: 09/27/17 00:00 Received: 09/27/17 15:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>524.2 MSV</b>									
Analytical Method: EPA 524.2									
Benzene	<0.11	ug/L	0.37	0.11	1		10/03/17 13:41	71-43-2	
Bromodichloromethane	<0.14	ug/L	0.48	0.14	1		10/03/17 13:41	75-27-4	
Bromoform	<1.0	ug/L	3.5	1.0	1		10/03/17 13:41	75-25-2	
Carbon tetrachloride	<0.17	ug/L	0.57	0.17	1		10/03/17 13:41	56-23-5	
Chlorobenzene	<0.11	ug/L	0.38	0.11	1		10/03/17 13:41	108-90-7	
Chloroform	<0.46	ug/L	1.5	0.46	1		10/03/17 13:41	67-66-3	
1,2-Dibromo-3-chloropropane	<1.0	ug/L	3.4	1.0	1		10/03/17 13:41	96-12-8	
Dibromochloromethane	<0.13	ug/L	0.45	0.13	1		10/03/17 13:41	124-48-1	
1,2-Dibromoethane (EDB)	<0.14	ug/L	0.46	0.14	1		10/03/17 13:41	106-93-4	
1,2-Dichlorobenzene	<0.077	ug/L	0.26	0.077	1		10/03/17 13:41	95-50-1	
1,4-Dichlorobenzene	<0.073	ug/L	0.24	0.073	1		10/03/17 13:41	106-46-7	
1,2-Dichloroethane	<0.11	ug/L	0.37	0.11	1		10/03/17 13:41	107-06-2	
1,1-Dichloroethene	<0.18	ug/L	0.60	0.18	1		10/03/17 13:41	75-35-4	
cis-1,2-Dichloroethene	<0.073	ug/L	0.24	0.073	1		10/03/17 13:41	156-59-2	
trans-1,2-Dichloroethene	<0.21	ug/L	0.76	0.21	1		10/03/17 13:41	156-60-5	
1,2-Dichloropropane	<0.20	ug/L	0.68	0.20	1		10/03/17 13:41	78-87-5	
Ethylbenzene	<0.14	ug/L	0.45	0.14	1		10/03/17 13:41	100-41-4	
p-Isopropyltoluene	<0.088	ug/L	0.29	0.088	1		10/03/17 13:41	99-87-6	
Methylene Chloride	<1.2	ug/L	3.9	1.2	1		10/03/17 13:41	75-09-2	
Styrene	<0.10	ug/L	0.35	0.10	1		10/03/17 13:41	100-42-5	
Tetrachloroethene	<0.12	ug/L	0.38	0.12	1		10/03/17 13:41	127-18-4	
Toluene	<0.17	ug/L	0.57	0.17	1		10/03/17 13:41	108-88-3	
1,2,4-Trichlorobenzene	<0.11	ug/L	0.38	0.11	1		10/03/17 13:41	120-82-1	
1,1,1-Trichloroethane	<0.13	ug/L	0.44	0.13	1		10/03/17 13:41	71-55-6	
1,1,2-Trichloroethane	<0.12	ug/L	0.41	0.12	1		10/03/17 13:41	79-00-5	
Trichloroethene	<0.11	ug/L	0.36	0.11	1		10/03/17 13:41	79-01-6	
Trichlorofluoromethane	<0.080	ug/L	0.27	0.080	1		10/03/17 13:41	75-69-4	
Vinyl chloride	<0.074	ug/L	0.25	0.074	1		10/03/17 13:41	75-01-4	
Xylene (Total)	<0.24	ug/L	0.81	0.24	1		10/03/17 13:41	1330-20-7	
m&p-Xylene	<0.24	ug/L	0.81	0.24	1		10/03/17 13:41	179601-23-1	
o-Xylene	<0.073	ug/L	0.24	0.073	1		10/03/17 13:41	95-47-6	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	99	%	75-125		1		10/03/17 13:41	460-00-4	
Toluene-d8 (S)	99	%	75-125		1		10/03/17 13:41	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	75-125		1		10/03/17 13:41	17060-07-0	

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**QUALITY CONTROL DATA**

Project: P101393.40 OLD DUTCH MILL  
 Pace Project No.: 40157495

QC Batch: 268854 Analysis Method: WI MOD GRO  
 QC Batch Method: WI MOD GRO Analysis Description: WIGRO GCV Water  
 Associated Lab Samples: 40157495001, 40157495003, 40157495004

METHOD BLANK: 1579556 Matrix: Water  
 Associated Lab Samples: 40157495001, 40157495003, 40157495004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.42	1.0	09/28/17 08:48	
1,3,5-Trimethylbenzene	ug/L	<0.42	1.0	09/28/17 08:48	
Benzene	ug/L	<0.40	1.0	09/28/17 08:48	
Ethylbenzene	ug/L	<0.39	1.0	09/28/17 08:48	
m&p-Xylene	ug/L	<0.80	2.0	09/28/17 08:48	
Methyl-tert-butyl ether	ug/L	<0.48	1.0	09/28/17 08:48	
o-Xylene	ug/L	<0.45	1.0	09/28/17 08:48	
Toluene	ug/L	<0.39	1.0	09/28/17 08:48	
a,a,a-Trifluorotoluene (S)	%	98	80-120	09/28/17 08:48	

LABORATORY CONTROL SAMPLE & LCSD: 1579557 1579558

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2,4-Trimethylbenzene	ug/L	20	19.7	19.7	99	98	80-120	0	20	
1,3,5-Trimethylbenzene	ug/L	20	19.3	19.2	96	96	80-120	0	20	
Benzene	ug/L	20	19.6	19.5	98	98	80-120	0	20	
Ethylbenzene	ug/L	20	19.5	19.4	97	97	80-120	0	20	
m&p-Xylene	ug/L	40	38.7	38.7	97	97	80-120	0	20	
Methyl-tert-butyl ether	ug/L	20	19.4	19.5	97	97	80-120	0	20	
o-Xylene	ug/L	20	19.6	19.6	98	98	80-120	0	20	
Toluene	ug/L	20	19.4	19.4	97	97	80-120	0	20	
a,a,a-Trifluorotoluene (S)	%				98	99	80-120			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1579604 1579605

Parameter	Units	40157437006		MSD		MS		MSD		% Rec Limits	Max RPD	Qual
		Result	Spike Conc.	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec				
1,2,4-Trimethylbenzene	ug/L	59.8	100	100	178	178	118	118	118	11-200	0	20
1,3,5-Trimethylbenzene	ug/L	14.5	100	100	121	121	106	107	107	54-142	1	20
Benzene	ug/L	517	100	100	594	598	76	81	81	66-140	1	20
Ethylbenzene	ug/L	58.6	100	100	159	160	100	102	102	66-143	1	20
m&p-Xylene	ug/L	34.3	200	200	234	236	100	101	101	60-141	1	20
Methyl-tert-butyl ether	ug/L	<2.4	100	100	96.4	96.6	96	97	97	70-129	0	20
o-Xylene	ug/L	11.3	100	100	112	113	100	102	102	68-132	1	20
Toluene	ug/L	3.9J	100	100	103	105	99	101	101	76-130	2	20
a,a,a-Trifluorotoluene (S)	%						100	102	102	80-120		

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### QUALITY CONTROL DATA

Project: P101393.40 OLD DUTCH MILL  
 Pace Project No.: 40157495

QC Batch: 500195 Analysis Method: EPA 524.2  
 QC Batch Method: EPA 524.2 Analysis Description: 524.2 MSV  
 Associated Lab Samples: 40157495002, 40157495005

METHOD BLANK: 2719398 Matrix: Water  
 Associated Lab Samples: 40157495002, 40157495005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	<0.13	0.44	10/03/17 12:31	
1,1,2-Trichloroethane	ug/L	<0.12	0.41	10/03/17 12:31	
1,1-Dichloroethene	ug/L	<0.18	0.60	10/03/17 12:31	
1,2,4-Trichlorobenzene	ug/L	<0.11	0.38	10/03/17 12:31	
1,2-Dibromo-3-chloropropane	ug/L	<1.0	3.4	10/03/17 12:31	
1,2-Dibromoethane (EDB)	ug/L	<0.14	0.46	10/03/17 12:31	
1,2-Dichlorobenzene	ug/L	<0.077	0.26	10/03/17 12:31	
1,2-Dichloroethane	ug/L	<0.11	0.37	10/03/17 12:31	
1,2-Dichloropropane	ug/L	<0.20	0.68	10/03/17 12:31	
1,4-Dichlorobenzene	ug/L	<0.073	0.24	10/03/17 12:31	
Benzene	ug/L	<0.11	0.37	10/03/17 12:31	
Bromodichloromethane	ug/L	<0.14	0.48	10/03/17 12:31	
Bromoform	ug/L	<1.0	3.5	10/03/17 12:31	
Carbon tetrachloride	ug/L	<0.17	0.57	10/03/17 12:31	
Chlorobenzene	ug/L	<0.11	0.38	10/03/17 12:31	
Chloroform	ug/L	<0.46	1.5	10/03/17 12:31	
cis-1,2-Dichloroethene	ug/L	<0.073	0.24	10/03/17 12:31	
Dibromochloromethane	ug/L	<0.13	0.45	10/03/17 12:31	
Ethylbenzene	ug/L	<0.14	0.45	10/03/17 12:31	
m&p-Xylene	ug/L	<0.24	0.81	10/03/17 12:31	
Methylene Chloride	ug/L	<1.2	3.9	10/03/17 12:31	
o-Xylene	ug/L	<0.073	0.24	10/03/17 12:31	
p-Isopropyltoluene	ug/L	<0.088	0.29	10/03/17 12:31	
Styrene	ug/L	<0.10	0.35	10/03/17 12:31	
Tetrachloroethene	ug/L	<0.12	0.38	10/03/17 12:31	
Toluene	ug/L	<0.17	0.57	10/03/17 12:31	
trans-1,2-Dichloroethene	ug/L	<0.21	0.70	10/03/17 12:31	
Trichloroethene	ug/L	<0.11	0.36	10/03/17 12:31	
Trichlorofluoromethane	ug/L	<0.080	0.27	10/03/17 12:31	
Vinyl chloride	ug/L	<0.074	0.25	10/03/17 12:31	
Xylene (Total)	ug/L	<0.24	0.81	10/03/17 12:31	
1,2-Dichloroethane-d4 (S)	%	100	75-125	10/03/17 12:31	
4-Bromofluorobenzene (S)	%	99	75-125	10/03/17 12:31	
Toluene-d8 (S)	%	100	75-125	10/03/17 12:31	

LABORATORY CONTROL SAMPLE & LCSD: 2719399

2719400

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.3	18.6	96	93	70-130	3	20	
1,1,2-Trichloroethane	ug/L	20	20.8	20.7	104	103	70-130	0	20	

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### QUALITY CONTROL DATA

Project: P101393.40 OLD DUTCH MILL  
Pace Project No.: 40157495

LABORATORY CONTROL SAMPLE & LCSD:		2719399		2719400							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
1,1-Dichloroethene	ug/L	20	19.6	18.2	98	91	70-130	7	20		
1,2,4-Trichlorobenzene	ug/L	20	19.2	19.0	96	95	70-130	1	20		
1,2-Dibromo-3-chloropropane	ug/L	50	53.0	52.9	106	106	70-130	0	20		
1,2-Dibromoethane (EDB)	ug/L	20	20.7	21.2	104	106	70-130	2	20		
1,2-Dichlorobenzene	ug/L	20	20.6	20.4	103	102	70-130	1	20		
1,2-Dichloroethane	ug/L	20	18.1	17.8	90	89	70-130	2	20		
1,2-Dichloropropane	ug/L	20	18.7	18.5	93	92	70-130	1	20		
1,4-Dichlorobenzene	ug/L	20	20.6	20.4	103	102	70-130	1	20		
Benzene	ug/L	20	19.0	18.5	95	93	70-130	2	20		
Bromodichloromethane	ug/L	20	19.4	19.5	97	98	70-130	1	20		
Bromoform	ug/L	20	18.4	18.4	92	92	70-130	0	20		
Carbon tetrachloride	ug/L	20	19.5	18.9	98	95	70-130	3	20		
Chlorobenzene	ug/L	20	19.9	19.8	99	99	70-130	0	20		
Chloroform	ug/L	20	18.5	18.3	93	92	70-130	1	20		
cis-1,2-Dichloroethene	ug/L	20	19.5	19.1	98	95	70-130	2	20		
Dibromochloromethane	ug/L	20	20.7	20.0	104	100	70-130	4	20		
Ethylbenzene	ug/L	20	19.8	19.8	99	99	70-130	0	20		
m&p-Xylene	ug/L	40	40.7	40.5	102	101	70-130	1	20		
Methylene Chloride	ug/L	20	18.5	18.0	92	90	70-130	2	20		
o-Xylene	ug/L	20	19.3	19.8	97	99	70-130	2	20		
p-Isopropyltoluene	ug/L	20	19.9	19.2	100	96	70-130	3	20		
Styrene	ug/L	20	18.2	18.0	91	90	70-130	1	20		
Tetrachloroethene	ug/L	20	20.7	19.7	103	98	70-130	5	20		
Toluene	ug/L	20	20.0	18.8	100	94	70-130	6	20		
trans-1,2-Dichloroethene	ug/L	20	18.8	17.9	94	89	70-130	5	20		
Trichloroethene	ug/L	20	20.0	19.7	100	98	70-130	1	20		
Trichlorofluoromethane	ug/L	20	20.5	19.8	103	99	70-130	3	20		
Vinyl chloride	ug/L	20	19.7	18.4	98	92	70-130	7	20		
Xylene (Total)	ug/L	60	60.0	60.2	100	100	70-130	0	20		
1,2-Dichloroethane-d4 (S)	%				101	100	75-125				
4-Bromofluorobenzene (S)	%				98	99	75-125				
Toluene-d8 (S)	%				105	102	75-125				

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		2721755		2721756							
Parameter	Units	10405898001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	20	20	18.3	18.4	91	92	70-130	0	20
1,1,2-Trichloroethane	ug/L	ND	20	20	18.7	19.0	93	95	70-130	2	20
1,1-Dichloroethene	ug/L	ND	20	20	18.4	19.1	92	95	70-130	4	20
1,2,4-Trichlorobenzene	ug/L	ND	20	20	18.1	17.6	90	88	70-130	3	20
1,2-Dibromo-3-chloropropane	ug/L	ND	50	50	49.9	52.0	100	104	70-130	4	20
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	19.1	18.8	95	94	70-130	1	20
1,2-Dichlorobenzene	ug/L	ND	20	20	18.3	18.4	92	92	70-130	0	20

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QUALITY CONTROL DATA

Project: P101393.40 OLD DUTCH MILL  
 Pace Project No.: 40157495

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2721755 2721756

Parameter	Units	MS		MSD		MS		MSD		% Rec	Limits	Max	
		10405898001	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	RPD			RPD	Qual
1,2-Dichloroethane	ug/L	ND	20	20	16.3	16.4	81	82	70-130	1	20		
1,2-Dichloropropane	ug/L	ND	20	20	16.6	17.1	83	85	70-130	3	20		
1,4-Dichlorobenzene	ug/L	ND	20	20	18.2	18.6	91	93	70-130	2	20		
Benzene	ug/L	ND	20	20	17.5	18.1	88	90	70-130	3	20		
Bromodichloromethane	ug/L	ND	20	20	17.7	18.2	88	91	70-130	3	20		
Bromoform	ug/L	ND	20	20	17.0	17.2	85	86	70-130	1	20		
Carbon tetrachloride	ug/L	ND	20	20	19.0	19.1	95	95	70-130	0	20		
Chlorobenzene	ug/L	ND	20	20	18.5	18.6	92	93	70-130	1	20		
Chloroform	ug/L	ND	20	20	16.7	17.0	84	85	70-130	2	20		
cis-1,2-Dichloroethene	ug/L	ND	20	20	18.0	18.2	90	91	70-130	1	20		
Dibromochloromethane	ug/L	ND	20	20	18.8	18.5	94	92	70-130	2	20		
Ethylbenzene	ug/L	ND	20	20	18.1	18.5	91	93	70-130	2	20		
m&p-Xylene	ug/L	ND	40	40	36.8	37.5	92	94	70-130	2	20		
Methylene Chloride	ug/L	ND	20	20	16.8	17.3	84	87	70-130	3	20		
o-Xylene	ug/L	ND	20	20	18.3	18.6	92	93	70-130	1	20		
p-Isopropyltoluene	ug/L	ND	20	20	18.7	18.2	93	91	70-130	3	20		
Styrene	ug/L	ND	20	20	16.3	16.5	82	82	70-130	1	20		
Tetrachloroethene	ug/L	ND	20	20	18.7	19.1	94	95	70-130	2	20		
Toluene	ug/L	ND	20	20	17.5	18.0	88	90	70-130	3	20		
trans-1,2-Dichloroethene	ug/L	ND	20	20	17.8	18.3	89	92	70-130	3	20		
Trichloroethene	ug/L	ND	20	20	18.7	19.0	93	95	70-130	2	20		
Trichlorofluoromethane	ug/L	ND	20	20	20.6	21.2	103	106	70-130	3	20		
Vinyl chloride	ug/L	ND	20	20	18.3	18.9	91	95	70-130	3	20		
Xylene (Total)	ug/L	ND	60	60	55.2	56.1	92	93	70-130	2	20		
1,2-Dichloroethane-d4 (S)	%						99	99	75-125				
4-Bromofluorobenzene (S)	%						97	98	75-125				
Toluene-d8 (S)	%						100	99	75-125				

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REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: P101393.40 OLD DUTCH MILL  
Pace Project No.: 40157495

QC Batch: 268875 Analysis Method: EPA 8270 by HVI  
QC Batch Method: EPA 3510 Analysis Description: 8270 Water PAH by HVI  
Associated Lab Samples: 40157495001, 40157495002, 40157495003, 40157495004

METHOD BLANK: 1579606 Matrix: Water  
Associated Lab Samples: 40157495001, 40157495002, 40157495003, 40157495004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1-Methylnaphthalene	ug/L	0.0077J	0.030	09/29/17 10:11	
2-Methylnaphthalene	ug/L	0.0069J	0.024	09/29/17 10:11	
Acenaphthene	ug/L	<0.0061	0.030	09/29/17 10:11	
Acenaphthylene	ug/L	0.0090J	0.025	09/29/17 10:11	
Anthracene	ug/L	<0.010	0.052	09/29/17 10:11	
Benzo(a)anthracene	ug/L	<0.0076	0.038	09/29/17 10:11	
Benzo(a)pyrene	ug/L	<0.011	0.053	09/29/17 10:11	
Benzo(b)fluoranthene	ug/L	<0.0057	0.029	09/29/17 10:11	
Benzo(g,h,i)perylene	ug/L	<0.0068	0.034	09/29/17 10:11	
Benzo(k)fluoranthene	ug/L	<0.0076	0.038	09/29/17 10:11	
Chrysene	ug/L	<0.013	0.065	09/29/17 10:11	
Dibenz(a,h)anthracene	ug/L	<0.010	0.050	09/29/17 10:11	
Fluoranthene	ug/L	<0.011	0.053	09/29/17 10:11	
Fluorene	ug/L	<0.0080	0.040	09/29/17 10:11	
Indeno(1,2,3-cd)pyrene	ug/L	<0.018	0.088	09/29/17 10:11	
Naphthalene	ug/L	<0.018	0.092	09/29/17 10:11	
Phenanthrene	ug/L	0.023J	0.069	09/29/17 10:11	
Pyrene	ug/L	<0.0076	0.038	09/29/17 10:11	
2-Fluorobiphenyl (S)	%	65	35-84	09/29/17 10:11	
Terphenyl-d14 (S)	%	93	10-129	09/29/17 10:11	

LABORATORY CONTROL SAMPLE: 1579607

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	ug/L	2	1.6	79	39-83	
2-Methylnaphthalene	ug/L	2	1.6	79	38-86	
Acenaphthene	ug/L	2	1.4	70	35-85	
Acenaphthylene	ug/L	2	1.5	74	31-88	
Anthracene	ug/L	2	1.7	84	47-104	
Benzo(a)anthracene	ug/L	2	1.6	79	36-105	
Benzo(a)pyrene	ug/L	2	1.8	92	69-117	
Benzo(b)fluoranthene	ug/L	2	1.5	74	54-107	
Benzo(g,h,i)perylene	ug/L	2	0.83	41	13-86	
Benzo(k)fluoranthene	ug/L	2	1.9	97	63-128	
Chrysene	ug/L	2	2.2	111	69-150	
Dibenz(a,h)anthracene	ug/L	2	0.75	38	10-87	
Fluoranthene	ug/L	2	1.9	94	57-103	
Fluorene	ug/L	2	1.5	76	38-85	
Indeno(1,2,3-cd)pyrene	ug/L	2	1.5	77	40-111	
Naphthalene	ug/L	2	1.4	68	39-82	

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**QUALITY CONTROL DATA**

Project: P101393.40 OLD DUTCH MILL  
 Pace Project No.: 40157495

LABORATORY CONTROL SAMPLE: 1579607

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phenanthrene	ug/L	2	1.7	83	46-96	
Pyrene	ug/L	2	1.9	94	57-110	
2-Fluorobiphenyl (S)	%			68	35-84	
Terphenyl-d14 (S)	%			93	10-129	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1579608 1579609

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual	
		40157452004 Result	Spike Conc.	Spike Conc.	Result						Result
1-Methylnaphthalene	ug/L	0.027J	2	2	1.4	1.4	67	70	27-86	4	29
2-Methylnaphthalene	ug/L	0.028	2	2	1.4	1.4	68	70	30-86	4	35
Acenaphthene	ug/L	0.010J	2	2	1.2	1.2	60	61	28-85	2	29
Acenaphthylene	ug/L	<0.0050	2	2	1.2	1.2	61	62	27-88	2	29
Anthracene	ug/L	<0.010	2	2	1.4	1.4	69	69	38-104	1	35
Benzo(a)anthracene	ug/L	<0.0076	2	2	1.2	1.1	60	55	10-105	9	28
Benzo(a)pyrene	ug/L	<0.011	2	2	1.2	1.2	61	59	10-130	3	26
Benzo(b)fluoranthene	ug/L	<0.0057	2	2	1.0	1.0	52	52	10-115	1	25
Benzo(g,h,i)perylene	ug/L	<0.0068	2	2	0.53	0.46	27	23	10-87	14	42
Benzo(k)fluoranthene	ug/L	<0.0076	2	2	1.4	1.3	68	64	10-133	6	25
Chrysene	ug/L	<0.013	2	2	1.8	1.8	89	88	17-150	1	24
Dibenz(a,h)anthracene	ug/L	<0.010	2	2	0.52	0.44	26	22	10-89	15	49
Fluoranthene	ug/L	<0.011	2	2	1.6	1.6	80	80	41-103	1	32
Fluorene	ug/L	0.0098J	2	2	1.3	1.3	65	66	32-85	1	28
Indeno(1,2,3-cd)pyrene	ug/L	<0.018	2	2	0.88	0.80	44	40	10-111	10	37
Naphthalene	ug/L	0.066J	2	2	1.2	1.3	58	62	23-88	6	28
Phenanthrene	ug/L	0.023J	2	2	1.5	1.5	72	72	33-96	0	25
Pyrene	ug/L	<0.0076	2	2	1.6	1.6	81	79	38-110	3	28
2-Fluorobiphenyl (S)	%						59	62	35-84		
Terphenyl-d14 (S)	%						71	80	10-129		

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## QUALIFIERS

Project: P101393.40 OLD DUTCH MILL  
Pace Project No.: 40157495

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.  
ND - Not Detected at or above LOD.  
J - Estimated concentration at or above the LOD and below the LOQ.  
LOD - Limit of Detection adjusted for dilution factor and percent moisture.  
LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.  
S - Surrogate  
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.  
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.  
LCS(D) - Laboratory Control Sample (Duplicate)  
MS(D) - Matrix Spike (Duplicate)  
DUP - Sample Duplicate  
RPD - Relative Percent Difference  
NC - Not Calculable.  
SG - Silica Gel - Clean-Up  
U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.  
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.  
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.  
TNI - The NELAC Institute.

### LABORATORIES

PASI-G Pace Analytical Services - Green Bay  
PASI-M Pace Analytical Services - Minneapolis

### ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.  
D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: P101393.40 OLD DUTCH MILL

Pace Project No.: 40157495

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40157495001	SUMP	WI MOD GRO	268854		
40157495003	MW-4	WI MOD GRO	268854		
40157495004	MW-5	WI MOD GRO	268854		
40157495001	SUMP	EPA 3510	268875	EPA 8270 by HVI	268945
40157495002	POTABLE	EPA 3510	268875	EPA 8270 by HVI	268945
40157495003	MW-4	EPA 3510	268875	EPA 8270 by HVI	268945
40157495004	MW-5	EPA 3510	268875	EPA 8270 by HVI	268945
40157495002	POTABLE	EPA 524.2	500195		
40157495005	TRIP BLANK	EPA 524.2	500195		

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(Please Print Clearly)

UPPER MIDWEST REGION

Page 1 of 1

MN: 612-607-1700 WI: 920-469-2436

40157495

Page 22 of 23



Handwritten initials 'JR'

Company Name: *Endeavor Env. Services, Inc.*  
 Branch/Location: *Green Bay*  
 Project Contact: *Joseph Ramcheck*  
 Phone: *920-437-2997*  
 Project Number: *P101393.40*  
 Project Name: *Old Dutch M:11*  
 Project State: *WI*  
 Sampled By (Print): *Joseph Ramcheck*  
 Sampled By (Sign): *[Signature]*  
 PO #: \_\_\_\_\_ Regulatory Program: \_\_\_\_\_

### CHAIN OF CUSTODY

\*Preservation Codes  
 A=None B=HCL C=H2SO4 D=HNO3 E=D1 Water F=Methanol G=NaOH  
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?  
(YES/NO)  
 PRESERVATION  
(CODE)\*

Filter Letter	PRESERVATION (CODE)*			Analytes Requested	Matrix	Collection Date	Collection Time	Matrix
	A	B	C					
B	N	N	N	P/OC	GW	9/20/17	950	GW
A	N	N	N	PAH	DW	1000		DW
B	N	N	N	VOC (S2412)	GW	1115		GW
	N	N	N		GW	1120		GW
					Trap			Trap

**Data Package Options** (billable)  
 EPA Level III  
 EPA Level IV

**MS/MSD**  
 On your sample (billable)  
 NOT needed on your sample

**Matrix Codes**  
 A = Air W = Water  
 B = Biota DW = Drinking Water  
 C = Charcoal GW = Ground Water  
 O = Oil SW = Surface Water  
 S = Soil WW = Waste Water  
 Sl = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX	Filter Letter	A	B	C
		DATE	TIME					
001	Sump	9/20/17	950	GW	X	X	X	
002	Potable		1000	DW	X	X	X	
003	MW-4		1115	GW	X	X	X	
004	MW-5		1120	GW	X	X	X	
005	Trap Blank			Trap				X

Quote #: \_\_\_\_\_  
 Mail To Contact: *Joseph Ramcheck*  
 Mail To Company: *Endeavor Env. Services, Inc.*  
 Mail To Address: *2280-B Salscheider Ct Green Bay WI 54303*  
 Invoice To Contact: \_\_\_\_\_  
 Invoice To Company: \_\_\_\_\_  
 Invoice To Address: \_\_\_\_\_  
 Invoice To Phone: \_\_\_\_\_

CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
	<i>1-11kg<sup>A</sup>, 3-40ml<sup>B</sup></i>	
	<i>1-40ml<sup>B</sup></i>	

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)  
 Date Needed: \_\_\_\_\_

Transmit Prelim Rush Results by (complete what you want):  
 Email #1: \_\_\_\_\_  
 Email #2: \_\_\_\_\_  
 Telephone: \_\_\_\_\_  
 Fax: \_\_\_\_\_

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

Relinquished By: <i>[Signature]</i>	Date/Time: <i>9/20/17 1500</i>	Received By: <i>Kenn Ketyke Pace</i>	Date/Time: <i>9/27/17 1500</i>
Relinquished By: _____	Date/Time: _____	Received By: _____	Date/Time: _____
Relinquished By: _____	Date/Time: _____	Received By: _____	Date/Time: _____
Relinquished By: _____	Date/Time: _____	Received By: _____	Date/Time: _____

PACE Project No. *40157495*

Receipt Temp = *RO1* °C

Sample Receipt pH  
OK / Adjusted

Cooler Custody Seal  
Present / Not Present  
Intact / Not Intact



# Sample Condition Upon Receipt

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

Client Name: Endavor Env. Services

Project # **WO# : 40157495**

Courier:  Fed Ex  UPS  Client  Pace Other: \_\_\_\_\_



Tracking #: \_\_\_\_\_

Custody Seal on Cooler/Box Present:  yes  no Seals intact:  yes  no

Custody Seal on Samples Present:  yes  no Seals intact:  yes  no

Packing Material:  Bubble Wrap  Bubble Bags  None  Other

Thermometer Used N/A Type of Ice: Wet Blue Dry None  Samples on Ice, cooling process has begun

Cooler Temperature Uncorr: RoE /Corr: \_\_\_\_\_ Biological Tissue is Frozen:  yes

Temp Blank Present:  yes  no  no

Temp should be above freezing to 6°C.  
Biota Samples may be received at ≤ 0°C.

Person examining contents:  
Date: 9/27/17  
Initials: SSM

		Comments:
Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	8. <u>No MS/MSD vol.</u> <u>SSM 9/27/17</u>
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>W</u>		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> NaOH <input type="checkbox"/> NaOH +ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
exceptions: <input checked="" type="checkbox"/> coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed
		Lab Std #ID of preservative
		Date/Time:
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
Trip Blank Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): <u>383</u>		

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

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

\_\_\_\_\_

Project Manager Review: [Signature] Date: 9/27/17



## **APPENDIX B**

### **Mann-Kendall Statistical Test**



**State of Wisconsin  
Department of Natural Resources**

**Mann-Kendall Statistical Test  
Form 4400-215 (2/2001)**

**Remediation and Redevelopment Program**

**Notice:** This form is the DNR supplied spreadsheet referenced in Appendices A of Comm 46 and NR 746, Wis. Adm. Code. It is provided to consultants as an optional tool for groundwater contaminant trend analysis to support site closure requests under s. Comm 46.07, Comm 46.08, NR 746.07, NR 746.08, Wis. Adm. Code. Use this form or a manual method when seeking case closure under those rules. Earlier versions of this form should not be used.

**Instructions:** Do not change formulas or other information in cells with a blue background, only cells with a yellow background are used for data entry. To use the spreadsheet, provide at least four rounds and not more than ten rounds of data that is not seasonally affected. Use consistent units. The spreadsheet contains several error checks, and a data entry error may cause "DATA ERR" or "DATE ERR" to be displayed. Dates that are not consecutive will show an error message and will not display the test results. The spreadsheet tests the data for both increasing and decreasing trends at both 80 percent and 90 percent confidence levels. If a declining trend is present at 80 percent but not at 90 percent, a site is still eligible for closure under Comm 46 and NR 746 provided that other conditions in those rules are met. If an increasing or decreasing trend is not present, an additional coefficient of variation test is used to test for stability, as proposed by Wiedemeier et al, 1999. For additional information, refer to the Interim Guidance on Natural Attenuation for Petroleum Releases, dated October, 1999. Refer to the guidance for recommendations on data entry for non-detect values.

Site Name = Old Dutch Mill      BRRTS No. = 03-20-183944      Well Number = MW-5

Event Number	Compound -> Sampling Date (most recent last)	Benzene Concentration (leave blank if no data)	Toluene Concentration (leave blank if no data)	Ethylbenzene Concentration (leave blank if no data)	Total Xylenes Concentration (leave blank if no data)	Total TMB Concentration (leave blank if no data)	MTBE Concentration (leave blank if no data)
1	2-Feb-16	23.00	370.00	410.00	837.00	847.00	24.50
2	10-May-16	22.00	73.00	163.00	294.00	598.00	55.00
3	23-Aug-16	4.80	56.00	183.00	292.00	579.00	4.90
4	3-Nov-16	0.63	29.00	88.00	170.00	330.00	0.12
5	27-Sep-17	2.00	30.30	79.10	135.60	189.30	2.40
6							
7							
8							
9							
10							
Mann-Kendall Statistic (S) =		-8.0	-8.0	-8.0	-10.0	-10.0	-6.0
Number of Rounds (n) =		5	5	5	5	5	5
Average =		10.49	111.66	184.62	345.72	508.66	17.38
Standard Deviation =		11.075	145.589	133.918	283.701	255.594	23.152
Coefficient of Variation(CV)=		1.056	1.304	0.725	0.821	0.502	1.332

Error Check, Blank if No Errors Detected

Trend ≥ 80% Confidence Level	DECREASING	DECREASING	DECREASING	DECREASING	DECREASING	DECREASING
Trend ≥ 90% Confidence Level	DECREASING	DECREASING	DECREASING	DECREASING	DECREASING	No Trend
Stability Test, If No Trend Exists at 80% Confidence Level	NA	NA	NA	NA	NA	NA

Data Entry By = JRK      Date = 30-Dec-17      Checked By = JMR