

THIRD QUARTER 2018 REMEDIAL ACTION PROGRESS REPORT

**HERR FOODS, INC. MANUFACTURING FACILITY
273 OLD BALTIMORE PIKE
WEST NOTTINGHAM TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA
FACILITY ID No. 15-24418**

PREPARED FOR:

**Herr Foods, Inc.
20 Herr Drive
Nottingham, PA 19362**

PREPARED BY:

**RETTEW Associates, Inc.
3020 Columbia Avenue
Lancaster, PA 17603**

RETTEW Project No. 101722020

December 19, 2018



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REMEDIAL ACTION PROGRESS REPORT

HERR FOODS, INC. MANUFACTURING FACILITY
273 OLD BALTIMORE PIKE
NOTTINGHAM, PENNSYLVANIA
RETTEW PROJECT NO. 101722020

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1.0 INTRODUCTION

This Third Quarter 2018 Remedial Action Progress Report (RAPR) has been prepared by RETTEW Associates, Inc. on behalf of Herr Foods, Inc. (Herr's), to document remedial action activities conducted during the Third Quarter of 2018 at Herr's manufacturing facility, located at 273 Old Baltimore Pike in West Nottingham Township, Chester County, Pennsylvania (Facility ID No. 15-24418) (referred to herein as the Site). A Site location map is included as **Figure 1**. This RAPR was prepared in accordance with the corrective action regulations defined in Title 25 Pennsylvania Code Chapter 245 titled *Administration of the Storage Tank and Spill Prevention Program* and the requirements of the Pennsylvania Land Recycling and Remediation Standards Act (Act 2).

The proposed remedial action is designed to reduce groundwater concentrations of benzene and methyl tert-butyl ether (MTBE) to attain the Act 2 Site-Specific Standard for groundwater at the groundwater/surface water interface and meet applicable surface water quality criteria in an unnamed tributary (UNT) to North East Creek (**Figure 1**). The remedial approach at the Site was presented in the Remedial Action Plan (RAP) prepared by RETTEW and approved by the Pennsylvania Department of Environmental Protection (PA DEP) on June 14, 2017. Remedial activities completed at the Site since the approval of the RAP include quarterly groundwater monitoring and analysis, former water supply well abandonment, and an initial round of remedial injections. The status of remediation is described in the following sections of this report. Additional detail regarding the remediation injections will be included in the remedial performance evaluation and will be submitted under a separate cover.

2.0 SITE DESCRIPTION

The remedial action described in this RAPR addresses a release of unleaded gasoline and diesel that was discovered in 1997 during underground storage tank (UST) closure activities at the Truck Garage on the southern portion of Herr's manufacturing facility (see **Figure 2**). The Truck Garage is currently used for the maintenance of Herr's fleet vehicles. The area surrounding the Truck Garage is covered with asphalt paving and is used for parking Herr's fleet trucks and trailers. The Truck Garage is connected to an off-site water supply well operated by Herr's that serves the Site, the manufacturing facility, and surrounding parcels owned by Herr's. No public or private drinking water supplies have been affected by the release.

The source area at the Site is characterized as an area of subsurface diesel and unleaded gasoline impact to saturated soil and groundwater immediately downgradient of the UST system (**Figure 3**). Petroleum impacted soil is located below the seasonally high-water table in the zone of saturation in the source area; therefore, remediation and attainment demonstration will focus on groundwater. Separate phase liquid (SPL) has been historically detected in the source area in MW-4 (**Figure 3**).

A network of 17 groundwater monitoring wells were installed at the Site and on downgradient parcels owned by Herr's to delineate the extent of groundwater impacts resulting from the release. Monitoring well locations are shown on **Figure 2** and **Figure 3**. Benzene and MTBE are the only regulated substances detected in off-site groundwater (MW-10 and MW-11) at concentrations exceeding their non-residential Act 2 Medium Specific Concentrations (MSCs). Quarterly groundwater monitoring is performed at the Site using a network of 13 wells (groundwater at MW-1, MW-2, MW-6 and MW-8 have not been impacted by the release, and these wells are not monitored).

Groundwater discharges to surface water over 300 feet downgradient from the former UST system near MW-11 forming the headwaters of the UNT to North East Creek. Benzene and MTBE have been detected in the sediment and surface water of the UNT to North East Creek. Discharging groundwater also supports wetlands at the Site.

3.0 REMEDIAL ACTION OBJECTIVES

As described in the RAP, petroleum impacted soil is present below the seasonally high-water table (i.e. soil in the zone of groundwater saturation) and will continue to leach to groundwater. Therefore, the goal of remediation is to reduce the mass of hydrocarbons present and meet surface water criteria in the UNT to North East Creek. As such, remedial action objectives (RAOs) were developed to attain the Act 2 Site-Specific Standard for groundwater and include the following:

- Remediate the source of groundwater impacts, to the extent technologically and economically feasible, to minimize or eliminate the continued degradation of groundwater in the source area
- Remediate benzene and MTBE in groundwater to meet calculated remediation endpoints for benzene and MTBE at the groundwater/surface water interface (MW-11)
- Demonstrate continued natural attenuation of the groundwater plume (plume stabilization/degradation)
- Remediate benzene concentrations in groundwater at the point of groundwater discharge (MW-11) to concentrations below the Cancer Risk Level (CRL) Wasteload Allocation (WLA) surface water quality criteria.

Remediation endpoints were calculated for benzene and MTBE in groundwater using fate and transport models presented in the RAP. Calculated remediation endpoints for benzene and MTBE in groundwater at MW-10 and MW-11 are provided in the following table.

Parameter	Groundwater Value	Comments
Benzene Source Concentration	332 µg/L	SWLOAD5 back calculation
MTBE Source Concentration	1,800 µg/L	SWLOAD5 back calculation
Benzene Concentration at MW-10	155 µg/L	Calculated 100 feet from OW-2
MTBE Concentration at MW-10	818 µg/L	Calculated 100 feet from OW-2
Benzene Concentration at MW-11	14 µg/L	Calculated 255 feet from OW-2
MTBE Concentration at MW-11	216 µg/L	Calculated 255 feet from OW-2

The calculated benzene and MTBE concentrations presented above are the proposed remediation endpoints for OW-2 and to serve as target concentrations to monitor and verify remedial effectiveness at MW-10 and MW-11 for the purpose of attaining applicable surface water standards. It is noted that the fate and transport analysis presented in the RAP concluded that MTBE had reached steady state and that the WLAs are met into the future. This condition will be monitored and re-evaluated during remediation.

4.0 REMEDIAL ACTION DESCRIPTION

In-situ chemical oxidation (ISCO) was the selected remedial method for the destruction of petroleum hydrocarbons in saturated soil and groundwater. Sodium persulfate activated with sodium hydroxide was the selected oxidant for ISCO in the source and plume areas due to its proven ability to achieve significant reduction of toxicity, mobility, and mass of contaminants.

Remediation injection activities were conducted from May 15 through May 31, 2018 utilizing direct push injection technology. Injection activities were stopped due to visual observations in the UNT to North East Creek that were similar in nature to a release of injection material. Upon further review of stream monitoring and sampling data collected over an approximately one-week period, it appeared that the observations in the stream were not associated with the injection activities and were likely caused by the

groundwater containing iron entering the stream as a result of the unseasonably high precipitation. Additional detail regarding the rapid response and associated stream monitoring and sampling activities will be provided along with the remedial performance evaluation that will be submitted under a separate cover.

The remediation injection layout showing locations where injections occurred during the May event is shown in **Figure 4**. The full injection design volumes could not be achieved during injection activities due to surfacing of groundwater and injection material likely a result of soil heterogeneity and high-water table. Therefore, this initial round of injections included only partial volumes of injection material compared to the design volumes and included application to only select vertical intervals to minimize surfacing.

Partial injections were completed in each of the three distinct remediation target areas, including the area designated as the source area (referred to as Remediation Area 1 or RA1), the groundwater plume area downgradient of RA1 (referred to as Remediation Area 2 or RA2), and an area of the groundwater plume upgradient of MW-10 (referred to as Remediation Area 3 or RA3). Due to complications with injection material surfacing, continuing the remaining planned injections is currently being evaluated. A remedial performance evaluation will be performed and submitted under a separate cover.

5.0 QUARTERLY GROUNDWATER MONITORING AND SAMPLE ANALYSIS

Groundwater monitoring and sampling for the Third Quarter of 2018 was performed by RETTEW on September 17, 2018. The samples were shipped to ESC Lab Sciences (ESC) of Mount Juliet, TN for laboratory analysis. After gauging static water levels, groundwater was purged from each well with a peristaltic pump to maintain flow rates at approximately 200 milliliters per minute (ml/min) with minimal drawdown in accordance with the PA DEP *Groundwater Monitoring Guidance Manual* (December 2001) low-flow purging methods. The pump tubing was set at a depth of approximately 8 to 10 feet below grade, corresponding to the depth of the greatest observed soil impacts at the Site. Purged groundwater was routed through a flow-cell and an YSI 556 water quality meter to monitor intrinsic groundwater quality parameters including pH, conductivity, dissolved oxygen (DO), temperature, and oxidation-reduction potential (ORP). Intrinsic parameters were monitored frequently until stabilization, indicative of representative groundwater chemistry. Low flow purging and monitoring data sheets are included as **Appendix A**.

Upon intrinsic parameter stabilization, groundwater samples were collected from the pump discharge tubing. To reduce the likelihood of cross-contamination, new tubing was used and nitrile gloves were worn during the collection of each groundwater sample. Groundwater samples were collected in laboratory bottleware, placed in a cooler with ice, and shipped to ESC for analysis of PA DEP Short List parameters for unleaded gasoline and diesel fuel. The groundwater samples collected during the third quarter monitoring event were also laboratory analyzed for monitored natural attenuation (MNA) parameters nitrate, sulfate, iron, and dissolved iron. The MNA evaluation will be included in the remedial performance evaluation that will be performed and submitted under a separate cover. A summary of groundwater sample analytical data is provided as **Table 1**. Groundwater sample analytical reports are provided in **Appendix B**. A groundwater gradient map based on the monitoring data collected in September 2018 is provided as **Figure 5**.

6.0 GROUNDWATER MONITORING RESULTS

Groundwater at the Site occurs in pores and relict fractures in weathered decomposed schist saprolite overlying a fractured bedrock aquifer system. Based on static water levels measured during the September 2018 monitoring event, the water table ranges from surface to approximately 5.6 feet below ground surface across the Site. The groundwater flow pattern and hydraulic gradient is similar to past groundwater monitoring events, with an average hydraulic gradient of 0.014 toward the east/southeast as shown on **Figure 5**. Based on local topography, regional drainage patterns and interpreted fracture traces presented in the RAP, regional groundwater is expected to flow to the southeast toward North East Creek, located 6,600 feet southeast of the Site.

Groundwater sample analytical results (**Table 1**) show that most of the PA DEP Short List parameters for unleaded gasoline and diesel fuel (benzene, ethylbenzene, MTBE, naphthalene, toluene, and/or 1,2,4-TMB) were detected at concentrations exceeding their Act 2 non-residential Statewide Health Standards near the Truck Garage (i.e., source area) in groundwater from MW-3, MW-4, MW-7, MW-9, MW-10, MW-11, MW-14S, MW-14D, OW-1, and OW-2. Generally, the highest concentrations of these regulated substances were detected in OW-2 immediately downgradient of the source area. Benzene and MTBE are the only parameters detected at concentrations exceeding their Act 2 non-residential Statewide Health Standards in MW-10 and MW-11 at the downgradient property boundary (the Act 2 point of compliance [POC]). Historically, none of the PA DEP Short List parameters for unleaded gasoline and diesel fuel were detected in off-site wells MW-12 or MW-13 (see **Figure 2**).

7.0 REMEDIAL ACTION STATUS

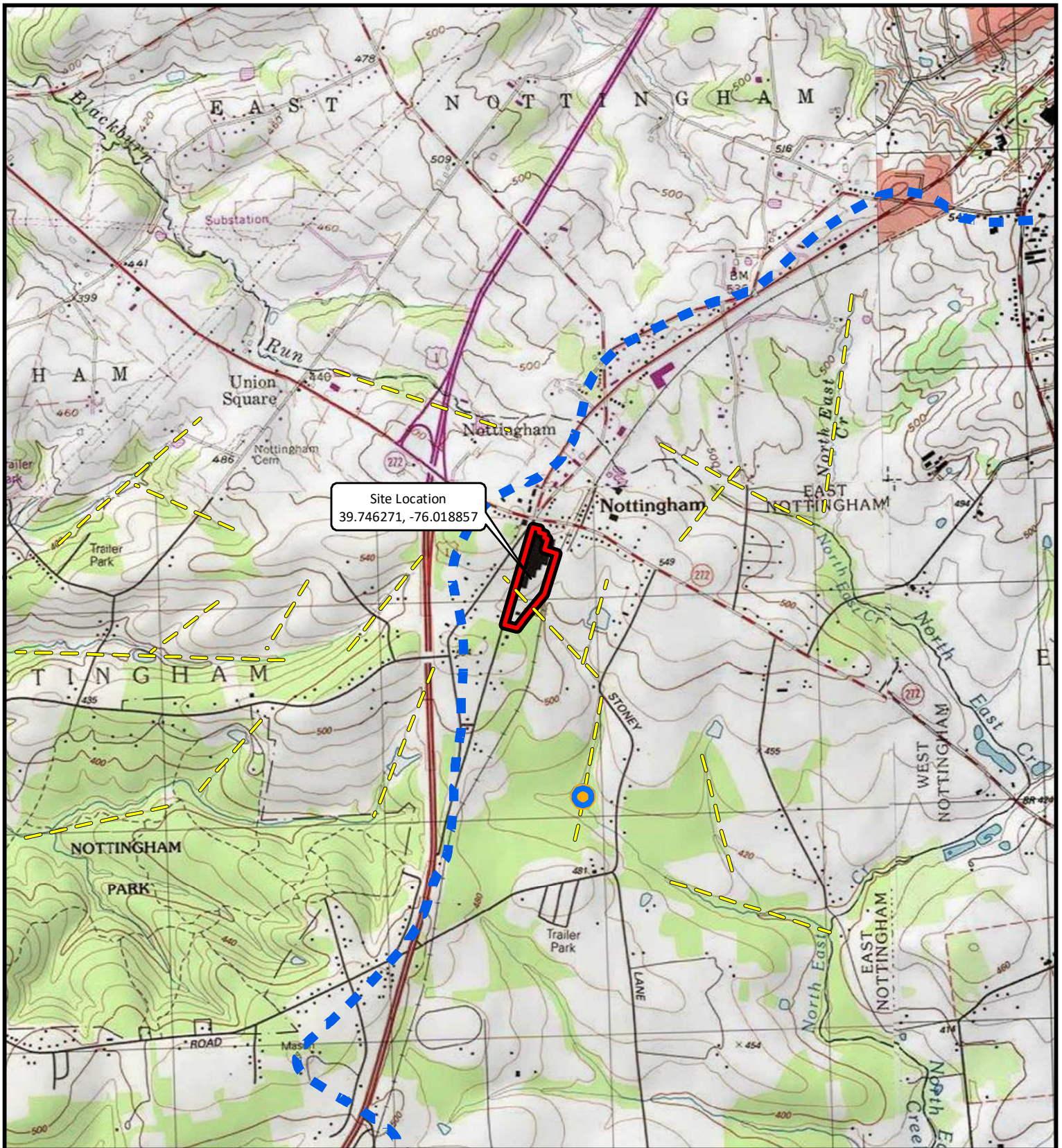
As described above in Section 4.0, remediation injections were conducted from May 15 through May 31, 2018. On July 18, 2018, the Pennsylvania Underground Storage Tank Indemnification Fund (USTIF) notified RETTEW that additional injections would not be a reasonable expenditure of Funds and moving forward the Fund desires to competitively bid a revised remedial activity. Quarterly groundwater monitoring and reporting will continue as planned and a remedial performance evaluation will be completed summarizing the remediation injections.

8.0 SCHEDULE

The primary tasks and anticipated schedule associated with remedial implementation are presented below. The schedule presented below is based on availability of resources and input provided by USTIF.

- Fourth Quarter 2018 groundwater monitoring – December 2018
- Fourth Quarter 2018 RAPR submittal – February 2018
- Remedial performance evaluation – January 2019 (following receipt of fourth quarter 2018 groundwater data).

FIGURES



Herrs Water Supply Well



Inferred Fracture Trace



Groundwater Divide



Parcel Boundary - Nottingham Plant 1

West Nottingham Township, Chester County, PA
Rising Sun, MD/PA 7.5' USGS Topographic Quadrangle

10/11/2017

Herr Foods, Inc

Remedial Action Progress Report

Figure 1 - Site Location Map

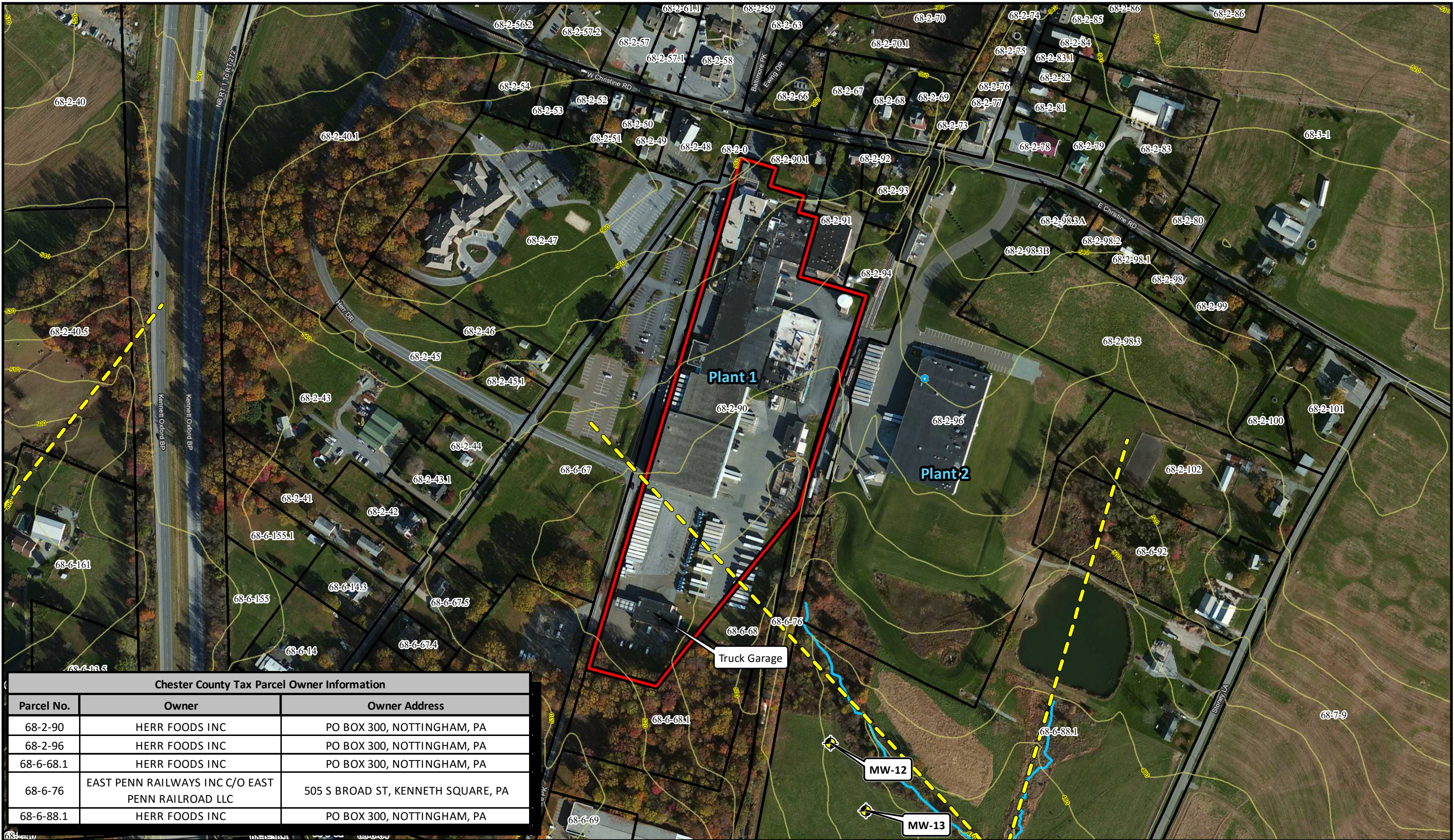
Project No. 101722001



0 1,000 2,000
Feet
1 inch = 2,000 feet

Service Layer Credits: Copyright: © 2013 National Geographic
Society, I-cubed

RETTEW
SM



Chester County Tax Parcel Owner Information		
Parcel No.	Owner	Owner Address
68-2-90	HERR FOODS INC	PO BOX 300, NOTTINGHAM, PA
68-2-96	HERR FOODS INC	PO BOX 300, NOTTINGHAM, PA
68-6-68.1	HERR FOODS INC	PO BOX 300, NOTTINGHAM, PA
68-6-76	EAST PENN RAILWAYS INC C/O EAST PENN RAILROAD LLC	505 S BROAD ST, KENNETH SQUARE, PA
68-6-88.1	HERR FOODS INC	PO BOX 300, NOTTINGHAM, PA

Herr Foods, Inc
Remedial Action Progress Report
Figure 2 - Aerial Basemap
West Nottingham Township, Chester County, PA
Project No. 101722001

Monitoring Well

Raw Water Sample Point

Inferred Fracture Trace

UNT to North East Creek

Contour (10 ft Interval)

Parcel Boundary - Nottingham Plant 1

Parcel Boundary

0 250
1 inch = 250 feet
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

RETTEW

10/11/2017

Drawn By: JDD

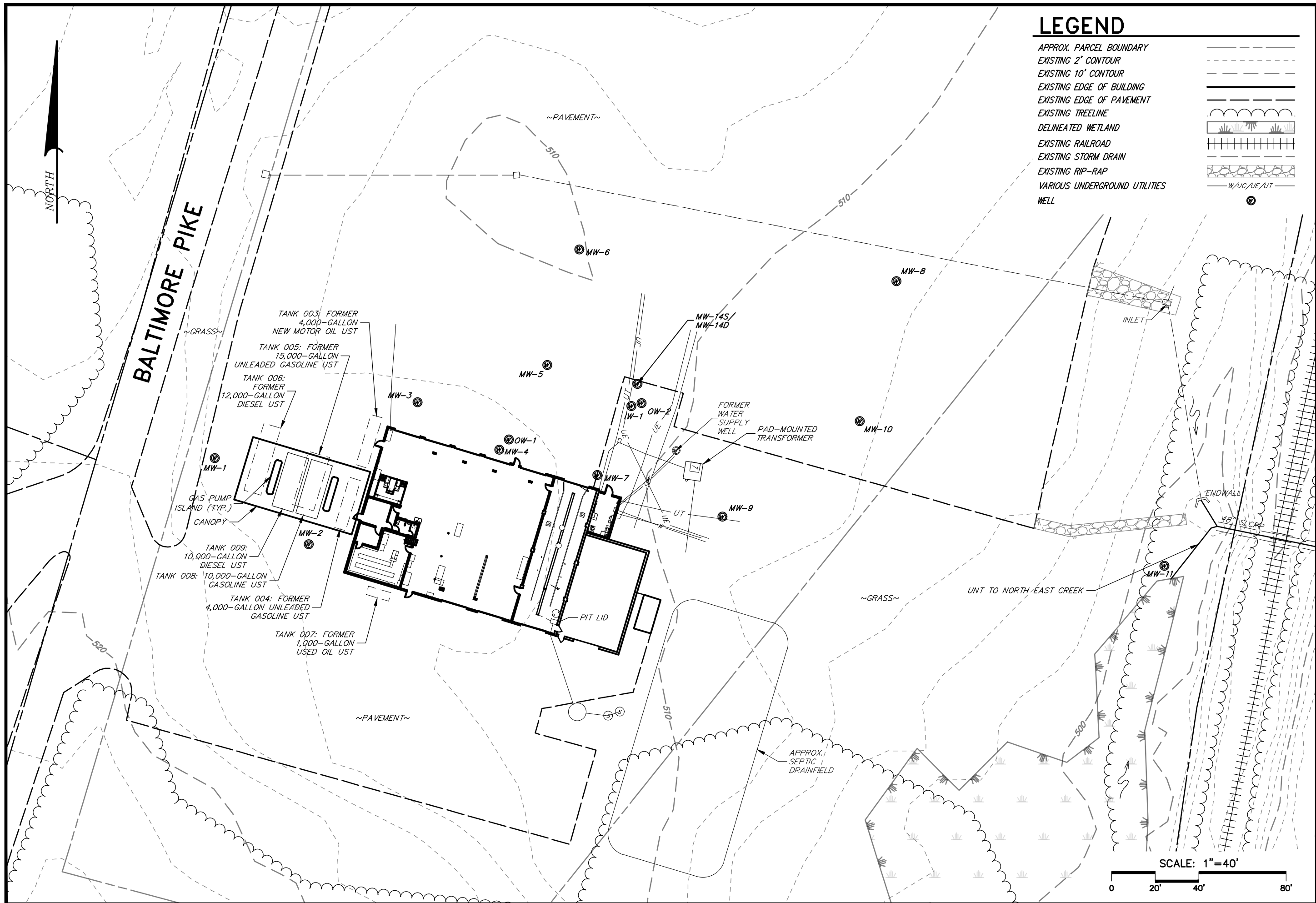


FIGURE 3
SITE PLAN

273 OLD BALTIMORE PIKE

WEST NOTTINGHAM TOWNSHIP CHESTER COUNTY, PA

RETTEWSM

RETTEW Associates, Inc.
3020 Columbia Avenue, Lancaster, PA 17603
Phone (717) 394-3721 • Fax (717) 394-1063
Engineers • Planners • Surveyors • Landscape Architects
Environmental Consultants

DRAWN BY: _____ JME
DATE: _____ JULY 27, 2018
SCALE: _____ AS NOTED
DWG. NO. _____ 1 OF 1

APPROX. PARCEL BOUNDARY
EXISTING 2' CONTOUR
EXISTING 10' CONTOUR
EXISTING EDGE OF BUILDING
EXISTING EDGE OF PAVEMENT
EXISTING STORM DRAIN
VARIOUS UNDERGROUND UTILITIES
EXISTING WELL
REMEDICATION AREA 1
REMEDICATION AREA 2
REMEDICATION AREA 3

DESIGN RADIUS OF INFLUENCE

LOCATIONS WHERE INJECTION OCCURED

DESIGN NOTES:

1. REMEDIATION AREA 1: INJECTION INTERVAL = 7-14' BELOW GROUND SURFACE (BGS)
2. REMEDIATION AREA 2: INJECTION INTERVAL = 7-12' BGS
3. REMEDIATION AREA 3: INJECTION INTERVAL = 6-10' BGS
4. INJECTIONS AT DEPTHS LESS THAN 8' BGS SHALL BE LOW FLOW (<1.5 GPM) OR GRAVITY FED.

MATERIAL STAGING/
CONTAINMENT AREA

~PAVEMENT~

**MAINTAIN 5' MIN. CLEARANCE
FROM UTILITY LINES AND
MONITORING WELLS (TYP.)**

FORMER WATER

— *PAD-MOUNTED
TRANSFORMER*

SCALE: 1"=20'

FIGURE 4
INJECTION LAYOUT MAP

273 OLD BALTIMORE PIKE

WEST NOTTINGHAM TOWNSHIP CHESTER COUNTY, PA

REVIEW

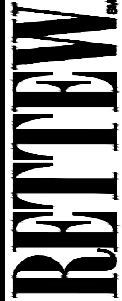
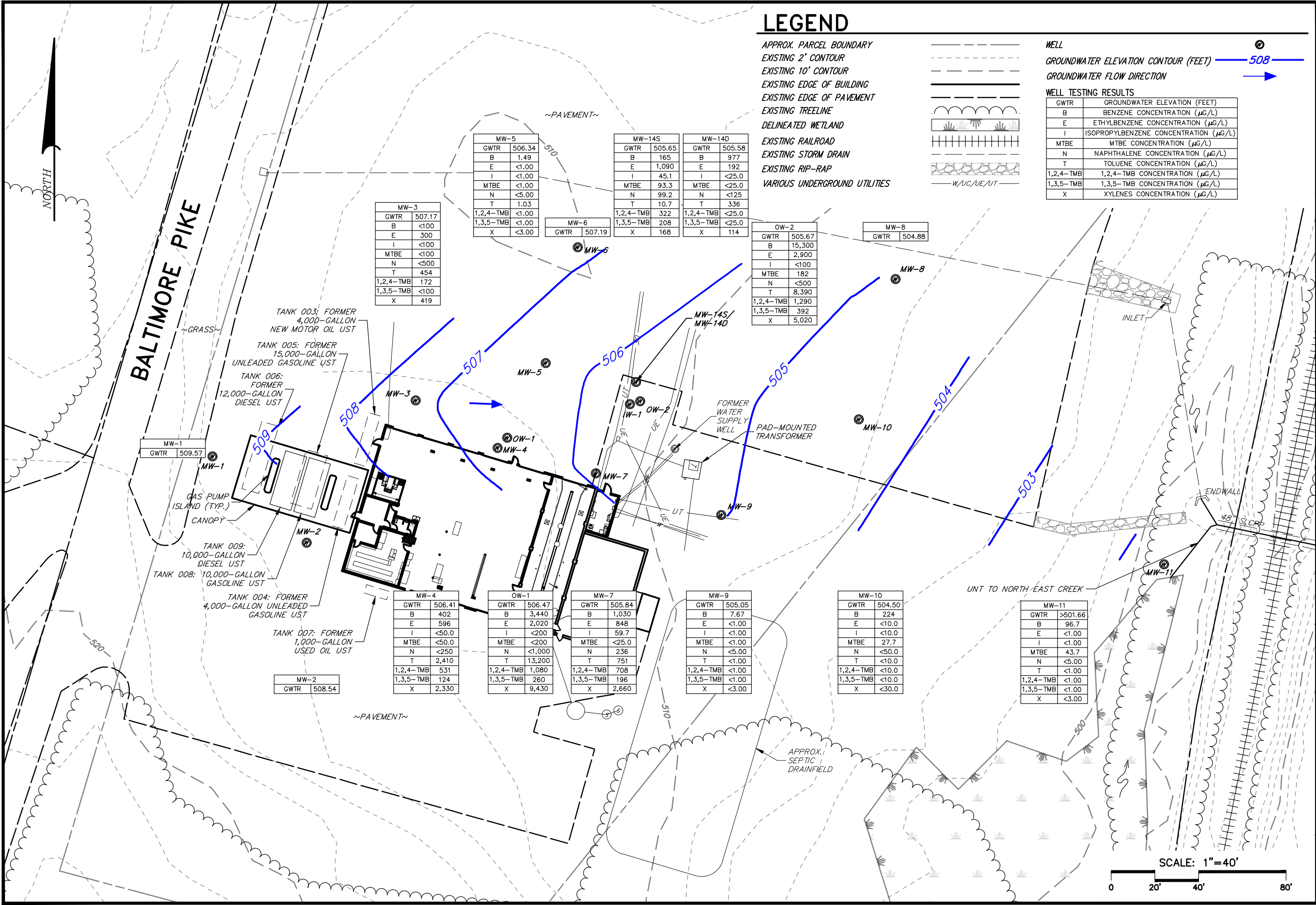
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Environmental Consultants

DRAWN BY: JME

DATE: JULY 27, 2018SCALE: AS NOTED

DWG. NO. 1 OF 1

C:\Rette\Vault\IP\101722001-2730d\BaltimorePaz-Ph2ESA\Sheets\CS\Groundwater\2018-02\101722001-Fig04.dwg



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Environmental Consultants

FIGURE 5
GROUNDWATER ELEVATION CONTOUR MAP—
SEPTEMBER 17, 2018
273 OLD BALTIMORE PIKE
WEST NOTTINGHAM TOWNSHIP CHESTER COUNTY, PA

DRAWN BY: JME
DATE: OCTOBER 12, 2018
SCALE: AS NOTED
DWG. NO. 1 OF 1

C:\Baltimore\101722001-273OldBaltimorePike-H2C3A\Drawings\101722001-fig5.dwg

TABLE

Table 1. Groundwater Sample Analytical Data Summary
Herr Foods, Inc. Nottingham Plant
RETTEW Project No. 101722020

Well	TOC Elev. (feet)	Date	Depth to SPL (feet)	Depth to Water (feet)	SPL Thickness (feet)	Water Table Elev. (feet)	Adj. Water Table Elev. (feet)	Benzene	Ethylbenzene	Isopropylbenzene	MTBE	Naphthalene	Toluene	1,2,4-TMB	1,3,5-TMB	Xylenes
Act 2 Statewide Health Standards for Used, Non-Residential Aquifers								5	700	3,500	20	100	1,000	62	1,200	10,000
MW-1	512.95	3/9/2015	0.00	2.20	0.00	510.75	510.75	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5
		4/1/2015	0.00	1.39	0.00	511.56	511.56	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5
		6/25/2015	0.00	2.96	0.00	509.99	509.99	NS	NS	NS	NS	NS	NS	NS	NS	NS
		7/9/2015	0.00	2.85	0.00	510.10	510.10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
		9/10/2015	0.00	4.94	0.00	508.01	508.01	NS	NS	NS	NS	NS	NS	NS	NS	NS
		10/6/2015	0.00	4.79	0.00	508.16	508.16	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
		1/14/2016	0.00	3.84	0.00	509.11	509.11	NS	NS	NS	NS	NS	NS	NS	NS	NS
		4/6/2016	0.00	3.24	0.00	509.71	509.71	NS	NS	NS	NS	NS	NS	NS	NS	NS
		7/11/2016	0.00	3.54	0.00	509.41	509.41	NS	NS	NS	NS	NS	NS	NS	NS	NS
		10/3/2016	0.00	5.45	0.00	507.50	507.50	NS	NS	NS	NS	NS	NS	NS	NS	NS
		1/16/2017	0.00	5.84	0.00	507.11	507.11	NS	NS	NS	NS	NS	NS	NS	NS	NS
		4/10/2017	0.00	4.20	0.00	508.75	508.75	NS	NS	NS	NS	NS	NS	NS	NS	NS
		7/11/2017	0.00	4.75	0.00	508.20	508.20	NS	NS	NS	NS	NS	NS	NS	NS	NS
		12/26/2017	0.00	6.16	0.00	506.79	506.79	NS	NS	NS	NS	NS	NS	NS	NS	NS
		3/29/2018	0.00	3.34	0.00	509.61	509.61	NS	NS	NS	NS	NS	NS	NS	NS	NS
		6/27/2018	0.00	3.38	0.00	509.57	509.57	NS	NS	NS	NS	NS	NS	NS	NS	NS
		9/17/2018	0.00	3.38	0.00	509.57	509.57	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-2	512.64	3/9/2015	0.00	2.96	0.00	509.68	509.68	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5
		4/1/2015	0.00	2.18	0.00	510.46	510.46	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5
		6/25/2015	0.00	3.08	0.00	509.56	509.56	NS	NS	NS	NS	NS	NS	NS	NS	NS
		7/9/2015	0.00	3.21	0.00	509.43	509.43	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
		9/10/2015	0.00	5.28	0.00	507.36	507.36	NS	NS	NS	NS	NS	NS	NS	NS	NS
		10/6/2015	0.00	5.62	0.00	507.02	507.02	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
		1/14/2016	0.00	5.24	0.00	507.40	507.40	NS	NS	NS	NS	NS	NS	NS	NS	NS
		4/6/2016	0.00	2.45	0.00	510.19	510.19	NS	NS	NS	NS	NS	NS	NS	NS	NS
		7/11/2016	0.00	4.19	0.00	508.45	508.45	NS	NS	NS	NS	NS	NS	NS	NS	NS
		10/3/2016	0.00	6.68	0.00	505.96	505.96	NS	NS	NS	NS	NS	NS	NS	NS	NS
		1/16/2017	0.00	7.14	0.00	505.50	505.50	NS	NS	NS	NS	NS	NS	NS	NS	NS
		4/10/2017	0.00	5.46	0.00	507.18	507.18	NS	NS	NS	NS	NS	NS	NS	NS	NS
		7/11/2017	0.00	5.58	0.00	507.06	507.06	NS	NS	NS	NS	NS	NS	NS	NS	NS
		12/26/2017	NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS
		3/29/2018	0.00	4.65	0.00	507.99	507.99	NS	NS	NS	NS	NS	NS	NS	NS	NS
		6/27/2018	0.00	4.10	0.00	508.54	508.54	NS	NS	NS	NS	NS	NS	NS	NS	NS
		9/17/2018	0.00	4.10	0.00	508.54	508.54	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-3	511.61	3/9/2015	0.00	3.38	0.00	508.23	508.23	180	1,100	33 J	< 25	140 J	14,000	670	180	6,500
		4/1/2015	0.00	2.96	0.00	508.65	508.65	270	1,600	49.0	< 5	240	17,000	1100	310	9,000
		6/25/2015	0.00	3.44	0.00	508.17	508.17	NS	NS	NS	NS	NS	NS	NS	NS	NS
		7/9/2015	0.00	3.61	0.00	508.00	508.00	141	1,400	50.8	< 5.0	254	11,100	866	252	6,840
		9/10/2015	0.00	5.34	0.00	506.27	506.27	NS	NS	NS	NS	NS	NS	NS	NS	NS
		10/6/2015	0.00	5.26	0.00	506.35	506.35	42.7	430	21.5	< 5.0	88.7	3,890	292	111	1,610
		1/14/2016	0.00	4.91	0.00	506.70	506.70	88.5	802	20.8	< 0.5	116	6,550	337	93.3	4,020
		4/6/2016	0.00	2.55	0.00	509.06	509.06	160	1,110	42.8	1.3	196	8,400	514	197	4,750
		7/11/2016	0.00	4.45	0.00	507.16	507.16	123	704	41.1	< 0.5	149	4,880	375	137	3,640
		10/3/2016	0.00	6.05	0.00	505.56	505.56	7.5	127	16.5	< 0.5	55.3	158	145	39.8	251

Herr Foods, Inc. Nottingham Plant
RETTEW Project No. 101722020

Well	TOC Elev. (feet)	Date	Depth to SPL (feet)	Depth to Water (feet)	SPL Thickness (feet)	Water Table Elev. (feet)	Adj. Water Table Elev. (feet)	Act 2 Statewide Health Standards for Used, Non-Residential Aquifers								
								Benzene	Ethylbenzene	Isopropylbenzene	MTBE	Naphthalene	Toluene	1,2,4-TMB	1,3,5-TMB	Xylenes
		1/16/2017	0.00	6.55	0.00	505.06	505.06	12.6	82.0	8.2	< 0.5	11.5	70.0	32.6	7.4	88.4
		4/10/2017	0.00	5.19	0.00	506.42	506.42	41.2	265	8.8	< 0.5	15.9	1,860	76.8	19.1	872
		7/11/2017	0.00	5.34	0.00	506.27	506.27	51.8	600	30.2	ND	94.4	1,050	357	74.8	1,180
		12/26/2017	0.00	6.39	0.00	505.22	505.22	6.7	23.3	<5.0	<5.0	<5.0	31	<5.0	<5.0	24.1
		3/30/2018	0.00	4.49	0.00	507.12	507.12	70.8	616	22	< 10.0	52.8	1,810	514	514	2,820
		6/27/2018	0.00	4.29	0.00	507.32	507.32	143	903	34.0	< 1.00	126	6,000	296	65.1	2,810
		9/17/2018	0.00	4.44	0.00	507.17	507.17	<100	300	<100	<100	<500	454	172	<100	419
		MW-4	511.96	3/9/2015	0.00	3.94	0.00	508.02	508.02	580	2,500	63.0	< 5.0	310	7,300	1,400
4/1/2015	0.00			3.37	0.00	508.59	508.59	1,000	2,200	67.0	< 5.0	310	9,000	1,500	440	9,200
6/25/2015	4.07			4.22	0.15	507.74	507.64	NS	NS	NS	NS	NS	NS	NS	NS	NS
7/9/2015	4.25			4.37	0.12	507.59	507.51	237	1,330	65.8	< 5.0	346	2,280	1,550	406	7,320
9/10/2015	0.00			6.27	0.00	505.69	505.69	NS	NS	NS	NS	NS	NS	NS	NS	NS
10/6/2015	0.00			6.04	0.00	505.92	505.92	1,760	1,600	68.1	< 5.0	199	8,610	857	228	6,180
1/14/2016	0.00			5.81	0.00	506.15	506.15	1,790	1,290	36.5	< 0.5	129	8,710	725	220	5,860
4/6/2016	0.00			3.08	0.00	508.88	508.88	1,170	2,820	79.5	1.9	313	4,870	1,970	2,180	9,430
7/11/2016	0.00			5.34	0.00	506.62	506.62	528	522	57.6	< 0.5	218	1,730	416	105	2,270
10/3/2016	0.00			6.96	0.00	505.00	505.00	2,030	1,590	< 50.0	< 50.0	150	7,220	667	204	5,400
1/16/2017	0.00			7.62	0.00	504.34	504.34	1,180	917	54.8	< 10.0	229	3,240	1,070	147	6,430
4/10/2017	0.00			6.20	0.00	505.76	505.76	1,740	2,300	98	< 25.0	424	6,040	2,180	626	11,200
7/11/2017	0.00			5.50	0.00	506.46	506.46	1,920	1,590	101	4.1	632	2,180	970	275	2,520
12/26/2017	0.00			7.40	0.00	504.56	504.56	2,290	1,830	65.9	<5.0	322	6,750	1,460	406	5,370
3/30/2018	0.00			5.35	0.00	506.61	506.61	989	1,120	29.2	< 2.5	173	1,620	87.5	289	1,460
6/28/2018	0.00			5.24	0.00	506.72	506.72	363	508	25.6	< 1.00	147	1,540	345	121	1,540
9/17/2018	0.00	5.55	0.00	506.41	506.41	402	596	<50.0	<50.0	<250	2,410	531	124	2,330		
MW-5	510.57	3/9/2015	0.00	3.44	0.00	507.13	507.13	1,100	740	25 J	15 J	100	1,900	280	68	1,600
		4/1/2015	0.00	2.94	0.00	507.63	507.63	1,700	1300	42	21	190	3,500	500	130	3,000
		6/25/2015	0.00	3.37	0.00	507.20	507.20	NS	NS	NS	NS	NS	NS	NS	NS	NS
		7/9/2015	0.00	3.54	0.00	507.03	507.03	2,620	1,580	58.2	< 5.0	306	9,020	1,090	284	8,260
		9/10/2015	0.00	5.09	0.00	505.48	505.48	NS	NS	NS	NS	NS	NS	NS	NS	NS
		10/6/2015	0.00	4.86	0.00	505.71	505.71	1,040	694	21.7	9.0	86.8	1,550	299	77.3	1,650
		1/14/2016	0.00	4.60	0.00	505.97	505.97	187	94.7	5.6	4.1	21.8	6.4	56.8	17.9	151
		4/6/2016	0.00	4.61	0.00	505.96	505.96	594	304	12.5	10.6	36.7	155	156	35.2	643
		7/11/2016	0.00	4.29	0.00	506.28	506.28	267	229	9.7	6.8	40.1	203	94.4	21	538
		10/3/2016	0.00	5.37	0.00	505.20	505.20	55.2	26.9	4.5	2.7	14.6	5	18.6	5.9	73
		1/16/2017	0.00	6.07	0.00	504.50	504.50	10.7	4.4	3.0	< 0.5	5.7	1.4	10.6	2.6	43.5
		4/10/2017	0.00	4.93	0.00	505.64	505.64	15.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.5	< 0.5	< 1.0
		7/11/2017	0.00	4.98	0.00	505.59	505.59	19.6	< 0.5	< 0.5	< 0.5	1.4	< 0.5	< 0.5	< 0.5	< 1.0
		12/26/2017	0.00	5.86	0.00	504.71	504.71	9.8	18.7	1.3	0.6	4.9	34.2	25.6	6.2	62.0
		3/29/2018	0.00	4.31	0.00	506.26	506.26	8.0	1.2	< 0.5	1.6	< 0.5	1.1	< 0.5	< 0.5	< 1.0
		6/27/2018	0.00	4.17	0.00	506.40	506.40	14.9	6.25	1.17	3.52	5.50	< 1.00	11.2	5.37	11.9
9/17/2018	0.00	4.23	0.00	506.34	506.34	1.49	<1.00	<1.00	<1.00	<5.00	1.03	<1.00	<1.00	<3.00		
		6/25/2015	0.00	2.00	0.00	507.57	507.57	NS	NS	NS	NS	NS	NS	NS	NS	NS
		7/9/2015	0.00	1.90	0.00	507.67	507.67	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
		9/10/2015	0.00	3.90	0.00	505.67	505.67	NS	NS	NS	NS	NS	NS	NS	NS	NS

Table 1. Groundwater Sample Analytical Data Summary
Herr Foods, Inc. Nottingham Plant
RETTEW Project No. 101722020

Well	TOC Elev. (feet)	Date	Depth to SPL (feet)	Depth to Water (feet)	SPL Thickness (feet)	Water Table Elev. (feet)	Adj. Water Table Elev. (feet)	Benzene	Ethylbenzene	Isopropylbenzene	MTBE	Naphthalene	Toluene	1,2,4-TMB	1,3,5-TMB	Xylenes
Act 2 Statewide Health Standards for Used, Non-Residential Aquifers								5	700	3,500	20	100	1,000	62	1,200	10,000
MW-6	509.57	10/6/2015	0.00	3.42	0.00	506.15	506.15	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
		1/14/2016	0.00	2.70	0.00	506.87	506.87	NS	NS	NS	NS	NS	NS	NS	NS	NS
		4/6/2016	0.00	4.54	0.00	505.03	505.03	NS	NS	NS	NS	NS	NS	NS	NS	NS
		7/11/2016	0.00	2.66	0.00	506.91	506.91	NS	NS	NS	NS	NS	NS	NS	NS	NS
		10/3/2016	0.00	3.68	0.00	505.89	505.89	NS	NS	NS	NS	NS	NS	NS	NS	NS
		1/16/2017	0.00	4.25	0.00	505.32	505.32	NS	NS	NS	NS	NS	NS	NS	NS	NS
		4/10/2017	NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS
		7/11/2017	NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS
		12/26/2017	0.00	4.29	0.00	505.28	505.28	NS	NS	NS	NS	NS	NS	NS	NS	NS
		3/29/2018	0.00	2.60	0.00	506.97	506.97	NS	NS	NS	NS	NS	NS	NS	NS	NS
		6/27/2018	0.00	2.60	0.00	506.97	506.97	NS	NS	NS	NS	NS	NS	NS	NS	NS
		9/17/2018	0.00	2.38	0.00	507.19	507.19	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-7	511.31	6/25/2015	0.00	4.37	0.00	506.94	506.94	NS	NS	NS	NS	NS	NS	NS	NS	NS
		7/9/2015	0.00	4.47	0.00	506.84	506.84	1,820	1,300	59.3	< 0.5	352	3,200	1,060	275	7,940
		9/10/2015	0.00	6.55	0.00	504.76	504.76	NS	NS	NS	NS	NS	NS	NS	NS	NS
		10/6/2015	0.00	6.20	0.00	505.11	505.11	514	728	53.4	< 0.5	240	741	622	169	3,050
		1/14/2016	0.00	5.96	0.00	505.35	505.35	692	681	50.0	< 0.5	171	784	623	167	3,760
		4/6/2016	0.00	4.33	0.00	506.98	506.98	2,770	2,050	91.4	0.9	389	< 0.5	1,680	373	10,300
		7/11/2016	0.00	5.55	0.00	505.76	505.76	1,370	669	86.6	< 0.5	332	1,170	658	274	4,260
		10/3/2016	0.00	7.12	0.00	504.19	504.19	182	754	48.7	< 0.5	109	473	497	144	2,010
		1/16/2017	0.00	7.45	0.00	503.86	503.86	510	972	57.2	< 2.5	222	897	760	224	3,210
		4/10/2017	0.00	6.03	0.00	505.28	505.28	1,260	1,270	72.4	< 2.5	333	1,730	892	284	4,500
		7/11/2017	0.00	6.33	0.00	504.98	504.98	2,900	2,650	107	< 2.5	507	4,280	1,800	464	8,600
		12/26/2017	0.00	7.08	0.00	504.23	504.23	459	979	48.0	<10.0	150	1,660	616	176	3,120
		3/30/2018	0.00	5.23	0.00	506.08	506.08	2,830	2,140	66	<10.0	366	3,690	1,630	1,410	6,040
		6/27/2018	0.00	5.31	0.00	506.00	506.00	2,070	1,320	90.4	< 1.00	315	1,960	1,010	266	4,800
		9/17/2018	0.00	5.47	0.00	505.84	505.84	1,030	848	59.7	<25.0	236	751	708	196	2,660
MW-8	508.04	6/25/2015	0.00	2.86	0.00	505.18	505.18	NS	NS	NS	NS	NS	NS	NS	NS	NS
		7/9/2015	0.00	2.89	0.00	505.15	505.15	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
		9/10/2015	0.00	4.15	0.00	503.89	503.89	NS	NS	NS	NS	NS	NS	NS	NS	NS
		10/6/2015	0.00	3.84	0.00	504.20	504.20	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
		1/14/2016	0.00	3.23	0.00	504.81	504.81	NS	NS	NS	NS	NS	NS	NS	NS	NS
		4/6/2016	0.00	3.70	0.00	504.34	504.34	NS	NS	NS	NS	NS	NS	NS	NS	NS
		7/11/2016	0.00	3.44	0.00	504.60	504.60	NS	NS	NS	NS	NS	NS	NS	NS	NS
		10/3/2016	0.00	4.40	0.00	503.64	503.64	NS	NS	NS	NS	NS	NS	NS	NS	NS
		1/16/2017	0.00	4.70	0.00	503.34	503.34	NS	NS	NS	NS	NS	NS	NS	NS	NS
		4/10/2017	0.00	3.65	0.00	504.39	504.39	NS	NS	NS	NS	NS	NS	NS	NS	NS
		7/11/2017	0.00	3.85	0.00	504.19	504.19	NS	NS	NS	NS	NS	NS	NS	NS	NS
		12/26/2017	NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS
		3/29/2018	0.00	3.40	0.00	504.64	504.64	NS	NS	NS	NS	NS	NS	NS	NS	NS
		6/27/2018	0.00	3.20	0.00	504.84	504.84	NS	NS	NS	NS	NS	NS	NS	NS	NS
		9/17/2018	0.00	3.16	0.00	504.88	504.88	NS	NS	NS	NS	NS	NS	NS	NS	NS
		6/25/2015	0.00	2.31	0.00	506.31	506.31	NS	NS	NS	NS	NS	NS	NS	NS	NS
		7/9/2015	0.00	2.55	0.00	506.07	506.07	4.8	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.4	< 0.5	2

Herr Foods, Inc. Nottingham Plant
RETTEW Project No. 101722020

Well	TOC Elev. (feet)	Date	Depth to SPL (feet)	Depth to Water (feet)	SPL Thickness (feet)	Water Table Elev. (feet)	Adj. Water Table Elev. (feet)	Benzene	Ethylbenzene	Isopropylbenzene	MTBE	Naphthalene	Toluene	1,2,4-TMB	1,3,5-TMB	Xylenes	
Act 2 Statewide Health Standards for Used, Non-Residential Aquifers								5	700	3,500	20	100	1,000	62	1,200	10,000	
MW-9	508.62	9/10/2015	0.00	4.49	0.00	504.13	504.13	NS	NS	NS	NS	NS	NS	NS	NS	NS	
		10/6/2015	0.00	4.16	0.00	504.46	504.46	2.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
		1/14/2016	0.00	3.94	0.00	504.68	504.68	5.4	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.7	< 0.5	< 0.5	< 1.0
		4/6/2016	0.00	2.05	0.00	506.57	506.57	5.3	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
		7/11/2016	0.00	3.41	0.00	505.21	505.21	4.6	< 0.5	< 0.5	< 0.5	5.8	0.6	0.6	< 0.5	< 0.5	1.7
		10/3/2016	0.00	5.10	0.00	503.52	503.52	1.3	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
		1/16/2017	0.00	5.25	0.00	503.37	503.37	3.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.6	< 1.0
		4/10/2017	0.00	3.89	0.00	504.73	504.73	5.0	< 0.5	0.6	< 0.5	< 0.5	< 0.5	0.6	< 0.5	< 0.5	< 1.0
		7/11/2017	0.00	4.10	0.00	504.52	504.52	4.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
		12/26/2017	0.00	5.59	0.00	503.03	503.03	5.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
		3/29/2018	0.00	3.25	0.00	505.37	505.37	3.8	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
		6/27/2018	0.00	3.14	0.00	505.48	505.48	5.72	< 1.00	< 1.00	< 1.00	< 5.00	< 1.00	< 1.00	< 1.00	< 1.00	< 3.00
9/17/2018	0.00	3.57	0.00	505.05	505.05	7.67	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00	<1.00	<1.00	<3.00		
MW-10	508.03	6/25/2015	0.00	4.22	0.00	503.81	503.81	NS	NS	NS	NS	NS	NS	NS	NS	NS	
		7/9/2015	0.00	3.05	0.00	504.98	504.98	1,450	23	13.2	122	59.1	11	0.7	0.8	17	
		9/10/2015	0.00	5.51	0.00	502.52	502.52	NS	NS	NS	NS	NS	NS	NS	NS	NS	
		10/6/2015	0.00	4.88	0.00	503.15	503.15	2,040	< 50	< 50	91	< 50	< 50	< 50	< 50	< 100	
		1/14/2016	0.00	4.01	0.00	504.02	504.02	2,190	13.6	22.6	114	75.4	43.6	3.9	3.2	42.2	
		4/6/2016	0.00	3.63	0.00	504.40	504.40	2,050	10.4	28	122	62.6	22.3	3.0	4	23.9	
		7/11/2016	0.00	5.88	0.00	502.15	502.15	1,340	7.0	17.2	72.9	30	7.7	1.7	2	9.8	
		10/3/2016	0.00	4.94	0.00	503.09	503.09	2,600	34.5	21.5	101	69.7	102.0	17.1	5.5	154.0	
		1/16/2017	0.00	5.15	0.00	502.88	502.88	3,030	96.4	28.9	211	101	160	43.0	11.6	372	
		4/10/2017	0.00	4.72	0.00	503.31	503.31	2,390	59.0	21.8	99.2	45.8	118	28.2	14.2	203	
		7/11/2017	0.00	4.28	0.00	503.75	503.75	< 0.5	33.8	14.3	67.2	39.7	75.0	14.3	3.8	118	
		12/26/2017	0.00	5.22	0.00	502.81	502.81	4,780	84.7	46.8	329	88.3	82.4	38.1	12	217	
		3/29/2018	0.00	3.39	0.00	504.64	504.64	1,720	43.6	12.3	90.3	21.6	8.3	8.8	3.4	58.5	
		6/27/2018	0.00	4.10	0.00	503.93	503.93	278	12.9	6.41	24.1	6.88	26.5	4.37	1.01	31.7	
9/17/2018	0.00	3.53	0.00	504.50	504.50	224	<10.0	<10.0	27.7	<50.0	<10.0	<10.0	<10.0	<30.0			
MW-11	500.78	1/14/2016	0.00	0.24	0.00	500.54	500.54	0.9	< 0.5	< 0.5	137	< 0.5	0.6	< 0.5	< 0.5	< 1.0	
		4/6/2016	0.00	0.34*	0.00	501.31	501.31	19.4	< 0.5	< 0.5	19.4	0.7	< 0.5	< 0.5	< 0.5	< 1.0	
		7/11/2016	0.00	0.84*	0.00	500.81	500.81	14.7	< 0.5	< 0.5	12.5	5.8	< 0.5	< 0.5	< 0.5	< 1.0	
		10/3/2016	0.00	0.38	0.00	500.40	500.40	56.8	< 0.5	0.8	83.1	2.3	< 0.5	< 0.5	< 0.5	1.0	
		1/16/2017	0.00	0.39	0.00	500.39	500.39	46.8	< 0.5	0.6	85.4	1.6	< 0.5	< 0.5	< 0.5	< 1.0	
		4/10/2017	0.00	0.74*	0.00	500.91	500.91	44.0	< 0.5	0.7	60.6	1.2	< 0.5	< 0.5	< 0.5	< 1.0	
		7/11/2017	0.00	0.62*	0.00	501.03	501.03	160	< 0.5	0.7	110	4.7	< 0.5	< 0.5	< 0.5	1.0	
		12/26/2017	NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	
		3/29/2018	0.00	0.00	0.00	>501.65	>501.65	80.5	< 0.5	0.8	126	1.9	< 0.5	< 0.5	< 0.5	< 0.5	1.2
		6/27/2018	0.00	0.00	0.00	>501.65	>501.65	36.6	< 1.00	< 1.00	26.0	< 5.00	< 1.00	< 1.00	< 1.00	< 3.00	
9/17/2018	0.00	0.00	0.00	>501.66	>501.66	96.7	<1.00	<1.00	43.7	<5.00	<1.00	<1.00	<1.00	<3.00			
		1/14/2016	0.00	2.20	0.00	487.47	487.47	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	
		4/6/2016	0.00	2.09	0.00	487.58	487.58	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	
		7/11/2016	0.00	3.71	0.00	485.96	485.96	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	
		10/3/2016	0.00	5.48	0.00	484.19	484.19	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	
		1/16/2017	0.00	4.16	0.00	485.51	485.51	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	

Table 1. Groundwater Sample Analytical Data Summary
Herr Foods, Inc. Nottingham Plant
RETTEW Project No. 101722020

Well	TOC Elev. (feet)	Date	Depth to SPL (feet)	Depth to Water (feet)	SPL Thickness (feet)	Water Table Elev. (feet)	Adj. Water Table Elev. (feet)	Benzene	Ethylbenzene	Isopropylbenzene	MTBE	Naphthalene	Toluene	1,2,4-TMB	1,3,5-TMB	Xylenes
Act 2 Statewide Health Standards for Used, Non-Residential Aquifers								5	700	3,500	20	100	1,000	62	1,200	10,000
MW-12	489.67	4/10/2017	0.00	2.53	0.00	487.14	487.14	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
		7/11/2017	0.00	3.64	0.00	486.03	486.03	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
		12/26/2017	0.00	3.81	0.00	485.86	485.86	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
		3/29/2018	0.00	2.10	0.00	487.57	487.57	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
		6/27/2018	0.00	3.13	0.00	486.54	486.54	< 1.00	< 1.00	< 1.00	< 1.00	< 5.00	< 1.00	< 1.00	< 1.00	< 3.00
		9/17/2018	0.00	2.61	0.00	487.06	487.06	< 1.00	< 1.00	< 1.00	< 1.00	< 5.00	< 1.00	< 1.00	< 1.00	< 3.00
MW-13	486.88	1/14/2016	0.00	3.41	0.00	483.47	483.47	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
		4/6/2016	0.00	3.98	0.00	482.90	482.90	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
		7/11/2016	0.00	5.02	0.00	481.86	481.86	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
		10/3/2016	0.00	6.63	0.00	480.25	480.25	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
		1/16/2017	0.00	5.92	0.00	480.96	480.96	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
		4/10/2017	0.00	3.89	0.00	482.99	482.99	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
		7/11/2017	0.00	4.98	0.00	481.90	481.90	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
		12/26/2017	0.00	5.16	0.00	481.72	481.72	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
		3/29/2018	0.00	3.18	0.00	483.70	483.70	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0
		6/27/2018	0.00	4.35	0.00	482.53	482.53	< 1.00	< 1.00	< 1.00	< 1.00	< 5.00	< 1.00	< 1.00	< 1.00	< 3.00
		9/17/2018	0.00	3.20	0.00	483.68	483.68	< 1.00	< 1.00	< 1.00	< 1.00	< 5.00	< 1.00	< 1.00	< 1.00	< 3.00
MW-14S	510.20	8/19/2016	0.00	5.12	0.00	505.08	505.08	4,900	2,700	86	200	350	12,000	1,800	500	12,000
		9/16/2016	0.00	6.13	0.00	504.07	504.07	4,700	2,700	57	170	320	13,000	1,300	360	11,000
		10/3/2016	0.00	5.71	0.00	504.49	504.49	6,760	3,380	98	180	271	14,400	1,780	544	13,600
		1/16/2017	0.00	6.20	0.00	504.00	504.00	2,570	2,060	97	184	279	11,900	1,230	337	12,400
		4/10/2017	0.00	5.48	0.00	504.72	504.72	1,890	2,890	128	165	423	5,210	1,720	564	11,100
		7/11/2017	0.00	5.45	0.00	504.75	504.75	1,690	3,120	114	< 2.5	380	1,480	2,290	625	6,930
		12/26/2017	0.00	5.70	0.00	504.50	504.50	1,030	2,320	77.2	117	235	778	740	439	1,820
		3/30/2018	0.00	4.30	0.00	505.90	505.90	138	908	17.8	44.4	45.0	124	189	133	689
		6/27/2018	0.00	4.37	0.00	505.83	505.83	174	88.1	3.29	77.2	8.73	290	44.4	29.1	381
		9/17/2018	0.00	4.55	0.00	505.65	505.65	165	1,090	45.1	93.3	99.2	10.7	322	208	168
MW-14D	510.48	8/19/2016	0.00	5.40	0.00	505.08	505.08	660	270	33	38	130	1,500	120	32	820
		9/16/2016	0.00	6.21	0.00	504.27	504.27	250	89	35	38	120	37	25	7	140
		10/3/2016	0.00	6.41	0.00	504.07	504.07	335	80.2	47.3	46	164	10.3	19.5	6.2	96.1
		1/16/2017	0.00	6.49	0.00	503.99	503.99	211	27.2	40.0	< 0.5	137	5.8	4.7	2.8	48.0
		4/10/2017	0.00	5.38	0.00	505.10	505.10	786	116	32.9	27.8	64.1	391	0.8	< 0.5	86.8
		7/11/2017	0.00	5.58	0.00	504.90	504.90	2,870	830	31.6	< 2.5	69.2	3,250	12.4	2.7	635
		12/26/2017	0.00	6.10	0.00	504.38	504.38	299	57.6	48.4	< 10.0	125	27.6	15.6	< 10.0	135
		3/30/2018	0.00	4.52	0.00	505.96	505.96	281	29.2	28.6	< 10.0	40.2	11.6	< 10.0	10.8	38.4
		6/27/2018	0.00	4.49	0.00	505.99	505.99	924	199	10.3	< 1.00	39.0	577	4.59	< 1.00	152
		9/17/2018	0.00	4.90	0.00	505.58	505.58	977	192	< 25.0	< 25.0	< 125	336	< 25.0	< 25.0	114
OW-1	511.85	1/16/2017	0.00	7.48	0.00	504.37	504.37	3,240	369	< 25.0	< 25.0	78	3,020	48.0	< 25	494
		4/10/2017	0.00	6.06	0.00	505.79	505.79	4,310	766	41.2	85.6	117	5,990	29.6	< 20	1,240
		7/11/2017	0.00	6.16	0.00	505.69	505.69	3,300	307	12.8	104	112	2,210	2.5	< 2.5	234
		12/27/2017	0.00	7.31	0.00	504.54	504.54	6,550	1,190	28.6	< 10.0	252	13,000	697	146	6,060
		3/30/2018	0.00	5.28	0.00	506.57	506.57	3,750	1,790	34.8	71.8	229	9,600	838	891	38
		6/27/2018	0.00	5.23	0.00	506.62	506.62	3,710	1,540	34.5	55.4	247	15,500	740	176	7,900
		9/17/2018	0.00	5.38	0.00	506.47	506.47	3,440	2,020	< 200	< 200	< 1,000	13,200	1,080	260	9,430

Table 1. Groundwater Sample Analytical Data Summary
Herr Foods, Inc. Nottingham Plant
RETTEW Project No. 101722020

Well	TOC Elev. (feet)	Date	Depth to SPL (feet)	Depth to Water (feet)	SPL Thickness (feet)	Water Table Elev. (feet)	Adj. Water Table Elev. (feet)	Benzene	Ethylbenzene	Isopropylbenzene	MTBE	Naphthalene	Toluene	1,2,4-TMB	1,3,5-TMB	Xylenes
Act 2 Statewide Health Standards for Used, Non-Residential Aquifers								5	700	3,500	20	100	1,000	62	1,200	10,000
OW-2	510.73	1/16/2017	0.00	6.84	0.00	503.89	503.89	6,470	956	61	124	241	10,200	819	214	6,420
		4/10/2017	0.00	6.14	0.00	504.59	504.59	13,600	3,190	123	202	394	16,700	1,650	498	13,700
		7/11/2017	0.00	5.97	0.00	504.76	504.76	14,200	3,430	97	< 2.5	496	12,500	982	500	11,100
		12/26/2017	0.00	6.67	0.00	504.06	504.06	10,800	3,010	75.5	<25	364	11,400	1,680	466	10,300
		3/30/2018	0.00	5.61	0.00	505.12	505.12	9,990	3,060	61.5	148	310	4,240	1,860	1,280	5,750
		6/27/2018	0.00	4.86	0.00	505.87	505.87	8,720	2,670	71.0	156	< 500	2,570	1,300	394	3,330
		9/17/2018	0.00	5.06	0.00	505.67	505.67	15,300	2,900	<100	182	<500	8,390	1,290	392	5,020
Former Supply Well	511.21	6/25/2015	0.00	5.08	0.00	506.13	506.13	NS	NS	NS	NS	NS	NS	NS	NS	NS
		7/9/2015	0.00	5.19	0.00	506.02	506.02	NS	NS	NS	NS	NS	NS	NS	NS	NS
		9/10/2015	0.00	6.61	0.00	504.60	504.60	NS	NS	NS	NS	NS	NS	NS	NS	NS
		10/6/2015	0.00	6.28	0.00	504.93	504.93	NS	NS	NS	NS	NS	NS	NS	NS	NS
		1/14/2016	0.00	5.09	0.00	506.12	506.12	NS	NS	NS	NS	NS	NS	NS	NS	NS
		4/6/2016	0.00	5.31	0.00	505.90	505.90	2,310	1,280	33.4	47.5	118	4,730	518	120	3,160
		7/11/2016	0.00	5.85	0.00	505.36	505.36	2,080	1,160	29	< 0.5	142	2,830	508	88.6	2,440
		10/3/2016	0.00	6.94	0.00	504.27	504.27	< 0.5	1	0.6	< 0.5	1.2	< 0.5	1	0.7	2
		1/16/2017	0.00	7.55	0.00	503.66	503.66	2.1	0.6	< 0.5	< 0.5	< 0.5	3	0.6	< 0.5	2.2
		4/10/2017	0.00	6.22	0.00	504.99	504.99	7.7	2.4	< 0.5	< 0.5	< 0.5	9.4	0.6	< 0.5	3.9
		12/26/2017	NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS
		3/29/2018	NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS
End Wall (Stream)	499.32	6/25/2015	0.00	3.55	0.00	495.77	495.77	NS	NS	NS	NS	NS	NS	NS	NS	NS
		7/9/2015	0.00	3.53	0.00	495.79	495.79	NS	NS	NS	NS	NS	NS	NS	NS	NS
		9/10/2015	0.00	3.44	0.00	495.88	495.88	NS	NS	NS	NS	NS	NS	NS	NS	NS
		10/6/2015	0.00	3.57	0.00	495.75	495.75	NS	NS	NS	NS	NS	NS	NS	NS	NS
		1/14/2016	0.00	5.39	0.00	493.93	493.93	NS	NS	NS	NS	NS	NS	NS	NS	NS
		4/6/2016	0.00	3.66	0.00	495.66	495.66	NS	NS	NS	NS	NS	NS	NS	NS	NS
		7/11/2016	0.00	3.56	0.00	495.76	495.76	NS	NS	NS	NS	NS	NS	NS	NS	NS
		10/3/2016	0.00	3.55	0.00	495.77	495.77	NS	NS	NS	NS	NS	NS	NS	NS	NS
		1/16/2017	0.00	3.58	0.00	495.74	495.74	NS	NS	NS	NS	NS	NS	NS	NS	NS
		4/10/2017	0.00	3.55	0.00	495.77	495.77	NS	NS	NS	NS	NS	NS	NS	NS	NS
		7/11/2017	0.00	3.55	0.00	495.77	495.77	NS	NS	NS	NS	NS	NS	NS	NS	NS
		12/26/2017	NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS
		3/29/2018	0.00	3.70	0.00	495.62	495.62	NS	NS	NS	NS	NS	NS	NS	NS	NS
		6/27/2018	0.00	3.55	0.00	495.77	495.77	NS	NS	NS	NS	NS	NS	NS	NS	NS
		9/17/2018	0.00	3.70	0.00	495.62	495.62	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:

- 1) TOC = Top of casing.
- 2) SPL = Separate phase liquid.
- 3) All units in micrograms per liter (ug/l).
- 4) Shaded results represent an exceedence of the applicable non-residential Statewide Health Standard.
- 5) J = Estimated concentration detected between the method detection limit and the limit of quantitation.
- 6) NS = Not sampled.
- 7) NM = Not monitored.
- 8) Adjusted water table elevation based on an assumed SPL specific gravity of 0.68.
- * Water level measured from the top of the protective casing (elevation 501.65) due to static water above TOC.

APPENDIX A
Low Flow Groundwater Purging and Monitoring Data Sheets

Location Harris FoodsDate 9/17/18Project / Client George Peper

#101722020

mslcm cont.	ORP	DO mg/L	Temp. °C	pH	Water Quality Reading
SV Colony N 1225	0.836	34.3	5.67	23.87	9.06
South Stream	DRY				
Photo 1	Not enough	water	to collect		Water Quality Reading
Photo 2	Not enough	water	to collect		Water Quality Reading
Photo 3					
First stream	0.827	26.9	4.40	23.75	10.62
Photo 1					
Photo 2					
Photo 3					

No clogs to dense than bushes

Location Harris FoodsDate 9/17/18Project / Client Project #101722020

GW Gauging

	OTW Pf
mw-1	3.58
mw-2	4.65
mw-3	4.44
mw-4	5.55
mw-5	4.23
mw-6	2.38
mw-7	5.47
mw-8	3.16
mw-9	2.57
mw-10	3.53
mw-11	Over TOL
mw-12	2.61
mw-13	3.20
mw-14/5	4.55
mw-14D	4.90
OU-1	5.38
OU-2	5.06
End (wall)	3.70



LOW-FLOW PURGUING AND SAMPLING DATA SHEET

Site: Herr Foods, Inc., Nottingham, PA

Date: 9/10/14

Weather:

Field Personnel:

Pump: Peristaltic Pump

Meter: Multiparameter With Flow Cell

Well No.: MW-1

Screened Interval: 7 to 27 ft.

Well Depth: 27 ft.

Depth To Water Before Pump Installation: 358

Well Diameter: 2-inch

Pump Intake Depth: 10 ft.

Sample Time:

Time	pH (SU)		Conductivity (mS/cm)		ORP (mV)		DO (mg/L)		TDS (g/L)		Temp. (°C)		Pumping Rate* (ml/min)	Depth To Water
	Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change		
		NA		NA		NA		NA		NA		NA		
	MEASURE WATER LEVEL ONLY. DO NOT SAMPLE.													
Stabilization Criteria	+/- 0.2 SU		+/- 3% of Reading		+/- 20 mV**		+/- 0.2 mg/L**		+/- 10% of Reading		+/- 0.2°C		NA	

* Not to exceed 500 ml/min

**** Resolution accuracy of YSI 556**



* Nitrate, Iron, Diss. Iron

Date: 7/17/18

Weather: cloudy 73°

Pump: Peristaltic Pump

Meter: Multiparameter With Flow Cell

Screened Interval: 5 to 25 ft.

Depth To Water Before Pump Installation: 4.44

Pump Intake Depth: 11 ft.

Sample Time: 1225

Time	pH (SU)		Conductivity (mS/cm)		ORP (mV)		DO (mg/L)		TDS (g/L)		Temp. (°C)		Pumping Rate* (ml/min)	Depth To Water
	Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change		
1215	6.73	NA	0.948	NA	2.7	NA	1.53	NA		NA	22.68	NA	210	4.69
1220	6.87	0.14	1.010	0.062	1.2	1.5	0.64	0.89			22.56	0.12	210	4.73
1225	7.00	0.13	1.058	0.048	3.0	4.2	0.46	0.18			22.36	0.2	210	4.76
1230	7.02	0.02	1.097	0.639	-4.2	1.2	0.27	0.19			22.32	0.04	210	4.77
1235	7.01	0.01	1.098	0.001	-4.9	0.7	0.21	0.08			22.32	0.0	210	4.78
Stabilization Criteria	+/- 0.2 SU		+/- 3% of Reading		+/- 20 mV**		+/- 0.2 mg/L**		+/- 10% of Reading		+/- 0.2°C		NA	

** Resolution accuracy of YSI 556

page 254/



* Nitrate, Iron, Diss. Iron

Field Personnel:

Pump: Peristaltic Pump

Meter: Multiparameter With Flow Cell

Screened Interval: 7 to 27 ft.

Depth To Water Before Pump Installation: 4.23

Pump Intake Depth: 10 ft.

Sample Time: 1115

Stabilization Criteria

**** Resolution accuracy of multiparameter meter**

पुनः २.१५५



LOW-FLOW PURGUING AND SAMPLING DATA SHEET

Site: Herr Foods, Inc., Nottingham, PA

Date: 9/12/12

Weather:

Field Personnel:

Pump: Peristaltic Pump

Meter: Multiparameter With Flow Cell

Well No.: MW-6

Screened Interval: 3 to 20 ft.

Well Depth: 20 ft.

Depth To Water Before Pump Installation: 23 ft

Well Diameter: 2-inch

Pump Intake Depth: 10 ft.

Sample Time:

Time	pH (SU)		Conductivity (mS/cm)		ORP (mV)		DO (mg/L)		TDS (g/L)		Temp. (°C)		Pumping Rate* (ml/min)	Depth To Water
	Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change		
		NA		NA		NA		NA		NA		NA		
	MEASURE WATER LEVEL ONLY. DO NOT SAMPLE.													
Stabilization Criteria	+/- 0.2 SU		+/- 3% of Reading		+/- 20 mV**		+/- 0.2 mg/L**		+/- 10% of Reading		+/- 0.2°C		NA	

* Not to exceed 500 ml/min

**** Resolution accuracy of multiparameter meter**



Field Personnel:

Date: 9/17/18 drizzle

Weather: 74° light ~~drizzle~~

Pump: Peristaltic Pump

Meter: Multiparameter With Flow Cell

Well No.: MW-7

Screened Interval: 3 to 20 ft.

Well Depth: 20 ft.

Depth To Water Before Pump Installation: 5.47

Well Diameter: 2-inch

Pump Intake Depth: 8 ft.

Sample Time: 1540

* Not to exceed 500 ml/min

**** Resolution accuracy of multiparameter meter**

Phy 251



**** Resolution accuracy of multiparameter meter**



We answer to you.

LOW-FLOW PURGUING AND SAMPLING DATA SHEET

* Nitrate, Iron, Diss / on

Site: Herr Foods, Inc., Nottingham, PA

Date: 7/17/18

Weather: 70° cloudy

Field Personnel:

Pump: Peristaltic Pump

Meter: Multiparameter With Flow Cell

Well No.: MW-9

Screened Interval: 3 to 20 ft.

Start 1000

Well Depth: 20 ft.

Depth To Water Before Pump Installation: 3.57

Well Diameter: 2-inch

Pump Intake Depth: 10 ft.

Sample Time: 1025

Time	pH (SU)		Conductivity (mS/cm)		ORP (mV)		DO (mg/L)		TDS (g/L)		Temp. (°C)		Pumping Rate* (ml/min)	Depth To Water
	Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change		
1005	6.40	NA	1.720	NA	39.2	NA	7.25	NA		NA	19.47	NA	200	3.90
1010	6.40	0.0	1.728	0.008	39.7	1.5	7.10	0.0			19.46	0.01	200	3.81
1015	6.39	0.01	1.783	0.005	40.6	0.9	0.39	0.05			19.41	0.05	200	3.91
1020	6.37	0.02	1.783	0.0	42.7	0.1	0.30	0.09			19.40	0.01	200	4.10
Stabilization Criteria	+/- 0.2 SU		+/- 3% of Reading		+/- 20 mV**		+/- 0.2 mg/L**		+/- 10% of Reading		+/- 0.2°C		NA	

* Not to exceed 500 ml/min

** Resolution accuracy of multiparameter meter

ended 2:51



* N. rate, then, decrease

Field Personnel:

Date: 9/17/18

Pump: Peristaltic Pump

Weather: 75 cloudy, calm

Meter: Multiparameter With Flow Cell

Well No.: MW-10

Screened Interval: 3 to 20 ft.

Well Depth: 20 ft.

Depth To Water Before Pump Installation: 3.55

Well Diameter: 2-inch

Pump Intake Depth: 10 ft.

Sample Time: 1455

[illegible]

* Not to exceed 500 ml/min

**** Resolution accuracy of multiparameter meter**

PC 323 284



We answer to you.

LOW-FLOW PURGING AND SAMPLING DATA SHEET

* Nitrate, Iron, Diss Iron

Site: Herr Foods, Inc., Nottingham, PA

Date: 9/17/09

Weather: 78 cloudy

Field Personnel:

Pump: Peristaltic Pump

Meter: Multiparameter With Flow Cell

Well No.: MW-11

Screened Interval: 2 to 12.5 ft.

Well Depth: 12.5 ft.

Depth To Water Before Pump Installation: over 100 ft 11/30

Well Diameter: 2-inch

Pump Intake Depth: 11.5 ft.

Sample Time: 1200

Time	pH (SU)		Conductivity (mS/cm)		ORP (mV)		DO (mg/L)		TDS (g/L)		Temp. (°C)		Pumping Rate* (ml/min)	* Depth To Water
	Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change		
1135	5.23	NA	0.512	NA	215.1	NA	3.83	NA		NA	19.48	NA	201	0.20
1140	6.13	0.4	0.482	0.005	90.0	125.1	1.89	1.44			19.02	0.46	200	0.30
1145	6.15	0.62	0.491	0.009	66.1	23.9	1.72	0.17			18.99	0.03	180	0.35
1150	6.16	0.01	0.525	0.034	48.2	17.9	1.53	0.19			19.84	0.15	150	0.40
1155	6.16	0.0	0.531	0.026	45.5	2.4	1.42	0.11			18.80	0.04	150	0.43
Stabilization Criteria	+/- 0.2 SU		+/- 3% of Reading		+/- 20 mV**		+/- 0.2 mg/L**		+/- 10% of Reading		+/- 0.2°C		NA	

* Not to exceed 500 ml/min

** Resolution accuracy of multiparameter meter

* For below TOC
purged 25d



Field Personnel:

Date: 5/17/18

Weather:

Pump: Peristaltic Pump

Meter: Multiparameter With Flow Cell

Well No.: MW-13

Screened Interval: 2 to 12 ft.

Well Depth: 12 ft.

Depth To Water Before Pump Installation: 3.20

Well Diameter: 2-inch

Pump Intake Depth: 9 ft.

Sample Time: 0820

* Not to exceed 500 ml/min
** Resolution accuracy of multiparameter meter

Page 2

We answer to you.

04/3/21 29/4/21



Site: Herr Foods, Inc., Nottingham, PA

Weather: 73 sunny

Field Personnel:

Pump: Peristaltic Pump

Meter: Multiparameter With Flow Cell

Well No.: MW-14D

Well Depth: 25 ft.

Well Diameter: 2-inch

Screened Interval: 15 to 25 ft.

Depth To Water Before Pump Installation: 4.90

Pump Intake Depth: 20 ft.

Sample Time: 1340

* Not to exceed 500 ml/min

**** Resolution accuracy of multiparameter meter**

Placed 2 sec



* Nitrate, NO_3^- , Diss / no

Field Personnel:

Pump: Peristaltic Pump

Meter: Multiparameter With Flow Cell

Screened Interval: 3 to 15 ft.

Depth To Water Before Pump Installation: 5.38

Pump Intake Depth: 10 ft.

Sample Time: 1620

Time	pH (SU)		Conductivity (mS/cm)		ORP (mV)		DO (mg/L)		TDS (g/L)		Temp. (°C)		Pumping Rate* (ml/min)	Depth To Water
	Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change		
1555	7.43	NA	4.051	NA	-39.2	NA	8.13	NA		NA	24.11	NA	200	5.38
1600	8.06	0.63	8.594	4.543	-21.7	12.5	0.51	2.62			24.11	0	200	5.42
1605	8.25	0.19	8.957	0.363	-1.7	20	0.33	0.18			23.92	0.19	200	5.61
1610	8.27	0.02	9.112	0.155	13.1	14.8	0.19	0.14			23.81	0.11	200	5.98
1615	8.10	0.17	9.182	0.07	31.1	18	0.09	0.10			23.66	0.25	200	6.21
Stabilization Criteria	+/- 0.2 SU		+/- 3% of Reading		+/- 20 mV**		+/- 0.2 mg/L**		+/- 10% of Reading		+/- 0.2°C		NA	

**** Resolution accuracy of multiparameter meter**

Plg 291



* Nitrate, Iron, OGS Iron

Date: 9/17/88
Weather: 74° cloudy

Meter: Multiparameter With Flow Cell

Depth To Water Before Pump Installation: 5.06

Sample Time: 1705

Time	pH (SU)		Conductivity (mS/cm)		ORP (mV)		DO (mg/L)		TDS (g/L)		Temp. (°C)		Pumping Rate* (ml/min)	Depth To Water
	Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change		
1640	8.14	NA	1.771	NA	13.1	NA	0.58	NA		NA	23.65	NA	200	5.56
1645	8.07	0.07	1.739	0.032	11.6	1.5	0.35	0.23			23.27	0.38	200	5.61
1650	7.90	0.17	1.725	0.014	6.0	5.6	0.23	0.12			23.11	0.16	200	5.76
1655	2.97	907	1.717	0.008	-2.1	8.1	0.23	0.0			22.94	0.17	200	6.06
1700	8.13	0.16	1.729	0.012	-0.4	0.19	0.20	0.02			22.76	0.18	200	6.10
Stabilization Criteria	+/- 0.2 SU		+/- 3% of Reading		+/- 20 mV**		+/- 0.2 mg/L**		+/- 10% of Reading		+/- 0.2°C		NA	

**** Resolution accuracy of multiparameter meter**

Placed 2991

APPENDIX B
Laboratory Analytical Data Reports

ANALYTICAL REPORT

September 28, 2018

RETTEW

Sample Delivery Group: L1026579
Samples Received: 09/18/2018
Project Number:
Description: Herr Foods

Report To: Mr. Dustin Krajewski
3020 Columbia Avenue
Lancaster, PA 17603

Entire Report Reviewed By:



T. Alan Harvill
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



MW-3 L1026579-01 GW

			Collected by GM	Collected date/time 09/17/18 12:35	Received date/time 09/18/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1167977	100	09/18/18 19:12	09/18/18 19:12	TJJ

¹ Cp

² Tc

³ Ss

MW-4 L1026579-02 GW

			Collected by GM	Collected date/time 09/17/18 14:20	Received date/time 09/18/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1167977	50	09/18/18 19:32	09/18/18 19:32	TJJ

⁴ Cn

⁵ Sr

MW-5 L1026579-03 GW

			Collected by GM	Collected date/time 09/17/18 11:15	Received date/time 09/18/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1167977	1	09/18/18 19:51	09/18/18 19:51	TJJ

⁶ Qc

⁷ Gl

MW-7 L1026579-04 GW

			Collected by GM	Collected date/time 09/17/18 15:40	Received date/time 09/18/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1167977	25	09/18/18 20:11	09/18/18 20:11	TJJ

⁸ Al

⁹ Sc

MW-9 L1026579-05 GW

			Collected by GM	Collected date/time 09/17/18 10:25	Received date/time 09/18/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1167977	1	09/18/18 20:30	09/18/18 20:30	TJJ

MW-10 L1026579-06 GW

			Collected by GM	Collected date/time 09/17/18 14:55	Received date/time 09/18/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1167977	10	09/18/18 20:49	09/18/18 20:49	TJJ

MW-11 L1026579-07 GW

			Collected by GM	Collected date/time 09/17/18 12:00	Received date/time 09/18/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1167977	1	09/18/18 21:09	09/18/18 21:09	TJJ

MW-12 L1026579-08 GW

			Collected by GM	Collected date/time 09/17/18 07:40	Received date/time 09/18/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1167977	1	09/18/18 21:29	09/18/18 21:29	TJJ

SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



MW-13 L1026579-09 GW

			Collected by GM	Collected date/time 09/17/18 08:20	Received date/time 09/18/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1167977	1	09/18/18 21:49	09/18/18 21:49	TJJ

¹ Cp

² Tc

³ Ss

MW-14S L1026579-10 GW

			Collected by GM	Collected date/time 09/17/18 13:10	Received date/time 09/18/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1167977	5	09/18/18 22:09	09/18/18 22:09	TJJ
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1168563	10	09/20/18 00:44	09/20/18 00:44	JCP

⁴ Cn

⁵ Sr

⁶ Qc

MW-14D L1026579-11 GW

			Collected by GM	Collected date/time 09/17/18 13:40	Received date/time 09/18/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1167977	25	09/18/18 22:29	09/18/18 22:29	TJJ

⁷ Gl

⁸ Al

OW-1 L1026579-12 GW

			Collected by GM	Collected date/time 09/17/18 15:50	Received date/time 09/18/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1167977	200	09/18/18 22:48	09/18/18 22:48	TJJ

⁹ Sc

OW-2 L1026579-13 GW

			Collected by GM	Collected date/time 09/17/18 17:05	Received date/time 09/18/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1167977	100	09/18/18 23:08	09/18/18 23:08	TJJ

MW-3 L1026579-14 GW

			Collected by GM	Collected date/time 09/17/18 12:35	Received date/time 09/18/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1167603	1	09/18/18 19:38	09/18/18 19:38	ELN
Metals (ICP) by Method 6010B	WG1167515	1	09/20/18 23:01	09/21/18 13:04	CCE
Metals (ICP) by Method 6010B	WG1169046	1	09/20/18 17:54	09/21/18 15:49	TRB

MW-5 L1026579-15 GW

			Collected by GM	Collected date/time 09/17/18 11:15	Received date/time 09/18/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1167603	1	09/18/18 20:10	09/18/18 20:10	ELN
Wet Chemistry by Method 9056A	WG1167603	5	09/18/18 20:26	09/18/18 20:26	ELN
Metals (ICP) by Method 6010B	WG1167515	1	09/20/18 23:01	09/21/18 13:07	CCE
Metals (ICP) by Method 6010B	WG1169046	1	09/20/18 17:54	09/21/18 15:52	TRB

SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



MW-9 L1026579-16 GW

			Collected by GM	Collected date/time 09/17/18 10:25	Received date/time 09/18/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1167603	1	09/18/18 20:42	09/18/18 20:42	ELN
Metals (ICP) by Method 6010B	WG1167515	1	09/20/18 23:01	09/21/18 13:09	CCE
Metals (ICP) by Method 6010B	WG1169046	1	09/20/18 17:54	09/21/18 15:55	TRB

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

MW-10 L1026579-17 GW

			Collected by GM	Collected date/time 09/17/18 14:55	Received date/time 09/18/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1167603	1	09/18/18 21:14	09/18/18 21:14	ELN
Wet Chemistry by Method 9056A	WG1167603	10	09/18/18 21:30	09/18/18 21:30	ELN
Metals (ICP) by Method 6010B	WG1167515	1	09/20/18 23:01	09/21/18 13:12	CCE
Metals (ICP) by Method 6010B	WG1169046	1	09/20/18 17:54	09/21/18 15:58	TRB

MW-11 L1026579-18 GW

			Collected by GM	Collected date/time 09/17/18 12:00	Received date/time 09/18/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1167603	1	09/18/18 21:46	09/18/18 21:46	ELN
Metals (ICP) by Method 6010B	WG1167515	1	09/20/18 23:01	09/21/18 13:15	CCE
Metals (ICP) by Method 6010B	WG1169046	1	09/20/18 17:54	09/21/18 16:01	TRB

MW-12 L1026579-19 GW

			Collected by GM	Collected date/time 09/17/18 07:40	Received date/time 09/18/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1167603	1	09/18/18 23:05	09/18/18 23:05	ELN
Metals (ICP) by Method 6010B	WG1167515	1	09/20/18 23:01	09/21/18 13:17	CCE
Metals (ICP) by Method 6010B	WG1169046	1	09/20/18 17:54	09/21/18 16:03	TRB

OW-1 L1026579-20 GW

			Collected by GM	Collected date/time 09/17/18 16:40	Received date/time 09/18/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1167603	1	09/18/18 23:21	09/18/18 23:21	ELN
Wet Chemistry by Method 9056A	WG1167603	100	09/18/18 23:37	09/18/18 23:37	ELN
Metals (ICP) by Method 6010B	WG1167515	1	09/20/18 23:01	09/21/18 13:20	CCE
Metals (ICP) by Method 6010B	WG1169046	1	09/20/18 17:54	09/21/18 16:06	TRB

OW-1 L1026579-21 GW

			Collected by GM	Collected date/time 09/17/18 17:05	Received date/time 09/18/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1167603	1	09/18/18 23:53	09/18/18 23:53	ELN
Metals (ICP) by Method 6010B	WG1167515	1	09/20/18 23:01	09/21/18 13:23	CCE
Metals (ICP) by Method 6010B	WG1169046	1	09/20/18 17:54	09/21/18 16:10	TRB

SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



TRIP BLANK L1026579-22 GW

Collected by
GM

Collected date/time
09/17/18 00:00

Received date/time
09/18/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1168033	1	09/19/18 00:25	09/19/18 00:25	JAH

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

T. Alan Harvill
Project Manager

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		100	100	09/18/2018 19:12	WG1167977
Ethylbenzene	300		100	100	09/18/2018 19:12	WG1167977
Isopropylbenzene	ND		100	100	09/18/2018 19:12	WG1167977
Methyl tert-butyl ether	ND		100	100	09/18/2018 19:12	WG1167977
Naphthalene	ND		500	100	09/18/2018 19:12	WG1167977
Toluene	454		100	100	09/18/2018 19:12	WG1167977
1,2,4-Trimethylbenzene	172		100	100	09/18/2018 19:12	WG1167977
1,3,5-Trimethylbenzene	ND		100	100	09/18/2018 19:12	WG1167977
Xylenes, Total	419		300	100	09/18/2018 19:12	WG1167977
(S) Toluene-d8	96.6		80.0-120		09/18/2018 19:12	WG1167977
(S) Dibromofluoromethane	105		75.0-120		09/18/2018 19:12	WG1167977
(S) 4-Bromofluorobenzene	102		77.0-126		09/18/2018 19:12	WG1167977

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	402		50.0	50	09/18/2018 19:32	WG1167977
Ethylbenzene	596		50.0	50	09/18/2018 19:32	WG1167977
Isopropylbenzene	ND		50.0	50	09/18/2018 19:32	WG1167977
Methyl tert-butyl ether	ND		50.0	50	09/18/2018 19:32	WG1167977
Naphthalene	ND		250	50	09/18/2018 19:32	WG1167977
Toluene	2410		50.0	50	09/18/2018 19:32	WG1167977
1,2,4-Trimethylbenzene	531		50.0	50	09/18/2018 19:32	WG1167977
1,3,5-Trimethylbenzene	124		50.0	50	09/18/2018 19:32	WG1167977
Xylenes, Total	2330		150	50	09/18/2018 19:32	WG1167977
(S) Toluene-d8	97.0		80.0-120		09/18/2018 19:32	WG1167977
(S) Dibromofluoromethane	104		75.0-120		09/18/2018 19:32	WG1167977
(S) 4-Bromofluorobenzene	103		77.0-126		09/18/2018 19:32	WG1167977

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	1.49		1.00	1	09/18/2018 19:51	WG1167977
Ethylbenzene	ND		1.00	1	09/18/2018 19:51	WG1167977
Isopropylbenzene	ND		1.00	1	09/18/2018 19:51	WG1167977
Methyl tert-butyl ether	ND		1.00	1	09/18/2018 19:51	WG1167977
Naphthalene	ND		5.00	1	09/18/2018 19:51	WG1167977
Toluene	1.03		1.00	1	09/18/2018 19:51	WG1167977
1,2,4-Trimethylbenzene	ND		1.00	1	09/18/2018 19:51	WG1167977
1,3,5-Trimethylbenzene	ND		1.00	1	09/18/2018 19:51	WG1167977
Xylenes, Total	ND		3.00	1	09/18/2018 19:51	WG1167977
(S) Toluene-d8	97.8		80.0-120		09/18/2018 19:51	WG1167977
(S) Dibromofluoromethane	108		75.0-120		09/18/2018 19:51	WG1167977
(S) 4-Bromofluorobenzene	105		77.0-126		09/18/2018 19:51	WG1167977

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	1030		25.0	25	09/18/2018 20:11	WG1167977
Ethylbenzene	848		25.0	25	09/18/2018 20:11	WG1167977
Isopropylbenzene	59.7		25.0	25	09/18/2018 20:11	WG1167977
Methyl tert-butyl ether	ND		25.0	25	09/18/2018 20:11	WG1167977
Naphthalene	236		125	25	09/18/2018 20:11	WG1167977
Toluene	751		25.0	25	09/18/2018 20:11	WG1167977
1,2,4-Trimethylbenzene	708		25.0	25	09/18/2018 20:11	WG1167977
1,3,5-Trimethylbenzene	196		25.0	25	09/18/2018 20:11	WG1167977
Xylenes, Total	2660		75.0	25	09/18/2018 20:11	WG1167977
(S) Toluene-d8	99.2		80.0-120		09/18/2018 20:11	WG1167977
(S) Dibromofluoromethane	105		75.0-120		09/18/2018 20:11	WG1167977
(S) 4-Bromofluorobenzene	101		77.0-126		09/18/2018 20:11	WG1167977

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	7.67		1.00	1	09/18/2018 20:30	WG1167977
Ethylbenzene	ND		1.00	1	09/18/2018 20:30	WG1167977
Isopropylbenzene	ND		1.00	1	09/18/2018 20:30	WG1167977
Methyl tert-butyl ether	ND		1.00	1	09/18/2018 20:30	WG1167977
Naphthalene	ND		5.00	1	09/18/2018 20:30	WG1167977
Toluene	ND		1.00	1	09/18/2018 20:30	WG1167977
1,2,4-Trimethylbenzene	ND		1.00	1	09/18/2018 20:30	WG1167977
1,3,5-Trimethylbenzene	ND		1.00	1	09/18/2018 20:30	WG1167977
Xylenes, Total	ND		3.00	1	09/18/2018 20:30	WG1167977
(S) Toluene-d8	99.4		80.0-120		09/18/2018 20:30	WG1167977
(S) Dibromofluoromethane	104		75.0-120		09/18/2018 20:30	WG1167977
(S) 4-Bromofluorobenzene	103		77.0-126		09/18/2018 20:30	WG1167977

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	224		10.0	10	09/18/2018 20:49	WG1167977
Ethylbenzene	ND		10.0	10	09/18/2018 20:49	WG1167977
Isopropylbenzene	ND		10.0	10	09/18/2018 20:49	WG1167977
Methyl tert-butyl ether	27.7		10.0	10	09/18/2018 20:49	WG1167977
Naphthalene	ND		50.0	10	09/18/2018 20:49	WG1167977
Toluene	ND		10.0	10	09/18/2018 20:49	WG1167977
1,2,4-Trimethylbenzene	ND		10.0	10	09/18/2018 20:49	WG1167977
1,3,5-Trimethylbenzene	ND		10.0	10	09/18/2018 20:49	WG1167977
Xylenes, Total	ND		30.0	10	09/18/2018 20:49	WG1167977
(S) Toluene-d8	99.4		80.0-120		09/18/2018 20:49	WG1167977
(S) Dibromofluoromethane	104		75.0-120		09/18/2018 20:49	WG1167977
(S) 4-Bromofluorobenzene	105		77.0-126		09/18/2018 20:49	WG1167977

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	96.7		1.00	1	09/18/2018 21:09	WG1167977
Ethylbenzene	ND		1.00	1	09/18/2018 21:09	WG1167977
Isopropylbenzene	ND		1.00	1	09/18/2018 21:09	WG1167977
Methyl tert-butyl ether	43.7		1.00	1	09/18/2018 21:09	WG1167977
Naphthalene	ND		5.00	1	09/18/2018 21:09	WG1167977
Toluene	ND		1.00	1	09/18/2018 21:09	WG1167977
1,2,4-Trimethylbenzene	ND		1.00	1	09/18/2018 21:09	WG1167977
1,3,5-Trimethylbenzene	ND		1.00	1	09/18/2018 21:09	WG1167977
Xylenes, Total	ND		3.00	1	09/18/2018 21:09	WG1167977
(S) Toluene-d8	98.9		80.0-120		09/18/2018 21:09	WG1167977
(S) Dibromofluoromethane	106		75.0-120		09/18/2018 21:09	WG1167977
(S) 4-Bromofluorobenzene	101		77.0-126		09/18/2018 21:09	WG1167977

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	09/18/2018 21:29	WG1167977
Ethylbenzene	ND		1.00	1	09/18/2018 21:29	WG1167977
Isopropylbenzene	ND		1.00	1	09/18/2018 21:29	WG1167977
Methyl tert-butyl ether	ND		1.00	1	09/18/2018 21:29	WG1167977
Naphthalene	ND		5.00	1	09/18/2018 21:29	WG1167977
Toluene	ND		1.00	1	09/18/2018 21:29	WG1167977
1,2,4-Trimethylbenzene	ND		1.00	1	09/18/2018 21:29	WG1167977
1,3,5-Trimethylbenzene	ND		1.00	1	09/18/2018 21:29	WG1167977
Xylenes, Total	ND		3.00	1	09/18/2018 21:29	WG1167977
(S) Toluene-d8	97.2		80.0-120		09/18/2018 21:29	WG1167977
(S) Dibromofluoromethane	108		75.0-120		09/18/2018 21:29	WG1167977
(S) 4-Bromofluorobenzene	104		77.0-126		09/18/2018 21:29	WG1167977

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	09/18/2018 21:49	WG1167977
Ethylbenzene	ND		1.00	1	09/18/2018 21:49	WG1167977
Isopropylbenzene	ND		1.00	1	09/18/2018 21:49	WG1167977
Methyl tert-butyl ether	ND		1.00	1	09/18/2018 21:49	WG1167977
Naphthalene	ND		5.00	1	09/18/2018 21:49	WG1167977
Toluene	ND		1.00	1	09/18/2018 21:49	WG1167977
1,2,4-Trimethylbenzene	ND		1.00	1	09/18/2018 21:49	WG1167977
1,3,5-Trimethylbenzene	ND		1.00	1	09/18/2018 21:49	WG1167977
Xylenes, Total	ND		3.00	1	09/18/2018 21:49	WG1167977
(S) Toluene-d8	99.8		80.0-120		09/18/2018 21:49	WG1167977
(S) Dibromofluoromethane	106		75.0-120		09/18/2018 21:49	WG1167977
(S) 4-Bromofluorobenzene	103		77.0-126		09/18/2018 21:49	WG1167977

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	165		5.00	5	09/18/2018 22:09	WG1167977
Ethylbenzene	1090		10.0	10	09/20/2018 00:44	WG1168563
Isopropylbenzene	45.1		5.00	5	09/18/2018 22:09	WG1167977
Methyl tert-butyl ether	93.3		5.00	5	09/18/2018 22:09	WG1167977
Naphthalene	99.2		25.0	5	09/18/2018 22:09	WG1167977
Toluene	10.7		5.00	5	09/18/2018 22:09	WG1167977
1,2,4-Trimethylbenzene	322		5.00	5	09/18/2018 22:09	WG1167977
1,3,5-Trimethylbenzene	208		5.00	5	09/18/2018 22:09	WG1167977
Xylenes, Total	168		15.0	5	09/18/2018 22:09	WG1167977
(S) Toluene-d8	102		80.0-120		09/18/2018 22:09	WG1167977
(S) Toluene-d8	101		80.0-120		09/20/2018 00:44	WG1168563
(S) Dibromofluoromethane	107		75.0-120		09/18/2018 22:09	WG1167977
(S) Dibromofluoromethane	105		75.0-120		09/20/2018 00:44	WG1168563
(S) 4-Bromofluorobenzene	104		77.0-126		09/18/2018 22:09	WG1167977
(S) 4-Bromofluorobenzene	109		77.0-126		09/20/2018 00:44	WG1168563

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	977		25.0	25	09/18/2018 22:29	WG1167977
Ethylbenzene	192		25.0	25	09/18/2018 22:29	WG1167977
Isopropylbenzene	ND		25.0	25	09/18/2018 22:29	WG1167977
Methyl tert-butyl ether	ND		25.0	25	09/18/2018 22:29	WG1167977
Naphthalene	ND		125	25	09/18/2018 22:29	WG1167977
Toluene	336		25.0	25	09/18/2018 22:29	WG1167977
1,2,4-Trimethylbenzene	ND		25.0	25	09/18/2018 22:29	WG1167977
1,3,5-Trimethylbenzene	ND		25.0	25	09/18/2018 22:29	WG1167977
Xylenes, Total	114		75.0	25	09/18/2018 22:29	WG1167977
(S) Toluene-d8	101		80.0-120		09/18/2018 22:29	WG1167977
(S) Dibromofluoromethane	104		75.0-120		09/18/2018 22:29	WG1167977
(S) 4-Bromofluorobenzene	103		77.0-126		09/18/2018 22:29	WG1167977

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	3440		200	200	09/18/2018 22:48	WG1167977
Ethylbenzene	2020		200	200	09/18/2018 22:48	WG1167977
Isopropylbenzene	ND		200	200	09/18/2018 22:48	WG1167977
Methyl tert-butyl ether	ND		200	200	09/18/2018 22:48	WG1167977
Naphthalene	ND		1000	200	09/18/2018 22:48	WG1167977
Toluene	13200		200	200	09/18/2018 22:48	WG1167977
1,2,4-Trimethylbenzene	1080		200	200	09/18/2018 22:48	WG1167977
1,3,5-Trimethylbenzene	260		200	200	09/18/2018 22:48	WG1167977
Xylenes, Total	9430		600	200	09/18/2018 22:48	WG1167977
(S) Toluene-d8	99.1		80.0-120		09/18/2018 22:48	WG1167977
(S) Dibromofluoromethane	105		75.0-120		09/18/2018 22:48	WG1167977
(S) 4-Bromofluorobenzene	103		77.0-126		09/18/2018 22:48	WG1167977

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	15300		100	100	09/18/2018 23:08	WG1167977
Ethylbenzene	2900		100	100	09/18/2018 23:08	WG1167977
Isopropylbenzene	ND		100	100	09/18/2018 23:08	WG1167977
Methyl tert-butyl ether	182		100	100	09/18/2018 23:08	WG1167977
Naphthalene	ND		500	100	09/18/2018 23:08	WG1167977
Toluene	8390		100	100	09/18/2018 23:08	WG1167977
1,2,4-Trimethylbenzene	1290		100	100	09/18/2018 23:08	WG1167977
1,3,5-Trimethylbenzene	392		100	100	09/18/2018 23:08	WG1167977
Xylenes, Total	5020		300	100	09/18/2018 23:08	WG1167977
(S) Toluene-d8	101		80.0-120		09/18/2018 23:08	WG1167977
(S) Dibromofluoromethane	107		75.0-120		09/18/2018 23:08	WG1167977
(S) 4-Bromofluorobenzene	105		77.0-126		09/18/2018 23:08	WG1167977

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Nitrate	ND		100	1	09/18/2018 19:38	WG1167603
Sulfate	60400		5000	1	09/18/2018 19:38	WG1167603

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Iron	6120		100	1	09/21/2018 15:49	WG1169046
Iron,Dissolved	4950		100	1	09/21/2018 13:04	WG1167515

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Nitrate	988		100	1	09/18/2018 20:10	WG1167603
Sulfate	267000		25000	5	09/18/2018 20:26	WG1167603

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Iron	28800		100	1	09/21/2018 15:52	WG1169046
Iron,Dissolved	11900		100	1	09/21/2018 13:07	WG1167515

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Nitrate	ND		100	1	09/18/2018 20:42	WG1167603
Sulfate	24200		5000	1	09/18/2018 20:42	WG1167603

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Iron	8460		100	1	09/21/2018 15:55	WG1169046
Iron,Dissolved	1440		100	1	09/21/2018 13:09	WG1167515

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Nitrate	ND		100	1	09/18/2018 21:14	WG1167603
Sulfate	659000		50000	10	09/18/2018 21:30	WG1167603

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Iron	2430		100	1	09/21/2018 15:58	WG1169046
Iron,Dissolved	ND		100	1	09/21/2018 13:12	WG1167515

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Nitrate	3120		100	1	09/18/2018 21:46	WG1167603
Sulfate	ND		5000	1	09/18/2018 21:46	WG1167603

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Iron	185		100	1	09/21/2018 16:01	WG1169046
Iron,Dissolved	ND		100	1	09/21/2018 13:15	WG1167515

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Nitrate	3710		100	1	09/18/2018 23:05	WG1167603
Sulfate	ND		5000	1	09/18/2018 23:05	WG1167603

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Iron	ND		100	1	09/21/2018 16:03	WG1169046
Iron,Dissolved	ND		100	1	09/21/2018 13:17	WG1167515

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Nitrate	188		100	1	09/18/2018 23:21	WG1167603
Sulfate	6090000		500000	100	09/18/2018 23:37	WG1167603

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Iron	59200		100	1	09/21/2018 16:06	WG1169046
Iron,Dissolved	215		100	1	09/21/2018 13:20	WG1167515

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc



Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Nitrate	ND		100	1	09/18/2018 23:53	WG1167603
Sulfate	5540		5000	1	09/18/2018 23:53	WG1167603

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Iron	66500		100	1	09/21/2018 16:10	WG1169046
Iron,Dissolved	18500		100	1	09/21/2018 13:23	WG1167515

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	09/19/2018 00:25	WG1168033
Toluene	ND		1.00	1	09/19/2018 00:25	WG1168033
Ethylbenzene	ND		1.00	1	09/19/2018 00:25	WG1168033
Total Xylenes	ND		3.00	1	09/19/2018 00:25	WG1168033
(S) Toluene-d8	104		80.0-120		09/19/2018 00:25	WG1168033
(S) Dibromofluoromethane	101		75.0-120		09/19/2018 00:25	WG1168033
(S) a,a,a-Trifluorotoluene	103		80.0-120		09/19/2018 00:25	WG1168033
(S) 4-Bromofluorobenzene	91.1		77.0-126		09/19/2018 00:25	WG1168033

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Method Blank (MB)

(MB) R3343091-1 09/18/18 10:45

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ug/l		ug/l	ug/l
Nitrate	U		22.7	100
Sulfate	U		77.4	5000

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1026576-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1026576-01 09/18/18 16:43 • (DUP) R3343091-4 09/18/18 16:59

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Nitrate	1480	1510	1	1.81		15
Sulfate	77900	78500	1	0.705		15

L1026579-18 Original Sample (OS) • Duplicate (DUP)

(OS) L1026579-18 09/18/18 21:46 • (DUP) R3343091-7 09/18/18 22:33

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	ug/l	ug/l		%		%
Nitrate	3120	3180	1	1.84		15
Sulfate	ND	990	1	0.000		15

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3343091-2 09/18/18 11:01 • (LCSD) R3343091-3 09/18/18 11:17

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	ug/l	ug/l	ug/l	%	%	%			%	%
Nitrate	8000	8140	8220	102	103	80.0-120			0.939	15
Sulfate	40000	39100	39500	97.8	98.6	80.0-120			0.821	15

L1026579-18 Original Sample (OS) • Matrix Spike (MS)

(OS) L1026579-18 09/18/18 21:46 • (MS) R3343091-8 09/18/18 22:49

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	ug/l	ug/l	ug/l	%		%	
Nitrate	5000	3120	8160	101	1	80.0-120	
Sulfate	50000	ND	51500	101	1	80.0-120	



L1026576-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1026576-01 09/18/18 16:43 • (MS) R3343091-9 09/19/18 08:56 • (MSD) R3343091-6 09/18/18 17:31

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Nitrate	5000	1480	6630	6550	103	101	1	80.0-120			1.12	15
Sulfate	50000	77900	126000	125000	95.5	94.4	1	80.0-120	E	E	0.424	15

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



Method Blank (MB)

(MB) R3343957-1 09/21/18 12:27

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Iron,Dissolved	14.4	J	14.1	100

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3343957-2 09/21/18 12:29 • (LCSD) R3343957-3 09/21/18 12:32

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Iron,Dissolved	10000	10400	10200	104	102	80.0-120			1.46	20

L1026115-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1026115-01 09/21/18 12:34 • (MS) R3343957-5 09/21/18 12:40 • (MSD) R3343957-6 09/21/18 12:42

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Iron,Dissolved	10000	ND	10300	10200	103	102	1	75.0-125			0.768	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3343928-1 09/21/18 12:00

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Iron	U		14.1	100

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3343928-2 09/21/18 12:03 • (LCSD) R3343928-3 09/21/18 12:06

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Iron	10000	9890	10100	98.9	101	80.0-120			2.40	20

L1027105-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1027105-01 09/21/18 12:09 • (MS) R3343928-5 09/21/18 12:14 • (MSD) R3343928-6 09/21/18 12:17

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Iron	10000	1510	11700	11400	102	98.6	1	75.0-125			2.68	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

[L1026579-01,02,03,04,05,06,07,08,09,10,11,12,13](#)

Method Blank (MB)

(MB) R3343319-3 09/18/18 17:39

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Benzene	U		0.331	1.00
Ethylbenzene	U		0.384	1.00
Isopropylbenzene	U		0.326	1.00
Methyl tert-butyl ether	U		0.367	1.00
Naphthalene	U		1.00	5.00
Toluene	U		0.412	1.00
1,2,4-Trimethylbenzene	U		0.373	1.00
1,3,5-Trimethylbenzene	U		0.387	1.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	96.7			80.0-120
(S) Dibromofluoromethane	104			75.0-120
(S) 4-Bromofluorobenzene	102			77.0-126

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3343319-1 09/18/18 16:39 • (LCSD) R3343319-2 09/18/18 16:59

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	25.0	28.6	29.6	114	118	70.0-123			3.44	20
Ethylbenzene	25.0	27.2	26.4	109	106	79.0-123			2.99	20
Isopropylbenzene	25.0	27.7	28.5	111	114	76.0-127			3.02	20
Methyl tert-butyl ether	25.0	29.0	28.1	116	112	68.0-125			3.15	20
Naphthalene	25.0	26.4	27.4	106	109	54.0-135			3.44	20
Toluene	25.0	26.0	25.3	104	101	79.0-120			2.47	20
1,2,4-Trimethylbenzene	25.0	27.4	28.4	110	114	76.0-121			3.56	20
1,3,5-Trimethylbenzene	25.0	27.6	28.4	111	114	76.0-122			2.91	20
Xylenes, Total	75.0	78.1	77.5	104	103	79.0-123			0.771	20
(S) Toluene-d8				99.1	96.4	80.0-120				
(S) Dibromofluoromethane				106	102	75.0-120				
(S) 4-Bromofluorobenzene				109	109	77.0-126				



Method Blank (MB)

(MB) R3344781-3 09/18/18 22:26

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Benzene	U		0.331	1.00
Ethylbenzene	U		0.384	1.00
Toluene	U		0.412	1.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	99.9			80.0-120
(S) Dibromofluoromethane	104			75.0-120
(S) a,a,a-Trifluorotoluene	102			80.0-120
(S) 4-Bromofluorobenzene	89.0			77.0-126

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3344781-1 09/18/18 21:26 • (LCSD) R3344781-2 09/18/18 21:46

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	25.0	23.3	24.4	93.3	97.6	70.0-123			4.51	20
Ethylbenzene	25.0	26.6	28.2	106	113	79.0-123			5.80	20
Toluene	25.0	25.0	25.7	99.9	103	79.0-120			2.75	20
Xylenes, Total	75.0	79.0	79.6	105	106	79.0-123			0.757	20
(S) Toluene-d8				104	102	80.0-120				
(S) Dibromofluoromethane				102	104	75.0-120				
(S) a,a,a-Trifluorotoluene				103	100	80.0-120				
(S) 4-Bromofluorobenzene				90.0	92.1	77.0-126				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3343657-4 09/20/18 00:24

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Ethylbenzene	U		0.384	1.00
(S) Toluene-d8	106			80.0-120
(S) Dibromofluoromethane	103			75.0-120
(S) 4-Bromofluorobenzene	106			77.0-126

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3343657-1 09/19/18 23:03 • (LCSD) R3343657-2 09/19/18 23:23

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethylbenzene	25.0	24.2	25.5	97.0	102	79.0-123			4.83	20
(S) Toluene-d8				98.3	96.8	80.0-120				
(S) Dibromofluoromethane				105	109	75.0-120				
(S) 4-Bromofluorobenzene				106	108	77.0-126				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana ¹	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

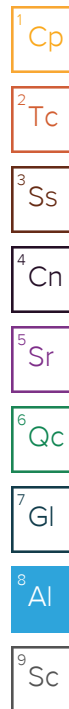
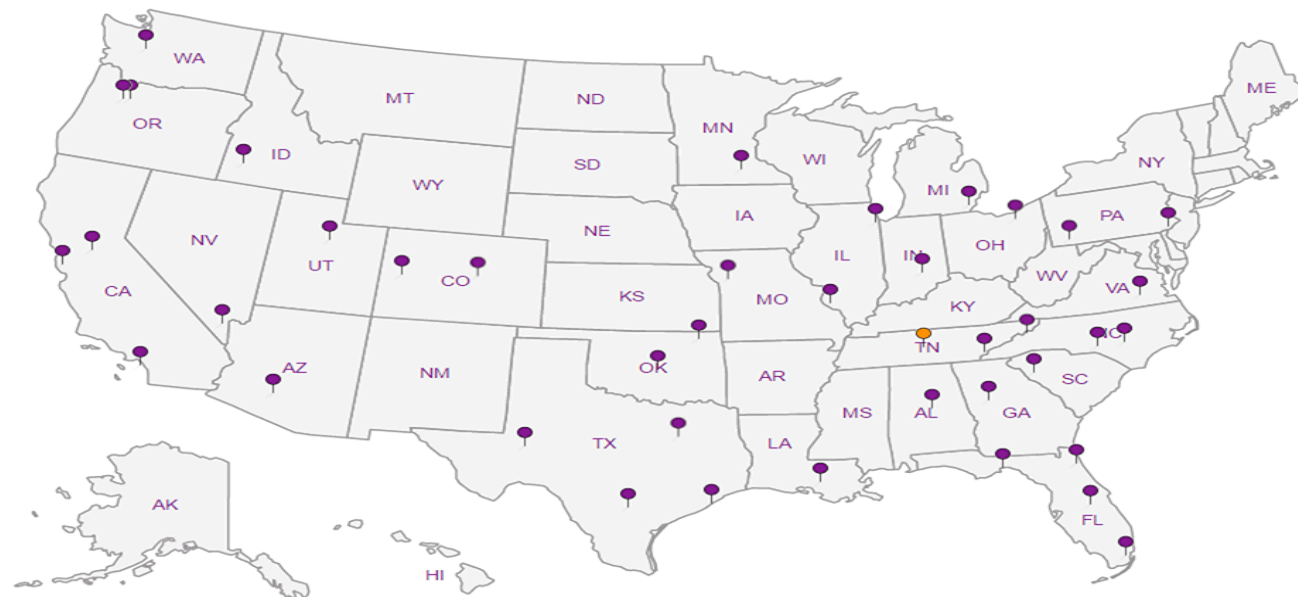
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

Company: RETTEW		Billing Information:	
Address: 3020 Columbia Avenue Lancaster, PA 17603		Accounts Payable 3020 Columbia Ave. Lancaster, PA 17603	
Report To: Mr. Dustin Krajewski		Email To: dkrajewski@rettew.com	
Copy To:		Site Collection Info/Address:	
Customer Project Name/Number: Herr Foods		State: County/City: Time Zone Collected: / PT MT CT ET	
Phone: 717-394-3721	Site/Facility ID #:	Compliance Monitoring? [] Yes [] No	
Email:	Purchase Order #:	DW PWS ID #:	
Collected by (print): <i>Guenther MLK</i>	Quote #:	DW Location Code:	
Collected by (signature): <i>Guenther MLK</i>	Turnaround Date Required:	Immediately Packed on Ice: [x] Yes [] No	
Sample Disposal: [] Dispose as appropriate [] Return [] Archive [] Hold	Rush: [] Same Day [] Next Day [] 2 Day [] 3 Day [] 4 Day [] 5 Day (Expedite Charges Apply)	Field Filtered (If applicable): [] Yes [] No	
Analysis:			

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start)		Composite End		Res Cl	# of Ctns
			Date	Time	Date	Time		
<i>ML-3</i>	GW	<i>6</i>	<i>9/12/18</i>	<i>1235</i>				<i>3</i>
<i>ML-4</i>	GW			<i>1420</i>				<i>3</i>
<i>ML-5</i>	GW			<i>1115</i>				<i>3</i>
<i>ML-7</i>	GW			<i>1540</i>				<i>3</i>
<i>ML-9</i>	GW			<i>1025</i>				<i>3</i>
<i>ML-10</i>	GW			<i>1455</i>				<i>3</i>
<i>ML-11</i>	GW			<i>1200</i>				<i>3</i>
<i>ML-12</i>	GW			<i>0740</i>				<i>3</i>
<i>ML-13</i>	GW			<i>0820</i>				<i>3</i>
<i>ML-14P</i>	GW			<i>1310</i>				<i>3</i>

Customer Remarks / Special Conditions / Possible Hazards: RAD SCREEN: <0.5 mR/hr	Type of Ice Used: <i>Wet</i> Blue Dry None
	Packing Material Used:
	Radchem sample(s) screened (<500 cpm): Y N NA

Relinquished by/Company: (Signature) <i>Guenther MLK RETTEW</i>	Date/Time: <i>9/12/18 1930</i>	Received by/Company: (Signature)
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature) <i>Kramer</i>

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTIL Log-in Number Here

ALL SHADED AREAS are for LAB USE ONLY

Container Preservative Type **				Lab Project Manager:	
				364 - T. Alan Harvill	
** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other					
Analyses				Lab Profile/Line: RETTEW-0620185	
Lab Sample Receipt Checklist:					
Custody Seals Present/Intact				Y ☒ N ☐ NA	
Custody Signatures Present				Y ☒ N ☐ NA	
Collector Signature Present				Y ☒ N ☐ NA	
Bottles Intact				Y ☒ N ☐ NA	
Correct Bottles				Y ☒ N ☐ NA	
Sufficient Volume				Y ☒ N ☐ NA	
Samples Received on Ice				Y ☒ N ☐ NA	
VQA - Headspace Acceptable				Y ☒ N ☐ NA	
USDA Regulated Soils				Y ☒ N ☐ NA	
Samples in Holding Time				Y ☒ N ☐ NA	
Residual Chlorine Present				Y ☒ N ☐ NA	
Cl Strips:				Y ☒ N ☐ NA	
Sample pH Acceptable				Y ☒ N ☐ NA	
pH Strips:				Y ☒ N ☐ NA	
Sulfide Present				Y ☒ N ☐ NA	
Lead Acetate Strips:					
LAB USE ONLY:					
Lab Sample # / Comments					
L1006579					
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
LAB Sample Temperature Info:					
Temp Blank Received: Y ☒ N ☐ NA					
Therm ID#: 11					
Cooler 1 Temp Upon Receipt 0.4 °C					
Cooler 1 Therm Corr. Factor -0.3 °C					
Cooler 1 Corrected Temp 0.3 °C					
Comments:					
Trip Blank Received: Y ☒ N ☐ NA					
HCL MeOH TSP Other					
Non-Conformance(s) Page					
YES ☒ NO ☐ of					

Diss Iron 250mLHDPE NoPres	NITRATE,SULFATE 125mLHDPE NoPres	Total Iron 250mLHDPE HNO3	V82608TEX 40mLAmb HCl Blk	V8260UEGA 40mLAmb HCl
			X	
			X	
			X	
			X	
			X	
			X	
			X	
			X	
			X	

SHORT HOLDS PRESENT (<72 hours): Y N N/A	
LAB Tracking #: 4196 3260 3934	
Samples received via:	
☒ FEDEX	☐ UPS Client Courier Pace Courier
Date/Time:	A121
Date/Time:	Acctnum: RETTEW
Date/Time:	Template: T137713
Date/Time:	Prelogin: P672020
Date/Time:	PM: 364 - T. Alan Harvill
Date/Time:	PB:

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

Company: RETTEW		Billing Information:	
Address: 3020 Columbia Avenue Lancaster, PA 17603		Accounts Payable 3020 Columbia Ave. Lancaster, PA 17603	
Report To: Mr. Dustin Krajewski		Email To: dkrajewski@rettew.com	
Copy To:		Site Collection Info/Address:	
Customer Project Name/Number: Herr Foods		State: County/City: Time Zone Collected: / PT MT CT ET	
Phone: 717-394-3721	Site/Facility ID #:	Compliance Monitoring? ☐ Yes ☐ No	
Collected by (print): <i>Grant M. 1/4</i>	Purchase Order #:	DW PWS ID #:	
Collected by (signature): <i>Grant M. 1/4</i>	Quote #:	DW Location Code:	
Sample Disposal: ☐ Dispose as appropriate ☐ Return ☐ Archive ☐ Hold	Turnaround Date Required:	Immediately Packed on Ice: ☒ Yes ☐ No	
Rush: ☐ Same Day ☐ Next Day ☐ 2 Day ☐ 3 Day ☐ 4 Day ☐ 5 Day (Expedite Charges Apply)	Field Filtered (if applicable): ☐ Yes ☐ No		
Analysis: _____			

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start)		Composite End		Res Cl	# of Ctrs
			Date	Time	Date	Time		
<i>MW-14D</i>	GW	<i>6</i>		<i>1340</i>				<i>3</i>
<i>OW-1</i>	GW	<i>1</i>		<i>1550</i>				<i>3</i>
<i>OW-2</i>	GW	<i>1</i>		<i>1205</i>				<i>3</i>
<i>-</i>	GW							<i>3</i>
<i>-</i>	GW							<i>3</i>
<i>MW-3</i>	GW	<i>6</i>		<i>1235</i>				<i>3</i>
<i>MW-5</i>	GW			<i>1115</i>				<i>3</i>
<i>MW-9</i>	GW			<i>1025</i>				<i>3</i>
<i>MW-10</i>	GW			<i>1455</i>				<i>3</i>
<i>MW-11</i>	GW			<i>1200</i>				<i>3</i>

Customer Remarks / Special Conditions / Possible Hazards: <i>0.55 Iron needs to be lab filtered</i>	Type of Ice Used: ☒ Wet ☐ Blue ☐ Dry ☐ None	SHORT HOLDS PRESENT (<72 hours): Y N N/A
	Packing Material Used:	LAB Tracking #: <i>4196 3260 3934</i>
	Radchem sample(s) screened (<500 cpm): Y N NA	Samples received via: ☒ FEDEX ☐ UPS ☐ Client ☐ Courier ☐ Pace Courier

Relinquished by/Company: (Signature) <i>Grant M. 1/4</i>	Date/Time: <i>7/18/18</i>	Received by/Company: (Signature) <i>Flame</i>	Date/Time: <i>9/18/18</i>
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

RAD SCREEN: 20.5 mR/hr

ALL SHADED AREAS are for LAB USE ONLY

Container Preservative Type **	Lab Project Manager:
	364 - T. Alan Harvill
** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other	

Analyses										Lab Profile/Line: RETTEW-0620185	
										Lab Sample Receipt Checklist:	
										Custody Seals Present/Intact ☒ N NA	
										Custody Signatures Present ☒ N NA	
										Collector Signature Present ☒ N NA	
										Bottles Intact ☒ N NA	
										Correct Bottles ☒ N NA	
										Sufficient Volume ☒ N NA	
										Samples Received on Ice ☒ N NA	
										VOA - Headspace Acceptable ☒ N NA	
										USDA Regulated Soils ☒ N NA	
										Samples in Holding Time ☒ N NA	
										Residual Chlorine Present ☒ N NA	
										Cl Strips: _____	
										Sample pH Acceptable ☒ Y NA	
										pH Strips: _____	
										Sulfide Present ☒ Y NA	
										Lead Acetate Strips: _____	
										LAB USE ONLY:	
										Lab Sample # / Comments	

Dis Iron 250mLHDPE NoPres

NITRATE,SULFATE 125mLHDPE NoPres

Total Iron 250mLHDPE HNO3

V8260BTEX 40mLAmb HCl-Blk

V8260UGPA 40mLAmb HCl

-11
-12
-13
-14
-15
-16
-17
-18

LAB Sample Temperature Info:	
Temp Blank Received: Y N NA	Therm ID#: <i>11</i>
Cooler 1 Temp Upon Receipt: <i>0.6</i> °C	Cooler 1 Therm Corr. Factor: <i>0.3</i> °C
Cooler 1 Corrected Temp: <i>0.3</i> °C	Comments:
Trip Blank Received: ☒ Y ☐ N NA	
<i>1</i> ☒ HCL ☐ MeOH ☐ TSP ☐ Other	NonConformance(s) Page _____
YES ☒ NO ☐	of _____

