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Technical Memorandum

To	Ms. Kathleen M. McDaniel, City of Manitowoc Mr. Dan Koski, City of Manitowoc	Page 1 of 4
CC	Mr. Tauren Beggs, WDNR	
Subject	Former Town of Newton Gravel Pit, BRRTS No. 02-36-000268 NR 718 Soil Sampling Results and Waste Determination Technical Memorandum	
From	Sarah Day, AECOM Dave Henderson, AECOM	
Date	April 26, 2017	

AECOM, on behalf of the City of Manitowoc (City), is submitting this Technical Memorandum to document recent NR 718 soil sampling activities at the Former Newton Gravel Pit site and to memorialize our Waste Determination associated with the sampled soils.

Presented below is documentation of our Wisconsin Department of Natural Resources (WDNR) approved alternative sampling protocol, a discussion of the soil sampling activities and laboratory analytical results followed by a waste determination summary for the sampled soils.

Alternative Sampling Protocol

An alternative sampling protocol was discussed with the WDNR over a period of time. The core of those communications is outlined below with a general description of the discussion topic:

- *Remedial Action Options Report & Conceptual Design Report* (RAOR), AECOM submitted to WDNR, dated August 18, 2016. The RAOR presented the initial proposed soil management strategy for the site.

- *Remedial Action Options Report Revisions for Manitowoc City / Former Newton Tn Gravel Pit, BRRTS # 02-36-000268,* email from WDNR to AECOM dated September 16, 2016, 2:11pm. The WDNR's initial comments to the RAOR. The response requested further soil characterization in general accordance with NR 718.

- October 24, 2016, project meeting at WDNR's Green Bay office to discuss RAOR comments and NR 718 requirements.

- *AOC and Sampling to Determine if Soil is Clean Discussion* technical memorandum, AECOM submitted to WDNR, dated November 15, 2016.

- December 2, 2016, WDNR & AECOM conference call to discuss sampling methods.

- *RE: Newton Pit – NR 718 discussion,* email from WDNR to AECOM dated December 2, 2016, 9:17am. WDNR's confirmation of toxicity characteristic leaching procedure (TCLP) sampling procedures discussed during the December 2nd conference call.

- *Concurrence of Waste Characterization Soil Sampling Proposal with Revisions,* email from WDNR to AECOM dated January 9, 2017, 10:39am. WDNR's confirmation of the overall NR 718 sampling protocol with concurrence that the sampling should be completed prior to revisions to the RAOR report.

The outcome of the NR 718 discussions is the WDNR- approved alternative sampling protocol summarized as follows.

Sampling of soil excavated for the construction of the pond will only be required prior to construction in accordance with the protocol below. No additional sampling will be required during construction or post construction.

Sample activities are to be focused as follows:

- Unsaturated soil sampling for waste characterization of "not contaminated" clean soils. These soils are described as; soils that will be excavated from above the water table, approximately elevation 685 feet mean sea level (msl), to create the proposed treatment pond.

- Saturated soil sample for hazardous/solid waste characterization. These soils are described as; soils that will be excavated from below the water table, approximately elevation 685 feet mean sea level (msl), to create the proposed treatment pond. The focus of this sample location was adjacent to temporary monitoring well P-4, a groundwater hot spot area.

There are a total of seven soil boring locations. Each of the locations will be sampled for waste characterization of unsaturated clean soils and one location, Boring D, will include one saturated soil sample for hazardous/solid waste characterization testing. Details for each sample location are described below and shown on Figure 1:

- Boring A - pond cut area, unsaturated soil sample targeted at 1-2 feet below ground surface (bgs).
- Boring B - pond cut area, unsaturated soil sample targeted at 2-3 feet bgs (located in vicinity of temporary well locations P-8 and P-9).
- Boring C - pond cut area, unsaturated soil sample targeted at 1-2 feet bgs (located in vicinity of temporary well location P-1).
- Boring D - pond cut area, unsaturated soil sample targeted at 3-4 feet bgs; saturated soil sample targeted for 12 feet bgs (sample location adjacent to temporary well P-4, coincident with groundwater hot spot).
- Boring E - cut area on bluff, unsaturated soil sample targeted at 15 feet bgs.
- Boring F - cut area on bluff, unsaturated soil sample targeted at 15 feet bgs.
- Boring G - cut area on bluff, unsaturated soil sample targeted at 15 feet bgs.

The seven unsaturated soil characterization samples will be analyzed for volatile organic compounds (VOCs) (EPA Method SW 8260B).

The saturated sample will be analyzed to determine if soil from below the water table within the groundwater hot spot is hazardous waste or solid waste as follows:

- Follow industry standard protocols for soil sampling.
- The soil boring location for TCLP sample to be located within 5 feet radial of temp well P-4.
- Soil sampling depth range, approx. 9 to 12 feet bgs. Within the saturated zone.
- Lab analysis VOC Totals and VOC TCLP (method EPA 1311).

- Obtain Totals sample from TCLP jar to be representative.

The following documents the results of the NR 718 pre-construction soil sampling from the proposed treatment pond area.

Field Work

Seven soil borings (A through G) were completed on April 3, 2017. Borehole drilling was conducted by Horizon Construction and Exploration, LLC, of Fredonia Wisconsin. Borings were advanced using a Geoprobe® rig and dual tube sampling system consistent with the requirements of Wisconsin Administrative Code (WAC) Chapter NR 141.

An unsaturated soil sample from above the water table was collected from each boring for VOC analysis. For the borings in the proposed pond area (A through D), the unsaturated sample was collected between 0.5 and 2.5 feet bgs. The borings in the cut area on the bluff (E through G), were sampled at 15 feet bgs. Note that soil Boring G was not advanced at its proposed location due to the drill rig's inability to climb to the top of the hill at that location. Boring G was completed at the base of the hill, as far up the hill as the rig could advance (See Photo 1, Attachment A).

In addition to the unsaturated soil samples, a saturated soil sample was collected from soil Boring D, immediately adjacent to temporary well P-4, for Total VOC and TCLP VOC analysis(See Photo 2, Attachment A). This saturated soil sample was collected at 12 feet bgs.

Upon completion of the borehole drilling and sampling, each boring was abandoned by filling with 3/8-inch diameter bentonite pellets consistent with the requirements of WAC NR 141.25.

Soil samples for laboratory analysis were submitted, on ice and under chain-of-custody documentation, to a WAC Chapter NR 149 certified laboratory (Synergy Environmental Lab, Inc., Appleton, Wisconsin) for analyses of VOCs (EPA Method SW 8260B) and TCLP VOCs (EPA Method SW 1311).

Boring locations are shown on Figure 1. Soil boring logs (WDNR Form 4400-122) and borehole abandonment documentation (WDNR Form 3300-005) are provided in Attachment B.

Soil Conditions

Subsurface soils encountered during drilling generally included well to poorly graded sands (SW or SP) with some gravel and lean clay (CL). The drillers noted heaving/flowing sands approximately 10 feet bgs in the pond excavation area. In soil Borings E and F a discontinuous two- to four-foot thick clay/silty clay layer was encountered at approximately 5 feet bgs. These subsurface conditions are consistent with the sand and gravel outwash deposits characterized through previous site investigations.

Analytical Results

Soil laboratory analytical results were compared to applicable NR720 residual contaminant levels (RCLs) or NR 661.24 toxicity characteristic regulatory levels as appropriate. The analytical results for the eight soil samples are summarized in Table 1.

As shown on Table 1, no VOCs or TCLP VOCs were detected in any of the soil samples. Laboratory analytical reports are included as Attachment C.

Waste Determination Summary

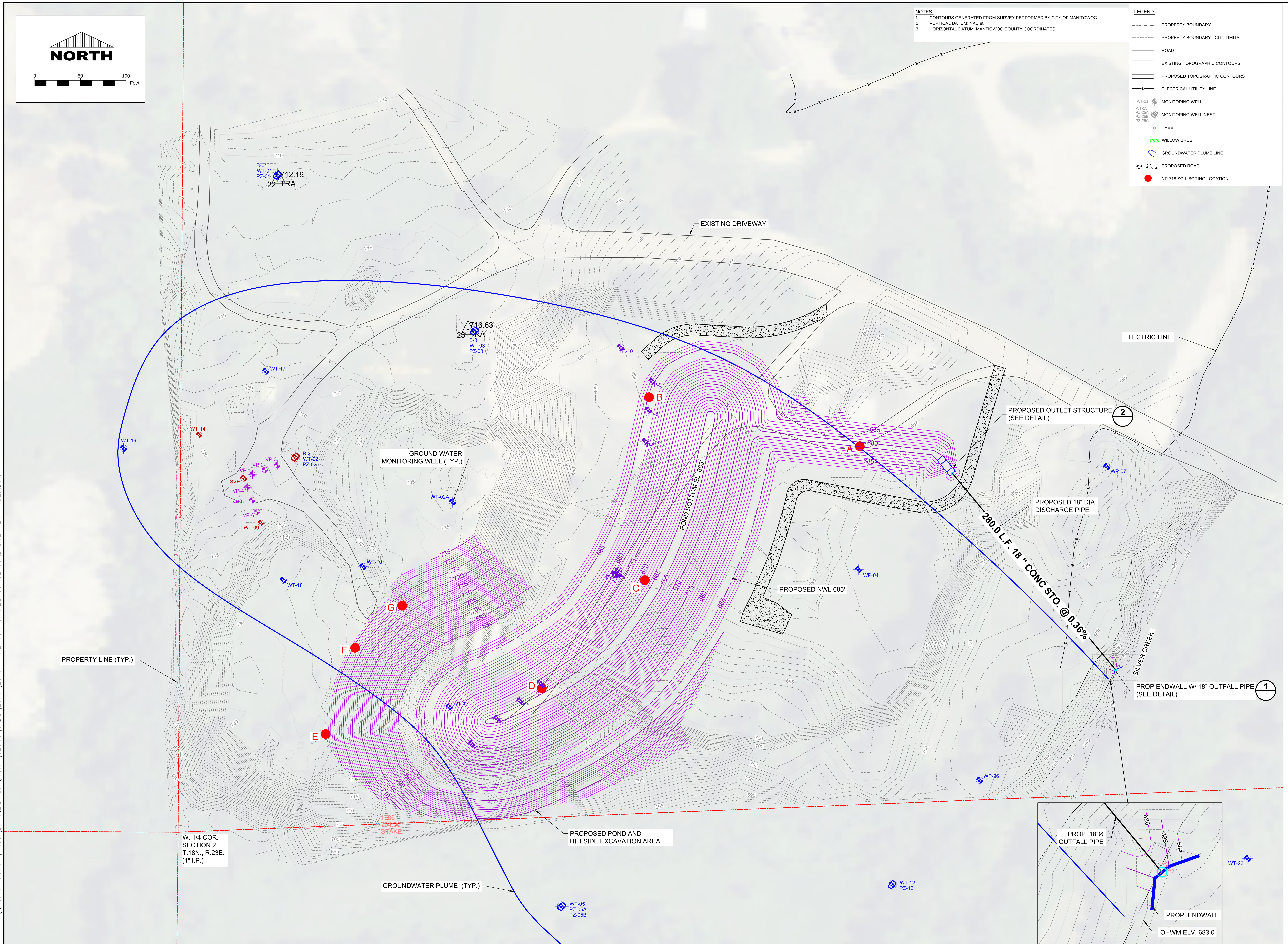
Laboratory data indicate that soil excavated from above the water table to create the proposed treatment pond, approximately elevation 685 feet msl, is suitable for use without limitation as "not contaminated" clean fill.

Laboratory VOC and TCLP data from soil Boring D indicate that soils excavated for the proposed treatment pond from below the water table elevation, 685 feet msl, will not be considered characteristically hazardous waste.

AECOM anticipates providing an NR 718.12(1) exemption request with a NR 718.12(2) soil management plan as part of a revised Remedial Actions Options Report, to be submitted to the WDNR under a separate cover.

Attachments:

- Figure 1, Boring Locations
- Table 1, Summary of Analytical Results
- Attachment A, Photo Log
- Attachment B, Boring Logs & Abandonment Forms
- Attachment C, Analytical Laboratory Data


NORTH
0 50 100 Feet
NOTES:
1. CONTOURS GENERATED FROM SURVEY PERFORMED BY CITY OF MANITOWOC
2. VERTICAL DATUM: NAD 88
3. HORIZONTAL DATUM: MANTIOWOC COUNTY COORDINATES
LEGEND:
PROPERTY BOUNDARY
PROPERTY BOUNDARY - CITY LIMITS
ROAD
EXISTING TOPOGRAPHIC CONTOURS
PROPOSED TOPOGRAPHIC CONTOURS
ELECTRICAL UTILITY LINE
WT-11 MONITORING WELL
WT-25 PZ-25A PZ-25B PZ-25C MONITORING WELL NEST
TREE
WILLOW BRUSH
GROUNDWATER PLUME LINE
PROPOSED ROAD
NR 718 SOIL BORING LOCATION
B-01 WT-01 PZ-01 712.19 22 TRA
716.63 23 TRA
B-3 WT-03 PZ-03
EXISTING DRIVEWAY
ELECTRIC LINE
WT-17
WT-19
WT-14
B-2 WT-02 PZ-02
VP-1 VP-2 VP-3 VP-4 VP-5 VP-6 SVE
WT-09
GROUND WATER MONITORING WELL (TYP.)
WT-02A
WT-10
WT-18
PROPOSED OUTLET STRUCTURE (SEE DETAIL) 2
PROPOSED 18" DIA. DISCHARGE PIPE
280.0 L.F. 18 " CONC STO. @ 0.36%
POND BOTTOM EL. 685'
PROPOSED NWL 685'
WP-07
WP-04
WP-06
SILVER CREEK
PROP ENDWALL W/ 18" OUTFALL PIPE (SEE DETAIL) 1
A B C D E F G
PROPERTY LINE (TYP.)
W. 1/4 COR. SECTION 2 T.18N., R.23E. (1" I.P.)
PROPOSED POND AND HILLSIDE EXCAVATION AREA
GROUNDWATER PLUME (TYP.)
WT-05 PZ-05A PZ-05B
WT-12 PZ-12
WT-23
PROP. 18"Ø OUTFALL PIPE
PROP. ENDWALL
OHWM ELV. 683.0

Layout–Sheet Name: SAMPLE LOCS
Filename: \\USMWK1FS001\PROD\DATA\LIBRARY\WORK\82518\CADD\2017\2017 – NEWTON GRAVEL CONCEPTUAL SITE PLAN –OLD.DWG
Plot File Date Created: Apr/19/2017 3:24 PM
Plotted By: engelhardts

AECOM

PROJECT

FORMER NEWTON GRAVEL PIT - CAP & POND DESIGN

MANITOWOC, WISCONSIN

CLIENT

CITY OF MANITOWOC

900 QUAY ST.
MANITOWOC, WI 54220
920-686-6910 tel
www.manitowoc.org

CONSULTANT

AECOM
1555 RIVERCENTER DRIVE, SUITE 214
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SUB CONSULTANT

REGISTRATION

ISSUE/REVISION

I	04/19/17	BID SET
I/R	DATE	DESCRIPTION

KEY PLAN

PROJECT NUMBER

60135471

FIGURE TITLE

NR 718 SOIL BORING LOCATION

FIGURE NUMBER

FIGURE 1

AECOM

TABLE 1
NR 718 SAMPLING SUMMARY OF ANALYTICAL RESULTS
FORMER TOWN OF NEWTON GRAVEL PIT
MANITOWOC, WISCONSIN

	WDNR NR 720 Generic RCLs			A (0.5')	B (1.2')	C (1.0')	D (2.5')	D (12')	E (15.0')	F (15.0')	G (15.0')
	Non-Industrial (mg/kg)	Industrial (mg/kg)	Groundwater Pathway (mg/kg)	4/3/2017	4/3/2017	4/3/2017	4/3/2017	4/3/2017	4/3/2017	4/3/2017	4/3/2017
VOCs (mg/kg)											
Benzene	1.49	7.41	0.0051	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Bromobenzene	354	679	--	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Bromodichloromethane	0.39	1.96	0.0003	<0.074	<0.074	<0.074	<0.074	<0.074	<0.074	<0.074	<0.074
Bromoform	23.6	115	0.0023	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029
n-Butylbenzene	108	108	--	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
sec-Butylbenzene	145	145	--	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033
tert-Butylbenzene	183	183	--	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026
Carbon Tetrachloride	0.854	4.25	0.0039	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016
Chlorobenzene	392,000	761,000	--	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013
Chloroethane	2,120	2,120	0.2266	<0.091	<0.091	<0.091	<0.091	<0.091	<0.091	<0.091	<0.091
Chloroform	0.423	2.13	0.0033	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035
Chloromethane	171	720	0.0155	<0.076	<0.076	<0.076	<0.076	<0.076	<0.076	<0.076	<0.076
2-Chlorotoluene	907	907	--	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
4-Chlorotoluene	253	253	--	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018
Dibromochloromethane	7.6	34.1	0.032	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,2-Dibromo-3-chloropropane	0.008	0.099	0.0002	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058
1,2-Dibromoethane (EDB)	0.047	0.23	0.0000282	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023
1,2-Dichlorobenzene	376	376	1.168	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028
1,3-Dichlorobenzene	297	297	1.153	<0.037	<0.037	<0.037	<0.037	<0.037	<0.037	<0.037	<0.037
1,4-Dichlorobenzene	3.48	17.5	0.144	<0.037	<0.037	<0.037	<0.037	<0.037	<0.037	<0.037	<0.037
Dichlorodifluoromethane	135	571	3.0863	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048
1,1-Dichloroethane	4.72	23.7	0.4834	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034
1,2-Dichloroethane	0.608	3.03	0.0028	<0.038	<0.038	<0.038	<0.038	<0.038	<0.038	<0.038	<0.038
1,1-Dichloroethene	342	1,190	0.005	<0.022[A]	<0.022[A]	<0.022[A]	<0.022[A]	<0.022[A]	<0.022[A]	<0.022[A]	<0.022[A]
cis-1,2-Dichloroethene	156	2,040	0.0412	<0.032	<0.032	<0.032	<0.032	<0.032	<0.032	<0.032	<0.032
trans-1,2-Dichloroethene	1,560	1,850	0.0626	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028
1,2-Dichloropropane	1.33	6.62	0.0033	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035
1,3-Dichloropropane	1,490	1,490	--	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
cis-1,3-Dichloropropene	1,210	1,210	0.0003	<0.039	<0.039	<0.039	<0.039	<0.039	<0.039	<0.039	<0.039
trans-1,3-Dichloropropene	1,510	1,510	0.0003	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022
Di-isopropyl ether	2,260	2,260	--	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Ethylbenzene	7.47	37	1.57	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035
Hexachlorobutadiene	1.51	7.45	--	<0.085	<0.085	<0.085	<0.085	<0.085	<0.085	<0.085	<0.085
Isopropylbenzene	268	268	--	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034
p-Isopropyltoluene	162	162	--	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029
Methyl tert-butyl ether (MTBE)	59.4	293	0.027	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

TABLE 1
NR 718 SAMPLING SUMMARY OF ANALYTICAL RESULTS
FORMER TOWN OF NEWTON GRAVEL PIT
MANITOWOC, WISCONSIN

	WDNR NR 720 Generic RCLs			A (0.5')	B (1.2')	C (1.0')	D (2.5')	D (12')	E (15.0')	F (15.0')	G (15.0')
	Non-Industrial (mg/kg)	Industrial (mg/kg)	Groundwater Pathway (mg/kg)	4/3/2017	4/3/2017	4/3/2017	4/3/2017	4/3/2017	4/3/2017	4/3/2017	4/3/2017
VOCs (mg/kg)											
Methylene chloride	60.7	1,070	0.0026	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15
Naphthalene	5.15	26	0.6582	<0.094	<0.094	<0.094	<0.094	<0.094	<0.094	<0.094	<0.094
n-Propylbenzene	--	--	--	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033
1,1,1,2-Tetrachloroethane	2.59	12.9	0.0534	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028
1,1,2,2-Tetrachloroethane	0.753	3.69	0.0002	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028
Tetrachloroethene	30.7	153	0.0045	<0.032	<0.032	<0.032	<0.032	<0.032	<0.032	<0.032	<0.032
Toluene	818	818	1.1072	<0.032	<0.032	<0.032	<0.032	<0.032	<0.032	<0.032	<0.032
1,2,3-Trichlorobenzene	62.6	818	--	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066
1,2,4-Trichlorobenzene	22	98.7	0.408	<0.064	<0.064	<0.064	<0.064	<0.064	<0.064	<0.064	<0.064
1,1,1-Trichloroethane	640	640	0.1402	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
1,1,2-Trichloroethane	1.48	7.34	0.0032	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033
Trichloroethene (TCE)	1.26	8.81	0.0036	<0.041	<0.041	<0.041	<0.041	<0.041	<0.041	<0.041	<0.041
Trichlorofluoromethane	1,230	1,230	--	<0.041	<0.041	<0.041	<0.041	<0.041	<0.041	<0.041	<0.041
1,2,4-Trimethylbenzene	89.8	219	1.3821	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,3,5-Trimethylbenzene	182	182	1.3821	<0.032	<0.032	<0.032	<0.032	<0.032	<0.032	<0.032	<0.032
Vinyl Chloride	0.067	2.03	0.0001	<0.019	<0.019	<0.019	<0.019	<0.019	<0.019	<0.019	<0.019
o-Xylene	434	434	3.69	<0.044	<0.044	<0.044	<0.044	<0.044	<0.044	<0.044	<0.044
m&p-Xylene	778	778	3.69	<0.072	<0.072	<0.072	<0.072	<0.072	<0.072	<0.072	<0.072
TCLP (mg/l)	**NR 661.24 Toxicity Characteristic Regulatory Level (mg/L)**										
TCLP Benzene	0.5			NA	NA	NA	NA	<0.05	NA	NA	NA
TCLP Carbon Tetrachloride	0.5			NA	NA	NA	NA	<0.05	NA	NA	NA
TCLP Chlorobenzene	100.0			NA	NA	NA	NA	<0.05	NA	NA	NA
TCLP Chloroform	6.0			NA	NA	NA	NA	<0.25	NA	NA	NA
TCLP 1,2-Dichloroethane	0.5			NA	NA	NA	NA	<0.05	NA	NA	NA
TCLP 1,1-Dichloroethene	0.7			NA	NA	NA	NA	<0.05	NA	NA	NA
TCLP Methyl Ethyl Ketone	200.0			NA	NA	NA	NA	<0.5	NA	NA	NA
TCLP Tetrachloroethene	0.7			NA	NA	NA	NA	<0.05	NA	NA	NA
TCLP Trichloroethene	0.5			NA	NA	NA	NA	<0.05	NA	NA	NA
TCLP Vinyl Chloride	0.2			NA	NA	NA	NA	<0.05	NA	NA	NA

Notes:

VOCs - Volatile Organic Compounds

RCLs - Residual Contaminant Levels

-- No Generic RCL established.

< Indicates the compound was below the method detection limit

[A] The LCS not within established limits.

NA - Not Analyzed

Attachment A
Photo Log

AECOM

PHOTOGRAPHIC LOG

Facility Name:	Site Location:	Project No.
Newton Pit NR 718 Investigation	3130 Hecker Road, Manitowoc Wisconsin	60135471

Photo No.	Date:
1	4/3/2017

Direction Photo Taken:

Northeast

Description:

Location of Soil Boring G.

Note: rutting from GeoProbe tracks from trying to go up the hill.

Photo No.	Date:
2	4/21/17

Direction Photo Taken:

West

Description:

Soil Boring D, approximately 1-foot southeast of temporary well P-4.

Attachment B
Boring Logs & Abandonment Forms

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION
Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Revelopment ☒ Other ☐ _____

Page 1 of 1

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
FORMER NEWTON GRAVEL PIT		A

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name: DAN Last Name: FISHER Firm: HORIZON	04/03/2017 (m m d d y y y y)	04/03/2017 (m m d d y y y y)	GEOPROBE

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
_ _ _ _ _ _	_ _ _ _		_____ Feet MSL	_____ Feet MSL	2 1/4 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane _____ N, _____ E
_____ 1/4 of _____ 1/4 of Section _____, T _____ N, R _____
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location ☐ N ☐ E _____ Feet ☐ S _____ Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	MANITOWOC	36	MANITOWOC

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	5/1.4		5'	0.0 - 0.7 Loose very pale brown (10YR 8/2) WELL GRADED SAND WITH GRAVEL (SW) moist, non-plastic, non cohesive, massive 0.7 - 1.4 Loose very pale brown (10YR 8/2) WELL GRADED GRAVEL (GW) wet, non-plastic, non-cohesive, massive EOB 5'	SW GW			0.0					

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
Sarah E Day	AECOM

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION
Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Revelopment ☒ Other ☐ _____

Page 1 of 1

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
FORMER NEWTON GRAVEL PIT		B

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name: DAN Last Name: FISHER Firm: HORIZON	04/03/2017 (m m d d y y y y)	04/03/2017 (m m d d y y y y)	GEOPROBE

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
_ _ _ _ _ _	_ _ _ _ _		_____ Feet MSL	_____ Feet MSL	2 1/4 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane _____ N, _____ E
_____ 1/4 of _____ 1/4 of Section _____, T _____ N, R _____
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E _____ Feet ☐ S _____ Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	MANITOWOC	36	MANITOWOC

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	5/2.2		0	0.0 - 0.5 Stiff Light brown (7.5YR 6/4) LEAN CLAY (CL) WITH SAND Massive, cohesive, low-med Plasticity, moist.	CL			0.0						
			5'	0.5 - 2.2 Loose very pale brown (10YR 7/4) WELL GRADED SAND WITH GRAVEL (SW) moist, noncohesive nonplastic, massive. moisture change to wet at 1.6 FT EOB 5'	SW									

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Sarah E Day Firm: AECOM

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION
Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Revelopment ☒ Other ☐ _____

Page 1 of 1

Facility/Project Name: FORMER NEWTON GRAVEL PIT	License/Permit/Monitoring Number:	Boring Number: C	
Boring Drilled By: Name of crew chief (first, last) and Firm — First Name: DAN Last Name: FISHER — Firm: HORIZON	Date Drilling Started: 04/03/2017	Date Drilling Completed: 04/03/2017	Drilling Method: GEOPROBE
WI Unique Well No.: _ _ _ _ _ _	DNR Well ID No.: _ _ _ _	Well Name:	Final Static Water Level: _____ Feet MSL
Surface Elevation: _____ Feet MSL	Borehole Diameter: 2 1/4 inches		
Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐ — State Plane _____ N, _____ E — _____ 1/4 of _____ 1/4 of Section _____, T _____ N, R _____	Lat ° ' " — Long ° ' "	Local Grid Location: ☐ N ☐ E _____ Feet ☐ S _____ Feet ☐ W	
Facility ID	County: MANITOWOC	County Code: 36	Civil Town/City/ or Village: MANITOWOC

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	5/2.5			0.0-0.3 Stiff light brown (7.5YR 6/4) LEAN CLAY WITH SAND (CL) cohesive, med.-low plasticity moist, massive	CL			0.0						
			5'	0.3-2.5 loose very pale brown (10YR 7/4) POORLY GRADED SAND (SP) moist, non cohesive, non-plastic, massive	SP									
				moisture change to wet at 1.7 FT										
				EOB 5'										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Sarah E. Days — Firm: AECOM

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION
Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Revelopment ☒ Other ☐ _____

Page 1 of 1

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
FORMER NEWTON GRAVEL PIT		D

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name: DAN Last Name: FISHER Firm: HORIZON	04/03/2017 (m m d d y y y y)	04/03/2017 (m m d d y y y y)	GEOPROBE

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
_ _ _ _ _ _	_ _ _ _		_____ Feet MSL	_____ Feet MSL	2 1/4 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane _____ N, _____ E
_____ 1/4 of _____ 1/4 of Section _____, T _____ N, R _____
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E _____ Feet ☐ S _____ Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	MANITOWOC	36	MANITOWOC

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	5/2.2'			0.0 - 12.0 Loose very pale brown (10YR 7/4) POORLY GRADED SAND WITH GRAVEL (SP) moist, non-cohesive, nonplastic, massive	SP			0.0						
2 GP	5/3.1'		5'	Color change to black (10YR 2/1) 0.6-1.2 FT Color change to pale brown (10YR 6/3) 1.2-5.9 FT										
3 GP	2/4'		10'	Moisture change to wet at 6.3 FT				0.0						
			12'	EOB 12'										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Sarah E Day Firm AECOM

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION
Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Revelopment ☒ Other ☐ _____

Page 1 of 1

Facility/Project Name: FORMER NEWTON GRAVEL PIT	License/Permit/Monitoring Number	Boring Number: E	
Boring Drilled By: Name of crew chief (first, last) and Firm — First Name: DAN Last Name: FISHER — Firm: HORIZON	Date Drilling Started: 04/03/2017	Date Drilling Completed: 04/03/2017	Drilling Method: GEOPROBE
WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level: _____ Feet MSL	Surface Elevation: _____ Feet MSL	Borehole Diameter: 2 1/4 inches
Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐ — State Plane _____ N, _____ E	Lat ° ' " — Long ° ' "	Local Grid Location: _____ Feet ☐ N ☐ S _____ Feet ☐ E ☐ W	
_____ 1/4 of _____ 1/4 of Section _____, T _____ N, R _____			
Facility ID	County: MANITOWOC	County Code: 36	Civil Town/City/ or Village: MANITOWOC

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	5/2.5			0.0 - 0.5 Loose brown (10YR 4/3) SILTY SAND (SM) dry, noncohesive non plastic, massive	SM									
			5'	0.5 - 7.7 loose yellowish brown (10YR 5/4) WELL GRADED SAND WITH GRAVEL (SW) dry, noncohesive non plastic, massive	SW									
2 GP	5/2.7			7.7 - 10.0 Stiff strong brown (7.5YR 5/6) LEAN CLAY WITH SAND AND GRAVEL (CL) dry, cohesive med. plasticity, massive	CL									
			10'	10.0 - 12.5 loose yellowish brown (10YR 5/6) WELL GRADED SAND WITH GRAVEL (SW) dry, noncohesive non plastic, massive	SW									
3 GP	5/2.1				CL									
			15'					OD						
				12.5 - 15.0 Stiff strong brown (7.5YR 5/6) LEAN CLAY (CL) dry, cohesive med. plasticity, massive EOB at 15.0'										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Sarah E. Day — Firm: AECOM

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION
Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Revelopment ☒ Other ☐ _____

Page 1 of 1

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
FORMER NEWTON GRAVEL PIT		F

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name: DAN Last Name: FISHER Firm: HORIZON	04/03/2017 (mm dd yyyy)	04/03/2017 (mm dd yyyy)	GEOPROBE

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
_ _ _ _ _	_ _ _ _		_____ Feet MSL	_____ Feet MSL	2 1/4 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane _____ N, _____ E
_____ 1/4 of _____ 1/4 of Section _____, T _____ N, R _____
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E _____ Feet ☐ S _____ Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	5/4.2			0.0 - 0.5 loose brown (10YR 4/3) SILTY SAND (SM) dry, non cohesive non plastic, massive	SM									
			5'	0.5 - 5.0 loose yellowish brown (10YR 5/4) POORLY GRADED SAND (SP) dry, non cohesive, non plastic, massive	SP									
2 GP	5/1.9			5.0 - 10.0 Stiff strong brown (7.5YR 5/6) LEAN CLAY WITH SAND (CL) moist, cohesive, med. plasticity, massive	CL									
			10'											
3 GP	5/2.2			10.0 - 15.0 Loose yellowish brown (10YR 5/4) POORLY GRADED SAND (SP) moist, non cohesive, non plastic, massive	SP			0.0						
			15'											
				EOB at 15'										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
Sarah E Day	AECOM

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION
Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Revelopment ☒ Other ☐ _____

Page 1 of 1

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
FORMER NEWTON GRAVEL PIT		G

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name: DAN Last Name: FISHER Firm: HORIZON	04/03/2017 (m m d d y y y y)	04/03/2017 (m m d d y y y y)	GEOPROBE

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
_ _ _ _ _	_ _ _ _		_____ Feet MSL	_____ Feet MSL	2 1/4 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane _____ N, _____ E
_____ 1/4 of _____ 1/4 of Section _____, T _____ N, R _____
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E _____ Feet ☐ S _____ Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	5/1.75		0	0.0-0.2 loose brown (10YR 4/3) SILTY SAND (SM) dry, noncohesive non plastic, massive. 0.2-15.0 loose very pale brown (10YR 8/2) POORLY GRADED SAND (SP) dry, noncohesive, non plastic, massive	SM SP									
2 GP	5/2.7		5'											
3 GP	5/		10'	EOB at 15'				0.0						
			15'											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
Sarah E Day	AECOM

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State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other:

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
MANITOWOC		

Latitude / Longitude (see instructions) ____ N ____ W
Format Code: ☐ DD ☐ DDM
Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼	¼	Section	Township	Range
or Gov't Lot #			N	☐ E ☐ W

Well Street Address: 3130 HECKER ROAD

Well City, Village or Town	Well ZIP Code
MANITOWOC	
Subdivision Name	Lot #

Reason for Removal from Service	WI Unique Well # of Replacement Well

2. Facility / Owner Information

Facility Name: FORMER NEWTON GRAVEL PIT
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Filled & Sealed Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 04/03/2017
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (specify):

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
5'	
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
2 1/4	

Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	N/A

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☐ No	☒ N/A
Did material settle after 24 hours?	☐ Yes	☐ No	☒ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Screened & Poured (Bentonite Chips) ☒ Other (Explain): DIRECT POUR

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☐ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
BENTONITE HOLEPLUG	Surface			

6. Comments

BORING NAME = A

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
DAN FISHER		04/03/2017

Street or Route	Telephone Number	City	State	ZIP Code
	( )			

Signature of Person Doing Work	Date Signed

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other: _____

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
MANITOWOC	_ _ _ _ _ _ _	

Latitude / Longitude (see instructions) _____ N _____ W
Format Code: ☐ DD ☐ DDM
Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼	¼	Section	Township	Range
or Gov't Lot #			N	☐ E ☐ W

Well Street Address: 3130 HECKER ROAD

Well City, Village or Town	Well ZIP Code
MANITOWOC	
Subdivision Name	Lot #

Reason for Removal from Service	WI Unique Well # of Replacement Well
	_ _ _ _ _ _ _

2. Facility / Owner Information

Facility Name: FORMER NEWTON GRAVEL PIT
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Filled & Sealed Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 04/03/2017
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (specify): _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
5	
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
2 1/4	

Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	N/A

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☐ No	☒ N/A
Did material settle after 24 hours?	☐ Yes	☐ No	☒ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Screened & Poured (Bentonite Chips) ☒ Other (Explain): DIRECT POUR

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☐ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
BENTONITE HOLEPLUG	Surface			

6. Comments

BORING NAME = B

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
DAN FISHER		04/03/2017

Street or Route	Telephone Number
	( )

City	State	ZIP Code	Signature of Person Doing Work	Date Signed

DNR Use Only

Date Received	Noted By
Comments	

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other: _____

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
MANITOWOC		

Latitude / Longitude (see instructions) _____ N _____ W | Format Code: ☐ DD ☐ DDM | Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼	¼	Section	Township	Range
or Gov't Lot #			N	☐ E ☐ W

Well Street Address: 3130 HECKER ROAD

Well City, Village or Town: MANITOWOC | Well ZIP Code:

Subdivision Name: | Lot #:

Reason for Removal from Service: | WI Unique Well # of Replacement Well: _ _ _ _ _ _ _

2. Facility / Owner Information

Facility Name: FORMER NEWTON GRAVEL PIT

Facility ID (FID or PWS):

License/Permit/Monitoring #:

Original Well Owner:

Present Well Owner:

Mailing Address of Present Owner:

City of Present Owner: | State: | ZIP Code:

3. Filled & Sealed Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 04/03/2017

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (specify): _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
5'	
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
2 1/4	

Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	N/A

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☐ No	☒ N/A
Did material settle after 24 hours?	☐ Yes	☐ No	☒ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Screened & Poured (Bentonite Chips) ☒ Other (Explain): DIRECT POUR

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☐ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
BENTONITE HOLEPLUG	Surface			

6. Comments

BORING NAME = C

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
DAN FISHER		04/03/2017

Street or Route	Telephone Number	City	State	ZIP Code
	( )			

Signature of Person Doing Work	Date Signed

DNR Use Only

Date Received	Noted By	Comments

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other: _____

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
MANITOWOC		

Latitude / Longitude (see instructions): _____ N _____ W
Format Code: ☐ DD ☐ DDM
Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼	¼	Section	Township	Range
or Gov't Lot #			N	☐ E ☐ W

Well Street Address: 3130 HECKER ROAD

Well City, Village or Town	Well ZIP Code
MANITOWOC	
Subdivision Name	Lot #

Reason for Removal from Service	WI Unique Well # of Replacement Well

2. Facility / Owner Information

Facility Name: FORMER NEWTON GRAVEL PIT
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Filled & Sealed Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 04/03/2017
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (specify): _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
12'	
Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2 1/4	

Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	N/A

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☐ No	☒ N/A
Did material settle after 24 hours?	☐ Yes	☐ No	☒ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Screened & Poured (Bentonite Chips) ☒ Other (Explain): DIRECT POUR

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☐ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
BENTONITE HOLE PLUG	Surface			

6. Comments

BORING NAME = D

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
DAN FISHER		04/03/2017

Street or Route	Telephone Number	City	State	ZIP Code
	( )			

Signature of Person Doing Work	Date Signed

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

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☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other: _____

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
MANITOWOC	_ _ _ _ _ _ _	

Latitude / Longitude (see instructions) _____ N _____ W | Format Code: ☐ DD ☐ DDM | Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼	¼	Section	Township	Range
or Gov't Lot #			N	☐ E ☐ W

Well Street Address: 3130 HECKER ROAD

Well City, Village or Town	Well ZIP Code
MANITOWOC	
Subdivision Name	Lot #

Reason for Removal from Service	WI Unique Well # of Replacement Well
	_ _ _ _ _ _ _

2. Facility / Owner Information

Facility Name: FORMER NEWTON GRAVEL PIT
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Filled & Sealed Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 04/03/2017

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (specify): _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
15'	
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
2 1/4	

Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	N/A

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☐ No	☒ N/A
Did material settle after 24 hours?	☐ Yes	☐ No	☒ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Screened & Poured (Bentonite Chips) ☒ Other (Explain): DIRECT POUR

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☐ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
BENTONITE HOLE PLUG	Surface			

6. Comments

BORING NAME = E

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
DAN FISHER		04/03/2017

Street or Route	Telephone Number
	( )

City	State	ZIP Code	Signature of Person Doing Work	Date Signed

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

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☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other:

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
MANITOWOC		

Latitude / Longitude (see instructions) ____ N ____ W | Format Code: ☐ DD ☐ DDM | Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼	¼	Section	Township	Range
or Gov't Lot #			N	☐ E ☐ W

Well Street Address: 3130 HECKER ROAD

Well City, Village or Town	Well ZIP Code
MANITOWOC	
Subdivision Name	Lot #

Reason for Removal from Service	WI Unique Well # of Replacement Well

2. Facility / Owner Information

Facility Name: FORMER NEWTON GRAVEL PIT
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Filled & Sealed Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 04/03/2017

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (specify):

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
15'	
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
2 1/4	

Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	N/A

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☐ No	☒ N/A
Did material settle after 24 hours?	☐ Yes	☐ No	☒ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Screened & Poured (Bentonite Chips) ☒ Other (Explain): DIRECT POUR

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☐ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
BENTONITE HOLEPLUG	Surface			

6. Comments

BORING NAME = F

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
DAN FISHER		04/03/2017

Street or Route	Telephone Number	City	State	ZIP Code
	( )			

Signature of Person Doing Work	Date Signed

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

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☐ Waste Management ☐ Other:

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
MANITOWOC		

Latitude / Longitude (see instructions) ____ N ____ W | Format Code: ☐ DD ☐ DDM | Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼	¼	Section	Township	Range
or Gov't Lot #			N	☐ E ☐ W

Well Street Address: 3130 HECKER ROAD

Well City, Village or Town	Well ZIP Code
MANITOWOC	
Subdivision Name	Lot #

Reason for Removal from Service | WI Unique Well # of Replacement Well: _ _ _ _ _ _ _

2. Facility / Owner Information

Facility Name: FORMER NEWTON GRAVEL PIT
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Filled & Sealed Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 04/03/2017
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (specify):

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
15'	
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
2 1/4	

Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	N/A

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☐ No	☒ N/A
Did material settle after 24 hours?	☐ Yes	☐ No	☒ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Screened & Poured (Bentonite Chips) ☒ Other (Explain): DIRECT POUR

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☐ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
BENTONITE HOLEPLUG	Surface			

6. Comments

BORING NAME = G

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
DAN FISHER		04/03/2017

Street or Route	Telephone Number	City	State	ZIP Code
	( )			

Signature of Person Doing Work	Date Signed

DNR Use Only

Date Received	Noted By

Comments:

Attachment C
Analytical Laboratory Data

Synergy Environmental Lab, INC.

1990 Prospect Ct., Appleton, WI 54914 *P 920-830-2455 * F 920-733-0631

DAVE HENDERSON
AECOM
1555 N RIVERCENTER DRIVE
MILWAUKEE, WI 53212

Report Date *14-Apr-17*

Project Name FMR NEWTON GRAVEL PIT **Invoice #** E32728
Project # 60135471

Lab Code 5032728A
Sample ID D(2.5')
Sample Matrix Soil
Sample Date 4/3/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	95.0	%			1	5021		4/5/2017	NJC	1
Organic										
VOC's										
Benzene	< 0.03	mg/kg	0.03	0.96	1	8260B		4/11/2017	TCC	1
Bromobenzene	< 0.025	mg/kg	0.025	0.081	1	8260B		4/11/2017	TCC	1
Bromodichloromethane	< 0.074	mg/kg	0.074	0.24	1	8260B		4/11/2017	TCC	1
Bromoform	< 0.029	mg/kg	0.029	0.092	1	8260B		4/11/2017	TCC	1
tert-Butylbenzene	< 0.026	mg/kg	0.026	0.084	1	8260B		4/11/2017	TCC	1
sec-Butylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		4/11/2017	TCC	1
n-Butylbenzene	< 0.04	mg/kg	0.04	0.13	1	8260B		4/11/2017	TCC	1
Carbon Tetrachloride	< 0.016	mg/kg	0.016	0.053	1	8260B		4/11/2017	TCC	1
Chlorobenzene	< 0.013	mg/kg	0.013	0.04	1	8260B		4/11/2017	TCC	1
Chloroethane	< 0.091	mg/kg	0.091	0.29	1	8260B		4/11/2017	TCC	1
Chloroform	< 0.035	mg/kg	0.035	0.11	1	8260B		4/11/2017	TCC	1
Chloromethane	< 0.076	mg/kg	0.076	0.24	1	8260B		4/11/2017	TCC	1
2-Chlorotoluene	< 0.015	mg/kg	0.015	0.047	1	8260B		4/11/2017	TCC	1
4-Chlorotoluene	< 0.018	mg/kg	0.018	0.057	1	8260B		4/11/2017	TCC	1
1,2-Dibromo-3-chloropropane	< 0.058	mg/kg	0.058	0.18	1	8260B		4/11/2017	TCC	1
Dibromochloromethane	< 0.025	mg/kg	0.025	0.079	1	8260B		4/11/2017	TCC	1
1,4-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		4/11/2017	TCC	1
1,3-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		4/11/2017	TCC	1
1,2-Dichlorobenzene	< 0.028	mg/kg	0.028	0.088	1	8260B		4/11/2017	TCC	1
Dichlorodifluoromethane	< 0.048	mg/kg	0.048	0.15	1	8260B		4/11/2017	TCC	1
1,2-Dichloroethane	< 0.038	mg/kg	0.038	0.12	1	8260B		4/11/2017	TCC	1
1,1-Dichloroethane	< 0.034	mg/kg	0.034	0.11	1	8260B		4/11/2017	TCC	1
1,1-Dichloroethene	< 0.022	mg/kg	0.022	0.069	1	8260B		4/11/2017	TCC	7
cis-1,2-Dichloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		4/11/2017	TCC	1
trans-1,2-Dichloroethene	< 0.028	mg/kg	0.028	0.09	1	8260B		4/11/2017	TCC	1

Project Name FMR NEWTON GRAVEL PIT **Invoice #** E32728
Project # 60135471

Lab Code 5032728A
Sample ID D(2.5')
Sample Matrix Soil
Sample Date 4/3/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,2-Dichloropropane	< 0.035	mg/kg	0.035	0.11	1	8260B		4/11/2017	TCC	1
1,3-Dichloropropane	< 0.025	mg/kg	0.025	0.079	1	8260B		4/11/2017	TCC	1
trans-1,3-Dichloropropene	< 0.022	mg/kg	0.022	0.068	1	8260B		4/11/2017	TCC	1
cis-1,3-Dichloropropene	< 0.039	mg/kg	0.039	0.12	1	8260B		4/11/2017	TCC	1
Di-isopropyl ether	< 0.01	mg/kg	0.01	0.032	1	8260B		4/11/2017	TCC	1
EDB (1,2-Dibromoethane)	< 0.023	mg/kg	0.023	0.072	1	8260B		4/11/2017	TCC	1
Ethylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		4/11/2017	TCC	1
Hexachlorobutadiene	< 0.085	mg/kg	0.085	0.27	1	8260B		4/11/2017	TCC	1
Isopropylbenzene	< 0.034	mg/kg	0.034	0.11	1	8260B		4/11/2017	TCC	1
p-Isopropyltoluene	< 0.029	mg/kg	0.029	0.093	1	8260B		4/11/2017	TCC	1
Methylene chloride	< 0.15	mg/kg	0.15	0.46	1	8260B		4/11/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 0.05	mg/kg	0.05	0.16	1	8260B		4/11/2017	TCC	1
Naphthalene	< 0.094	mg/kg	0.094	0.3	1	8260B		4/11/2017	TCC	1
n-Propylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		4/11/2017	TCC	1
1,1,2,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.88	1	8260B		4/11/2017	TCC	1
1,1,1,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.09	1	8260B		4/11/2017	TCC	1
Tetrachloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		4/11/2017	TCC	1
Toluene	< 0.032	mg/kg	0.032	0.1	1	8260B		4/11/2017	TCC	1
1,2,4-Trichlorobenzene	< 0.064	mg/kg	0.064	0.2	1	8260B		4/11/2017	TCC	1
1,2,3-Trichlorobenzene	< 0.066	mg/kg	0.066	0.21	1	8260B		4/11/2017	TCC	1
1,1,1-Trichloroethane	< 0.03	mg/kg	0.03	0.96	1	8260B		4/11/2017	TCC	1
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		4/11/2017	TCC	1
Trichloroethene (TCE)	< 0.041	mg/kg	0.041	0.13	1	8260B		4/11/2017	TCC	1
Trichlorofluoromethane	< 0.041	mg/kg	0.041	0.13	1	8260B		4/11/2017	TCC	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.025	0.08	1	8260B		4/11/2017	TCC	1
1,3,5-Trimethylbenzene	< 0.032	mg/kg	0.032	0.1	1	8260B		4/11/2017	TCC	1
Vinyl Chloride	< 0.019	mg/kg	0.019	0.062	1	8260B		4/11/2017	TCC	1
m&p-Xylene	< 0.072	mg/kg	0.072	0.23	1	8260B		4/11/2017	TCC	1
o-Xylene	< 0.044	mg/kg	0.044	0.14	1	8260B		4/11/2017	TCC	1
SUR - Dibromofluoromethane	100	Rec %			1	8260B		4/11/2017	TCC	1
SUR - Toluene-d8	105	Rec %			1	8260B		4/11/2017	TCC	1
SUR - 4-Bromofluorobenzene	102	Rec %			1	8260B		4/11/2017	TCC	1
SUR - 1,2-Dichloroethane-d4	99	Rec %			1	8260B		4/11/2017	TCC	1

Project Name FMR NEWTON GRAVEL PIT **Invoice #** E32728
Project # 60135471

Lab Code 5032728B
Sample ID D(12')
Sample Matrix Soil
Sample Date 4/3/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	87.5	%			1	5021		4/5/2017	NJC	1
Organic										
TCLP VOC's										
TCLP Benzene	< 0.05	mg/l	0.05		1	8260B		4/12/2017	ESC	1
TCLP Carbon Tetrachloride	< 0.05	mg/l	0.05		1	8260B		4/12/2017	ESC	1
TCLP Chlorobenzene	< 0.05	mg/l	0.05		1	8260B		4/12/2017	ESC	1
TCLP Chloroform	< 0.25	mg/l	0.25		1	8260B		4/12/2017	ESC	1
TCLP 1,2-Dichloroethane	< 0.05	mg/l	0.05		1	8260B		4/12/2017	ESC	1
TCLP 1,1-Dichloroethene	< 0.05	mg/l	0.05		1	8260B		4/12/2017	ESC	1
TCLP Methyl Ethyl Ketone	< 0.5	mg/l	0.5		1	8260B		4/12/2017	ESC	1
TCLP Tetrachloroethene	< 0.05	mg/l	0.05		1	8260B		4/12/2017	ESC	1
TCLP Trichloroethene	< 0.05	mg/l	0.05		1	8260B		4/12/2017	ESC	1
TCLP Vinyl Chloride	< 0.05	mg/l	0.05		1	8260B		4/12/2017	ESC	1
VOC's										
Benzene	< 0.03	mg/kg	0.03	0.96	1	8260B		4/11/2017	TCC	1
Bromobenzene	< 0.025	mg/kg	0.025	0.081	1	8260B		4/11/2017	TCC	1
Bromodichloromethane	< 0.074	mg/kg	0.074	0.24	1	8260B		4/11/2017	TCC	1
Bromoform	< 0.029	mg/kg	0.029	0.092	1	8260B		4/11/2017	TCC	1
tert-Butylbenzene	< 0.026	mg/kg	0.026	0.084	1	8260B		4/11/2017	TCC	1
sec-Butylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		4/11/2017	TCC	1
n-Butylbenzene	< 0.04	mg/kg	0.04	0.13	1	8260B		4/11/2017	TCC	1
Carbon Tetrachloride	< 0.016	mg/kg	0.016	0.053	1	8260B		4/11/2017	TCC	1
Chlorobenzene	< 0.013	mg/kg	0.013	0.04	1	8260B		4/11/2017	TCC	1
Chloroethane	< 0.091	mg/kg	0.091	0.29	1	8260B		4/11/2017	TCC	1
Chloroform	< 0.035	mg/kg	0.035	0.11	1	8260B		4/11/2017	TCC	1
Chloromethane	< 0.076	mg/kg	0.076	0.24	1	8260B		4/11/2017	TCC	1
2-Chlorotoluene	< 0.015	mg/kg	0.015	0.047	1	8260B		4/11/2017	TCC	1
4-Chlorotoluene	< 0.018	mg/kg	0.018	0.057	1	8260B		4/11/2017	TCC	1
1,2-Dibromo-3-chloropropane	< 0.058	mg/kg	0.058	0.18	1	8260B		4/11/2017	TCC	1
Dibromochloromethane	< 0.025	mg/kg	0.025	0.079	1	8260B		4/11/2017	TCC	1
1,4-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		4/11/2017	TCC	1
1,3-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		4/11/2017	TCC	1
1,2-Dichlorobenzene	< 0.028	mg/kg	0.028	0.088	1	8260B		4/11/2017	TCC	1
Dichlorodifluoromethane	< 0.048	mg/kg	0.048	0.15	1	8260B		4/11/2017	TCC	1
1,2-Dichloroethane	< 0.038	mg/kg	0.038	0.12	1	8260B		4/11/2017	TCC	1
1,1-Dichloroethane	< 0.034	mg/kg	0.034	0.11	1	8260B		4/11/2017	TCC	1
1,1-Dichloroethene	< 0.022	mg/kg	0.022	0.069	1	8260B		4/11/2017	TCC	7
cis-1,2-Dichloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		4/11/2017	TCC	1
trans-1,2-Dichloroethene	< 0.028	mg/kg	0.028	0.09	1	8260B		4/11/2017	TCC	1
1,2-Dichloropropane	< 0.035	mg/kg	0.035	0.11	1	8260B		4/11/2017	TCC	1
1,3-Dichloropropane	< 0.025	mg/kg	0.025	0.079	1	8260B		4/11/2017	TCC	1
trans-1,3-Dichloropropene	< 0.022	mg/kg	0.022	0.068	1	8260B		4/11/2017	TCC	1
cis-1,3-Dichloropropene	< 0.039	mg/kg	0.039	0.12	1	8260B		4/11/2017	TCC	1
Di-isopropyl ether	< 0.01	mg/kg	0.01	0.032	1	8260B		4/11/2017	TCC	1
EDB (1,2-Dibromoethane)	< 0.023	mg/kg	0.023	0.072	1	8260B		4/11/2017	TCC	1
Ethylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		4/11/2017	TCC	1
Hexachlorobutadiene	< 0.085	mg/kg	0.085	0.27	1	8260B		4/11/2017	TCC	1
Isopropylbenzene	< 0.034	mg/kg	0.034	0.11	1	8260B		4/11/2017	TCC	1
p-Isopropyltoluene	< 0.029	mg/kg	0.029	0.093	1	8260B		4/11/2017	TCC	1

Project Name FMR NEWTON GRAVEL PIT **Invoice #** E32728
Project # 60135471

Lab Code 5032728B
Sample ID D(12')
Sample Matrix Soil
Sample Date 4/3/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Methylene chloride	< 0.15	mg/kg	0.15	0.46	1	8260B		4/11/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 0.05	mg/kg	0.05	0.16	1	8260B		4/11/2017	TCC	1
Naphthalene	< 0.094	mg/kg	0.094	0.3	1	8260B		4/11/2017	TCC	1
n-Propylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		4/11/2017	TCC	1
1,1,2,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.88	1	8260B		4/11/2017	TCC	1
1,1,1,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.09	1	8260B		4/11/2017	TCC	1
Tetrachloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		4/11/2017	TCC	1
Toluene	< 0.032	mg/kg	0.032	0.1	1	8260B		4/11/2017	TCC	1
1,2,4-Trichlorobenzene	< 0.064	mg/kg	0.064	0.2	1	8260B		4/11/2017	TCC	1
1,2,3-Trichlorobenzene	< 0.066	mg/kg	0.066	0.21	1	8260B		4/11/2017	TCC	1
1,1,1-Trichloroethane	< 0.03	mg/kg	0.03	0.96	1	8260B		4/11/2017	TCC	1
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		4/11/2017	TCC	1
Trichloroethene (TCE)	< 0.041	mg/kg	0.041	0.13	1	8260B		4/11/2017	TCC	1
Trichlorofluoromethane	< 0.041	mg/kg	0.041	0.13	1	8260B		4/11/2017	TCC	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.025	0.08	1	8260B		4/11/2017	TCC	1
1,3,5-Trimethylbenzene	< 0.032	mg/kg	0.032	0.1	1	8260B		4/11/2017	TCC	1
Vinyl Chloride	< 0.019	mg/kg	0.019	0.062	1	8260B		4/11/2017	TCC	1
m&p-Xylene	< 0.072	mg/kg	0.072	0.23	1	8260B		4/11/2017	TCC	1
o-Xylene	< 0.044	mg/kg	0.044	0.14	1	8260B		4/11/2017	TCC	1
SUR - Toluene-d8	103	Rec %			1	8260B		4/11/2017	TCC	1
SUR - 1,2-Dichloroethane-d4	100	Rec %			1	8260B		4/11/2017	TCC	1
SUR - 4-Bromofluorobenzene	102	Rec %			1	8260B		4/11/2017	TCC	1
SUR - Dibromofluoromethane	99	Rec %			1	8260B		4/11/2017	TCC	1

Project Name FMR NEWTON GRAVEL PIT **Invoice #** E32728
Project # 60135471

Lab Code 5032728C
Sample ID C(1.0')
Sample Matrix Soil
Sample Date 4/3/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	97.1	%			1	5021		4/5/2017	NJC	1
Organic										
VOC's										
Benzene	< 0.03	mg/kg	0.03	0.96	1	8260B		4/11/2017	TCC	1
Bromobenzene	< 0.025	mg/kg	0.025	0.081	1	8260B		4/11/2017	TCC	1
Bromodichloromethane	< 0.074	mg/kg	0.074	0.24	1	8260B		4/11/2017	TCC	1
Bromoform	< 0.029	mg/kg	0.029	0.092	1	8260B		4/11/2017	TCC	1
tert-Butylbenzene	< 0.026	mg/kg	0.026	0.084	1	8260B		4/11/2017	TCC	1
sec-Butylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		4/11/2017	TCC	1
n-Butylbenzene	< 0.04	mg/kg	0.04	0.13	1	8260B		4/11/2017	TCC	1
Carbon Tetrachloride	< 0.016	mg/kg	0.016	0.053	1	8260B		4/11/2017	TCC	1
Chlorobenzene	< 0.013	mg/kg	0.013	0.04	1	8260B		4/11/2017	TCC	1
Chloroethane	< 0.091	mg/kg	0.091	0.29	1	8260B		4/11/2017	TCC	1
Chloroform	< 0.035	mg/kg	0.035	0.11	1	8260B		4/11/2017	TCC	1
Chloromethane	< 0.076	mg/kg	0.076	0.24	1	8260B		4/11/2017	TCC	1
2-Chlorotoluene	< 0.015	mg/kg	0.015	0.047	1	8260B		4/11/2017	TCC	1
4-Chlorotoluene	< 0.018	mg/kg	0.018	0.057	1	8260B		4/11/2017	TCC	1
1,2-Dibromo-3-chloropropane	< 0.058	mg/kg	0.058	0.18	1	8260B		4/11/2017	TCC	1
Dibromochloromethane	< 0.025	mg/kg	0.025	0.079	1	8260B		4/11/2017	TCC	1
1,4-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		4/11/2017	TCC	1
1,3-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		4/11/2017	TCC	1
1,2-Dichlorobenzene	< 0.028	mg/kg	0.028	0.088	1	8260B		4/11/2017	TCC	1
Dichlorodifluoromethane	< 0.048	mg/kg	0.048	0.15	1	8260B		4/11/2017	TCC	1
1,2-Dichloroethane	< 0.038	mg/kg	0.038	0.12	1	8260B		4/11/2017	TCC	1
1,1-Dichloroethane	< 0.034	mg/kg	0.034	0.11	1	8260B		4/11/2017	TCC	1
1,1-Dichloroethene	< 0.022	mg/kg	0.022	0.069	1	8260B		4/11/2017	TCC	7
cis-1,2-Dichloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		4/11/2017	TCC	1
trans-1,2-Dichloroethene	< 0.028	mg/kg	0.028	0.09	1	8260B		4/11/2017	TCC	1
1,2-Dichloropropane	< 0.035	mg/kg	0.035	0.11	1	8260B		4/11/2017	TCC	1
1,3-Dichloropropane	< 0.025	mg/kg	0.025	0.079	1	8260B		4/11/2017	TCC	1
trans-1,3-Dichloropropene	< 0.022	mg/kg	0.022	0.068	1	8260B		4/11/2017	TCC	1
cis-1,3-Dichloropropene	< 0.039	mg/kg	0.039	0.12	1	8260B		4/11/2017	TCC	1
Di-isopropyl ether	< 0.01	mg/kg	0.01	0.032	1	8260B		4/11/2017	TCC	1
EDB (1,2-Dibromoethane)	< 0.023	mg/kg	0.023	0.072	1	8260B		4/11/2017	TCC	1
Ethylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		4/11/2017	TCC	1
Hexachlorobutadiene	< 0.085	mg/kg	0.085	0.27	1	8260B		4/11/2017	TCC	1
Isopropylbenzene	< 0.034	mg/kg	0.034	0.11	1	8260B		4/11/2017	TCC	1
p-Isopropyltoluene	< 0.029	mg/kg	0.029	0.093	1	8260B		4/11/2017	TCC	1
Methylene chloride	< 0.15	mg/kg	0.15	0.46	1	8260B		4/11/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 0.05	mg/kg	0.05	0.16	1	8260B		4/11/2017	TCC	1
Naphthalene	< 0.094	mg/kg	0.094	0.3	1	8260B		4/11/2017	TCC	1
n-Propylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		4/11/2017	TCC	1
1,1,2,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.88	1	8260B		4/11/2017	TCC	1
1,1,1,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.09	1	8260B		4/11/2017	TCC	1
Tetrachloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		4/11/2017	TCC	1
Toluene	< 0.032	mg/kg	0.032	0.1	1	8260B		4/11/2017	TCC	1
1,2,4-Trichlorobenzene	< 0.064	mg/kg	0.064	0.2	1	8260B		4/11/2017	TCC	1
1,2,3-Trichlorobenzene	< 0.066	mg/kg	0.066	0.21	1	8260B		4/11/2017	TCC	1
1,1,1-Trichloroethane	< 0.03	mg/kg	0.03	0.96	1	8260B		4/11/2017	TCC	1

Project Name FMR NEWTON GRAVEL PIT **Invoice #** E32728
Project # 60135471

Lab Code 5032728C
Sample ID C(1.0')
Sample Matrix Soil
Sample Date 4/3/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		4/11/2017	TCC	1
Trichloroethene (TCE)	< 0.041	mg/kg	0.041	0.13	1	8260B		4/11/2017	TCC	1
Trichlorofluoromethane	< 0.041	mg/kg	0.041	0.13	1	8260B		4/11/2017	TCC	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.025	0.08	1	8260B		4/11/2017	TCC	1
1,3,5-Trimethylbenzene	< 0.032	mg/kg	0.032	0.1	1	8260B		4/11/2017	TCC	1
Vinyl Chloride	< 0.019	mg/kg	0.019	0.062	1	8260B		4/11/2017	TCC	1
m&p-Xylene	< 0.072	mg/kg	0.072	0.23	1	8260B		4/11/2017	TCC	1
o-Xylene	< 0.044	mg/kg	0.044	0.14	1	8260B		4/11/2017	TCC	1
SUR - Dibromofluoromethane	103	Rec %			1	8260B		4/11/2017	TCC	1
SUR - Toluene-d8	102	Rec %			1	8260B		4/11/2017	TCC	1
SUR - 4-Bromofluorobenzene	99	Rec %			1	8260B		4/11/2017	TCC	1
SUR - 1,2-Dichloroethane-d4	100	Rec %			1	8260B		4/11/2017	TCC	1

Project Name FMR NEWTON GRAVEL PIT **Invoice #** E32728
Project # 60135471

Lab Code 5032728D
Sample ID B(1.2')
Sample Matrix Soil
Sample Date 4/3/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	90.7	%			1	5021		4/5/2017	NJC	1
Organic										
VOC's										
Benzene	< 0.03	mg/kg	0.03	0.96	1	8260B		4/11/2017	TCC	1
Bromobenzene	< 0.025	mg/kg	0.025	0.081	1	8260B		4/11/2017	TCC	1
Bromodichloromethane	< 0.074	mg/kg	0.074	0.24	1	8260B		4/11/2017	TCC	1
Bromoform	< 0.029	mg/kg	0.029	0.092	1	8260B		4/11/2017	TCC	1
tert-Butylbenzene	< 0.026	mg/kg	0.026	0.084	1	8260B		4/11/2017	TCC	1
sec-Butylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		4/11/2017	TCC	1
n-Butylbenzene	< 0.04	mg/kg	0.04	0.13	1	8260B		4/11/2017	TCC	1
Carbon Tetrachloride	< 0.016	mg/kg	0.016	0.053	1	8260B		4/11/2017	TCC	1
Chlorobenzene	< 0.013	mg/kg	0.013	0.04	1	8260B		4/11/2017	TCC	1
Chloroethane	< 0.091	mg/kg	0.091	0.29	1	8260B		4/11/2017	TCC	1
Chloroform	< 0.035	mg/kg	0.035	0.11	1	8260B		4/11/2017	TCC	1
Chloromethane	< 0.076	mg/kg	0.076	0.24	1	8260B		4/11/2017	TCC	1
2-Chlorotoluene	< 0.015	mg/kg	0.015	0.047	1	8260B		4/11/2017	TCC	1
4-Chlorotoluene	< 0.018	mg/kg	0.018	0.057	1	8260B		4/11/2017	TCC	1
1,2-Dibromo-3-chloropropane	< 0.058	mg/kg	0.058	0.18	1	8260B		4/11/2017	TCC	1
Dibromochloromethane	< 0.025	mg/kg	0.025	0.079	1	8260B		4/11/2017	TCC	1
1,4-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		4/11/2017	TCC	1
1,3-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		4/11/2017	TCC	1
1,2-Dichlorobenzene	< 0.028	mg/kg	0.028	0.088	1	8260B		4/11/2017	TCC	1
Dichlorodifluoromethane	< 0.048	mg/kg	0.048	0.15	1	8260B		4/11/2017	TCC	1
1,2-Dichloroethane	< 0.038	mg/kg	0.038	0.12	1	8260B		4/11/2017	TCC	1
1,1-Dichloroethane	< 0.034	mg/kg	0.034	0.11	1	8260B		4/11/2017	TCC	1
1,1-Dichloroethene	< 0.022	mg/kg	0.022	0.069	1	8260B		4/11/2017	TCC	7
cis-1,2-Dichloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		4/11/2017	TCC	1
trans-1,2-Dichloroethene	< 0.028	mg/kg	0.028	0.09	1	8260B		4/11/2017	TCC	1
1,2-Dichloropropane	< 0.035	mg/kg	0.035	0.11	1	8260B		4/11/2017	TCC	1
1,3-Dichloropropane	< 0.025	mg/kg	0.025	0.079	1	8260B		4/11/2017	TCC	1
trans-1,3-Dichloropropene	< 0.022	mg/kg	0.022	0.068	1	8260B		4/11/2017	TCC	1
cis-1,3-Dichloropropene	< 0.039	mg/kg	0.039	0.12	1	8260B		4/11/2017	TCC	1
Di-isopropyl ether	< 0.01	mg/kg	0.01	0.032	1	8260B		4/11/2017	TCC	1
EDB (1,2-Dibromoethane)	< 0.023	mg/kg	0.023	0.072	1	8260B		4/11/2017	TCC	1
Ethylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		4/11/2017	TCC	1
Hexachlorobutadiene	< 0.085	mg/kg	0.085	0.27	1	8260B		4/11/2017	TCC	1
Isopropylbenzene	< 0.034	mg/kg	0.034	0.11	1	8260B		4/11/2017	TCC	1
p-Isopropyltoluene	< 0.029	mg/kg	0.029	0.093	1	8260B		4/11/2017	TCC	1
Methylene chloride	< 0.15	mg/kg	0.15	0.46	1	8260B		4/11/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 0.05	mg/kg	0.05	0.16	1	8260B		4/11/2017	TCC	1
Naphthalene	< 0.094	mg/kg	0.094	0.3	1	8260B		4/11/2017	TCC	1
n-Propylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		4/11/2017	TCC	1
1,1,2,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.88	1	8260B		4/11/2017	TCC	1
1,1,1,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.09	1	8260B		4/11/2017	TCC	1
Tetrachloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		4/11/2017	TCC	1
Toluene	< 0.032	mg/kg	0.032	0.1	1	8260B		4/11/2017	TCC	1
1,2,4-Trichlorobenzene	< 0.064	mg/kg	0.064	0.2	1	8260B		4/11/2017	TCC	1
1,2,3-Trichlorobenzene	< 0.066	mg/kg	0.066	0.21	1	8260B		4/11/2017	TCC	1
1,1,1-Trichloroethane	< 0.03	mg/kg	0.03	0.96	1	8260B		4/11/2017	TCC	1

Project Name FMR NEWTON GRAVEL PIT **Invoice #** E32728
Project # 60135471

Lab Code 5032728D
Sample ID B(1.2')
Sample Matrix Soil
Sample Date 4/3/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		4/11/2017	TCC	1
Trichloroethene (TCE)	< 0.041	mg/kg	0.041	0.13	1	8260B		4/11/2017	TCC	1
Trichlorofluoromethane	< 0.041	mg/kg	0.041	0.13	1	8260B		4/11/2017	TCC	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.025	0.08	1	8260B		4/11/2017	TCC	1
1,3,5-Trimethylbenzene	< 0.032	mg/kg	0.032	0.1	1	8260B		4/11/2017	TCC	1
Vinyl Chloride	< 0.019	mg/kg	0.019	0.062	1	8260B		4/11/2017	TCC	1
m&p-Xylene	< 0.072	mg/kg	0.072	0.23	1	8260B		4/11/2017	TCC	1
o-Xylene	< 0.044	mg/kg	0.044	0.14	1	8260B		4/11/2017	TCC	1
SUR - 1,2-Dichloroethane-d4	90	Rec %			1	8260B		4/11/2017	TCC	1
SUR - 4-Bromofluorobenzene	98	Rec %			1	8260B		4/11/2017	TCC	1
SUR - Dibromofluoromethane	104	Rec %			1	8260B		4/11/2017	TCC	1
SUR - Toluene-d8	104	Rec %			1	8260B		4/11/2017	TCC	1

Project Name FMR NEWTON GRAVEL PIT **Invoice #** E32728
Project # 60135471

Lab Code 5032728E
Sample ID A(0.5')
Sample Matrix Soil
Sample Date 4/3/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	95.3	%			1	5021		4/5/2017	NJC	1
Organic										
VOC's										
Benzene	< 0.03	mg/kg	0.03	0.96	1	8260B		4/11/2017	TCC	1
Bromobenzene	< 0.025	mg/kg	0.025	0.081	1	8260B		4/11/2017	TCC	1
Bromodichloromethane	< 0.074	mg/kg	0.074	0.24	1	8260B		4/11/2017	TCC	1
Bromoform	< 0.029	mg/kg	0.029	0.092	1	8260B		4/11/2017	TCC	1
tert-Butylbenzene	< 0.026	mg/kg	0.026	0.084	1	8260B		4/11/2017	TCC	1
sec-Butylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		4/11/2017	TCC	1
n-Butylbenzene	< 0.04	mg/kg	0.04	0.13	1	8260B		4/11/2017	TCC	1
Carbon Tetrachloride	< 0.016	mg/kg	0.016	0.053	1	8260B		4/11/2017	TCC	1
Chlorobenzene	< 0.013	mg/kg	0.013	0.04	1	8260B		4/11/2017	TCC	1
Chloroethane	< 0.091	mg/kg	0.091	0.29	1	8260B		4/11/2017	TCC	1
Chloroform	< 0.035	mg/kg	0.035	0.11	1	8260B		4/11/2017	TCC	1
Chloromethane	< 0.076	mg/kg	0.076	0.24	1	8260B		4/11/2017	TCC	1
2-Chlorotoluene	< 0.015	mg/kg	0.015	0.047	1	8260B		4/11/2017	TCC	1
4-Chlorotoluene	< 0.018	mg/kg	0.018	0.057	1	8260B		4/11/2017	TCC	1
1,2-Dibromo-3-chloropropane	< 0.058	mg/kg	0.058	0.18	1	8260B		4/11/2017	TCC	1
Dibromochloromethane	< 0.025	mg/kg	0.025	0.079	1	8260B		4/11/2017	TCC	1
1,4-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		4/11/2017	TCC	1
1,3-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		4/11/2017	TCC	1
1,2-Dichlorobenzene	< 0.028	mg/kg	0.028	0.088	1	8260B		4/11/2017	TCC	1
Dichlorodifluoromethane	< 0.048	mg/kg	0.048	0.15	1	8260B		4/11/2017	TCC	1
1,2-Dichloroethane	< 0.038	mg/kg	0.038	0.12	1	8260B		4/11/2017	TCC	1
1,1-Dichloroethane	< 0.034	mg/kg	0.034	0.11	1	8260B		4/11/2017	TCC	1
1,1-Dichloroethene	< 0.022	mg/kg	0.022	0.069	1	8260B		4/11/2017	TCC	7
cis-1,2-Dichloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		4/11/2017	TCC	1
trans-1,2-Dichloroethene	< 0.028	mg/kg	0.028	0.09	1	8260B		4/11/2017	TCC	1
1,2-Dichloropropane	< 0.035	mg/kg	0.035	0.11	1	8260B		4/11/2017	TCC	1
1,3-Dichloropropane	< 0.025	mg/kg	0.025	0.079	1	8260B		4/11/2017	TCC	1
trans-1,3-Dichloropropene	< 0.022	mg/kg	0.022	0.068	1	8260B		4/11/2017	TCC	1
cis-1,3-Dichloropropene	< 0.039	mg/kg	0.039	0.12	1	8260B		4/11/2017	TCC	1
Di-isopropyl ether	< 0.01	mg/kg	0.01	0.032	1	8260B		4/11/2017	TCC	1
EDB (1,2-Dibromoethane)	< 0.023	mg/kg	0.023	0.072	1	8260B		4/11/2017	TCC	1
Ethylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		4/11/2017	TCC	1
Hexachlorobutadiene	< 0.085	mg/kg	0.085	0.27	1	8260B		4/11/2017	TCC	1
Isopropylbenzene	< 0.034	mg/kg	0.034	0.11	1	8260B		4/11/2017	TCC	1
p-Isopropyltoluene	< 0.029	mg/kg	0.029	0.093	1	8260B		4/11/2017	TCC	1
Methylene chloride	< 0.15	mg/kg	0.15	0.46	1	8260B		4/11/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 0.05	mg/kg	0.05	0.16	1	8260B		4/11/2017	TCC	1
Naphthalene	< 0.094	mg/kg	0.094	0.3	1	8260B		4/11/2017	TCC	1
n-Propylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		4/11/2017	TCC	1
1,1,2,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.88	1	8260B		4/11/2017	TCC	1
1,1,1,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.09	1	8260B		4/11/2017	TCC	1
Tetrachloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		4/11/2017	TCC	1
Toluene	< 0.032	mg/kg	0.032	0.1	1	8260B		4/11/2017	TCC	1
1,2,4-Trichlorobenzene	< 0.064	mg/kg	0.064	0.2	1	8260B		4/11/2017	TCC	1
1,2,3-Trichlorobenzene	< 0.066	mg/kg	0.066	0.21	1	8260B		4/11/2017	TCC	1
1,1,1-Trichloroethane	< 0.03	mg/kg	0.03	0.96	1	8260B		4/11/2017	TCC	1

Project Name FMR NEWTON GRAVEL PIT **Invoice #** E32728
Project # 60135471

Lab Code 5032728E
Sample ID A(0.5')
Sample Matrix Soil
Sample Date 4/3/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		4/11/2017	TCC	1
Trichloroethene (TCE)	< 0.041	mg/kg	0.041	0.13	1	8260B		4/11/2017	TCC	1
Trichlorofluoromethane	< 0.041	mg/kg	0.041	0.13	1	8260B		4/11/2017	TCC	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.025	0.08	1	8260B		4/11/2017	TCC	1
1,3,5-Trimethylbenzene	< 0.032	mg/kg	0.032	0.1	1	8260B		4/11/2017	TCC	1
Vinyl Chloride	< 0.019	mg/kg	0.019	0.062	1	8260B		4/11/2017	TCC	1
m&p-Xylene	< 0.072	mg/kg	0.072	0.23	1	8260B		4/11/2017	TCC	1
o-Xylene	< 0.044	mg/kg	0.044	0.14	1	8260B		4/11/2017	TCC	1
SUR - Toluene-d8	105	Rec %			1	8260B		4/11/2017	TCC	1
SUR - Dibromofluoromethane	102	Rec %			1	8260B		4/11/2017	TCC	1
SUR - 4-Bromofluorobenzene	98	Rec %			1	8260B		4/11/2017	TCC	1
SUR - 1,2-Dichloroethane-d4	99	Rec %			1	8260B		4/11/2017	TCC	1

Project Name FMR NEWTON GRAVEL PIT **Invoice #** E32728
Project # 60135471

Lab Code 5032728F
Sample ID E(15.0)
Sample Matrix Soil
Sample Date 4/3/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	81.0	%			1	5021		4/5/2017	NJC	1
Organic										
VOC's										
Benzene	< 0.03	mg/kg	0.03	0.96	1	8260B		4/11/2017	TCC	1
Bromobenzene	< 0.025	mg/kg	0.025	0.081	1	8260B		4/11/2017	TCC	1
Bromodichloromethane	< 0.074	mg/kg	0.074	0.24	1	8260B		4/11/2017	TCC	1
Bromoform	< 0.029	mg/kg	0.029	0.092	1	8260B		4/11/2017	TCC	1
tert-Butylbenzene	< 0.026	mg/kg	0.026	0.084	1	8260B		4/11/2017	TCC	1
sec-Butylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		4/11/2017	TCC	1
n-Butylbenzene	< 0.04	mg/kg	0.04	0.13	1	8260B		4/11/2017	TCC	1
Carbon Tetrachloride	< 0.016	mg/kg	0.016	0.053	1	8260B		4/11/2017	TCC	1
Chlorobenzene	< 0.013	mg/kg	0.013	0.04	1	8260B		4/11/2017	TCC	1
Chloroethane	< 0.091	mg/kg	0.091	0.29	1	8260B		4/11/2017	TCC	1
Chloroform	< 0.035	mg/kg	0.035	0.11	1	8260B		4/11/2017	TCC	1
Chloromethane	< 0.076	mg/kg	0.076	0.24	1	8260B		4/11/2017	TCC	1
2-Chlorotoluene	< 0.015	mg/kg	0.015	0.047	1	8260B		4/11/2017	TCC	1
4-Chlorotoluene	< 0.018	mg/kg	0.018	0.057	1	8260B		4/11/2017	TCC	1
1,2-Dibromo-3-chloropropane	< 0.058	mg/kg	0.058	0.18	1	8260B		4/11/2017	TCC	1
Dibromochloromethane	< 0.025	mg/kg	0.025	0.079	1	8260B		4/11/2017	TCC	1
1,4-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		4/11/2017	TCC	1
1,3-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		4/11/2017	TCC	1
1,2-Dichlorobenzene	< 0.028	mg/kg	0.028	0.088	1	8260B		4/11/2017	TCC	1
Dichlorodifluoromethane	< 0.048	mg/kg	0.048	0.15	1	8260B		4/11/2017	TCC	1
1,2-Dichloroethane	< 0.038	mg/kg	0.038	0.12	1	8260B		4/11/2017	TCC	1
1,1-Dichloroethane	< 0.034	mg/kg	0.034	0.11	1	8260B		4/11/2017	TCC	1
1,1-Dichloroethene	< 0.022	mg/kg	0.022	0.069	1	8260B		4/11/2017	TCC	7
cis-1,2-Dichloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		4/11/2017	TCC	1
trans-1,2-Dichloroethene	< 0.028	mg/kg	0.028	0.09	1	8260B		4/11/2017	TCC	1
1,2-Dichloropropane	< 0.035	mg/kg	0.035	0.11	1	8260B		4/11/2017	TCC	1
1,3-Dichloropropane	< 0.025	mg/kg	0.025	0.079	1	8260B		4/11/2017	TCC	1
trans-1,3-Dichloropropene	< 0.022	mg/kg	0.022	0.068	1	8260B		4/11/2017	TCC	1
cis-1,3-Dichloropropene	< 0.039	mg/kg	0.039	0.12	1	8260B		4/11/2017	TCC	1
Di-isopropyl ether	< 0.01	mg/kg	0.01	0.032	1	8260B		4/11/2017	TCC	1
EDB (1,2-Dibromoethane)	< 0.023	mg/kg	0.023	0.072	1	8260B		4/11/2017	TCC	1
Ethylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		4/11/2017	TCC	1
Hexachlorobutadiene	< 0.085	mg/kg	0.085	0.27	1	8260B		4/11/2017	TCC	1
Isopropylbenzene	< 0.034	mg/kg	0.034	0.11	1	8260B		4/11/2017	TCC	1
p-Isopropyltoluene	< 0.029	mg/kg	0.029	0.093	1	8260B		4/11/2017	TCC	1
Methylene chloride	< 0.15	mg/kg	0.15	0.46	1	8260B		4/11/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 0.05	mg/kg	0.05	0.16	1	8260B		4/11/2017	TCC	1
Naphthalene	< 0.094	mg/kg	0.094	0.3	1	8260B		4/11/2017	TCC	1
n-Propylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		4/11/2017	TCC	1
1,1,2,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.88	1	8260B		4/11/2017	TCC	1
1,1,1,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.09	1	8260B		4/11/2017	TCC	1
Tetrachloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		4/11/2017	TCC	1
Toluene	< 0.032	mg/kg	0.032	0.1	1	8260B		4/11/2017	TCC	1
1,2,4-Trichlorobenzene	< 0.064	mg/kg	0.064	0.2	1	8260B		4/11/2017	TCC	1
1,2,3-Trichlorobenzene	< 0.066	mg/kg	0.066	0.21	1	8260B		4/11/2017	TCC	1
1,1,1-Trichloroethane	< 0.03	mg/kg	0.03	0.96	1	8260B		4/11/2017	TCC	1

Project Name FMR NEWTON GRAVEL PIT **Invoice #** E32728
Project # 60135471

Lab Code 5032728F
Sample ID E(15.0)
Sample Matrix Soil
Sample Date 4/3/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		4/11/2017	TCC	1
Trichloroethene (TCE)	< 0.041	mg/kg	0.041	0.13	1	8260B		4/11/2017	TCC	1
Trichlorofluoromethane	< 0.041	mg/kg	0.041	0.13	1	8260B		4/11/2017	TCC	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.025	0.08	1	8260B		4/11/2017	TCC	1
1,3,5-Trimethylbenzene	< 0.032	mg/kg	0.032	0.1	1	8260B		4/11/2017	TCC	1
Vinyl Chloride	< 0.019	mg/kg	0.019	0.062	1	8260B		4/11/2017	TCC	1
m&p-Xylene	< 0.072	mg/kg	0.072	0.23	1	8260B		4/11/2017	TCC	1
o-Xylene	< 0.044	mg/kg	0.044	0.14	1	8260B		4/11/2017	TCC	1
SUR - 1,2-Dichloroethane-d4	101	Rec %			1	8260B		4/11/2017	TCC	1
SUR - Toluene-d8	102	Rec %			1	8260B		4/11/2017	TCC	1
SUR - Dibromofluoromethane	101	Rec %			1	8260B		4/11/2017	TCC	1
SUR - 4-Bromofluorobenzene	100	Rec %			1	8260B		4/11/2017	TCC	1

Project Name FMR NEWTON GRAVEL PIT **Invoice #** E32728
Project # 60135471

Lab Code 5032728G
Sample ID F(15.0)
Sample Matrix Soil
Sample Date 4/3/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	84.5	%			1	5021		4/5/2017	NJC	1
Organic										
VOC's										
Benzene	< 0.03	mg/kg	0.03	0.96	1	8260B		4/11/2017	TCC	1
Bromobenzene	< 0.025	mg/kg	0.025	0.081	1	8260B		4/11/2017	TCC	1
Bromodichloromethane	< 0.074	mg/kg	0.074	0.24	1	8260B		4/11/2017	TCC	1
Bromoform	< 0.029	mg/kg	0.029	0.092	1	8260B		4/11/2017	TCC	1
tert-Butylbenzene	< 0.026	mg/kg	0.026	0.084	1	8260B		4/11/2017	TCC	1
sec-Butylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		4/11/2017	TCC	1
n-Butylbenzene	< 0.04	mg/kg	0.04	0.13	1	8260B		4/11/2017	TCC	1
Carbon Tetrachloride	< 0.016	mg/kg	0.016	0.053	1	8260B		4/11/2017	TCC	1
Chlorobenzene	< 0.013	mg/kg	0.013	0.04	1	8260B		4/11/2017	TCC	1
Chloroethane	< 0.091	mg/kg	0.091	0.29	1	8260B		4/11/2017	TCC	1
Chloroform	< 0.035	mg/kg	0.035	0.11	1	8260B		4/11/2017	TCC	1
Chloromethane	< 0.076	mg/kg	0.076	0.24	1	8260B		4/11/2017	TCC	1
2-Chlorotoluene	< 0.015	mg/kg	0.015	0.047	1	8260B		4/11/2017	TCC	1
4-Chlorotoluene	< 0.018	mg/kg	0.018	0.057	1	8260B		4/11/2017	TCC	1
1,2-Dibromo-3-chloropropane	< 0.058	mg/kg	0.058	0.18	1	8260B		4/11/2017	TCC	1
Dibromochloromethane	< 0.025	mg/kg	0.025	0.079	1	8260B		4/11/2017	TCC	1
1,4-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		4/11/2017	TCC	1
1,3-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		4/11/2017	TCC	1
1,2-Dichlorobenzene	< 0.028	mg/kg	0.028	0.088	1	8260B		4/11/2017	TCC	1
Dichlorodifluoromethane	< 0.048	mg/kg	0.048	0.15	1	8260B		4/11/2017	TCC	1
1,2-Dichloroethane	< 0.038	mg/kg	0.038	0.12	1	8260B		4/11/2017	TCC	1
1,1-Dichloroethane	< 0.034	mg/kg	0.034	0.11	1	8260B		4/11/2017	TCC	1
1,1-Dichloroethene	< 0.022	mg/kg	0.022	0.069	1	8260B		4/11/2017	TCC	7
cis-1,2-Dichloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		4/11/2017	TCC	1
trans-1,2-Dichloroethene	< 0.028	mg/kg	0.028	0.09	1	8260B		4/11/2017	TCC	1
1,2-Dichloropropane	< 0.035	mg/kg	0.035	0.11	1	8260B		4/11/2017	TCC	1
1,3-Dichloropropane	< 0.025	mg/kg	0.025	0.079	1	8260B		4/11/2017	TCC	1
trans-1,3-Dichloropropene	< 0.022	mg/kg	0.022	0.068	1	8260B		4/11/2017	TCC	1
cis-1,3-Dichloropropene	< 0.039	mg/kg	0.039	0.12	1	8260B		4/11/2017	TCC	1
Di-isopropyl ether	< 0.01	mg/kg	0.01	0.032	1	8260B		4/11/2017	TCC	1
EDB (1,2-Dibromoethane)	< 0.023	mg/kg	0.023	0.072	1	8260B		4/11/2017	TCC	1
Ethylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		4/11/2017	TCC	1
Hexachlorobutadiene	< 0.085	mg/kg	0.085	0.27	1	8260B		4/11/2017	TCC	1
Isopropylbenzene	< 0.034	mg/kg	0.034	0.11	1	8260B		4/11/2017	TCC	1
p-Isopropyltoluene	< 0.029	mg/kg	0.029	0.093	1	8260B		4/11/2017	TCC	1
Methylene chloride	< 0.15	mg/kg	0.15	0.46	1	8260B		4/11/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 0.05	mg/kg	0.05	0.16	1	8260B		4/11/2017	TCC	1
Naphthalene	< 0.094	mg/kg	0.094	0.3	1	8260B		4/11/2017	TCC	1
n-Propylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		4/11/2017	TCC	1
1,1,2,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.88	1	8260B		4/11/2017	TCC	1
1,1,1,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.09	1	8260B		4/11/2017	TCC	1
Tetrachloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		4/11/2017	TCC	1
Toluene	< 0.032	mg/kg	0.032	0.1	1	8260B		4/11/2017	TCC	1
1,2,4-Trichlorobenzene	< 0.064	mg/kg	0.064	0.2	1	8260B		4/11/2017	TCC	1
1,2,3-Trichlorobenzene	< 0.066	mg/kg	0.066	0.21	1	8260B		4/11/2017	TCC	1
1,1,1-Trichloroethane	< 0.03	mg/kg	0.03	0.96	1	8260B		4/11/2017	TCC	1

Project Name FMR NEWTON GRAVEL PIT **Invoice #** E32728
Project # 60135471

Lab Code 5032728G
Sample ID F(15.0)
Sample Matrix Soil
Sample Date 4/3/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		4/11/2017	TCC	1
Trichloroethene (TCE)	< 0.041	mg/kg	0.041	0.13	1	8260B		4/11/2017	TCC	1
Trichlorofluoromethane	< 0.041	mg/kg	0.041	0.13	1	8260B		4/11/2017	TCC	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.025	0.08	1	8260B		4/11/2017	TCC	1
1,3,5-Trimethylbenzene	< 0.032	mg/kg	0.032	0.1	1	8260B		4/11/2017	TCC	1
Vinyl Chloride	< 0.019	mg/kg	0.019	0.062	1	8260B		4/11/2017	TCC	1
m&p-Xylene	< 0.072	mg/kg	0.072	0.23	1	8260B		4/11/2017	TCC	1
o-Xylene	< 0.044	mg/kg	0.044	0.14	1	8260B		4/11/2017	TCC	1
SUR - Dibromofluoromethane	105	Rec %			1	8260B		4/11/2017	TCC	1
SUR - Toluene-d8	101	Rec %			1	8260B		4/11/2017	TCC	1
SUR - 1,2-Dichloroethane-d4	88	Rec %			1	8260B		4/11/2017	TCC	1
SUR - 4-Bromofluorobenzene	100	Rec %			1	8260B		4/11/2017	TCC	1

Project Name FMR NEWTON GRAVEL PIT **Invoice #** E32728
Project # 60135471

Lab Code 5032728H
Sample ID G(15.0)
Sample Matrix Soil
Sample Date 4/3/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	94.2	%			1	5021		4/5/2017	NJC	1
Organic										
VOC's										
Benzene	< 0.03	mg/kg	0.03	0.96	1	8260B		4/11/2017	TCC	1
Bromobenzene	< 0.025	mg/kg	0.025	0.081	1	8260B		4/11/2017	TCC	1
Bromodichloromethane	< 0.074	mg/kg	0.074	0.24	1	8260B		4/11/2017	TCC	1
Bromoform	< 0.029	mg/kg	0.029	0.092	1	8260B		4/11/2017	TCC	1
tert-Butylbenzene	< 0.026	mg/kg	0.026	0.084	1	8260B		4/11/2017	TCC	1
sec-Butylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		4/11/2017	TCC	1
n-Butylbenzene	< 0.04	mg/kg	0.04	0.13	1	8260B		4/11/2017	TCC	1
Carbon Tetrachloride	< 0.016	mg/kg	0.016	0.053	1	8260B		4/11/2017	TCC	1
Chlorobenzene	< 0.013	mg/kg	0.013	0.04	1	8260B		4/11/2017	TCC	1
Chloroethane	< 0.091	mg/kg	0.091	0.29	1	8260B		4/11/2017	TCC	1
Chloroform	< 0.035	mg/kg	0.035	0.11	1	8260B		4/11/2017	TCC	1
Chloromethane	< 0.076	mg/kg	0.076	0.24	1	8260B		4/11/2017	TCC	1
2-Chlorotoluene	< 0.015	mg/kg	0.015	0.047	1	8260B		4/11/2017	TCC	1
4-Chlorotoluene	< 0.018	mg/kg	0.018	0.057	1	8260B		4/11/2017	TCC	1
1,2-Dibromo-3-chloropropane	< 0.058	mg/kg	0.058	0.18	1	8260B		4/11/2017	TCC	1
Dibromochloromethane	< 0.025	mg/kg	0.025	0.079	1	8260B		4/11/2017	TCC	1
1,4-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		4/11/2017	TCC	1
1,3-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		4/11/2017	TCC	1
1,2-Dichlorobenzene	< 0.028	mg/kg	0.028	0.088	1	8260B		4/11/2017	TCC	1
Dichlorodifluoromethane	< 0.048	mg/kg	0.048	0.15	1	8260B		4/11/2017	TCC	1
1,2-Dichloroethane	< 0.038	mg/kg	0.038	0.12	1	8260B		4/11/2017	TCC	1
1,1-Dichloroethane	< 0.034	mg/kg	0.034	0.11	1	8260B		4/11/2017	TCC	1
1,1-Dichloroethene	< 0.022	mg/kg	0.022	0.069	1	8260B		4/11/2017	TCC	7
cis-1,2-Dichloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		4/11/2017	TCC	1
trans-1,2-Dichloroethene	< 0.028	mg/kg	0.028	0.09	1	8260B		4/11/2017	TCC	1
1,2-Dichloropropane	< 0.035	mg/kg	0.035	0.11	1	8260B		4/11/2017	TCC	1
1,3-Dichloropropane	< 0.025	mg/kg	0.025	0.079	1	8260B		4/11/2017	TCC	1
trans-1,3-Dichloropropene	< 0.022	mg/kg	0.022	0.068	1	8260B		4/11/2017	TCC	1
cis-1,3-Dichloropropene	< 0.039	mg/kg	0.039	0.12	1	8260B		4/11/2017	TCC	1
Di-isopropyl ether	< 0.01	mg/kg	0.01	0.032	1	8260B		4/11/2017	TCC	1
EDB (1,2-Dibromoethane)	< 0.023	mg/kg	0.023	0.072	1	8260B		4/11/2017	TCC	1
Ethylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		4/11/2017	TCC	1
Hexachlorobutadiene	< 0.085	mg/kg	0.085	0.27	1	8260B		4/11/2017	TCC	1
Isopropylbenzene	< 0.034	mg/kg	0.034	0.11	1	8260B		4/11/2017	TCC	1
p-Isopropyltoluene	< 0.029	mg/kg	0.029	0.093	1	8260B		4/11/2017	TCC	1
Methylene chloride	< 0.15	mg/kg	0.15	0.46	1	8260B		4/11/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 0.05	mg/kg	0.05	0.16	1	8260B		4/11/2017	TCC	1
Naphthalene	< 0.094	mg/kg	0.094	0.3	1	8260B		4/11/2017	TCC	1
n-Propylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		4/11/2017	TCC	1
1,1,2,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.88	1	8260B		4/11/2017	TCC	1
1,1,1,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.09	1	8260B		4/11/2017	TCC	1
Tetrachloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		4/11/2017	TCC	1
Toluene	< 0.032	mg/kg	0.032	0.1	1	8260B		4/11/2017	TCC	1
1,2,4-Trichlorobenzene	< 0.064	mg/kg	0.064	0.2	1	8260B		4/11/2017	TCC	1
1,2,3-Trichlorobenzene	< 0.066	mg/kg	0.066	0.21	1	8260B		4/11/2017	TCC	1
1,1,1-Trichloroethane	< 0.03	mg/kg	0.03	0.96	1	8260B		4/11/2017	TCC	1

Project Name FMR NEWTON GRAVEL PIT **Invoice #** E32728
Project # 60135471

Lab Code 5032728H
Sample ID G(15.0)
Sample Matrix Soil
Sample Date 4/3/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		4/11/2017	TCC	1
Trichloroethene (TCE)	< 0.041	mg/kg	0.041	0.13	1	8260B		4/11/2017	TCC	1
Trichlorofluoromethane	< 0.041	mg/kg	0.041	0.13	1	8260B		4/11/2017	TCC	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.025	0.08	1	8260B		4/11/2017	TCC	1
1,3,5-Trimethylbenzene	< 0.032	mg/kg	0.032	0.1	1	8260B		4/11/2017	TCC	1
Vinyl Chloride	< 0.019	mg/kg	0.019	0.062	1	8260B		4/11/2017	TCC	1
m&p-Xylene	< 0.072	mg/kg	0.072	0.23	1	8260B		4/11/2017	TCC	1
o-Xylene	< 0.044	mg/kg	0.044	0.14	1	8260B		4/11/2017	TCC	1
SUR - Toluene-d8	103	Rec %			1	8260B		4/11/2017	TCC	1
SUR - 1,2-Dichloroethane-d4	100	Rec %			1	8260B		4/11/2017	TCC	1
SUR - 4-Bromofluorobenzene	101	Rec %			1	8260B		4/11/2017	TCC	1
SUR - Dibromofluoromethane	99	Rec %			1	8260B		4/11/2017	TCC	1

"J" Flag: Analyte detected between LOD and LOQ LOD Limit of Detection LOQ Limit of Quantitation

Code	*Comment*
1	Laboratory QC within limits.
7	The LCS not within established limits.

ESC denotes sub contract lab - Certification #998093910

All solid sample results reported on a dry weight basis unless otherwise indicated. All LOD's and LOQ's are adjusted for dilutions but not dry weight. Subcontracted results are denoted by SUB in the analyst field.

Authorized Signature

CHAIN OF CUSTODY RECORD

Synergy Environmental Lab, Inc.

1990 Prospect Ct. • Appleton, WI 54914
920-830-2455 • FAX 920-733-0631

Chain # No 3116

Page 1 of 1

Sample Handling Request
____ Rush Analysis Date Required ____
(Rushes accepted only with prior authorization)
X Normal Turn Around

Lab I.D. #

Account No. : | Quote No.:

Project #: 60135471

Sampler: (signature) SarahEDay

Project (Name / Location): FORMER NEWTON GRAVEL PIT / MANITOWOC WI

Reports To: DAVE HENDERSON	Invoice To: (SEE LEFT)
Company AECOM	Company
Address 1555 N RiverCenter Dr Ste 214	Address
City State Zip MILWAUKEE WI 54212	City State Zip
Phone 414-944-6190	Phone
FAX	FAX

Lab I.D.	Sample I.D.	Collection Date	Collection Time	Comp	Grab	Filtered Y/N	No. of Containers	Sample Type (Matrix)*	Preservation
503728 A	D(2.5')	4/3/17	950		X	N	1	S	CH_3OH
B	D(12')	4/3/17	1000	X		N		S	CH_3OH
C	C(1.0')	4/3/17	1025			N	1	S	CH_3OH
D	B(1.2')	4/3/17	1040		X	N	1	S	CH_3OH
E	A(0.5')	4/3/17	1050		X	N	1	S	CH_3OH
F	E(15.0)	4/3/17	1135		X	N	1	S	CH_3OH
G	F(15.0)	4/3/17	1200		X	N	1	S	CH_3OH
H	G(15.0)	4/3/17	1310		X	N	1	S	CH_3OH

Analysis Requested / **Other Analysis**

DRO (Mod DRO Sep 95)	GRO (Mod GRO Sep 95)	LEAD	NITRATE/NITRITE	OIL & GREASE	PAH (EPA 8270)	PCB	PVOC (EPA 8021)	PVOC + NAPHTHALENE	SULFATE	TOTAL SUSPENDED SOLIDS	VOC DW (EPA 542.2)	VOC (EPA 8260)	8-RCRA METALS	TCLP VOC	TOTAL VOC	PID/FID
												X				
									No			X	X	X		
												X				
												X				
												X				
												X				
												X				
												X				

Comments/Special Instructions (*Specify groundwater "GW", Drinking Water "DW", Waste Water "WW", Soil "S", Air "A", Oil, Sludge etc.)

Soil — Call Dave Henderson at # 414-944-6190 if questions

Analyze TCLP VOC and VOC for D(12') Per D. Hebert - CSR 4/5/17

Sample Integrity - To be completed by receiving lab.
Method of Shipment: SFL
Temp. of Temp. Blank ___ °C On Ice: X
Cooler seal intact upon receipt: ___ Yes ___ No

Relinquished By: (sign)	Time	Date	Received By: (sign)	Time	Date
SarahEDay	1220	4/4/2017			

Received in Laboratory By: [signature] - SFL Time: 7:30 AM Date: 4-5-17