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November 30, 2017

Mr. Matthew Dunham
Project Manager
Division of Environmental Remediation
Remedial Bureau E, 12th Floor
New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233-7016

Subject: **Dinaburg Distributing, Inc. (NYSDEC Site 828103)**
May 2017 Groundwater Sampling Report
MACTEC Engineering and Consulting, P. C., Project No. 3617137307

Dear Mr. Dunham:

MACTEC Engineering and Consulting, P.C. (MACTEC), under contract to the New York State Department of Environmental Conservation (NYSDEC) is submitting this Letter Report (Report) for groundwater sampling at the Dinaburg Distribution, Inc. site (Site). The Site is listed as Class 2 hazardous waste Site No. 828103 in the Registry of Hazardous Waste Sites in New York State (Figure 1). This Report has been prepared in accordance with the NYSDEC requirements in Work Assignment No. D007619-27.

OBJECTIVES

This Report presents results of groundwater monitoring of site contaminants. The purpose of the sampling is to assess groundwater conditions at and in the vicinity of the Site and to monitor effects of the electrical resistance heating (ERH) remedial action conducted in the contaminant source area from May through December 2015. ERH was chosen as the approved remedial approach for the Site as outlined in the Record of Decision (ROD) (NYSDEC, 2011). Implementation of the site remedy is described in the Construction Completion Report (MACTEC, 2016).

BACKGROUND

The Site is located at 1012 South Clinton Avenue in the City of Rochester in Monroe County, New York (see Figure 1). The property, vacant since 1995, consists of two parcels totaling 0.25 acres and is located in a mixed commercial/residential area just inside the Rochester City limits.

The property and buildings were reportedly used as an automobile repair shop from around 1950 through approximately 1969. From 1971 to 1993, the Site was occupied by Dinaburg Distributing, Inc., which operated a dry-cleaning supply company and sold chemical solvents to various dry cleaners in the area. Dinaburg stored trichloroethylene (TCE) and tetrachloroethene (PCE) in above ground storage tanks located within the north area of the former site building. Because of previous site operations, solvents and fuels were either spilled to the ground surface or to floor drains, where they flowed/leaked into the soils at the Site. The former site building and an adjacent house at 350 Benton Street were demolished in 2004 (MACTEC, 2011a).

A voluntary site investigation was completed in 1998 by the estate of Saul Dinaburg. On-site soils and groundwater were found to be contaminated with TCE, PCE, and their breakdown products. TCE and PCE were found in the groundwater at concentrations up to 93 parts per million (ppm) and 33 ppm, respectively. A second investigation completed in 1999 encountered volatile organic compounds (VOCs) at concentrations of up to 1% in the soil, and revealed that solvent vapors were migrating from the Site and into the basements of nearby properties. Indoor air samples in two of the properties contained PCE at levels above 100 micrograms per cubic meter.

Attempts to remediate the Site under the voluntary agreement program were unsuccessful and the agreement was terminated in 1999. Later that year, the NYSDEC installed two off-site soil vapor extraction (SVE) systems during an Interim Remedial Measure (IRM) implemented to address the migration of solvent vapor contamination into the nearby basements. Additional soil investigations completed in 1999 confirmed the presence of TCE and PCE contamination in nearby off-site areas. A remedial investigation (RI) was performed by URS in 2001 to support the design of a multi-phase extraction (MPE) system. The MPE system was designed and constructed under the IRM program. Operation of the MPE system (a groundwater and SVE system) began in April 2006 and was terminated in 2011.

Following completion of a number of field investigations, a ROD was issued in 2011 that outlined the approved remedial approach for the Site (NYSDEC, 2011). The approved remedy outlined in the ROD includes the following remedial actions:

- installation of an in-situ ERH system, including heating of soil and groundwater to volatilize VOC contamination and vapor recovery extraction wells for vapor recovery
- Institutional Controls in the form of an environmental easement for the controlled property
- a Site Management Plan.

Prior to ERH implementation, several existing wells that were constructed of polyvinyl chloride casing and which were within the treatment area were abandoned. Subsequently, twelve replacement groundwater monitoring wells were installed in 2014 within the ERH treatment area; these wells are constructed of stainless steel capable of withstanding operating temperatures of the ERH system. Groundwater sampling was conducted just prior to the ERH operations in April 2015 to establish a baseline prior to implementation of the remedial action. Operation of the ERH system was conducted from May through December of 2015. Subsequent to the ERH operations, groundwater sampling of the ERH treatment area wells was conducted in May 2016 (MACTEC, 2016).

Prior to the two groundwater sampling events conducted as part of the ERH remedial action, groundwater sampling events were conducted in July 2012 (MACTEC, 2012) and in May 2009 when information downgradient of the Site extending southwest across South Clinton Avenue was obtained. The 2009 event included analysis of a total of 28 groundwater well samples and Geoprobe grab water samples for VOC analysis. A subset of the wells were also sampled for monitored natural attenuation parameters (MNA). Results of the 2009 sampling are presented in the RI Feasibility Study Report (MACTEC, 2011a). The 2009 and 2012 sampling events occurred prior to the 2014 installation of the twelve stainless steel wells located within the ERH treatment area.

The groundwater sampling conducted in May 2017 described in this Report includes the collection and analysis of groundwater from the site wells sampled in 2009 and in 2012 (minus the wells

removed as part of the ERH remediation), and from the twelve monitoring wells installed within the ERH treatment area.

FIELD ACTIVITIES

The performance of this field work was governed by MACTEC's Field Activities Plan (MACTEC, 2017) submitted to the NYSDEC in April 2017. The NYSDEC call-out contractor TestAmerica Laboratories, Inc., provided the laboratory analytical services.

The field work included completion of the following activities:

- a synoptic round of water level measurements in 25 Site monitoring wells
- collection of groundwater samples from the 25 Site monitoring wells. Each of the wells were sampled for Target Compound List VOCs. A subset of five wells were sampled for low-level 1,4-dioxane analysis and a subset of four wells were sampled for per- and polyfluoroalkyl substances (PFAS). Additionally, a subset of seven wells were sampled for MNA parameters to observe potential remediation effects of the ERH test conducted previously in the contaminant source area.

The field activities were performed by MACTEC during the week of May 22, 2017.

Synoptic Water Level Measurements. Prior to performing groundwater sampling activities, a round of synoptic water levels were recorded for the Site wells (Figure 2). Groundwater elevation measurements are presented in Table 1. Monitoring locations and interpreted groundwater flow direction are shown on Figure 3 for the overburden wells, and on Figure 4 for the overburden/bedrock interface wells.

The overburden groundwater table is generally flat. However, due to the differences in rainwater infiltration rates and the overburden groundwater flow occurring in lenses of courser material, there does appear to be some localized mounding at times that could cause slight variations in groundwater flow. Based on topography, local geology, and historic water level measurements, overburden groundwater flow is interpreted to be primarily to the west. Overburden/ bedrock

interface groundwater flow is also interpreted to be towards the west.

Water levels were planned to be collected from a total of 28 wells, however, monitoring wells MW-01 and MW-01A could not be located (they are either no longer in place or were graded over with asphalt), and MW-11K has a kink in the well riser and could not be sounded for a water level.

Groundwater Sampling. Sampling of the 25 available Site wells was conducted using low-flow sampling techniques. Samples were submitted for analysis per the following:

- VOCs by United States Environmental Protection Agency (USEPA) Method 8260C for 25 samples (planned samples from MW-01, MW-01A, and MW-11K could not be collected)
- 1,4-dioxane by USEPA Method 8260 selective ion monitoring for five select wells (planned sample from MW-01 could not be collected)
- PFAS by Modified USEPA Method 537 for four select wells
- MNA parameters for seven select wells (planned sample from MW-01 could not be collected):
    - Alkalinity by Standard Method 2320B
    - Chloride and Sulfate by Standard Method 300
    - Nitrate by Standard Method 353.2
    - Sulfide by Standard Method 4500S2 F
    - Iron and manganese by USEPA Method 6010C
    - Ethene, ethane, methane and Carbon Dioxide by USEPA Method RSK-175
    - Total organic carbon by Standard Method 5310C

Field measurements for pH, temperature, specific conductivity, oxidation reduction potential, and dissolved oxygen were collected through a flow through cell from each monitoring well during pre-sample purging. Turbidity was measured separately with a turbidity meter. Field measurements and monitoring well sampling activities were documented on Low Flow Groundwater Data Records included in Attachment 1.

The sampling procedures for the four wells selected for sampling of PFAS included replacing the low density polyethylene tubing that was located in the wells with high density polyethylene tubing and redeveloping the wells immediately prior to sampling.

Groundwater purged during monitoring well sampling was containerized and treated on-site using a portable granular activated carbon unit and allowed to infiltrate into the ground in an impervious area of the Site.

Used disposable equipment and personal protective clothing was double bagged in polyethylene trash bags and sealed with twist ties. The disposable equipment was disposed of as nonhazardous municipal solid waste.

ANALYTICAL RESULTS

Laboratory analytical results were validated and found to be usable as reported by the laboratory, or qualified as documented in the Data Usability Summary Report (DUSR). Analytical data for the groundwater samples collected in May 2017 are summarized in Table 2 for VOCs, Table 3 for 1,4-dioxane and PFAS, and Table 4 for MNA parameters. Analytical results and the DUSR are included in Attachment 2.

VOCs. Figure 5 presents isoconcentration lines for total chlorinated VOCs (CVOCs) for the overburden wells for the May 2017 sampling event. The CVOCs that comprise the totals include cis-1,2-dichloroethene (cis-1,2-DCE), PCE, TCE, and vinyl chloride (VC). As presented, the data is reported to two significant figures. The wells with the highest concentrations of CVOCs are MW-20S and MW-19S, both of which are in the same area of the Site that has historically shown the highest contaminant concentrations.

Figure 6 presents isoconcentration lines for total CVOCs for the overburden/bedrock interface wells for May 2017. The highest areas for total CVOCs are centered around MW-14KA and MW-13K, neither of which are in the vicinity of the historic discharge areas. It's possible that the contaminants originally migrated as dense nonaqueous-phase liquid (DNAPL), following permeable lenses within the till; DNAPL can flow counter to groundwater flow. The vertical hydraulic gradients are in the downward direction, and it's also likely that contaminants have migrated in the dissolved phase from the apparent historic overburden source areas to bedrock groundwater.

1,4-Dioxane. 1,4-dioxane was historically used as a stabilizer and corrosion inhibitor for certain chlorinated solvents, particularly trichloroethane (USEPA, 2014), but its presence had not previously been evaluated at the Site. A total of five wells were sampled for 1,4-dioxane during the May 2017 sampling event. Table 3 presents the analytical results. New York State has not published standards or guidance values for 1,4-dioxane, so the results are compared to the USEPA Regional Screening Levels (RSLs) from May 2016 for residential tap water, 0.46 micrograms per liter (µg/L). 1,4-dioxane was detected in one of the five wells sampled (bedrock well MW-03CA) at a concentration below the RSL.

PFAS Parameters. Four wells MW-03A, MW-03CA, MW-05, and MW-08K were sampled for PFAS constituents. NYSDEC standards or guidance values for groundwater have not been established for PFAS compounds, however, in May 2016 the USEPA issued a Drinking Water Health Advisory of 70 nanograms per liter (ng/L) for polyflourooctanoic acid and polyfluorooctane sulfonic acid. Table 3 presents PFAS results for the four wells. The PFAS detections were at concentrations below the USEPA Advisory Limit.

MNA Parameters. MNA parameters were monitored at seven select site monitoring wells. The wells sampled include the upgradient/background well MW-08K and the six onsite and downgradient wells MW-14KA, MW-03CA, MW-03A, MW-20S, MW-13K, and MW-05. The MNA analytical results are presented in Table 4. BIOCHLOR Model (BIOCHLOR) Natural Attenuation Screening Forms are included in Attachment 3.

BIOCHLOR uses MNA data to evaluate the likelihood that biodegradation of the chlorinated solvents may be occurring in the aquifer via reductive dechlorination. Evaluation results are presented as a numerical value in Table 4 which indicates whether there is *inadequate evidence, limited evidence, adequate evidence,* or *strong evidence* that anaerobic biodegradation of chlorinated organics is occurring in the aquifer.

Based on an evaluation of the MNA data for the Site, the BIOCHLOR model indicates that there is *inadequate evidence* to *limited evidence for anaerobic biodegradation* occurring in the aquifer as shown in the results.

ANALYTICAL TRENDS

The VOC groundwater data was reviewed to evaluate contaminant trends from before and after the ERH remedial action. Specifically, concentrations of the CVOCs PCE, TCE, cis-1,2-DCE, and VC detected in groundwater were compared for the following time periods:

- prior to commencement of ERH treatment (in April 2015)
- four months after the completion of ERH treatment (in April 2016)
- one year and five months following the completion of the ERH IRM (in May 2017)

The exception is MW-13K, where data from May 2009, July 2012, and May 2017 was compared.

Trend plots from select wells are presented in Attachment 4. Although concentrations continue to exceed groundwater standards, total CVOC groundwater concentrations in the overburden source area at MW-21S have decreased from 34,000 µ/L in April 2015 to 140 µg/L in May 2017. CVOC concentrations in most of the overburden monitoring wells near the perimeter of the Site exhibit downward trends, although not as significantly as concentrations in source area wells; however, concentrations of total CVOCs in well MW-20S increased from 4,058 µg/L in April 2015 to 15,450 µg/L in May 2017.

The concentration of total CVOCs in the overburden/bedrock interface well MW-03A, located in the former source area, decreased from 16,900 µg/L prior to the commencement of the ERH treatment to 85 µg/L in May 2017. Total CVOCs in the bedrock well MW-03CA, located in the former source area, increased from 7,651.5 µg/L in May 2015 to 9,060 µg/L in May 2017; concentrations of PCE and TCE decreased over the same time and concentrations of cis-1,2-DCE and VC increased.

Concentrations of total CVOCs in MW-13K, located approximately 120 feet downgradient of the

former source area, have fluctuated over time, and have decreased from 24,590 µg/L in July 2012 to 15,660 µg/L in May 2017.

In general, groundwater concentrations have decreased at several monitored locations in the source area as reported before and after ERH treatment; however, New York Class GA groundwater standards are currently exceeded at many locations in the site area.

If you have any questions or concerns, please call Chuck Staples at 207-828-3571 or Mark Stelmack at 207-828-3592.

Sincerely,

Charles Staples, PG
Senior Scientist

Mark Stelmack, P.E.
Project Manager

REFERENCES

MACTEC Engineering and Consulting, P.C. (MACTEC), 2017. Field Activities Plan: May 2017 Groundwater Sampling, prepared for the New York State Department of Environmental Conservation. April 2017.

MACTEC, 2016. Draft Construction Completion Report, Dinaburg Distributing, Inc., Site No. 828103, prepared for the New York State Department of Environmental Conservation. December 2016.

MACTEC, 2012. Remedial Design Baseline Groundwater Sampling Letter Report, Dinaburg Distributing, Inc., Site No. 828103, prepared for the New York State Department of Environmental Conservation. September 7, 2012.

MACTEC, 2011a. Final Remedial Investigation/Feasibility Study Report, Dinaburg Distributing, Inc., prepared for the New York State Department of Environmental Conservation. February 2011.

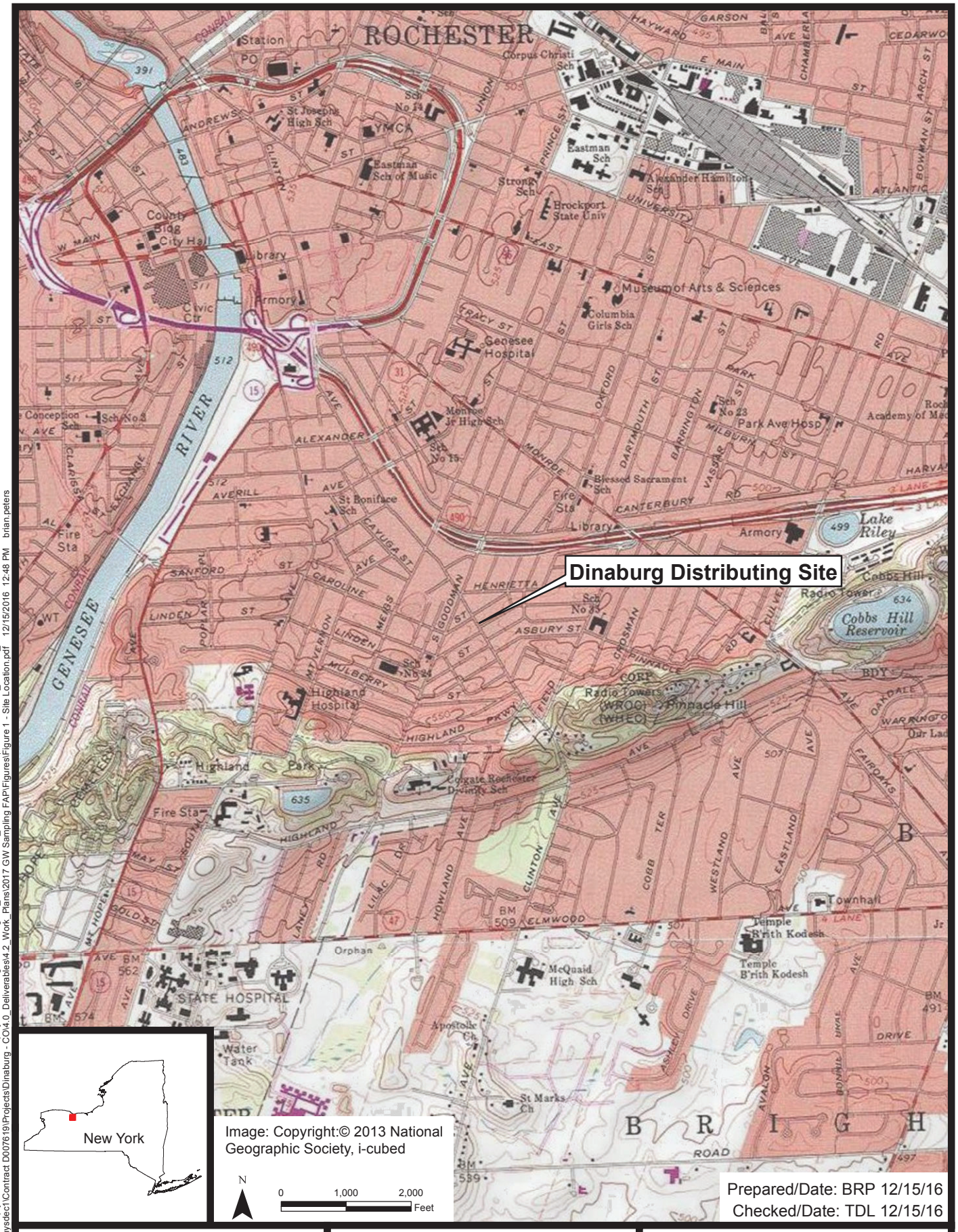
New York State Department of Environmental Conservation (NYSDEC), 2011, Record of Decision, Dinaburg Distributing, Inc., Operable Unit Number: 01, City of Rochester, Monroe County, New York, Site Number 828103. March 2011.

USEPA, 2014. Technical Fact Sheet – 1,4-Dioxane. January 2014.

LIST OF ACRONYMS AND ABBREVIATIONS

BIOCHLOR	BIOCHLOR Model
CVOC	Chlorinated Volatile Organic Compound
DCE	dichloroethene
DNAPL	dense nonaqueous-phase liquid
DUSR	Data Usability Summary Report
ERH	electrical resistance heating
IRM	Interim Remedial Measure
MACTEC	MACTEC Engineering & Consulting, P.C.
µg/L	micrograms per liter
MNA	monitored natural attenuation
MPE	multi-phase extraction
ng/L	nanograms per liter
NYSDEC	New York State Department of Environmental Conservation
PCE	tetrachloroethene
PFAS	polyflouroalkyl substances
ppm	parts per million
RI	Remedial Investigation
ROD	Record of Decision
RSL	Regional Screening Levels
Site	Dinaburg Distributing site

SVE	soil vapor extraction
TCE	trichloroethylene
TCL	Target Compound List
USEPA	United States Environmental Protection Agency
VC	vinyl chloride
VOC	volatile organic compound



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Site Location

Project 3617137307 Figure 1

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PDF: P:\Projects\nysdec1\Contract D007619\Projects\Dinaburg - CO\4.0_Deliverables\4.2_Work_Plans\2017 GW Sampling FAP\Figures\Figure 1 - Site Location.pdf

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Monitoring Well Property Lines

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Site Monitoring Locations

Project 3617137307 Figure 2

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505.49 Monitoring Locations and Groundwater Elevations

Property Lines

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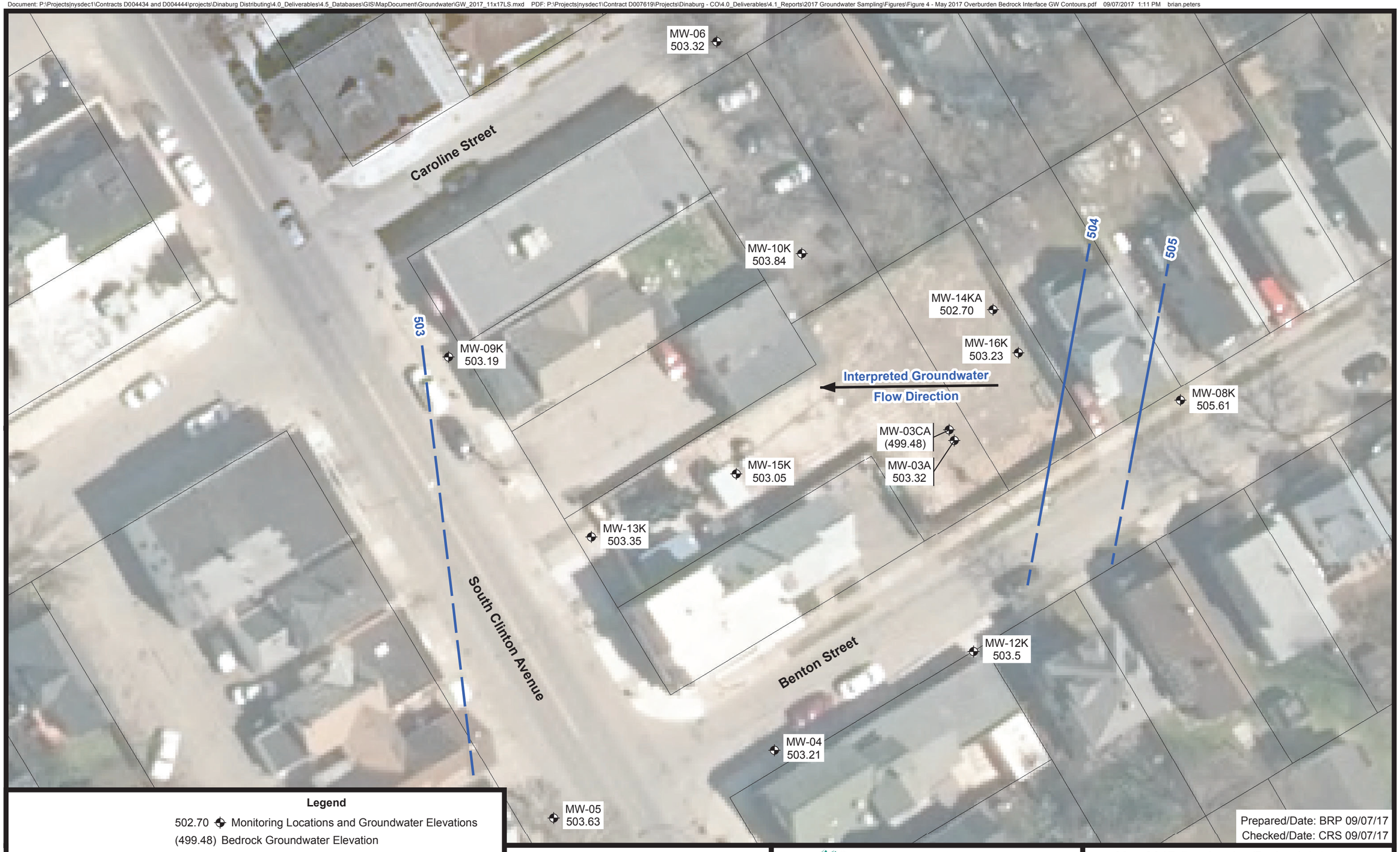
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May 2017 Overburden Groundwater

Project 3617137307 Figure 3

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502.70 Monitoring Locations and Groundwater Elevations

(499.48) Bedrock Groundwater Elevation

Interpreted Groundwater Contours based on May 2017 Measurements (dashed where inferred)

Property Lines

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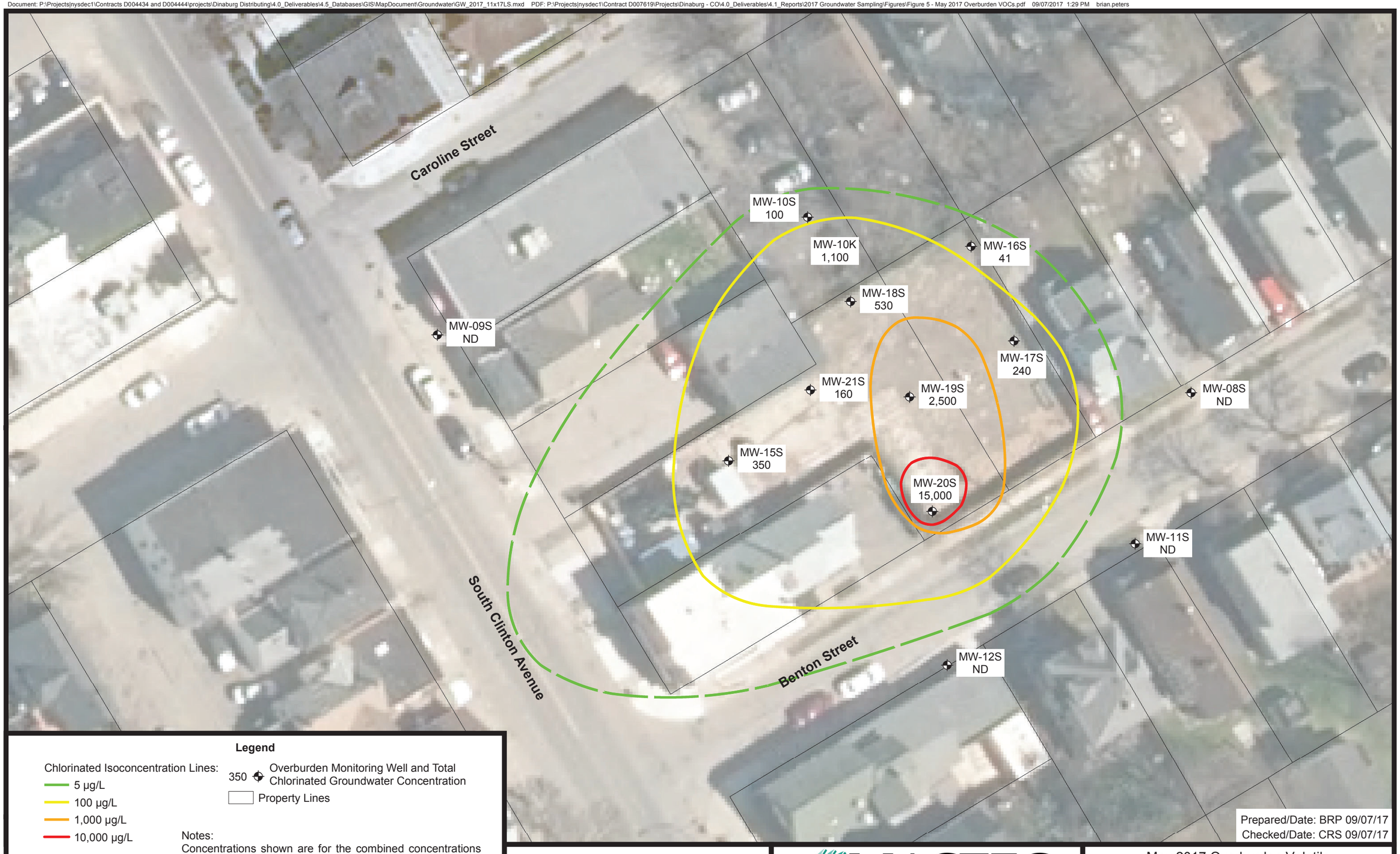
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May 2017 Overburden/Bedrock Interface Groundwater Contours

Project 3617137307 Figure 4

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Chlorinated Isoconcentration Lines:
- 5 µg/L
- 100 µg/L
- 1,000 µg/L
- 10,000 µg/L

350 Overburden Monitoring Well and Total Chlorinated Groundwater Concentration

Property Lines

N

0 15 30 Feet

Notes:
Concentrations shown are for the combined concentrations of cis-1,2-dichloroethene tetrachloroethene, trichloroethene and vinyl chloride. (ND = Not Detected)
Data are reported to two significant figures.

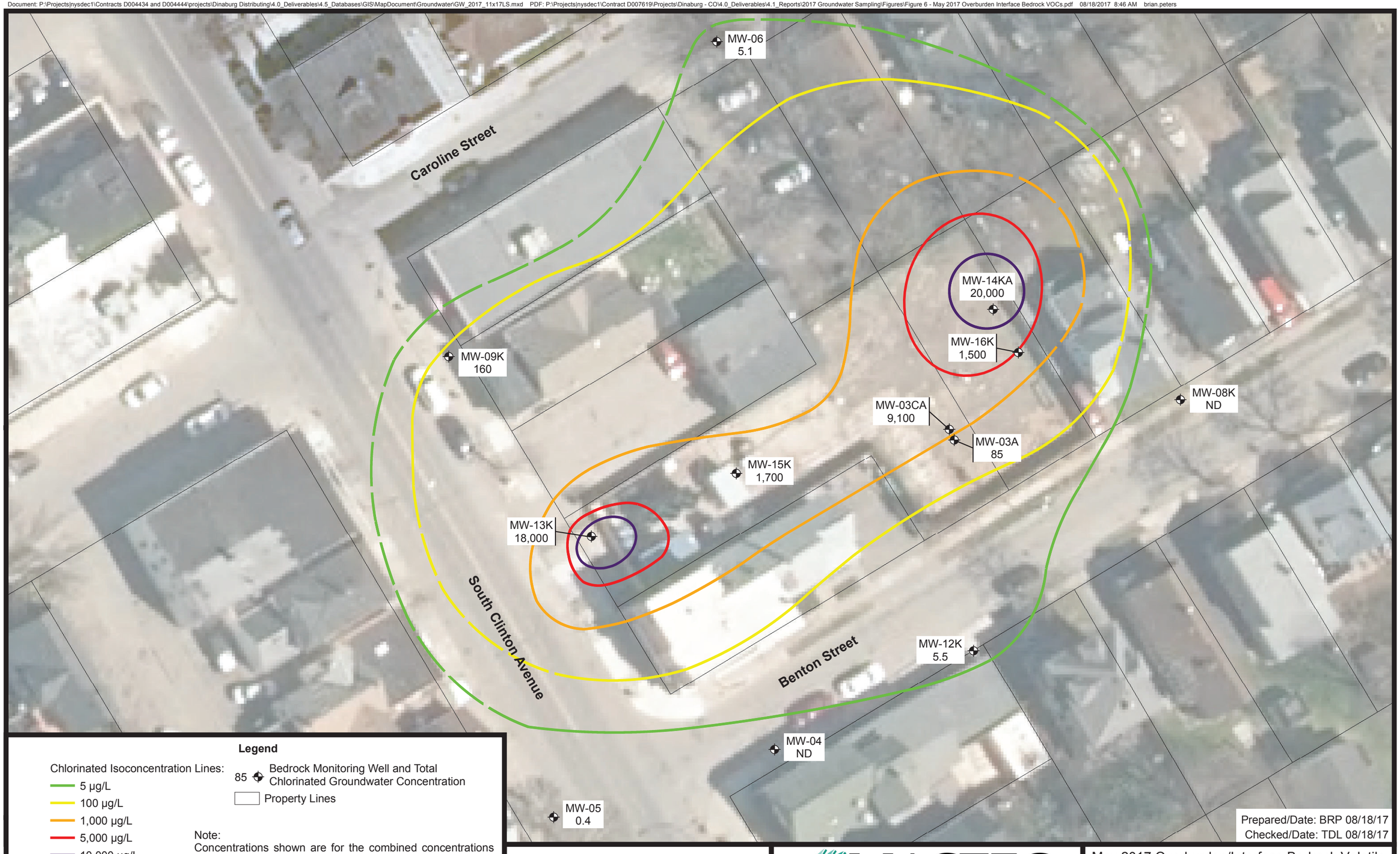
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May 2017 Overburden Volatile Organic Compounds Isoconcentration Contours
Project 3617137307 Figure 5

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Chlorinated Isoconcentration Lines:
- 5 µg/L
- 100 µg/L
- 1,000 µg/L
- 5,000 µg/L
- 10,000 µg/L

85 Bedrock Monitoring Well and Total Chlorinated Groundwater Concentration

Property Lines

N

0 15 30 Feet

Note:
Concentrations shown are for the combined concentrations of cis-1,2-dichloroethene tetrachloroethene, trichloroethene and vinyl chloride.
Data are reported to two significant figures.

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May 2017 Overburden/Interface Bedrock Volatile Organic Compounds Isoconcentration Contours
Project 3617137307 Figure 6

Table 1: Groundwater Elevation Data 5/22/2017

Well ID	Well Material	Total Depth (ft)		Screen Length	Measuring Point (Top of Riser, ft)	Depth to Water (ft, BTOR) (5/22/17)	Water Elevation (ft)	Depth Bedrock Encountered (ft)	Screened Length in Bedrock (ft)	Screened Zone
		As Built	As Measured (5/22/17)							
MW-01	PVC	20.4	NA	5	512.06	NA	NA	NA		interface?
MW-01A	PVC	8	NA	5	512.05	NA	NA	NA		overburden
MW-04	PVC	24.1	22.70	15	512.01	8.80	503.21	23.1		overburden/interface
MW-05	PVC	24.6	22.60	15	512.49	8.86	503.63	23.6		overburden/interface
MW-06	PVC	20.6	18.80	15	510.54	7.22	503.32	19.9		overburden/interface
MW-08K	PVC	19.2	18.80	10	511.24	5.63	505.61	17.8		interface
MW-08S	PVC	16.0	10.25	10	511.27	6.41	504.86	NA		overburden
MW-09K	PVC	22.7	23.40	10	512.01	8.82	503.19	23.3		interface
MW-09S	PVC	16	14.90	10	511.87	7.60	504.27	NA		overburden
MW-10K	PVC	21.8	21.60	10	511.49	7.63	503.86	22		overburden/interface?
MW-10S	PVC	16	NM	10	511.25	5.81	505.44	NA		overburden
MW-11K*	PVC	18.2	NM	10	511.12	NA	NA	17.50		overburden/interface?
MW-11S	PVC	14	13.60	10	511.36	6.98	504.38	NA		overburden
MW-12K	PVC	19.5	18.30	5	511.67	8.17	503.5	19.3		interface
MW-12S	PVC	14	13.20	5	511.53	6.01	505.52	NA		overburden
MW-13K	PVC	21.5	20.20	5	512.13	8.78	503.35	19.2	0.6	interface
MW-03A	SS	24.5	24.30	5	512.12	8.80	503.32	21.8	2.7	interface
MW-03CA	SS	30.5	20.00	5	511.78	12.30	499.48	22.9	5	bedrock
MW-14KA	SS	24.4	24.00	5	511.78	9.08	502.7	21	3.4	interface
MW-15K	SS	25.3	25.00	5	512.74	9.69	503.05	23.5	1.8	interface
MW-15S	SS	15	14.90	10	512.52	6.23	506.29	NA		overburden
MW-16K	SS	25.5	25.00	5	511.83	8.60	503.23	23.2	2.3	interface
MW-16S	SS	15	15.00	10	512.48	7.04	505.44	NA		overburden
MW-17S	SS	15	15.00	10	511.59	6.42	505.17	NA		overburden
MW-18S	SS	15	15.00	10	512.74	7.71	505.03	NA		overburden
MW-19S	SS	15	15.00	10	512.54	7.50	505.04	NA		overburden
MW-20S	SS	15	15.00	10	512.67	7.42	505.25	NA		overburden
MW-21S	SS	15	14.90	10	512.44	6.95	505.49	NA		overburden

Notes:
Elevation in feet above mean sea level
BTOR = below top of riser
ft = feet
interface = overburden/bedrock interface well
NA = not available/not located
NM = not measured
PVC = Polyvinyl chloride
SS = Stainless steel
* = well was silted up/kinked and not sampled; well is not usable

Prepared by: TDL 8/17/17
Checked by: CRS 9/1/17

Table 2: VOC Results

	Location	MW-03A		MW-03CA		MW-04		MW-05		MW-06		MW-08K		MW-08S	
	Sample Date	5/25/2017		5/25/2017		5/23/2017		5/24/2017		5/24/2017		5/24/2017		5/24/2017	
	Sample ID	828103-MW03A2217		828103-MW03CA2817		828103-MW041717		828103-MW051717		828103-MW061317		828103-MW08K1417		828103-MW08S1117	
	Qc Code	FS		FS		FS		FS		FS		FS		FS	
Parameter	**GA**	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
1,1-Dichloroethane	5	2	U	100	U	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	5	2	U	100	U	1	U	1	U	1	U	1	U	1	U
Carbon disulfide	60*	2	U	100	U	1	U	1	U	1	U	1	U	1	U
Cis-1,2-Dichloroethene	5	**55**		**5600**		1	U	1	U	**2.5**		1	U	1	U
Methyl Tertbutyl Ether	10*	2	U	100	U	**0.35**	J	1	U	1	U	1	U	1	U
Methylene chloride	5	2	U	100	U	1	U	1	U	1	U	1	U	1	U
Tetrachloroethene	5	2	U	**1200**		1	U	**0.4**	J	**1.3**		1	U	1	U
Trichloroethene	5	2	U	**1800**		1	U	1	U	**1.3**		1	U	1	U
Vinyl chloride	2	**30**		**460**		1	U	1	U	1	U	1	U	1	U

Notes:
Samples analyzed for VOCs, USEPA Method 8260C,
and for 1,4-Dioxane by USEPA Method 8260 SIM.
Results in micrograms per liter (µg/L)
(detections in bold)
Results exceed GA Standard or Guidance Value
GA = Class GA Groundwater standards or Guidance (*)
Qualifier: J = estimated value; U = compound not detected at concentrations above reporting limit
QC Code: FS = Field Sample
FD = Field Duplicate

Prepared by: TDL 8/17/17
Checked by: CRS 9/1/17

Table 2: VOC Results

	Location	MW-09K		MW-09K		MW-09S		MW-10K		MW-10S		MW-11S		MW-12K	
	Sample Date	5/24/2017		5/24/2017		5/24/2017		5/24/2017		5/25/2017		5/23/2017		5/23/2017	
	Sample ID	828103-MW09K1817		828103-MW09K1817D		828103-MW09S1177		828103-MW10K1717		828103-MW10S1117		828103-MW11S0917		828103-MW12K1717	
	Qc Code	FS		FD		FS		FS		FS		FS		FS	
Parameter	**GA**	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
1,1-Dichloroethane	5	**0.81**	J	**1**	J	1	U	20	U	1	U	1	U	1	U
1,1-Dichloroethene	5	**0.33**	J	2	U	1	U	20	U	1	U	1	U	1	U
Carbon disulfide	60*	1	U	2	U	1	U	20	U	1	U	1	U	1	U
Cis-1,2-Dichloroethene	5	**80**		**89**		1	U	**150**		**5.6**		1	U	1	U
Methyl Tertbutyl Ether	10*	**0.23**	J	2	U	1	U	20	U	1	U	1	U	1	U
Methylene chloride	5	1	U	2	U	1	U	20	U	1	U	1	U	1	U
Tetrachloroethene	5	**26**		**30**		1	U	20	U	**50**		1	U	1	U
Trichloroethene	5	**22**		**24**		1	U	**920**		**49**		1	U	**5.5**	
Vinyl chloride	2	**12**		**12**		1	U	20	U	1	U	1	U	1	U

Notes:
Samples analyzed for VOCs, USEPA Method 8260C,
and for 1,4-Dioxane by USEPA Method 8260 SIM.
Results in micrograms per liter (µg/L)
(detections in bold)
Results exceed GA Standard or Guidance Value
GA = Class GA Groundwater standards or Guidance (*)
Qualifier: J = estimated value; U = compound not detected at concentrations above reporting limit
QC Code: FS = Field Sample
FD = Field Duplicate

Prepared by: TDL 8/17/17
Checked by: CRS 9/1/17

Table 2: VOC Results

	Location	MW-12S		MW-13K		MW-13K		MW-14K		MW-15K		MW-15S		MW-16K	
	Sample Date	5/23/2017		5/25/2017		5/25/2017		5/23/2017		5/22/2017		5/22/2017		5/23/2017	
	Sample ID	828103-MW12S1117		828103-MW13K1917		828103-MW13K1917D		828103-MW14KA2217		828103-MW15K2317		828103-MW15S1017		828103-MW16K2317	
	Qc Code	FS		FS		FD		FS		FS		FS		FS	
Parameter	**GA**	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
1,1-Dichloroethane	5	1	U	400	U	400	U	400	U	**13**	J	10	U	20	U
1,1-Dichloroethene	5	1	U	400	U	400	U	400	U	**13**	J	10	U	20	U
Carbon disulfide	60*	1	U	400	U	400	U	400	U	20	U	10	U	20	U
Cis-1,2-Dichloroethene	5	1	U	**3100**		**3300**		**8600**		**390**		**13**		**890**	
Methyl Tertbutyl Ether	10*	1	U	400	U	400	U	400	U	20	U	10	U	20	U
Methylene chloride	5	1	U	400	U	400	U	400	U	20	U	10	U	**14**	J
Tetrachloroethene	5	1	U	**10000**		**12000**		**2500**		**900**	J	**240**		**120**	
Trichloroethene	5	1	U	**2200**		**2400**		**8900**		**280**		**100**		**380**	
Vinyl chloride	2	1	U	**360**	J	400	U	400	U	**85**		10	U	**58**	

Notes:
Samples analyzed for VOCs, USEPA Method 8260C,
and for 1,4-Dioxane by USEPA Method 8260 SIM.
Results in micrograms per liter (µg/L)
(detections in bold)
Results exceed GA Standard or Guidance Value
GA = Class GA Groundwater standards or Guidance (*)
Qualifier: J = estimated value; U = compound not detected at concentrations above reporting limit
QC Code: FS = Field Sample
FD = Field Duplicate

Prepared by: TDL 8/17/17
Checked by: CRS 9/1/17

Table 2: VOC Results

	Location	MW-16S		MW-17S		MW-18S		MW-19S		MW-20S		MW-21S	
	Sample Date	5/22/2017		5/23/2017		5/22/2017		5/23/2017		5/25/2017		5/23/2017	
	Sample ID	828103-MW16S1017		828103-MW17S1017		828103-MW18S1017		828103-MW19S1017		828103-MW20S1017		828103-MW21S1017	
	Qc Code	FS		FS		FS		FS		FS		FS	
Parameter	**GA**	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
1,1-Dichloroethane	5	1	U	4	U	10	U	50	U	500	U	20	U
1,1-Dichloroethene	5	1	U	4	U	10	U	50	U	500	U	20	U
Carbon disulfide	60*	**0.44**	J	4	U	10	U	50	U	500	U	20	U
Cis-1,2-Dichloroethene	5	**1.6**		4	U	**200**		**2000**		500	U	**160**	
Methyl Tertbutyl Ether	10*	1	U	4	U	10	U	50	U	500	U	20	U
Methylene chloride	5	1	U	4	U	10	U	50	U	500	U	20	U
Tetrachloroethene	5	**6.7**		**130**		**280**		50	U	**15000**		20	U
Trichloroethene	5	**33**		**110**		**51**		50	U	**450**	J	20	U
Vinyl chloride	2	1	U	4	U	10	U	**510**		500	U	20	U

Notes:
Samples analyzed for VOCs, USEPA Method 8260C,
and for 1,4-Dioxane by USEPA Method 8260 SIM.
Results in micrograms per liter (µg/L)
(detections in bold)
Results exceed GA Standard or Guidance Value
GA = Class GA Groundwater standards or Guidance (*)
Qualifier: J = estimated value; U = compound not detected at concentrations above reporting limit
QC Code: FS = Field Sample
FD = Field Duplicate

Prepared by: TDL 8/17/17
Checked by: CRS 9/1/17

Table 3: 1,4-Dioxane and Per- and Poly-Fluorinated Compound Results

		Location	MW-03A		MW-03CA		MW-05		MW-08K		MW-13K	
		Sample Date	5/25/2017		5/25/2017		5/24/2017		5/24/2017		5/25/2017	
		Sample ID	828103-MW03A2217		828103-MW03CA2817		828103-MW051717		828103-MW08K1417		828103-MW13K1917	
		Qc Code	FS		FS		FS		FS		FS	
Parameter	**HA**	**Units**	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
1,4-dioxane -Method 8260 SIM	[1] 0.46	µg/L	0.4	U	**0.21**	**J**	0.4	U	0.4	U	0.4	U
Perfluorobutanesulfonic acid (PFBS)	380*	ng/l	1.9	UJ	2	UJ	1.8	U	**1.4**	**J**	--	
Perfluorobutanoic acid	NL	ng/l	19	J	**12**	**J**	**11**		**8.2**		--	
Perfluorodecanesulfonic acid	NL	ng/l	1.9	U	2	U	1.8	U	1.8	U	--	
Perfluorodecanoic acid	NL	ng/l	1.9	U	2	U	1.8	U	1.8	U	--	
Perfluorododecanoic acid	NL	ng/l	1.9	U	2	U	1.8	U	1.8	U	--	
Perfluoroheptanesulfonic acid	NL	ng/l	1.9	U	2	U	1.8	U	1.8	U	--	
Perfluoroheptanoic acid	NL	ng/l	**1.1**	**J**	2	U	1.8	U	**1.3**	**J**	--	
Perfluorohexane sulfonic acid	NL	ng/l	1.9	U	2	U	1.8	U	1.8	U	--	
Perfluorohexanoic acid	NL	ng/l	**5.2**		**1.9**	**J**	**1.9**		**3.5**		--	
Perfluorononanoic acid	NL	ng/l	1.9	U	2	U	1.8	U	1.8	U	--	
Perfluorooctanesulfonic acid (PFOS)	70**	ng/l	1.9	U	2	U	**7.2**		1.8	U	--	
Perfluorooctanoic acid (PFOA)	70**	ng/l	**0.98**	**J**	2	U	1.8	U	**1.8**		--	
Perfluoropentanoic acid	NL	ng/l	1.9	U	**1.3**	**J**	**5.3**		**5.1**		--	
Perfluorotetradecanoic acid	NL	ng/l	1.9	U	2	U	1.8	U	1.8	U	--	
Perfluorotridecanoic acid	NL	ng/l	1.9	U	2	U	1.8	U	1.8	U	--	
Perfluoroundecanoic acid	NL	ng/l	1.9	U	2	U	1.8	U	1.8	U	--	
Sum PFOA and PFOS	70**	ng/l	**0.98**	**J**	2	U	**7.2**		**1.8**		--	

Notes:

Samples analyzed for per-and poly-flourinated compounds by USEPA Modified Method 537, except for 1,4-dioxane

Detections in bold

HA = Health Advisory Limit

[1] USEPA Regional Screening Levels (May 2016) [https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-may-2016]

* = USEPA Regional Screening Levels (May 2016) [https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-may-2016].

** = USEPA, May 2016a. Drinking Water Health Advisory for PFOA and USEPA, May 2016b. Drinking Water Health Advisory for PFOS.
Note: When PFOA and PFOS are both present, the combined detected concentrations of the compounds should be compared with the 70 ng/L health advisory value (see Sum PFOA and PFOS)

NL = no limit published for compound

µg/L = micrograms per liter; ng/l = nanograms per liter

-- = not analyzed

Prepared by: TDL 8/17/17
Checked by: CRS 9/1/17

Table 4: Monitored Natural Attenuation Parameter Results

		Location	MW-03A		MW-03CA		MW-05		MW-08K		MW-13K		MW-14KA		MW-20S	
		Sample Date	5/25/2017		5/25/2017		5/24/2017		5/24/2017		5/25/2017		5/23/2017		5/25/2017	
		Sample ID	828103-MW03A2217		828103-MW03CA2817		828103-MW051717		828103-MW08K1417		828103-MW13K1917		828103-MW14KA2217		828103-MW20S1017	
		Qc Code	FS		FS		FS		FS		FS		FS		FS	
Parameter	**GA**	**Units**	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Carbon Dioxide	NL	µg/L	**19000**		**50000**		**40000**		**34000**		**55000**		**25000**		**43000**	
Ethane	NL	µg/L	75	U	7.5	U	7.5	U	7.5	U	15	U	7.5	U	7.5	U
Ethene	NL	µg/L	70	U	7	U	7	U	7	U	14	U	**3**	J	7	U
Methane	NL	µg/L	**280**		**140**		4	U	4	U	**95**		**89**		4	U
Iron	0.3	mg/L	**1.4**		**0.95**		**0.3**		**0.25**		**0.42**		**0.08**		**0.83**	
Manganese	0.3	mg/L	**0.044**		**0.088**		**0.066**		**0.39**		**0.084**		**0.051**		**0.025**	
Total Alkalinity, as CaCO3	NL	mg/L	**329**		**371**		**409**		**327**		**384**		**282**		**324**	
Chloride	250	mg/L	**169**		**225**		**412**		**56.5**		**396**		**116**		**84.2**	
Nitrate as N	10	mg/L	0.05	U	0.05	U	**0.97**		**2.7**		0.05	U	**2.3**		**42.8**	
Nitrite as N	1	mg/L	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	**0.52**		**0.028**	J
Nitrogen	NL	mg/L	0.05	U	0.05	U	**0.97**		**2.7**		0.05	U	**2.8**		**42.8**	
Sulfate	250	mg/L	**85.9**		**115**		**87.4**		**44.1**		**82.2**		**102**		**96.2**	
Sulfide	NL	mg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Total Organic Carbon	NL	mg/L	**22**		**5.4**		**0.93**	J	**0.91**	J	**3.5**		**4.7**		**11.6**	
Dissolved Oxygen	NL	mg/L	**0.8**		**0.5**		**2**		**1.6**		**0.6**		**0.3**		**2.5**	
ORP	NL	mv	-8.9		**9.4**		**230**		**220**		**3.6**		**11**		**220**	
Temperature	NL	° C	**14**		**15**		**14**		**14**		**13**		**16**		**13**	
pH	NL	units	**7.5**		**7.1**		**7.2**		**7.2**		**7.1**		**7.2**		**7.2**	
NASP Score			14		14		4		background well		11		10		2	

Notes:
Samples analyzed for Monitored Natural Attenuation (MNA) parameters:
Total Organic Carbon by USEPA Method 5310C, Nitrate
and Nitrite by 353.2, Sulfate and Chloride by 300.0_28D, Sulfides by SM4500_S2_F, Alkalinity by 2320B,
Carbon Dioxide by RSK_175_CO2, Iron and Manganese by 6010C/3005A, and Methane/Ethane/Ethene by RSK_175.
Oxidation-Reduction Potential, dissolved oxygen, pH, and temperature measured in the field with YSI 556 MP.
Detections in bold
Highlighted results exceed criteria
Units as noted; mg/L = milligrams per liter, µg/L = micrograms per liter, mv = millivolts, ° C = degrees Celsius.
Qualifier: J = estimated value; U = compound not detected at concentration above reporting limit.
NL = No Limit published
NASP = natural attenuation screening protocol from USEPA Biochlor 2.2
Score 0-5 = inadequate evidence for anaerobic biodegradation
Score 6-14 = limited evidence for anaerobic biodegradation
Score 15-20 = adequate evidence for anaerobic biodegradation
Score >20 = strong evidence for anaerobic biodegradation

Prepared by: TDL 8/17/17
Checked by: CRS 9/1/17

ATTACHMENT 1

FIELD DATA RECORDS

FIELD INSTRUMENTATION CALIBRATION RECORD

PROJECT NAME: Dinaburg Distributing - NYSDEC
PROJECT NUMBER: 3617137307
PROJECT LOCATION: Rochester, NY
WEATHER CONDITIONS (AM): Cloudy 60°s
WEATHER CONDITIONS (PM): Cloudy 60's

TASK NO: 3 DATE: 5/19/17
MACTEC CREW: Meagan & J. Lutzinger
SAMPLER NAME: J. Logan
SAMPLER SIGNATURE:
CHECKED BY: MAlcorn DATE: 5/22/17 6/2/17

MULTI-PARAMETER WATER QUALITY METER

METER TYPE YSI
MODEL NO. 556
UNIT ID NO. 06C1579

AM CALIBRATION Start Time 1500 /End Time 1530

POST CALIBRATION CHECK Start Time 1810 /End Time 1825

	Units	Standard Value	Meter Value	*Acceptance Criteria (AM)	Standard Value	Meter Value	*Acceptance Criteria (PM)
pH (4)	SU	4.0	4.0 ~~4.00~~	+/- 0.1 pH Units			
pH (7)	SU	7.0	7.0	+/- 0.1 pH Units	7.0	7.0	+/- 0.3 pH Units
pH (10)	SU	10.0		+/- 0.1 pH Units			
Redox	+/- mV	240	240.0	+/- 10 mV	240	240.0	+/- 10 mV
Conductivity	mS/cm	1.413	1.413	+/- 0.5 % of standard	1.413	1.413	+/- 5% of standard
DO (saturated)	%	100		+/- 2% of standard			
DO (saturated)	mg/L[1] (see Chart 1)	~~8.7~~	8.7	+/- 0.2 mg/L	9.1	8.7	+/- 0.5 mg/L of standard
DO (<0.1)	mg/L	<0.1	~~6.7~~	< 0.5 mg/L			
Temperature	°C		22.0			18.6	
Baro. Press.	mmHg		748.2			748.2	

TURBIDITY METER

METER TYPE Hach
MODEL NO. 2100Q
UNIT ID NO. M024-3

	Units	Standard Value	Meter Value	Standard Value	Meter Value	*Acceptance Criteria (PM)
<0.1 Standard	NTU	<0.1	10	<0.1	10	+/- 0.3 NTU of stan.
20 Standard	NTU	20	19.9	20	19.7	+/- 5% of standard
100 Standard	NTU	100	100	100	100	+/- 5% of standard
800 Standard	NTU	800	790	800	795	+/- 5% of standard

PHOTOIONIZATION DETECTOR

METER TYPE
MODEL NO.
UNIT ID NO.

Background	ppmv	<0.1		<0.1		within 5 ppmv of BG
Span Gas	ppmv	100		100		+/- 10% of standard

N/A

O_2-LEL 4 GAS METER

METER TYPE
MODEL NO.
UNIT ID NO.

Methane	%	50		50		+/- 10% of standard
O_2	%	20.9		20.9		+/- 10% of standard
H_2S	ppmv	25		25		+/- 10% of standard
CO	ppmv	50		50		+/- 10% of standard

N/A

OTHER METER

METER TYPE
MODEL NO.
UNIT ID NO.

See Notes Below for Additional Information

N/A

[X] Equipment calibrated within the Acceptance Criteria specified for each of the parameters listed above.
[ ] Equipment (not) calibrated within the Acceptance Criteria specified for each of the parameters listed above**.

MATERIALS RECORD

Deionized Water Source: Distilled Water
Lot#/Date Produced:
Trip Blank Source:
Sample Preservatives Source:
Disposable Filter Type: 0.45µm cellulose
Calibration Fluids / Standard Source:
- DO Calibration Fluid (<0.1 mg/L) Portland FOS
- Other
- Other
- Other

	Cal. Standard Lot Number	Exp. Date
pH (4)	6GH1007	8/18
pH (7)	6GH1619	8/18
pH (10)		
ORP	0278	6/21
Conductivity	6GH1218	08/17
<0.1 Turb. Stan.	A62072	10/17
20 Turb. Stan.	A62144	11/17
100 Turb. Stan.	A62058	10/17
800 Turb. Stan.	A62188	11/17
PID Span Gas		
O_2-LEL Span Gas		
Other		

NOTES:

* = Unless otherwise noted, calibration procedures and acceptance criteria are in general accordance with USEPA Region 1 SOPs for Field Instrument Calibration (EQASOP-FieldCalibrat) and Low Stress Purging and Sampling (EQASOP-GW001), each dated 1/19/2010. Additonal acceptance criteria obtained from instrument specific manufacturer recommendations.
** = If meter reading is not within acceptance criteria, clean/replace probe and re-calibrate, or use calibrated back-up meter if available. If project requirements necessitate use of the instrument, clearly document any deviations from acceptance criteria on all data sheets and log book entries.
1 = DO Saturated standard value is calculated based on Oxygen Solubility at Indicated Pressure Chart from the USEPA Region 1 SOP for Field Instrument Calibration (EQASOP-FieldCalibrat), dated 1/19/2010.

MACTEC
511 Congress Street, Portland Maine 04101

FIGURE 6.1
FIELD INSTRUMENT CALIBRATION RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

FIELD INSTRUMENTATION CALIBRATION RECORD

PROJECT NAME: Dinaburg Distributing - NYSDEC
PROJECT NUMBER: 3617137307
PROJECT LOCATION: Rochester, NY
WEATHER CONDITIONS (AM): Patchy Clouds 50's
WEATHER CONDITIONS (PM): Cloudy 60s

TASK NO: 3 DATE: 5-22-17
MACTEC CREW: J. Logan + L. Lettinger
SAMPLER NAME: J. Logan
SAMPLER SIGNATURE:
CHECKED BY: MBallou DATE: 6/2/17

MULTI-PARAMETER WATER QUALITY METER

METER TYPE YSI
MODEL NO. 556
UNIT ID NO. 06C159

AM CALIBRATION Start Time 0745 /End Time 0800

POST CALIBRATION CHECK Start Time 1700 /End Time 1720

	Units	Standard Value	Meter Value	*Acceptance Criteria (AM)	Standard Value	Meter Value	*Acceptance Criteria (PM)
pH (4)	SU	4.0	4.0	+/- 0.1 pH Units			
pH (7)	SU	7.0	7.0	+/- 0.1 pH Units	7.0	7.0	+/- 0.3 pH Units
pH (10)	SU	10.0		+/- 0.1 pH Units			
Redox	+/- mV	240	240	+/- 10 mV	240	240	+/- 10 mV
Conductivity	mS/cm	1.413	1.413	+/- 0.5 % of standard	1.413	1.413	+/- 5% of standard
DO (saturated)	%	100	-	+/- 2% of standard			
DO (saturated)	mg/L (see Chart 1)	10.5	10.5	+/- 0.2 mg/L	9.8	9.7	+/- 0.5 mg/L of standard
DO (<0.1)	mg/L	<0.1		< 0.5 mg/L			
Temperature	°C		13.31			15.61	
Baro. Press.	mmHg		744.8			744.8	

TURBIDITY METER

METER TYPE Hach
MODEL NO. 2100Q
UNIT ID NO. M024-3

	Units	Standard Value	Meter Value	Standard Value	Meter Value	*Acceptance Criteria (PM)
<0.1 Standard	NTU	<0.1	16	<0.1	9.7	+/- 0.3 NTU of stan.
20 Standard	NTU	20	20	20	19.7	+/- 5% of standard
100 Standard	NTU	100	97	100	100	+/- 5% of standard
800 Standard	NTU	800	795	800	800	+/- 5% of standard

PHOTOIONIZATION DETECTOR

METER TYPE
MODEL NO.
UNIT ID NO.

	Units	Standard Value	Meter Value	Standard Value	Meter Value	*Acceptance Criteria (PM)
Background	ppmv	<0.1		<0.1		within 5 ppmv of BG
Span Gas	ppmv	100		100		+/- 10% of standard

NA

O_2-LEL 4 GAS METER

METER TYPE
MODEL NO.
UNIT ID NO.

	Units	Standard Value	Meter Value	Standard Value	Meter Value	*Acceptance Criteria (PM)
Methane	%	50		50		+/- 10% of standard
O_2	%	20.9		20.9		+/- 10% of standard
H_2S	ppmv	25		25		+/- 10% of standard
CO	ppmv	50		50		+/- 10% of standard

NA

OTHER METER

METER TYPE
MODEL NO.
UNIT ID NO.

See Notes Below for Additional Information

NA

☒ Equipment calibrated within the Acceptance Criteria specified for each of the parameters listed above.
☐ Equipment (not) calibrated within the Acceptance Criteria specified for each of the parameters listed above**.

MATERIALS RECORD

Deionized Water Source: Distilled Water
Lot#/Date Produced:
Trip Blank Source:
Sample Preservatives Source:
Disposable Filter Type: 0.45µm cellulose
Calibration Fluids / Standard Source:
- DO Calibration Fluid (<0.1 mg/L) Portland FOS
- Other
- Other
- Other

	Cal. Standard Lot Number	Exp. Date
pH (4)	6GH007	8/18
pH (7)	6GH649	8/18
pH (10)		
ORP	027 68	6/21
Conductivity	6GH1218	8/17
<0.1 Turb. Stan.	AG207	10/17
20 Turb. Stan.	AG214	11/17
100 Turb. Stan.	AG208	10/17
800 Turb. Stan.	AG218	11/17
PID Span Gas		
O_2-LEL Span Gas		
Other		

NOTES:

* = Unless otherwise noted, calibration procedures and acceptance criteria are in general accordance with USEPA Region 1 SOPs for Field Instrument Calibration (EQASOP-FieldCalibrat) and Low Stress Purging and Sampling (EQASOP-GW001), each dated 1/19/2010. Additonal acceptance criteria obtained from instrument specific manufacturer recommendations.
** = If meter reading is not within acceptance criteria, clean/replace probe and re-calibrate, or use calibrated back-up meter if available. If project requirements necessitate use of the instrument, clearly document any deviations from acceptance criteria on all data sheets and log book entries.
1 = DO Saturated standard value is calculated based on Oxygen Solubility at Indicated Pressure Chart from the USEPA Region 1 SOP for Field Instrument Calibration (EQASOP-FieldCalibrat), dated 1/19/2010.

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FIGURE 6.1
FIELD INSTRUMENT CALIBRATION RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

FIELD INSTRUMENTATION CALIBRATION RECORD

PROJECT NAME: Dinaburg Distributing - NYSDEC
PROJECT NUMBER: 3617137307
PROJECT LOCATION: Rochester, NY
WEATHER CONDITIONS (AM): Cloudy 50's
WEATHER CONDITIONS (PM): cloudy 60s

TASK NO: 3 DATE: 5-24-17
MACTEC CREW: J. Logan & J. Lithiger
SAMPLER NAME: J. Logan
SAMPLER SIGNATURE: J Logan
CHECKED BY: JRalcoski DATE: 6/2/17

MULTI-PARAMETER WATER QUALITY METER

METER TYPE YSI
MODEL NO. 556
UNIT ID NO. 06C159

AM CALIBRATION Start Time 0815 /End Time 0830

POST CALIBRATION CHECK Start Time 1640 /End Time 1700

	Units	Standard Value	Meter Value	*Acceptance Criteria (AM)	Standard Value	Meter Value	*Acceptance Criteria (PM)
pH (4)	SU	4.0	4.0	+/- 0.1 pH Units			
pH (7)	SU	7.0	7.0	+/- 0.1 pH Units	7.0	7.0	+/- 0.3 pH Units
pH (10)	SU	10.0	—	+/- 0.1 pH Units			
Redox	+/- mV	240	240	+/- 10 mV	240	240	+/- 10 mV
Conductivity	mS/cm	1.413	1.413	+/- 0.5 % of standard	1.413	1.413	+/- 5% of standard
DO (saturated)	%	100	—	+/- 2% of standard			
DO (saturated)	mg/L (see Chart 1)	9.1	9.1	+/- 0.2 mg/L	8.1	8.1	+/- 0.5 mg/L of standard
DO (<0.1)	mg/L	<0.1	—	< 0.5 mg/L			
Temperature	°C		18.50			25.74	
Baro. Press.	mmHg		740.2			740.2	

TURBIDITY METER

METER TYPE Hach
MODEL NO. 2100Q
UNIT ID NO. M024-31

	Units	Standard Value	Meter Value	Standard Value	Meter Value	*Acceptance Criteria (PM)
<0.1 Standard	NTU	<0.1	10.1	<0.1	10.3	+/- 0.3 NTU of stan.
20 Standard	NTU	20	20	20	19.7	+/- 5% of standard
100 Standard	NTU	100	100	100	100	+/- 5% of standard
800 Standard	NTU	800	797	800	795	+/- 5% of standard

PHOTOIONIZATION DETECTOR

METER TYPE
MODEL NO.
UNIT ID NO.

	Units	Standard Value	Meter Value	Standard Value	Meter Value	*Acceptance Criteria (PM)
Background	ppmv	<0.1		<0.1		within 5 ppmv of BG
Span Gas	ppmv	100		100		+/- 10% of standard

NA

O_2-LEL 4 GAS METER

METER TYPE
MODEL NO.
UNIT ID NO.

	Units	Standard Value	Meter Value	Standard Value	Meter Value	*Acceptance Criteria (PM)
Methane	%	50		50		+/- 10% of standard
O_2	%	20.9		20.9		+/- 10% of standard
H_2S	ppmv	25		25		+/- 10% of standard
CO	ppmv	50		50		+/- 10% of standard

N/A

OTHER METER

METER TYPE
MODEL NO.
UNIT ID NO.

See Notes Below for Additional Information

N/A

[X] Equipment calibrated within the Acceptance Criteria specified for each of the parameters listed above.
[ ] Equipment (not) calibrated within the Acceptance Criteria specified for each of the parameters listed above**.

MATERIALS RECORD

Deionized Water Source: Distilled Water
Lot#/Date Produced:
Trip Blank Source:
Sample Preservatives Source:
Disposable Filter Type: 0.45µm cellulose
Calibration Fluids / Standard Source:
- DO Calibration Fluid (<0.1 mg/L) Portland FOS
- Other
- Other
- Other

	Cal. Standard Lot Number	Exp. Date
pH (4)	6GH007	8-18
pH (7)	6GH649	8-18
pH (10)	—	—
ORP	0278	6-21
Conductivity	6GH12-198	8-17
<0.1 Turb. Stan.	AG207	10-17
20 Turb. Stan.	AG214	11-17
100 Turb. Stan.	AG208	10-17
800 Turb. Stan.	AG218	11-17
PID Span Gas		
O_2-LEL Span Gas		
Other		

NOTES:

* = Unless otherwise noted, calibration procedures and acceptance criteria are in general accordance with USEPA Region 1 SOPs for Field Instrument Calibration (EQASOP-FieldCalibrat) and Low Stress Purging and Sampling (EQASOP-GW001), each dated 1/19/2010. Additional acceptance criteria obtained from instrument specific manufacturer recommendations.
** = If meter reading is not within acceptance criteria, clean/replace probe and re-calibrate, or use calibrated back-up meter if available. If project requirements necessitate use of the instrument, clearly document any deviations from acceptance criteria on all data sheets and log book entries.
1 = DO Saturated standard value is calculated based on Oxygen Solubility at Indicated Pressure Chart from the USEPA Region 1 SOP for Field Instrument Calibration (EQASOP-FieldCalibrat), dated 1/19/2010.

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FIGURE 6.1
FIELD INSTRUMENT CALIBRATION RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

FIELD INSTRUMENTATION CALIBRATION RECORD

PROJECT NAME: Dinaburg Distributing - NYSDEC
PROJECT NUMBER: 3617137307
PROJECT LOCATION: Rochester, NY
WEATHER CONDITIONS (AM): Rain 50's
WEATHER CONDITIONS (PM): Drizzle 60's

TASK NO: 3 DATE: 5-25-17
MACTEC CREW: J. Lythgoe J. Loos
SAMPLER NAME: J. Loos
SAMPLER SIGNATURE:
CHECKED BY: JMcEnroy DATE: 6/12/17

MULTI-PARAMETER WATER QUALITY METER

METER TYPE YSI
MODEL NO. 556
UNIT ID NO. 06C1579

AM CALIBRATION Start Time 1040 /End Time 1055

POST CALIBRATION CHECK Start Time 1615 /End Time 1630

	Units	Standard Value	Meter Value	*Acceptance Criteria (AM)	Standard Value	Meter Value	*Acceptance Criteria (PM)
pH (4)	SU	4.0	4.0	+/- 0.1 pH Units			
pH (7)	SU	7.0	7.0	+/- 0.1 pH Units	7.0	7.0	+/- 0.3 pH Units
pH (10)	SU	10.0	—	+/- 0.1 pH Units			
Redox	+/- mV	240	240	+/- 10 mV	240	240	+/- 10 mV
Conductivity	mS/cm	1.413	1.413	+/- 0.5 % of standard	1.413	1.413	+/- 5% of standard
DO (saturated)	%	100	—	+/- 2% of standard			
DO (saturated)	mg/L (see Chart 1)	78% 9.4	9.37	+/- 0.2 mg/L	8.7	8.7	+/- 0.5 mg/L of standard
DO (<0.1)	mg/L	<0.1	9.39	< 0.5 mg/L			
Temperature	°C		18.15			22.15	
Baro. Press.	mmHg		736.1			736.1	

TURBIDITY METER

METER TYPE Hach
MODEL NO. 2100Q
UNIT ID NO. M024-351

	Units	Standard Value	Meter Value	Standard Value	Meter Value	*Acceptance Criteria (PM)
<0.1 Standard	NTU	<0.1	10	<0.1	9.9	+/- 0.3 NTU of stan.
20 Standard	NTU	20	19.9	20	20	+/- 5% of standard
100 Standard	NTU	100	100	100	100	+/- 5% of standard
800 Standard	NTU	800	797	800	800	+/- 5% of standard

PHOTOIONIZATION DETECTOR

METER TYPE
MODEL NO.
UNIT ID NO.

Background	ppmv	<0.1		<0.1		within 5 ppmv of BG
Span Gas	ppmv	100		100		+/- 10% of standard

NA

O_2-LEL 4 GAS METER

METER TYPE
MODEL NO.
UNIT ID NO.

Methane	%	50		50	+/- 10% of standard
O_2	%	20.9		20.9	+/- 10% of standard
H_2S	ppmv	25		25	+/- 10% of standard
CO	ppmv	50		50	+/- 10% of standard

NA

OTHER METER

METER TYPE
MODEL NO.
UNIT ID NO.

See Notes Below for Additional Information

NA

☒ Equipment calibrated within the Acceptance Criteria specified for each of the parameters listed above.
☐ Equipment (not) calibrated within the Acceptance Criteria specified for each of the parameters listed above**.

MATERIALS RECORD

Deionized Water Source: Distilled Water
Lot#/Date Produced:
Trip Blank Source:
Sample Preservatives Source:
Disposable Filter Type: 0.45µm cellulose
Calibration Fluids / Standard Source:
- DO Calibration Fluid (<0.1 mg/L) Portland FOS
- Other
- Other
- Other

	Cal. Standard Lot Number	Exp. Date
pH (4)	6GH1007	8-18
pH (7)	6GH1649	8-18
pH (10)	—	—
ORP	0275	6-21
Conductivity	6GH1218	8-17
<0.1 Turb. Stan.	A62107	10-17
20 Turb. Stan.	A62114	11-17
100 Turb. Stan.	A62105	10-17
800 Turb. Stan.	A62105	11-17
PID Span Gas		
O_2-LEL Span Gas		
Other		

NOTES:

* = Unless otherwise noted, calibration procedures and acceptance criteria are in general accordance with USEPA Region 1 SOPs for Field Instrument Calibration (EQASOP-FieldCalibrat) and Low Stress Purging and Sampling (EQASOP-GW001), each dated 1/19/2010. Additonal acceptance criteria obtained from instrument specific manufacturer recommendations.
** = If meter reading is not within acceptance criteria, clean/replace probe and re-calibrate, or use calibrated back-up meter if available. If project requirements necessitate use of the instrument, clearly document any deviations from acceptance criteria on all data sheets and log book entries.
1 = DO Saturated standard value is calculated based on Oxygen Solubility at Indicated Pressure Chart from the USEPA Region 1 SOP for Field Instrument Calibration (EQASOP-FieldCalibrat), dated 1/19/2010.

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FIGURE 6.1
FIELD INSTRUMENT CALIBRATION RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	Dinaburg Distributing- NYSDEC, Rochester, NY
PROJECT NUMBER	3617137307
SAMPLE ID	828103-MW03A22217
SAMPLE TIME	1540
LOCATION ID	MW-03A
DATE	5-25-17
START TIME	1400
END TIME	1600
SITE NAME/NUMBER	828103
PAGE	1 OF 1

WELL DIAMETER (INCHES): [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES): [ ] 1/8 [X] 1/4 [ ] 3/8 [ ] 1/2 [ ] 5/8 [ ] OTHER

MEASUREMENT POINT (MP): [X] TOP OF RISER (TOR) [ ] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

INITIAL DTW (BMP)	8.66 FT	FINAL DTW (BMP)	8.75 FT	PROT. CASING STICKUP (AGS)	0 FT	TOC/TOR DIFFERENCE	0.3 FT
WELL DEPTH (BMP)	24.5 FT	SCREEN LENGTH	5 FT	PID AMBIENT AIR	/ PPM	REFILL TIMER SETTING	/ SEC
WATER COLUMN	15.84 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	0.015 GAL	PID WELL MOUTH	/ PPM	DISCHARGE TIMER SETTING	/ SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	2.60 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	3.042 GAL	DRAWDOWN/ TOTAL PURGED	0.005	PRESSURE TO PUMP	/ PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1430	BEGIN PURGING									
1445	8.75	180	14.11	0.971	7.48	1.20	26.7	58.6	21	
1450	8.75	180	14.31	0.969	7.47	0.96	23.6	111.3	21	
1455	8.75	180	14.48	0.970	7.46	0.99	20.1	81.7	21	
1500	8.75	180	14.60	0.972	7.46	0.99	19.9	69.0	21	
1505	8.75	180	14.58	0.975	7.46	0.97	19.9	61.1	21	
1510	8.75	180	14.49	0.977	7.45	0.92	21.5	22.2	21	
1515	8.75	180	14.44	0.978	7.45	0.88	18.3	4.6	21	
1520	8.75	180	14.44	0.978	7.45	0.83	18.2	-4.2	21	
1525	8.75	180	14.30	0.980	7.45	0.83	19.4	-6.7	21	ms/cm = 0.981
1530	8.75	180	14.30	~~0.981~~	7.45	0.82	17.9	-7.5	21	
1535	8.75	180	14.37	0.981	7.45	0.83	16.7	-8.9	21	

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

~~@1535~~	~~14.37~~	~~0.981~~	~~7.45~~	~~0.83~~	~~16.7~~	~~-8.9~~
	14	0.981	7.5	0.8	16.7	-8.9

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.55 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: [X] PERISTALTIC [ ] SUBMERSIBLE [ ] BLADDER [ ] WATTERA [ ] OTHER [ ] OTHER

DECON FLUIDS USED: [ ] LIQUINOX [ ] DEIONIZED WATER [ ] POTABLE WATER [ ] NITRIC ACID [ ] HEXANE [ ] METHANOL [X] OTHER Alconox

TUBING/PUMP/BLADDER MATERIALS: [ ] SILICON TUBING [ ] TEFLON TUBING [ ] TEFLON LINED TUBING [X] HDPE TUBING [ ] LDPE TUBING [ ] OTHER [ ] OTHER

[ ] S. STEEL PUMP MATERIAL [ ] PVC PUMP MATERIAL [ ] GEOPROBE SCREEN [ ] TEFLON BLADDER [X] OTHER None [ ] OTHER [ ] OTHER

EQUIPMENT USED: [✓] WL METER [ ] PID [✓] WQ METER [✓] TURB. METER [✓] PUMP [ ] OTHER [ ] FILTERS NO. ____ TYPE ____

ANALYTICAL PARAMETERS

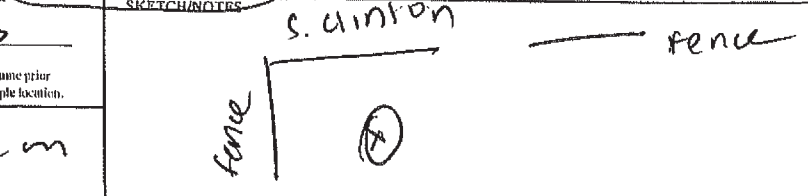
	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
X	VOCs	8260	-	HCl	3x40mL	✓	-	
X	1,4 Dioxane	8260 SIM	✓	HCl	1x40mL	✓	MS MSD	
X	PFAs	537	-	-	2x250mL	✓	-	
X	MNAs	6010C/4500 S2	-	-	2x250mL	✓	-	
		353.2/2.320mg	-	-	3x125mL	✓	-	
		300.0/28mg	-	-	1x60mL	✓	-	
		RSK 175	3x HCl 2 None	5310C	3x HCl	8x40mL		

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: [X] YES [ ] NO — NUMBER OF GALLONS GENERATED: ~3

NO-PURGE METHOD UTILIZED: [ ] YES [X] NO — If yes, purged approximately 1 standing volume prior to sampling or ____mL for this sample location.

SKETCH/NOTES



Sampler Signature: J Hogan Print Name: J. Hogan

Checked By: A Ballerossi Date: 6/2/17

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FIGURE 4.17
LOW FLOW GROUNDWATER SAMPLING RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	Dinaburg Distributing- NYSDEC, Rochester, NY	LOCATION ID	MW03CA2817
PROJECT NUMBER	3617137307	DATE	5/25/17
SAMPLE ID	828103-MW03CA2817	START TIME	1435
SAMPLE TIME	1605	END TIME	1635
SITE NAME/NUMBER	828103	PAGE	1 OF 1

WELL DIAMETER (INCHES): ☐ 1 ☑ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER

TUBING ID (INCHES): ☐ 1/8 ☑ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER

MEASUREMENT POINT (MP): ☑ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

INITIAL DTW (BMP)	8.70* FT	FINAL DTW (BMP)	8.78 FT	PROT. CASING STICKUP (AGS)	0 FT	TOC/TOR DIFFERENCE	~0.6 FT CALCULATED
WELL DEPTH (BMP)	31 FT	SCREEN LENGTH	5 FT	PID AMBIENT AIR	– PPM	REFILL TIMER SETTING	– SEC
WATER COLUMN	22.3 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	0.013 GAL	PID WELL MOUTH	– PPM	DISCHARGE TIMER SETTING	– SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	3.6 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	1.6 GAL	DRAWDOWN/ TOTAL PURGED	0.008	PRESSURE TO PUMP	– PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1435	BEGIN PURGING									
Developed 12 gallons - see note below										
1541	8.70	250	15.50	1.809	6.69	1.10	35.5	55.2	~29'	
1549	8.75	–	15.33	1.683	6.93	.54	31.7	32.9	–	
1553	8.80	–	15.35	1.676	7.03	.50	36.5	18.0	–	
1557	8.81	–	15.34	1.675	7.07	.49	31.9	13.6	–	
1605	8.78	–	15.37	1.675	7.08	.51	30.9	9.4	–	
1605	Sample									

JP

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

15	1.68	7.1	.5	30.9	9.4	

TEMP: nearest degree (ex. 10.1 = 10)
COND: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 8.81 = 8.8)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 195 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: ☑ PERISTALTIC ☐ SUBMERSIBLE ☐ BLADDER ☐ _____ ☐ WATTERA ☐ OTHER ☐ OTHER

DECON FLUIDS USED: ☐ LIQUINOX ☑ DEIONIZED WATER ☐ POTABLE WATER ☐ NITRIC ACID ☐ HEXANE ☐ METHANOL ☑ OTHER alconox

TUBING/PUMP/BLADDER MATERIALS: ☑ SILICON TUBING ☐ TEFLON TUBING ☐ TEFLON LINED TUBING ☑ HDPE TUBING ☐ LDPE TUBING ☐ OTHER ☐ OTHER

☐ S. STEEL PUMP MATERIAL ☐ PVC PUMP MATERIAL ☐ GEOPROBE SCREEN ☐ TEFLON BLADDER ☐ OTHER ☐ OTHER ☐ OTHER

EQUIPMENT USED: ☑ WL METER Heron ☐ PID ☑ WQ METER YSI ☑ TURB. METER Hach ☑ PUMP Grundfos ☐ OTHER ☐ FILTERS NO. ___ TYPE ___

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
✓	VOC	8260	–	HCl	3x40mL	✓	–	
✓	MNA	* SEE SAP PLAN	–	HCl / NONE	*	✓	–	
✓	PFAS	537	–	–	2x250mL	✓	–	

JP

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: YES ☑ NO ☐

NUMBER OF GALLONS GENERATED: 12 + 2

NO-PURGE METHOD UTILIZED: YES ☐ NO ☑

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

SKETCH/NOTES: Heavy rain in AM. ~~Not~~ Surface water may have run down well. Removed ~~3~~ well 12 gallons before starting readings. Well produces quick. W.L. @ ~9' steady (even after 12 gal removed). 3 days ago W.L. was 3' lower.

Sampler Signature: John Luttrop Print Name: John Luttrop

Checked By: Kim Pellegrini Date: 6/7/17

CALCULATIONS DO NOT INCLUDE WELL DEVELOPMENT (12 GAL)

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FIGURE 4.17
LOW FLOW GROUNDWATER SAMPLING RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	Dinaburg Distributing- NYSDEC, Rochester, NY
PROJECT NUMBER	3617137307
SAMPLE ID	828103-MW04171 7
SAMPLE TIME	1520
LOCATION ID	MW-04
DATE	5-23-17
START TIME	1250
END TIME	1530
SITE NAME/NUMBER	828103
PAGE	1 OF 2

WELL DIAMETER (INCHES): ☐ 1 ☒ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER

TUBING ID (INCHES): ☐ 1/8 ☒ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER

MEASUREMENT POINT (MP): ☒ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

INITIAL DTW (BMP)	8.93 FT	FINAL DTW (BMP)	9.20 FT	PROT. CASING STICKUP (AGS)	0 FT	TOC/TOR DIFFERENCE	0.2 FT
WELL DEPTH (BMP)	24.10 FT	SCREEN LENGTH	15 FT	PID AMBIENT AIR	/ PPM	REFILL TIMER SETTING	/ SEC
WATER COLUMN	15.17 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	0.044 GAL	PID WELL MOUTH	/ PPM	DISCHARGE TIMER SETTING	/ SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	2.49 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	4.4 GAL	DRAWDOWN/ TOTAL PURGED	0.01	PRESSURE TO PUMP	/ PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1340	BEGIN PURGING									
1350	9.30	180	13.33	1.092	7.22	1.64	246	183.9	20	
1355	9.30	180	13.38	1.096	7.21	1.64	171	176.7	20	
1400 1360	9.25	180	13.59	1.085	7.22	1.54	168	168.7	20	
1405	9.20	180	13.98	1.082	7.21	1.65	121	157.6	20	
1410	9.25	180	13.93	1.092	7.21	1.89	499	146.4	20	tried reinserting turb valve but did not purg through
1415	9.28	180	13.49	1.092	7.21	1.92	368	139.3	20	
1420	9.10	180	13.79	1.092	7.21	1.87	224	135.2	20	
1425	9.20	180	13.67	1.092	7.21	2.01	231	134.1	20	
1430	9.28	180	12.99	1.079	7.20	1.99	231	129.2	20	
1435	9.30	180	12.97	1.079	7.18	1.95	127	110.1	20	
1440	9.30	180	13.06	1.068	7.17	1.89	87	97.2	20	

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

continued on next page

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: ☒ PERISTALTIC ☐ SUBMERSIBLE ☐ BLADDER ☐ WATTERA ☐ OTHER ☐ OTHER

DECON FLUIDS USED: ☐ LIQUINOX ☐ DEIONIZED WATER ☐ POTABLE WATER ☐ NITRIC ACID ☐ HEXANE ☒ METHANOL ☒ OTHER Alconox

TUBING/PUMP/BLADDER MATERIALS: ☐ SILICON TUBING ☐ TEFLON TUBING ☐ TEFLON LINED TUBING ☒ HDPE TUBING ☐ LDPE TUBING ☐ OTHER ☐ OTHER; ☐ S. STEEL PUMP MATERIAL ☐ PVC PUMP MATERIAL ☐ GEOPROBE SCREEN ☐ TEFLON BLADDER ☐ OTHER ☐ OTHER ☐ OTHER

EQUIPMENT USED: ☒ WL METER ☐ PID ☒ WQ METER ☒ TURB. METER ☒ PUMP ☐ OTHER ☐ FILTERS NO. TYPE

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
☒	VOC's	8260	-	HCL	3x40mL	✓		
☒	MS/MSD	8260	-	HCL	3x40mL	✓		
					3x40mL	✓		

PURGE OBSERVATIONS

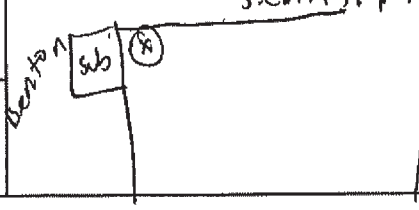
PURGE WATER CONTAINERIZED: ☒ YES ☐ NO

NUMBER OF GALLONS GENERATED: ~5

NO-PURGE METHOD UTILIZED: ☐ YES ☒ NO

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

SKETCH/NOTES



orange gump in purge water could not use turbidity valve, kept clogging up

Sampler Signature: J. Logan Print Name: J. Logan

Checked By: Pallobbo Date: 6/12/17

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FIGURE 4.17
LOW FLOW GROUNDWATER SAMPLING RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	Dimaburg Distributing- NYSDEC, Rochester, NY
PROJECT NUMBER	3617137307
SAMPLE ID	S28103-MW041717
SAMPLE TIME	1520
LOCATION ID	MW-04
DATE	5-23-17
START TIME	1250
END TIME	1540
SITE NAME/NUMBER	828103
PAGE	2 OF 2

WELL DIAMETER (INCHES): [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES): [ ] 1/8 [X] 1/4 [ ] 3/8 [ ] 1/2 [ ] 5/8 [ ] OTHER

MEASUREMENT POINT (MP): [X] TOP OF RISER (TOR) [ ] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

INITIAL DTW (BMP)	8.93 FT	FINAL DTW (BMP)	9.20 FT	PROT. CASING STICKUP (AGS)	0 FT	TOC/TOR DIFFERENCE	0.2 FT
WELL DEPTH (BMP)	24.10 FT	SCREEN LENGTH	15 FT	PID AMBIENT AIR	/ PPM	REFILL TIMER SETTING	/ SEC
WATER COLUMN	15.17 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	0.044 GAL	PID WELL MOUTH	/ PPM	DISCHARGE TIMER SETTING	/ SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	2.49 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	4.4 GAL	DRAWDOWN/ TOTAL PURGED	0.01 ~~0.02~~ (JP)	PRESSURE TO PUMP	/ PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1435	BEGIN PURGING									
1445	9.28	180	13.17	1.062	7.17	1.79	58.5	90.8	20	
1450	9.28	180	13.45	1.065	7.18	1.68	43.0	84.6	20	
1455	9.28	180	13.56	1.061	7.20	1.62	44.9	77.6	20	
1500	9.28	180	13.27	1.058	7.17	1.58	36.1	72.2	20	
1505	9.28	180	13.44	1.060	7.17	1.50	31.9	67.0	20	
1510	9.28	180	13.48	1.057	7.19	1.46	33.9	62.4	20	
1515	9.20	180	13.53	1.058	7.16	1.44	30.5	59.4	20	
1520	Collect	Sample								
					(JP)					

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

(JP) ~~13.53~~	~~1.058~~	~~7.16~~	~~1.44~~	~~30.5~~	~~59.4~~	
14	1.06	7.2	1.4	30.5	59	

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: [X] PERISTALTIC [ ] SUBMERSIBLE [ ] BLADDER [ ] WATTERA [ ] OTHER [ ] OTHER

DECON FLUIDS USED: [ ] LIQUINOX [ ] DEIONIZED WATER [ ] POTABLE WATER [ ] NITRIC ACID [ ] HEXANE [ ] METHANOL [X] OTHER Alconox

TUBING/PUMP/BLADDER MATERIALS: [ ] SILICON TUBING [ ] TEFLON TUBING [ ] TEFLON LINED TUBING [X] HDPE TUBING [ ] LDPE TUBING [ ] OTHER [ ] OTHER

[ ] S. STEEL PUMP MATERIAL [ ] PVC PUMP MATERIAL [ ] GEOPROBE SCREEN [ ] TEFLON BLADDER [X] OTHER None [ ] OTHER [ ] OTHER

EQUIPMENT USED: [X] WL METER [ ] PID [X] WQ METER [X] TURB. METER [X] PUMP [ ] OTHER [ ] FILTERS NO. ___ TYPE

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
X	VOC's	8260	-	HCL	3x40mL	✓	MS/MSD	
				(JP)				

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	✓	
NO-PURGE METHOD UTILIZED		X

NUMBER OF GALLONS GENERATED: ~2

If yes, purged approximately 1 standing volume prior to sampling or _____mL for this sample location.

SKETCH/NOTES

S. Clinton

Sump (X)

Sampler Signature: J. Logan Print Name: J. Logan

Checked By: P. Calloway Date: 6/2/17

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FIGURE 4.17
LOW FLOW GROUNDWATER SAMPLING RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	Dinaburg Distributing- NYSDEC, Rochester, NY
PROJECT NUMBER	3617137307
SAMPLE ID	828103-MW051717
SAMPLE TIME	1510
LOCATION ID	MW-05
DATE	5-24-17
START TIME	1400
END TIME	1615
SITE NAME/NUMBER	828103
PAGE	1 OF 1

WELL DIAMETER (INCHES): [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES): [ ] 1/8 [X] 1/4 [ ] 3/8 [ ] 1/2 [ ] 5/8 [ ] OTHER

MEASUREMENT POINT (MP): [X] TOP OF RISER (TOR) [ ] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

INITIAL DTW (BMP)	9.24 FT	FINAL DTW (BMP)	9.40 FT	PROT. CASING STICKUP (AGS)	0 FT	TOC/TOR DIFFERENCE	0.3 FT
WELL DEPTH (BMP)	24.6 FT	SCREEN LENGTH	15 FT	PID AMBIENT AIR	— PPM	REFILL TIMER SETTING	/ SEC
WATER COLUMN	15.36 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	0.02 GAL	PID WELL MOUTH	— PPM	DISCHARGE TIMER SETTING	/ SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	2.52 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	2.7 GAL	DRAWDOWN/ TOTAL PURGED	0.007	PRESSURE TO PUMP	/ PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1420	BEGIN PURGING									
1430	9.40	260	13.02	2.718	7.08	2.10	22.1	228.4	21	
1435	9.40	260	13.16	2.524	7.17	2.15	15.1	228.2	21	
1440	9.40	260	13.27	2.434	7.16	2.42	11.1	229.1	21	
1445	9.40	260	13.60	2.319	7.16	2.35	8.21	235.1	21	
1450	9.40	260	14.07	2.257	7.17	2.15	8.82	238.8	21	
1455	9.40	260	14.15	2.253	7.16	2.02	6.85	235.2	21	
1500	9.40	260	13.57	2.258	7.16	2.00	6.80	232.2	1	
1510	Collect		Sample							

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

	~~13.57~~ 14	~~2.258~~ 2.26	~~7.16~~ 7.2	~~2.00~~ 2.0	~~6.80~~ 6.8	~~232.2~~ 230	

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: [X] PERISTALTIC [ ] SUBMERSIBLE [ ] BLADDER [ ] WATTERA [ ] OTHER [ ] OTHER

DECON FLUIDS USED: [ ] LIQUINOX [ ] DEIONIZED WATER [ ] POTABLE WATER [ ] NITRIC ACID [ ] HEXANE [ ] METHANOL [X] OTHER Alconox

TUBING/PUMP/BLADDER MATERIALS: [ ] SILICON TUBING [ ] TEFLON TUBING [ ] TEFLON LINED TUBING [X] HDPE TUBING [ ] LDPE TUBING [ ] OTHER [ ] OTHER
[ ] S. STEEL PUMP MATERIAL [ ] PVC PUMP MATERIAL [ ] GEOPROBE SCREEN [ ] TEFLON BLADDER [X] OTHER None [ ] OTHER [ ] OTHER

EQUIPMENT USED: [X] WL METER [ ] PID [X] WQ METER [X] TURB. METER [X] PUMP [ ] OTHER [ ] FILTERS NO. ___ TYPE ___

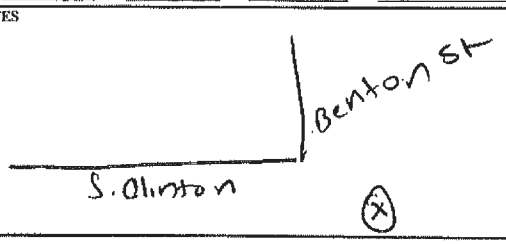
ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
X	VOCs	8260	—	HCl	3x40mL	✓		
X	1,4 Dioxane	8260	—	HCl	1x40mL	✓		
X	PFAs	537	—	None	2x250mL	✓		
X	MNAs	6010C/14500 Sr	—	—	2x250mL	✓		
		353.2/2320B	—	—	3x125mL	✓		
	3 HCl 2 None 5x	300.0 28 D	—	—	1x60mL			
		RSK175	6130C	3x HCl	6x40mL			

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: YES ✓ NO [ ]
NUMBER OF GALLONS GENERATED: ~3
NO-PURGE METHOD UTILIZED: YES [ ] NO [X]
If yes, purged approximately 1 standing volume prior to sampling or ___ mL for this sample location.

SKETCH/NOTES



Sampler Signature: J Rogers Print Name: J. Rogers

Checked By: JMacLeod Date: 6/2/17

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FIGURE 4.17
LOW FLOW GROUNDWATER SAMPLING RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	Dinaburg Distributing- NYSDEC, Rochester, NY
PROJECT NUMBER	3617137307
SAMPLE ID	828103-MW061317
SAMPLE TIME	1445
LOCATION ID	MW-06
DATE	5/29/17
START TIME	1350
END TIME	14:50
SITE NAME/NUMBER	828103
PAGE	1 OF 1

WELL DIAMETER (INCHES): ☐ 1 ☑ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER

TUBING ID (INCHES): ☑ 1/8 ☐ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER

MEASUREMENT POINT (MP): ☑ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	✓		
CASING			
LOCKED		✓	
COLLAR	✓		

INITIAL DTW (BMP)	7.15 FT	FINAL DTW (BMP)	8.23 FT	PROT. CASING STICKUP (AGS)	0 FT	TOC/TOR DIFFERENCE	0.5 FT
WELL DEPTH (BMP)	20.6 FT	SCREEN LENGTH	15 FT	PID AMBIENT AIR	– PPM	REFILL TIMER SETTING	– SEC
WATER COLUMN	13.45 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	0.18 GAL	PID WELL MOUTH	– PPM	DISCHARGE TIMER SETTING	– SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	2.2 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	2.6 GAL	DRAWDOWN/ TOTAL PURGED	0.068	PRESSURE TO PUMP	– PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1405	BEGIN PURGING									
1410	7.98	250	13.95	1.519	7.22	17.03	34.6	100.9	19	
1415	8.10	–	13.72	1.455	7.12	7.56	29.7	89.2	–	
1423	8.22	–	13.32	1.477	7.04	6.42	32.2	76.9	–	
1429	8.23	–	13.32	1.497	7.03	6.09	5.72	75.6	–	
1436	8.23	–	13.33	1.513	7.02	5.81	4.98	74.5	–	
1440	8.23	–	13.30	1.520	7.02	5.67	4.62	73.8	–	
1445	Sample									

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

	13	1.52	7.0	5.7	4.6	74

TEMP nearest degree unit (1 SF min)
COND 3 SF max res. 3333 = 3330, 10.06 = 10.0 (3 SF)
pH nearest tenth (ex. 8.83 = 8.8)
DO nearest tenth (ex. 3.81 = 3.8)
TURB 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP 2 SF max, nearest unit (441 = 440, 104 = 100)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: ☑ PERISTALTIC ☐ SUBMERSIBLE ☐ BLADDER ☐ WATTERA ☐ OTHER ☐ OTHER

DECON FLUIDS USED: ☑ LIQUINOX ☑ DEIONIZED WATER ☐ POTABLE WATER ☐ NITRIC ACID ☐ HEXANE ☐ METHANOL ☑ OTHER Acetone

TUBING/PUMP/BLADDER MATERIALS: ☑ SILICON TUBING ☐ TEFLON TUBING ☐ TEFLON LINED TUBING ☑ HDPE TUBING ☐ LDPE TUBING ☐ OTHER ☐ OTHER

☐ S. STEEL PUMP MATERIAL ☐ PVC PUMP MATERIAL ☐ GEOPROBE SCREEN ☐ TEFLON BLADDER ☐ OTHER ☐ OTHER ☐ OTHER

EQUIPMENT USED: ☑ WL METER Heron ☐ PID ☑ WQ METER YSI ☑ TURB. METER Hach ☑ PUMP Grundfos ☐ OTHER ☐ FILTERS NO. ___ TYPE ___

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
☑ VOC's	8260	–	HCl	3 x 40mL	✓	–	

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	☑	☐
NO-PURGE METHOD UTILIZED	☐	☑

NUMBER OF GALLONS GENERATED: ~3.5

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

SKETCH/NOTES

Sampler Signature: John Luttmer Print Name: John Luttmer

Checked By: JPalloni Date: 6/2/17

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FIGURE 4.17
LOW FLOW GROUNDWATER SAMPLING RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	Dinaburg Distributing- NYSDEC, Rochester, NY
PROJECT NUMBER	3617137307
SAMPLE ID	828103-MW08K 1417
SAMPLE TIME	1140
LOCATION ID	MW-08K
DATE	5-24-17
START TIME	1040
END TIME	1230
SITE NAME/NUMBER	828103
PAGE	1 OF 1

WELL DIAMETER (INCHES): [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES): [ ] 1/8 [X] 1/4 [ ] 3/8 [ ] 1/2 [ ] 5/8 [ ] OTHER

MEASUREMENT POINT (MP): [X] TOP OF RISER (TOR) [ ] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR			

INITIAL DTW (BMP)	7.58 FT	FINAL DTW (BMP)	8.40 FT	PROT. CASING STICKUP (AGS)	0 FT	TOC/TOR DIFFERENCE	0.4 FT
WELL DEPTH (BMP)	19.2 FT	SCREEN LENGTH	10 FT	PID AMBIENT AIR	/ PPM	REFILL TIMER SETTING	/ SEC
WATER COLUMN	11.62 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	0.13 GAL	PID WELL MOUTH	/ PPM	DISCHARGE TIMER SETTING	/ SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	1.9 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	2.08 GAL	DRAWDOWN/ TOTAL PURGED	0.06	PRESSURE TO PUMP	/ PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1055	BEGIN PURGING									
1110	8.30	200	13.74	0.803	7.17	0.96	25.0	247.6	17	
1115	8.45	200	13.73	0.802	7.18	1.00	22.1	232.6	17	
1120	8.30	200	14.31	0.811	7.17	1.28	21.7	233.4	17	
1125	8.45	200	13.96	0.821	7.17	1.89	22.7	231.2	17	
1130	8.40	200	14.36	0.822	7.17	1.66	20.6	226.5	17	
1135	8.40	200	14.47	0.823	7.17	1.58	19.0	~~226.7~~	17	Redox = 222.6 (2)
1140	Collect Sample									

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

~~(2)~~ ~~14.47~~	~~0.823~~	7.17	~~1.58~~	~~19.0~~	~~222.6~~	
14	0.823	7.2	1.6	19.0	220	

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: [X] PERISTALTIC [ ] SUBMERSIBLE [ ] BLADDER [ ] WATTERA [ ] OTHER [ ] OTHER

DECON FLUIDS USED: [ ] LIQUINOX [ ] DEIONIZED WATER [ ] POTABLE WATER [ ] NITRIC ACID [ ] HEXANE [ ] METHANOL [X] OTHER Alconox

TUBING/PUMP/BLADDER MATERIALS: [ ] SILICON TUBING [ ] TEFLON TUBING [ ] TEFLON LINED TUBING [X] HDPE TUBING [ ] LDPE TUBING [ ] OTHER [ ] OTHER

[ ] S. STEEL PUMP MATERIAL [ ] PVC PUMP MATERIAL [ ] GEOPROBE SCREEN [ ] TEFLON BLADDER [X] OTHER None [ ] OTHER [ ] OTHER

EQUIPMENT USED: [X] WL METER [ ] PID [X] WQ METER [X] TURB. METER [X] PUMP [ ] OTHER [ ] FILTERS NO. ___ TYPE ___

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
[X]	VOC's	8260	-	HCL	3x40mL	✓		
[X]	1,4 Dioxane	8260SIM	-	HCL	1x40mL	✓		
[X]	PFAs	537	-	-	2x250mL	✓		
[X]	MNAs	6010C/4500S2	-	-	2x250mL	✓		
		353.2/2320B	-	-	3x125mL	✓		
	3 HCl 2 NaOH	300.28B	-	-	1x60mL	✓		
		RSK 175	5310C	3xHCL	6x40mL			

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	[X]	[ ]
NO-PURGE METHOD UTILIZED	[ ]	[X]

NUMBER OF GALLONS GENERATED: ~2

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

SKETCH/NOTES

S. Clinton
Pizza
Dinaburg
(X) Home

Sampler Signature: [signature] Print Name: J. Lozyn

Checked By: [signature] Date: 6/2/17

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	Dinaburg Distributing- NYSDEC, Rochester, NY
PROJECT NUMBER	3617137307
SAMPLE ID	828103-MW085117
SAMPLE TIME	1035
LOCATION ID	MW-085
DATE	5-24-17
START TIME	0930
END TIME	1100
SITE NAME/NUMBER	828103
PAGE	1 OF 1

WELL DIAMETER (INCHES): [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES): [ ] 1/8 [X] 1/4 [ ] 3/8 [ ] 1/2 [ ] 5/8 [ ] OTHER

MEASUREMENT POINT (MP): [X] TOP OF RISER (TOR) [ ] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

INITIAL DTW (BMP)	6.45 FT	FINAL DTW (BMP)	7.71 FT	PROT. CASING STICKUP (AGS)	0 FT	TOC/TOR DIFFERENCE	0.2 FT
WELL DEPTH (BMP)	16.0 FT	SCREEN LENGTH	10 FT	PID AMBIENT AIR	— PPM	REFILL TIMER SETTING	— SEC
WATER COLUMN	9.55 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	0.21 GAL	PID WELL MOUTH	— PPM	DISCHARGE TIMER SETTING	— SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	1.57 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	2.25 GAL	DRAWDOWN/ TOTAL PURGED	0.093	PRESSURE TO PUMP	— PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME . 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
0944	BEGIN PURGING									
0955	7.23	240	13.83	0.919	6.94	2.40	9.21	245.3	14	
1000	7.31	240	13.96	0.918	6.96	2.08	6.79	240.3	14	
1005	7.45	240	13.82	0.913	6.99	1.94	4.52	231.4	14	
1010	7.60	240	13.83	0.905	7.02	1.84	3.05	226.0	14	
1015	7.61	160	13.86	0.895	7.03	1.81	2.25	224.1	14	
1020	7.65	160	13.99	0.889	7.03	2.32	1.99	220.3	14	
1025	7.67	160	13.92	0.884	7.04	2.30	1.76	217.4	14	
1030	7.71	160	13.93	0.882	7.05	2.25	1.42	215.6	14	
1035	Collect	Sample								
					JP					

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (-43.1 = -43, 191 = 190)

JP	~~13.93~~ 14	~~0.882~~ 0.882	~~7.05~~ 7.1	~~2.25~~ 2.3	~~1.42~~ 1.4	~~215.6~~ 220

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: [X] PERISTALTIC [ ] SUBMERSIBLE [ ] BLADDER [ ] WATTERA [ ] OTHER [ ] OTHER

DECON FLUIDS USED: [ ] LIQUINOX [ ] DEIONIZED WATER [ ] POTABLE WATER [ ] NITRIC ACID [ ] HEXANE [ ] METHANOL [X] OTHER Alconox

TUBING/PUMP/BLADDER MATERIALS: [ ] SILICON TUBING [ ] TEFLON TUBING [ ] TEFLON LINED TUBING [X] HDPE TUBING [ ] LDPE TUBING [ ] OTHER [ ] OTHER; [ ] S. STEEL PUMP MATERIAL [ ] PVC PUMP MATERIAL [ ] GEOPROBE SCREEN [ ] TEFLON BLADDER [X] OTHER None [ ] OTHER [ ] OTHER

EQUIPMENT USED: [X] WL METER [ ] PID [X] WQ METER [X] TURB. METER [X] PUMP [ ] OTHER [ ] FILTERS NO. ___ TYPE ___

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
X	VOC's	8260	—	HCL	3x40 mL			

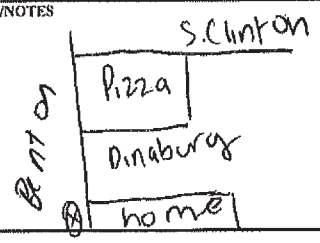
PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	X	
NO-PURGE METHOD UTILIZED		X

NUMBER OF GALLONS GENERATED: ~2

If yes, purged approximately 1 standing volume prior to sampling or _____mL for this sample location.

SKETCH/NOTES



Sampler Signature: J Logan Print Name: J.Logan

Checked By: JPalerson Date: 6/12/17

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FIGURE 4.17
LOW FLOW GROUNDWATER SAMPLING RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	Dinaburg Distributing- NYSDEC, Rochester, NY
PROJECT NUMBER	3617137307
SAMPLE ID	828103-MW09K1817
SAMPLE TIME	12:50
LOCATION ID	MW-09K
DATE	6/24/17
START TIME	1150
END TIME	12:50
SITE NAME/NUMBER	828103
PAGE	1 OF 1

WELL DIAMETER (INCHES): [ ] 1 [✓] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES): [✓] 1/8 [ ] 1/4 [ ] 3/8 [ ] 1/2 [ ] 5/8 [ ] OTHER

MEASUREMENT POINT (MP): [✓] TOP OF RISER (TOR) [ ] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED		✓	
COLLAR	✓		

INITIAL DTW (BMP)	8.89 FT	FINAL DTW (BMP)	8.91 FT	PROT. CASING STICKUP (AGS)	0 FT	TOC/TOR DIFFERENCE	0.2 FT
WELL DEPTH (BMP)	23.4 FT	SCREEN LENGTH	10 FT	PID AMBIENT AIR	– PPM	REFILL TIMER SETTING	– SEC
WATER COLUMN	14.5 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	0.003 GAL	PID WELL MOUTH	– PPM	DISCHARGE TIMER SETTING	– SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	2.37 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.000026 gal/mL)	4.2 GAL	DRAWDOWN/ TOTAL PURGED	0.0008	PRESSURE TO PUMP	– PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+ = 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1155	BEGIN PURGING									
1200	8.92	250	14.29	2.414	7.33	1.40	14.2	205.4	NA	
1205	8.91	300	14.11	2.600	7.04	.57	13.4	126.4	–	
1210	8.91	–	14.31	2.418	6.92	.65	12.5	114.0	–	
1230	8.91	–	14.58	2.355	6.92	.49	13.0	111.0	–	
1235	8.91	–	14.56	2.343	6.92	.49	4.87	108.1	–	
1240	8.91	–	14.56	2.324	6.90	.51	2.88	105.0	–	
1245	8.91	–	14.56	2.313	6.89	.50	2.75	104.2	–	
1250	Sample									

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

	15	2.31	6.7	.5	2.7	~~105~~ 100 (DP)

TEMP: nearest degree (ex. 11.1 = 11)
COND: 3 SF max (ex. 3333 = 3330; 0.696 = 0.696)
pH: nearest tenth (ex. 5.55 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max; nearest tenth (1.0 = 1.2; 102 = 101)
ORP: 3 SF (141 = 141; 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: [✓] PERISTALTIC [ ] SUBMERSIBLE [ ] BLADDER [ ] WATTERA [ ] OTHER [ ] OTHER

DECON FLUIDS USED: [✓] LIQUINOX [ ] DEIONIZED WATER [ ] POTABLE WATER [ ] NITRIC ACID [ ] HEXANE [ ] METHANOL [✓] OTHER Silicone

TUBING/PUMP/BLADDER MATERIALS: [✓] SILICON TUBING [ ] TEFLON TUBING [ ] TEFLON LINED TUBING [✓] HDPE TUBING [ ] LDPE TUBING [ ] OTHER [ ] OTHER

[ ] S. STEEL PUMP MATERIAL [ ] PVC PUMP MATERIAL [ ] GEOPROBE SCREEN [ ] TEFLON BLADDER [ ] OTHER [ ] OTHER [ ] OTHER

EQUIPMENT USED: [✓] WL METER Hydrolab [ ] PID [✓] WQ METER YSI [✓] TURB. METER Hydrolab [✓] PUMP Geopump [ ] OTHER [ ] FILTERS NO. ___ TYPE ___

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
[✓]	VOC's + Dup	8260	–	HCl	6 x 40 mL	✓ + 828103-MW09K1817D	DUP	1
								2
								3
								4
								5
								6

(DP)

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: [✓] YES [ ] NO

NUMBER OF GALLONS GENERATED: ~3.5

NO-PURGE METHOD UTILIZED: [ ] YES [✓] NO

If yes, purged approximately 1 standing volume prior to sampling or ___ mL for this sample location.

SKETCH/NOTES

Sampler Signature: John Luttrell Print Name: John Luttrell

Checked By: J Pallazzi Date: 6/5/17

NA = Not Available

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FIGURE 4.17
LOW FLOW GROUNDWATER SAMPLING RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	Dinaburg Distributing- NYSDEC, Rochester, NY
PROJECT NUMBER	3617137307
SAMPLE ID	828103-MW09S1177
SAMPLE TIME	1140
LOCATION ID	MW-09S
DATE	5/24/17
START TIME	9:30
END TIME	11:45
SITE NAME/NUMBER	828103
PAGE	1 OF 2

WELL DIAMETER (INCHES): ☐ 1 ☑ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER

TUBING ID (INCHES): ☐ 1/8 ☑ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER

MEASUREMENT POINT (MP): ☑ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER

WELL INTEGRITY	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR			

INITIAL DTW (BMP)	7.62 FT	FINAL DTW (BMP)	11.49 FT	PROT. CASING STICKUP (AGS)	0 FT	TOC/TOR DIFFERENCE	~0.4 FT CALCULATED
WELL DEPTH (BMP)	16 FT	SCREEN LENGTH	10 FT	PID AMBIENT AIR	— PPM	REFILL TIMER SETTING	— SEC
WATER COLUMN	8.38 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	0.63 GAL	PID WELL MOUTH	— PPM	DISCHARGE TIMER SETTING	— SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	1.37 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	6.2 GAL	DRAWDOWN/ TOTAL PURGED	0.10	PRESSURE TO PUMP	— PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% < 10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
9:55	BEGIN PURGING									
10:00	8.25	300	14.93	2.278	8.24	13.11	20.4	190.6	~14'	
10:05	8.55	200	14.67	2.248	8.00	4.45	22.7	222.6	—	
10:10	8.78	140	15.22	2.225	7.95	4.25	11.4	228.3	—	
10:20	9.21	120	14.75	2.286	7.80	3.56	6.84	227.1	—	
10:27	9.42	250	14.92	2.323	7.89	3.40	6.61	225.7	—	
10:33	9.68	—	14.86	2.367	7.87	3.16	5.49	224.9	—	
10:50	10.25	—	14.82	2.467	7.80	2.51	5.09	219.1	—	
10:58	10.49	—	14.71	2.504	7.78	2.33	6.28	217.3	—	
11:05	10.70	—	14.72	2.553	7.74	2.13	4.97	215.5	—	
11:12	10.85	—	14.69	2.597	7.71	2.05	5.04	213.6	—	
11:19	11.20	—	14.85	2.625	7.68	2.19	6.24	211.8	—	

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

See Page 2

TEMP. nearest degree (ex. 10.1 = 10)
COND. 3 SF nearest (ex. 9783 = 9780; 10456 = 10460)
pH. nearest tenth (ex. 6.43 = 6.4)
DO nearest tenth (ex. 3.51 = 3.5)
TURB. 2 SF max. nearest tenth (ex. 19 = 6.2, 10 = 10)
ORP. 2 SF (441 = 440, 101 = 100)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: ☑ PERISTALTIC ☐ SUBMERSIBLE ☐ BLADDER ☐ WATTERA ☐ OTHER ☐ OTHER

DECON FLUIDS USED: ☐ LIQUINOX ☐ DEIONIZED WATER ☐ POTABLE WATER ☐ NITRIC ACID ☐ HEXANE ☐ METHANOL ☑ OTHER Alconox

TUBING/PUMP/BLADDER MATERIALS: ☑ SILICON TUBING ☐ TEFLON TUBING ☐ TEFLON LINED TUBING ☑ HDPE TUBING ☐ LDPE TUBING ☐ OTHER ☐ OTHER

☐ S. STEEL PUMP MATERIAL ☐ PVC PUMP MATERIAL ☐ GEOPROBE SCREEN ☐ TEFLON BLADDER ☐ OTHER ☐ OTHER ☐ OTHER

EQUIPMENT USED: ☑ WL METER HERON ☐ PID ☑ WQ METER YSI ☑ TURB. METER HACH ☑ PUMP GED PUMP ☐ OTHER ☐ FILTERS NO ___ TYPE ___

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
☑ VOC's	8260	—	HCl	3x40mL	✓	—	

DP

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	☑	☐
NO-PURGE METHOD UTILIZED	☐	☑

NUMBER OF GALLONS GENERATED: ~4 gal

If yes, purged approximately 1 standing volume prior to sampling or ___ mL for this sample location.

SKETCH/NOTES

Sampler Signature: John Luther Print Name: John Luther

Checked By: Malloy Date: 6/7/17

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FIGURE 4.17
LOW FLOW GROUNDWATER SAMPLING RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME: Dinaburg Distributing- NYSDEC, Rochester, NY	LOCATION ID: MW-09S
PROJECT NUMBER: 3617137307	DATE: 5/24/17
SAMPLE ID: 828103-MW09S1117	START TIME: 0930
SAMPLE TIME: 1140	END TIME: 1145
	SITE NAME/NUMBER: 828103
	PAGE: 2 OF 2

WELL DIAMETER (INCHES): ☐ 1 ☐ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER

TUBING ID (INCHES): ☐ 1/8 ☐ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER

MEASUREMENT POINT (MP): ☐ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP			
CASING			
LOCKED			
COLLAR			

INITIAL DTW (BMP)	FT	FINAL DTW (BMP)	SEE PAGE 1	PROT. CASING STICKUP (AGS)	FT	TOC/TOR DIFFERENCE	FT
WELL DEPTH (BMP)	FT	SCREEN LENGTH	FT	PID AMBIENT AIR	PPM	REFILL TIMER SETTING	SEC
WATER COLUMN	FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	GAL	PID WELL MOUTH	PPM	DISCHARGE TIMER SETTING	SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	GAL	DRAWDOWN/ TOTAL PURGED		PRESSURE TO PUMP	PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
Cont'd	BEGIN PURGING									
1122	11.32	250	15.20	2.626	7.69	2.15	4.77	211.1	—	
1125	11.35	200	15.39	2.642	7.68	2.25	4.74	210.6	—	
1130	11.45	—	15.25	2.648	7.68	2.27	4.28	210.2	—	
1135	11.49	—	15.22	2.652	7.68	2.31	4.72	210.1	—	
1140	Sample									

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

	15	2.7 → 2.65 (JP)	7.7	2.3	4.7	210

TEMP: nearest degree (ex. 0.1 = 1°)
COND.: 3 SF max (ex. 3333 = 3330, 0.999 = 0.999)
pH: nearest tenth (ex. 5.51 = 5.5)
DO: nearest tenth (ex. 3.91 = 3.9)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: ☑ PERISTALTIC ☐ SUBMERSIBLE ☐ BLADDER ☐ WATTERA ☐ OTHER ☐ OTHER

DECON FLUIDS USED: ☐ LIQUINOX ☑ DEIONIZED WATER ☐ POTABLE WATER ☐ NITRIC ACID ☐ HEXANE ☐ METHANOL ☑ OTHER Alconox

TUBING/PUMP/BLADDER MATERIALS: ☑ SILICON TUBING ☐ TEFLON TUBING ☐ TEFLON LINED TUBING ☑ HDPE TUBING ☐ LDPE TUBING ☐ OTHER ☐ OTHER

☐ S. STEEL PUMP MATERIAL ☐ PVC PUMP MATERIAL ☐ GEOPROBE SCREEN ☐ TEFLON BLADDER ☐ OTHER ☐ OTHER ☐ OTHER

EQUIPMENT USED: ☑ WL METER Heron ☐ PID ☑ WQ METER YSI ☑ TURB. METER Hach ☑ PUMP Grundfos ☐ OTHER ☐ FILTERS NO. ___ TYPE ___

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
☑	VOC	8260	—	HCl	3 x 40mL	✓	—	

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	☑	☐
NO-PURGE METHOD UTILIZED	☐	☑

NUMBER OF GALLONS GENERATED: ~4 gal

If yes, purged approximately 1 standing volume prior to sampling or ___ mL for this sample location.

SKETCH/NOTES

JL SIGNED PAGE 1

Sampler Signature: Print Name:

Checked By: Date: 6/7/17

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FIGURE 4.17
LOW FLOW GROUNDWATER SAMPLING RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	Dinaburg Distributing- NYSDEC, Rochester, NY
PROJECT NUMBER	3617137307
SAMPLE ID	828103-MW10K1717
SAMPLE TIME	1600

LOCATION ID	MW-10K
DATE	5/24/17
START TIME	1500
END TIME	1610
SITE NAME/NUMBER	828103
PAGE	1 OF 1

WELL DIAMETER (INCHES): ☐ 1 ☑ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER

TUBING ID (INCHES): ☑ 1/8 ☐ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER

MEASUREMENT POINT (MP): ☑ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED		✓	
COLLAR	✓		

INITIAL DTW (BMP)	7.62 FT	FINAL DTW (BMP)	17.31 FT	PROT. CASING STICKUP (AGS)	0 FT	TOC/TOR DIFFERENCE	0.4 FT
WELL DEPTH (BMP)	21.6 FT	SCREEN LENGTH	10 FT	PID AMBIENT AIR	– PPM	REFILL TIMER SETTING	– SEC
WATER COLUMN	13.98 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	1.6 GAL	PID WELL MOUTH	– PPM	DISCHARGE TIMER SETTING	– SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	2.3 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	3.2 GAL	DRAWDOWN/ TOTAL PURGED	0.49	PRESSURE TO PUMP	– PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1580	BEGIN PURGING									
1505	8.71	250	16.19	1.572	6.80	3.04	214	39.1	~20'	
1510	10.35	–	15.68	1.562	6.70	1.17	128	24.2	–	
1532	15.80	–	15.68	1.536	6.72	1.01	57.4	17.0	–	
1537	16.27	140	16.86	1.542	6.73	1.22	55.3	14.0	–	
1543	16.51	–	17.35	1.550	6.73	1.25	55.9	13.6	–	
1550	17.05	–	17.54	1.563	6.72	1.21	51.0	13.8	–	
1555	17.31	–	17.65	1.586	6.71	1.21	49.1	13.3	–	
1600	Sample									

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

	18	1.57	6.7	1.2	49.1	13

TEMP: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.55 = 5.6)
DO: nearest tenth (ex. 3.3[+] = 3.3[+])
TURB.: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: ☑ PERISTALTIC ☐ SUBMERSIBLE ☐ BLADDER ☐ WATTERA ☐ OTHER ☐ OTHER

DECON FLUIDS USED: ☐ LIQUINOX ☑ DEIONIZED WATER ☐ POTABLE WATER ☐ NITRIC ACID ☐ HEXANE ☑ METHANOL ☑ OTHER Alconox

TUBING/PUMP BLADDER MATERIALS: ☑ SILICON TUBING ☐ TEFLON TUBING ☐ TEFLON LINED TUBING ☑ HDPE TUBING ☐ LDPE TUBING ☐ OTHER ☐ OTHER

☐ S. STEEL PUMP MATERIAL ☐ PVC PUMP MATERIAL ☐ GEOPROBE SCREEN ☐ TEFLON BLADDER ☐ OTHER ☐ OTHER ☐ OTHER

EQUIPMENT USED: ☑ WL METER Heron ☐ PID ☑ WQ METER YSI ☑ TURB. METER Hydac ☑ PUMP Grundfos ☐ OTHER ☐ FILTERS NO. ___ TYPE ___

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
☑	VOC's	8260	–	HCl	3x40mL	✓	–	

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	☑	☐
NO-PURGE METHOD UTILIZED	☐	☑

NUMBER OF GALLONS GENERATED: ~3 gal

If yes, purged approximately 1 standing volume prior to sampling or ___ mL for this sample location.

SKETCH/NOTES

Sampler Signature: John Luttrell Print Name: John Luttrell

Checked By: JPalczewski Date: 6/2/17

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FIGURE 4.17
LOW FLOW GROUNDWATER SAMPLING RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME: ~~Peters Dry Cleaning~~ D.W.M.J.
PROJECT NUMBER: 3617137307 ~~3612212244~~
SAMPLE ID: 828103 MW105(117
SAMPLE TIME: 1140

LOCATION ID: MW105
START TIME: 10:30
SITE NAME/NUMBER: ~~932128~~
DATE: 5/25/17
END TIME: 1140
PAGE: 1 OF 1

WELL INTEGRITY: YES / NO / N/A
CAP: ✓ / — / —
CASING: ✓ / — / —
LOCKED: ✓ / — / ✓
COLLAR: ✓ / — / —

WELL DIAMETER (INCHES): ☐ 1 ☑ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER
TUBING ID (INCHES): ☐ 1/8 ☑ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER
MEASUREMENT POINT (MP): ☑ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER

INITIAL DTW (BMP)	6.08 FT	FINAL DTW (BMP)	8.55 FT	PROT. CASING STICKUP (AGS)	0 FT	TOC/TOR DIFFERENCE	~0.45 FT CALCULATED
WELL DEPTH (BMP)	16.03 FT	SCREEN LENGTH	10 FT	PID AMBIENT AIR	— PPM	REFILL TIMER SETTING	— SEC
WATER COLUMN	9.92 FT	DRAWDOWN VOLUME (initial DTW - final DTW X well diam. squared X 0.041)	0.41 GAL	PID WELL MOUTH	— PPM	DISCHARGE TIMER SETTING	— SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	1.63 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	3.01 GAL	DRAWDOWN/ TOTAL PURGED	0.13	PRESSURE TO PUMP	— PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1045	BEGIN PURGING									
1050	6.50	250	13.19	1.699	7.30	13.35	41.5	21.4	~15	
1055	6.94	—	13.48	1.707	6.74	1.87	25.1	22.2	—	
1115	8.02	180	13.39	1.692	6.67	.69	33.7	24.2	—	
1126	8.50	150	13.38	1.696	6.65	.48	22.3	23.9	—	
1130	8.49	—	13.37	1.698	6.65	.47	15.0	24.2	—	
1135	8.55	—	13.35	1.700	6.64	.43	9.46	24.4	—	
1145	SAMPLE									

TEMP: nearest degree (ex. 10.1 = 10)
COND: 3 SF max (ex. 1313 = 1310, 0.096 = 0.096)
pH: nearest tenth (ex. 5.51 = 5.5)
DO: nearest tenth (ex. 3.31 = 3.3)
TURB: 2 SF max, nearest tenth (0.19 = 0.2, 101 = 101)
ORP: 3 SF (44.1 = 44, 101 = 100)

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

	13	1.70	6.6	.4	8.5	24

EQUIPMENT DOCUMENTATION
TYPE OF PUMP: ☑ PERISTALTIC ☐ SUBMERSIBLE ☐ BLADDER ☐ WATTERA ☐ OTHER ☐ OTHER
DECON FLUIDS USED: ☐ LIQUINOX ☑ DEIONIZED WATER ☐ POTABLE WATER ☐ NITRIC ACID ☐ HEXANE ☐ METHANOL ☑ OTHER DI WATER
TUBING/PUMP/BLADDER MATERIALS: ☑ SILICON TUBING ☐ TEFLON TUBING ☐ TEFLON LINED TUBING ☑ HOPE TUBING ☐ LDPE TUBING ☐ OTHER ☐ OTHER
☐ S. STEEL PUMP MATERIAL ☐ PVC PUMP MATERIAL ☐ GEOPROBE SCREEN ☐ TEFLON BLADDER ☐ OTHER ☐ OTHER ☐ OTHER
EQUIPMENT USED: ☑ WL METER Heron ☐ PID ☑ WQ METER YSI ☑ TURB. METER Hatch ☑ PUMP GED ☐ OTHER ☐ FILTERS NO. ___ TYPE ___

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
☑	VOC's	8260	—	HCl	3x40mL	✓	—	

PURGE OBSERVATIONS
PURGE WATER CONTAINERIZED: YES ☑ NO ☐
NO-PURGE METHOD UTILIZED: YES ☐ NO ☑
NUMBER OF GALLONS GENERATED: ~2.5
If yes, purged approximately 1 standing volume prior to sampling or ___ mL for this sample location.

SKETCH/NOTES
Heavy rain Bought canopy's at Walmart. Site locked, had to Break in.

Sampler Signature: John Lutter Print Name: John Lutter
Checked By: Date: 6/7/17

FIGURE 4.17
LOW FLOW GROUNDWATER SAMPLING RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

MACTEC
Street, Portland Maine 04101

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	Dimburg Distributing- NYSDEC, Rochester, NY
PROJECT NUMBER	3617137307
SAMPLE ID	828103-MW11S0917
SAMPLE TIME	0925
LOCATION ID	MW-11S
DATE	5-23-17
START TIME	0800
END TIME	0930
SITE NAME/NUMBER	828103
PAGE	1 OF 1

WELL DIAMETER (INCHES): [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES): [ ] 1/8 [X] 1/4 [ ] 3/8 [ ] 1/2 [ ] 5/8 [ ] OTHER

MEASUREMENT POINT (MP): [X] TOP OF RISER (TOR) [ ] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

INITIAL DTW (BMP)	7.07 FT	FINAL DTW (BMP)	11.10 FT	PROT. CASING STICKUP (AGS)	0 FT	TOC/TOR DIFFERENCE	0.2 FT
WELL DEPTH (BMP)	13.60 FT	SCREEN LENGTH	10 FT	PID AMBIENT AIR	— PPM	REFILL TIMER SETTING	— SEC
WATER COLUMN	6.53 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	~~0.268~~ 0.66 GAL	PID WELL MOUTH	— PPM	DISCHARGE TIMER SETTING	— SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	~~0.535~~ 1.07 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	2.3 GAL	DRAWDOWN/ TOTAL PURGED	~~0.14~~ 0.29	PRESSURE TO PUMP	— PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
0835	BEGIN PURGING									
0845	8.10	260	12.06	0.683	6.91	2.22	37.4	229.7	11	
0850	9.09	180	12.17	0.682	6.95	1.84	69.2	223.7	11	changed purge rate
0855	9.54	180	12.15	0.663	6.99	2.93	32.3	218.4	11	
0900	9.75	180	12.16	0.665	7.00	2.69	16.5	219.4	11	
0905	10.10	180	12.15	0.666	7.02	2.85	7.86	213.6	11	
0910	10.45	180	12.14	0.679	7.05	2.46	6.41	211.2	11	
0915	10.80	180	12.22	0.693	7.06	2.22	5.89	208.7	12	
0920	11.10	180	12.25	0.695	7.06	2.21	4.82	205.4	12	
0925	Collect	sample								

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

~~12.25~~ 12	0.695	~~7.06~~ 7.1	~~2.21~~ 2.2	~~4.82~~ 4.8	~~205.4~~ 210	

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: [X] PERISTALTIC [ ] SUBMERSIBLE [ ] BLADDER [ ] WATTERA [ ] OTHER [ ] OTHER

DECON FLUIDS USED: [ ] LIQUINOX [ ] DEIONIZED WATER [ ] POTABLE WATER [ ] NITRIC ACID [ ] HEXANE [ ] METHANOL [X] OTHER Alconox

TUBING/PUMP/BLADDER MATERIALS: [ ] SILICON TUBING [ ] TEFLON TUBING [ ] TEFLON LINED TUBING [X] HDPE TUBING [ ] LDPE TUBING [ ] OTHER [ ] OTHER

[ ] S. STEEL PUMP MATERIAL [ ] PVC PUMP MATERIAL [ ] GEOPROBE SCREEN [ ] TEFLON BLADDER [X] OTHER None [ ] OTHER [ ] OTHER

EQUIPMENT USED: [X] WL METER [ ] PID [X] WQ METER [X] TURB. METER [X] PUMP [ ] OTHER [ ] FILTERS NO. ___ TYPE ___

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
[X]	VOC's	8260	—	HCL	3x40mL	✓	—	828103-MW11S09

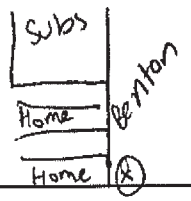
PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	[X]	[ ]
NO-PURGE METHOD UTILIZED	[ ]	[X]

NUMBER OF GALLONS GENERATED: ~3

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

SKETCH/NOTES



Sampler Signature: J Logan Print Name: J. Logan

Checked By: Pallozzi Date: 6/7/17

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FIGURE 4.17
LOW FLOW GROUNDWATER SAMPLING RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	Dinaburg Distributing- NYSDEC, Rochester, NY
PROJECT NUMBER	3617137307
SAMPLE ID	828103-MW12K1717
SAMPLE TIME	1050
LOCATION ID	MW-12K
DATE	5/23/17
START TIME	0930
END TIME	1100
SITE NAME/NUMBER	828103
PAGE	1 OF 1

WELL DIAMETER (INCHES): [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES): [X] 1/8 [ ] 1/4 [ ] 3/8 [ ] 1/2 [ ] 5/8 [ ] OTHER

MEASUREMENT POINT (MP): [X] TOP OF RISER (TOR) [ ] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

INITIAL DTW (BMP)	8.20 FT	FINAL DTW (BMP)	9.90 FT	PROT. CASING STICKUP (AGS)	0 FT	TOC/TOR DIFFERENCE	0.4 FT
WELL DEPTH (BMP)	18.2 FT	SCREEN LENGTH	5 FT	PID AMBIENT AIR	— PPM	REFILL TIMER SETTING	— SEC
WATER COLUMN	10 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	0.102 GAL	PID WELL MOUTH	— PPM	DISCHARGE TIMER SETTING	— SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	1.64 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	3.38 GAL	DRAWDOWN/ TOTAL PURGED	1 / 3.38 = 0.0006	PRESSURE TO PUMP	— PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
0940	BEGIN PURGING									
0955	9.90	200	12.06	0.875	7.02	1.29	13.3	184.8	17	
1000	9.88	200	12.09	0.878	7.01	1.56	9.89	184.8	17	
1005	9.90	200	12.10	0.886	7.01	0.886	9.24	184.0	17	
1010	9.90	200	12.15	0.888	7.00	0.888	25.5	183.5	17	
1015	9.90	200	12.17	0.892	7.00	0.892	29.7	182.6	17	
1020	9.90	200	12.16	0.894	7.00	0.894	16.7	181.5	17	
1025	9.90	200	12.18	0.895	6.99	1.96	12.2	180.0	17	
1030	9.90	200	12.23	0.894	6.99	1.90	8.77	179.2	17	
1035	9.90	200	12.26	0.895	6.99	1.83	7.21	178.0	17	
1040	9.90	200	12.24	0.895	6.99	1.76	6.58	176.8	17	
1045	9.90	200	12.30	0.895	6.99	1.66	5.36	174.6	17	

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

~~12.30~~	~~0.895~~	~~6.99~~	~~1.66~~	~~5.36~~	~~174.6~~	
12	0.895	7.0	1.7	5.4	170	

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: [X] PERISTALTIC [X] SUBMERSIBLE [ ] BLADDER [ ] WATTERA [ ] OTHER [ ] OTHER

DECON FLUIDS USED: [ ] LIQUINOX [ ] DEIONIZED WATER [ ] POTABLE WATER [ ] NITRIC ACID [ ] HEXANE [X] METHANOL [X] OTHER Alconox

TUBING/PUMP/BLADDER MATERIALS: [ ] SILICON TUBING [ ] TEFLON TUBING [ ] TEFLON LINED TUBING [ ] HDPE TUBING [X] LDPE TUBING [ ] OTHER [ ] OTHER

[ ] S. STEEL PUMP MATERIAL [ ] PVC PUMP MATERIAL [ ] GEOPROBE SCREEN [ ] TEFLON BLADDER [ ] OTHER [ ] OTHER [ ] OTHER

EQUIPMENT USED: [X] WL METER [ ] PID [X] WQ METER [X] TURB. METER [X] PUMP [ ] OTHER [ ] FILTERS NO. ___ TYPE ___

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
Y	VOC's	8260	—	HCL	3x 40ML	✓	—	

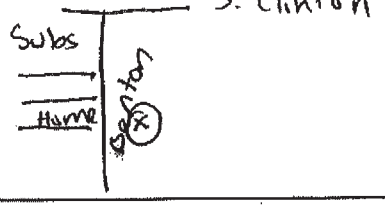
PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	X	
NO-PURGE METHOD UTILIZED		X

NUMBER OF GALLONS GENERATED: ~3.5

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

SKETCH/NOTES



Sampler Signature: J Lagan Print Name: Jasmin Lagun

Checked By: JPalermo Date: 6/2/17

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FIGURE 4.17
LOW FLOW GROUNDWATER SAMPLING RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	Dinaburg Distributing- NYSDEC, Rochester, NY
PROJECT NUMBER	3617137307
SAMPLE ID	828103-MW12S 1117
SAMPLE TIME	1150
LOCATION ID	MW-12S
DATE	5-23-17
START TIME	1100
END TIME	1215
SITE NAME/NUMBER	828103
PAGE	1 OF 1

WELL DIAMETER (INCHES): [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES): [X] 1/8 [ ] 1/4 [ ] 3/8 [ ] 1/2 [ ] 5/8 [ ] OTHER

MEASUREMENT POINT (MP): [X] TOP OF RISER (TOR) [ ] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR			

INITIAL DTW (BMP)	6.80 FT	FINAL DTW (BMP)	9.06 FT	PROT. CASING STICKUP (AGS)	0 FT	TOC/TOR DIFFERENCE	0.4 FT
WELL DEPTH (BMP)	14.0 FT	SCREEN LENGTH	5 FT	PID AMBIENT AIR	- PPM	REFILL TIMER SETTING	- SEC
WATER COLUMN	7.2 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	0.36 GAL	PID WELL MOUTH	- PPM	DISCHARGE TIMER SETTING	- SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	1.18 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	2.106 GAL	DRAWDOWN/ TOTAL PURGED	0.17	PRESSURE TO PUMP	- PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1105	BEGIN PURGING									
1115	8.60	180	12.13	0.803	7.24	2.16	4.7	173.6	12	
1120	8.80	180	12.20	0.799	7.24	2.54	2.81	171.6	12	pH = 7.24
1125	8.80	180	12.29	0.797	7.25	2.64	2.59	169.7	12	pH = 7.25
1130	8.83	180	12.37	0.795	7.24	7.24	3.05	168.0	12	pH = 7.24
1135	8.95	180	12.41	0.795	7.26	2.76	3.74	165.2	12	
1140	9.06	180	12.46	0.795	7.25	2.74	3.01	163.4	12	
1150	Collect	Sample								

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

JP	~~12.46~~ 12	~~0.795~~ 0.795	~~7.25~~ 7.3	~~2.74~~ 2.7	~~3.01~~ 3.0	~~163.4~~ 160	

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: [X] PERISTALTIC [ ] SUBMERSIBLE [ ] BLADDER [ ] WATTERA [ ] OTHER [ ] OTHER

DECON FLUIDS USED: [ ] LIQUINOX [ ] DEIONIZED WATER [ ] POTABLE WATER [ ] NITRIC ACID [ ] REXANE [ ] METHANOL [X] OTHER Alconox

TUBING/PUMP/BLADDER MATERIALS: [ ] SILICON TUBING [ ] TEFLON TUBING [ ] TEFLON LINED TUBING [ ] HDPE TUBING [X] LDPE TUBING [ ] OTHER [ ] OTHER

[ ] S. STEEL PUMP MATERIAL [ ] PVC PUMP MATERIAL [ ] GEOPROBE SCREEN [ ] TEFLON BLADDER [X] OTHER None [ ] OTHER [ ] OTHER

EQUIPMENT USED: [X] WL METER [ ] PID [X] WQ METER [X] TURB. METER [X] PUMP [ ] OTHER [ ] FILTERS NO. ___ TYPE ___

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
[X]	VOC's	8260	-	HCL	3x40mL	✓	-	

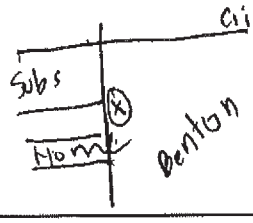
PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	[X]	[ ]
NO-PURGE METHOD UTILIZED	[ ]	[X]

NUMBER OF GALLONS GENERATED: ~2

If yes, purged approximately 1 standing volume prior to sampling or _____mL for this sample location.

SKETCH/NOTES



Sampler Signature: J Lugan Print Name: J. Logan

Checked By: JMalcolm Date: 6/2/17

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FIGURE 4.17
LOW FLOW GROUNDWATER SAMPLING RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME: Dinaburg Distributing- NYSDEC, Rochester, NY	LOCATION ID: MW-13K
PROJECT NUMBER: 3617137307	START TIME: 1650
SAMPLE ID: 828103-MW13K1917	SAMPLE TIME: 1830
DATE: 5/25/17	END TIME: 1830
SITE NAME/NUMBER: 828103	PAGE: 1 OF 1

WELL DIAMETER (INCHES): ☐ 1 ☑ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER

TUBING ID (INCHES): ☑ 1/8 ☐ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER

MEASUREMENT POINT (MP): ☑ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

INITIAL DTW (BMP)	8.65 FT	FINAL DTW (BMP)	8.75 FT	PROT. CASING STICKUP (AGS)	0 FT	TOC/TOR DIFFERENCE	0.3 FT
WELL DEPTH (BMP)	21.5 FT	SCREEN LENGTH	5 FT	PID AMBIENT AIR	— PPM	REFILL TIMER SETTING	— SEC
WATER COLUMN	12.85 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	0.016 GAL	PID WELL MOUTH	— PPM	DISCHARGE TIMER SETTING	— SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	2.1 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	3.1 GAL	DRAWDOWN/ TOTAL PURGED	0.005	PRESSURE TO PUMP	— PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1740	BEGIN PURGING									
1745	8.65	240	13.50	2.094	7.34	3.78	9.22	21.2	~20'	
1750	8.75	—	12.87	2.098	7.20	1.02	9.27	13.4	—	
1757	8.75	—	12.68	2.132	7.12	.84	10.7	7.5	—	
1805	8.76	—	12.61	2.140	7.10	.68	8.49	5.9	—	
1817	8.75	—	12.61	2.152	7.10	.66	7.67	4.6	—	
1820	8.75	—	12.60	2.145	7.09	.55	9.71	3.6	—	
1830	Sample									
			13	2.15	7.1	.55	9.7	3.1		
FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])			13	2.15	7.1	0.6	9.7	3.6		

TEMP - nearest degree (ex. 10.1 = 10)
COND - 3 SF max (ex. 3333 = 3330), 0.696 = 0.696)
pH - nearest tenth (ex. 5.53 = 5.5)
DO - nearest tenth (ex. 3.51 = 3.5)
TURB - 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP - 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: ☑ PERISTALTIC ☐ SUBMERSIBLE ☐ BLADDER ☐ WATTERA ☐ OTHER ☐ OTHER

DECON FLUIDS USED: ☐ LIQUINOX ☑ DEIONIZED WATER ☐ POTABLE WATER ☐ NITRIC ACID ☐ HEXANE ☑ METHANOL ☑ OTHER Alconox

TUBING/PUMP/BLADDER MATERIALS: ☑ SILICON TUBING ☐ TEFLON TUBING ☐ TEFLON LINED TUBING ☑ HDPE TUBING ☐ LDPE TUBING ☐ OTHER ☐ OTHER

☐ S. STEEL PUMP MATERIAL ☐ PVC PUMP MATERIAL ☐ GEOPROBE SCREEN ☐ TEFLON BLADDER ☐ OTHER ☐ OTHER ☐ OTHER

EQUIPMENT USED: ☑ WL METER Heron ☐ PID ☑ WQ METER YSI ☑ TURB. METER Hach ☑ PUMP Geopump ☐ OTHER ☐ FILTERS NO. ___ TYPE ___

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
✓	VOC	8260	—	HCl	3 x 40mL	✓		
✓	MNA	MANY PARAMETERS	—	HCl/None	VARIES.	✓		
	MS/MSD DUP							

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: ☑ YES ☐ NO — NUMBER OF GALLONS GENERATED: 8+2

NO-PURGE METHOD UTILIZED: ☐ YES ☑ NO — If yes, purged approximately 1 standing volume prior to sampling or ___ mL for this sample location.

SKETCH/NOTES

Heavy rain - water ran into well during prior to low flow sampling

Sampler Signature: John Luther Print Name: John Luther

By: JPallozzi Date: 6/2/17

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	Dinaburg Distributing- NYSDEC, Rochester, NY
PROJECT NUMBER	3617137307
SAMPLE ID	828103-MW14KA22217
SAMPLE TIME	1630
LOCATION ID	MW-14KA
DATE	5/23/17
START TIME	1520
END TIME	1630
SITE NAME/NUMBER	828103
PAGE	1 OF 1

WELL DIAMETER (INCHES): ☐ 1 ☑ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER

TUBING ID (INCHES): ☐ 1/8 ☑ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER

MEASUREMENT POINT (MP): ☑ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED		✓	
COLLAR	✓		

INITIAL DTW (BMP)	8.74 FT	FINAL DTW (BMP)	9.55 FT	PROT. CASING STICKUP (AGS)	0 FT	TOC/TOR DIFFERENCE	~0.33 FT CALCULATED
WELL DEPTH (BMP)	24.5 FT	SCREEN LENGTH	5 FT	PID AMBIENT AIR	— PPM	REFILL TIMER SETTING	— SEC
WATER COLUMN	15.76 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	0.13 GAL	PID WELL MOUTH	— PPM	DISCHARGE TIMER SETTING	— SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	2.6 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	4.1 GAL	DRAWDOWN/ TOTAL PURGED	0.03	PRESSURE TO PUMP	— PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1535	BEGIN PURGING									
1537 1542	9.11	300	17.99	.930	7.61	6.82	12.8	31.2	22	
1547	9.55	—	16.05	.930	7.31	.62	11.4	18.2	—	
1552	9.55	—	15.79	.926	7.26	.39	10.4	19.2	—	
1600	9.55	—	15.73	.924	7.27	.34	8.88	12.8	—	
1610	9.55	—	16.05	.934	7.28	.32	7.54	12.0	—	
1617	9.55	—	15.76	.971	7.26	.27	6.80	11.9	—	
1625	9.55	—	15.67	1.001	7.24	.28	6.32	11.6	—	
1630	9.55	—	15.71	1.003	7.23	.28	7.21	11.4	—	
1630	Sample									
			16	1.0	7.2	.3	7.21	11		

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

→	16	1.00	7.2	0.3	7.2	11

TEMP. nearest degree (ex. 10.1 = 10)
COND. 3 SF max (ex. 1755 = 1750, 0.068 = 0.068)
pH nearest tenth (ex. 5.53 = 5.5)
DO nearest tenth (ex. 3.51 = 3.5)
TURB. 3 SF max, nearest tenth (ex. 19 = 6.2, 101 = 101)
ORP 2 SF (44.1 = 44, 156 = 160)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: ☑ PERISTALTIC ☐ SUBMERSIBLE ☐ BLADDER ☐ WATTERA ☐ OTHER ☐ OTHER

DECON FLUIDS USED: ☐ LIQUINOX ☑ DEIONIZED WATER ☐ POTABLE WATER ☐ NITRIC ACID ☐ HEXANE ☐ METHANOL ☑ OTHER Alconox

TUBING/PUMP/BLADDER MATERIALS: ☑ SILICON TUBING ☐ TEFLON TUBING ☐ TEFLON LINED TUBING ☑ HDPE TUBING ☐ LDPE TUBING ☐ OTHER ☐ OTHER

☐ S. STEEL PUMP MATERIAL ☐ PVC PUMP MATERIAL ☐ GEOPROBE SCREEN ☐ TEFLON BLADDER ☐ OTHER ☐ OTHER ☐ OTHER

EQUIPMENT USED: ☑ WL METER Heron ☐ PID ☑ WQ METER YSI ☑ TURB. METER Hach ☑ PUMP Geopump ☐ OTHER ☐ FILTERS NO ___ TYPE ___

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
✓	VOC's	8260	—	HCl	3 x 40mL	✓	—	
✓	MNA	6010C / 450082	—	—	2 x 250mL	✓		
✓	"	353.2/2320B	—	—	3 x 125mL	✓		
✓	"	300.28D	—	—	1 x 60mL	✓		
✓	"	KSK175	—	3 x HCl	5 x 40mL	✓		
✓	"	5130C	—	HCl	3 x 40mL	✓		

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: ☑ YES ☐ NO — NUMBER OF GALLONS GENERATED: ~4

NO-PURGE METHOD UTILIZED: ☐ YES ☑ NO — If yes, purged approximately 1 standing volume prior to sampling or ___ mL for this sample location.

SKETCH/NOTES

Sampler Signature: John Lotter Print Name: John Lotter

Checked By: JPallotti Date: 6/7/17

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FIGURE 4.17
LOW FLOW GROUNDWATER SAMPLING RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	Dinaburg Distributing- NYSDEC, Rochester, NY
PROJECT NUMBER	3617137307
SAMPLE ID	828103MW15K2317
SAMPLE TIME	1800
LOCATION ID	MW-15K
DATE	5-22-17
START TIME	~~05~~ 1715
END TIME	1830
SITE NAME/NUMBER	828103
PAGE	1 OF 1

WELL DIAMETER (INCHES): ☐ 1 ☒ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER

TUBING ID (INCHES): ☐ 1/8 ☒ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER

MEASUREMENT POINT (MP): ☒ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

INITIAL DTW (BMP)	10.65 FT	FINAL DTW (BMP)	10.00 FT	PROT. CASING STICKUP (AGS)	0 FT	TOC/TOR DIFFERENCE	0.3 FT
WELL DEPTH (BMP)	25.5 FT	SCREEN LENGTH	5 FT	PID AMBIENT AIR	— PPM	REFILL TIMER SETTING	— SEC
WATER COLUMN	14.85 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	0.11 GAL	PID WELL MOUTH	— PPM	DISCHARGE TIMER SETTING	— SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	2.4 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	2.25 GAL	DRAWDOWN/ TOTAL PURGED	0.05	PRESSURE TO PUMP	— PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1715	BEGIN PURGING									
1725	10.00	220	14.36	0.883	7.72	0.78	11.5	35.1	23	
1730	10.00	220	14.19	0.886	7.72	0.65	11.4	27.8	23	
1735	10.00	220	14.40	1.309	7.26	1.04	12.9	8.2	23	
1740	10.10	220	14.46	1.365	7.18	1.43	8.91	-15.4	23	
1745	10.10	220	14.42	1.377	7.18	1.41	5.86	-20.3	23	
1750	10.00	220	14.41	1.389	7.17	1.33	4.64	-27.7	23	
1755	10.00	220	14.50	1.392	7.17	1.25	2.65	-29.3	23	
1800	Collect	Sample								

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

JP ~~14.50~~ 15	~~1.392~~ 1.39	7.2	1.3	2.7	29	

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: ☒ PERISTALTIC ☐ SUBMERSIBLE ☐ BLADDER ☐ WATTERA ☐ OTHER ☐ OTHER

DECON FLUIDS USED: ☐ LIQUINOX ☐ DEIONIZED WATER ☐ POTABLE WATER ☐ NITRIC ACID ☐ HEXANE ☐ METHANOL ☒ OTHER Alconox

TUBING/PUMP/BLADDER MATERIALS: ☐ SILICON TUBING ☐ TEFLON TUBING ☐ TEFLON LINED TUBING ☐ HDPE TUBING ☐ LDPE TUBING ☐ OTHER ☐ OTHER

☐ S. STEEL PUMP MATERIAL ☐ PVC PUMP MATERIAL ☐ GEOPROBE SCREEN ☐ TEFLON BLADDER ☒ OTHER None ☐ OTHER ☐ OTHER

EQUIPMENT USED: ☒ WL METER Heron ☐ PID ☒ WQ METER ☒ TURB. METER HACH ☒ PUMP ☐ OTHER ☐ FILTERS NO. ___ TYPE ___

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
☒	VOC's	8260	—	HCL	3x40mL	✓	—	828103MW15K2317

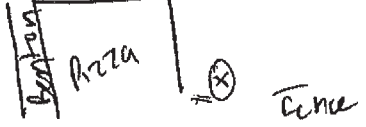
PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	☒	☐
NO-PURGE METHOD UTILIZED	☐	☒

NUMBER OF GALLONS GENERATED: 3

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

SKETCH/NOTES



Sampler Signature: J Hogan Print Name: Jamin Logan

Checked By: JPalleson Date: 6/12/17

MACTEC
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FIGURE 4.17
LOW FLOW GROUNDWATER SAMPLING RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	Dinaburg Distributing- NYSDEC, Rochester, NY	LOCATION ID	MW-15S
PROJECT NUMBER	3617137307	DATE	5/22/17
SAMPLE ID	828103-MW15S1017	SAMPLE TIME	1710
START TIME	1600	END TIME	1710
SITE NAME/NUMBER	828103	PAGE	1 OF 1

WELL DIAMETER (INCHES): [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES): [ ] 1/8 [X] 1/4 [ ] 3/8 [ ] 1/2 [ ] 5/8 [ ] OTHER

MEASUREMENT POINT (MP): [X] TOP OF RISER (TOR) [ ] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

INITIAL DTW (BMP)	7.20 FT	FINAL DTW (BMP)	9.40 FT	PROT. CASING STICKUP (AGS)	0 FT	TOC/TOR DIFFERENCE	0.50 FT
WELL DEPTH (BMP)	15.0 FT	SCREEN LENGTH	10 FT	PID AMBIENT AIR	/ PPM	REFILL TIMER SETTING	/ SEC
WATER COLUMN	7.80 FT	DRAWDOWN VOLUME (initial DTW - final DTW X well diam. squared X 0.041)	0.36 GAL	PID WELL MOUTH	/ PPM	DISCHARGE TIMER SETTING	/ SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	1.3 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	3.6 GAL	DRAWDOWN/ TOTAL PURGED	0.1	PRESSURE TO PUMP	/ PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1606	BEGIN PURGING									
1615	7.20	280	13.84	1.319	7.19	1.17	74.5	20.4	12	
1620	7.49	280	13.99	1.335	7.17	1.96	37.9	28.1	12	
1625	7.65	280	14.46	1.338	7.16	2.17	36.1	34.9	12	
1630	7.90	280	14.44	1.331	7.15	2.28	23.4	39.2	12	
1635	8.40	240	13.89	1.328	7.16	2.31	17.8	40.2	12	Change flowrate
1640	8.60	240	14.00	1.316	7.16	2.51	15.4	41.3	12	
1645	8.80	240	13.97	1.293	7.17	2.57	15.0	42.3	12	
1650	8.95	240	13.96	1.280	7.18	2.52	12.3	44.6	12	
1655	9.15	240	13.72	1.264	7.19	2.58	6.49	47.8	12	
1700	9.30	240	13.73	1.250	7.18	2.37	4.86	52.2	12	
1705	9.40	240	13.66	1.223	7.18	2.36	3.7	56.8	12	

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

(JP) ~~13.66~~ 14	~~1.223~~ 1.22	~~7.18~~ 7.2	~~2.36~~ 2.4	~~3.73~~ 3.7	~~56.8~~ 57

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: [X] PERISTALTIC [ ] SUBMERSIBLE [ ] BLADDER [ ] _____ [ ] WATTERA [ ] OTHER [ ] OTHER

DECON FLUIDS USED: [ ] LIQUINOX [ ] DEIONIZED WATER [ ] POTABLE WATER [ ] NITRIC ACID [ ] HEXANE [ ] METHANOL [X] OTHER ALCONOX

TUBING/PUMP/BLADDER MATERIALS: [ ] SILICON TUBING [ ] TEFLON TUBING [ ] TEFLON LINED TUBING [X] HDPE TUBING [ ] LDPE TUBING [ ] OTHER [ ] OTHER

[ ] S. STEEL PUMP MATERIAL [ ] PVC PUMP MATERIAL [ ] GEOPROBE SCREEN [ ] TEFLON BLADDER [ ] OTHER [X] OTHER NONE [ ] OTHER

EQUIPMENT USED: [✓] WL METER [ ] PID [✓] WQ METER [✓] TURB. METER [ ] PUMP [ ] OTHER [ ] FILTERS NO. ___ TYPE ___

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
[X]	VOC's	8260	-	HCL	3x40mL	✓	-	828103MW15S1017

(JP)

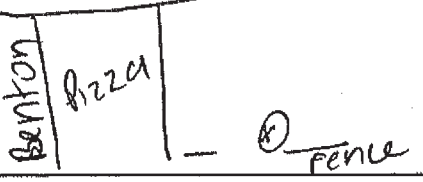
PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	[X]	[ ]
NO-PURGE METHOD UTILIZED	[ ]	[X]

NUMBER OF GALLONS GENERATED: 4.5

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

SKETCH/NOTES



Sampler Signature: J. Keegan Print Name: Jasmin Logan

Checked By: Malcolm Date: 6/12/17

MACTEC
511 Congress Street, Portland Maine 04101

FIGURE 4.17
LOW FLOW GROUNDWATER SAMPLING RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

LOW FLOW GROUNDWATER SAMPLING RECORD

3

PROJECT NAME	Dunsburg Distributing- NYSDEC, Rochester, NY
PROJECT NUMBER	3617137307
SAMPLE ID	828103-MW16K2317
SAMPLE TIME	9:55
LOCATION ID	MW-16K
DATE	5/23/17
START TIME	9:00
END TIME	9:55
SITE NAME/NUMBER	828103
PAGE	1 OF 1

WELL DIAMETER (INCHES): ☐ 1 ☑ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER

TUBING ID (INCHES): ☐ 1/8 ☑ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER

MEASUREMENT POINT (MP): ☑ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	✓		
CASING			
LOCKED		✓	
COLLAR	✓		

INITIAL DTW (BMP)	8.60 FT	FINAL DTW (BMP)	8.60 FT	PROT. CASING STICKUP (AGS)	0 FT	TOC/TOR DIFFERENCE	~0.43 FT CALCULATED
WELL DEPTH (BMP)	25' FT	SCREEN LENGTH	5 FT	PID AMBIENT AIR	– PPM	REFILL TIMER SETTING	– SEC
WATER COLUMN	19.4 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	0 GAL	PID WELL MOUTH	– PPM	DISCHARGE TIMER SETTING	– SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	3.2 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.000026 gal/mL)	3.1 GAL	DRAWDOWN/ TOTAL PURGED	0	PRESSURE TO PUMP	– PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
9:15	BEGIN PURGING									
9:20	8.60	300	14.17	1.414	7.42	7.00	15.6	107	~24'	
9:25	8.60	–	13.91	1.387	7.10	1.06	12.0	11.4	–	
9:30	8.60	–	13.99	1.398	7.07	.73	11.8	11.5	–	
9:35	8.60	–	14.11	1.399	7.05	.61	11.3	11.2	–	
9:40	8.60	–	14.20	1.400	7.04	.51	12.0	10.8	–	
9:45	8.60	–	14.28	1.409	7.03	.49	12.8	9.4	–	
9:50	8.60	–	14.30	1.415	7.02	.46	13.0	9.0	–	
9:55	Sample									

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

	14	1.42	7.0	0.5	13.0	9.0

TEMP: nearest degree (ex. 11 [+/- 1])
COND: 3 SF max (ex. 9333 = 9330; 10406 = 10400)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.173 = 6.2, 101 = 101)
ORP: 2 SF (-64.1 = -64, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: ☑ PERISTALTIC ☐ SUBMERSIBLE ☐ BLADDER ☐ WATTERA ☐ OTHER ☐ OTHER

DECON FLUIDS USED: ☐ LIQUINOX ☐ DEIONIZED WATER ☐ POTABLE WATER ☐ NITRIC ACID ☐ HEXANE ☐ METHANOL ☑ OTHER alconox

TUBING/PUMP/BLADDER MATERIALS: ☑ SILICON TUBING ☐ TEFLON TUBING ☐ TEFLON LINED TUBING ☑ HDPE TUBING ☐ LDPE TUBING ☐ OTHER ☐ OTHER

☐ S. STEEL PUMP MATERIAL ☐ PVC PUMP MATERIAL ☐ GEOPROBE SCREEN ☐ TEFLON BLADDER ☐ OTHER ☐ OTHER ☐ OTHER

EQUIPMENT USED: ☑ WL METER Heron ☐ PID ☑ WQ METER YSI ☑ TURB. METER Hach ☑ PUMP Geopump ☐ OTHER ☐ FILTERS NO. ____ TYPE ____

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
☑	VOCs	8260	–	HCl	3x40mL	✓	–	

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: ☑ YES ☐ NO

NUMBER OF GALLONS GENERATED: ~4

NO-PURGE METHOD UTILIZED: ☐ YES ☑ NO

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

SKETCH/NOTES

Sampler Signature: John Luther Print Name: John Luther

Checked By: JPallozzi Date: 6/7/17

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FIGURE 4.17
LOW FLOW GROUNDWATER SAMPLING RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

LOW FLOW GROUNDWATER SAMPLING RECORD

2

PROJECT NAME	Dinaburg Distributing- NYSDEC, Rochester, NY	LOCATION ID	MW16S
PROJECT NUMBER	3617137307	DATE	5/22/17
SAMPLE ID	828103-MW16S-052217	START TIME	1700
SAMPLE TIME	1805	END TIME	1810
SITE NAME/NUMBER	828103	PAGE	1 OF 1

WELL DIAMETER (INCHES): ☐ 1 ☑ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER

TUBING ID (INCHES): ☐ 1/8 ☑ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER

MEASUREMENT POINT (MP): ☑ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED			
COLLAR	✓		

INITIAL DTW (BMP)	6.98 FT	FINAL DTW (BMP)	12.70 FT	PROT. CASING STICKUP (AGS)	0 FT	TOC/TOR DIFFERENCE	~0.21 FT CALCULATED
WELL DEPTH (BMP)	15.0 FT	SCREEN LENGTH	10 FT	PID AMBIENT AIR	– PPM	REFILL TIMER SETTING	– SEC
WATER COLUMN	8.02 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	0.94 GAL	PID WELL MOUTH	– PPM	DISCHARGE TIMER SETTING	– SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	1.3 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	3.0 GAL	DRAWDOWN/ TOTAL PURGED	0.31	PRESSURE TO PUMP	– PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10%<10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1706	BEGIN PURGING									
1709	7.60	300	14.42	1.511	7.28	3.04	105	52.7	~13'	
1716	8.27	–	13.92	1.528	7.05	1.52	115	44.4	–	
1723	9.80	200	13.95	1.533	7.04	1.09	111	43.3	–	
1726	10.35	–	13.98	1.536	7.04	.95	104	42.2	–	
1735	11.18	150	13.87	1.531	7.03	.88	60.7	41.2	–	
1746	11.59	–	14.19	1.517	7.03	4.25	53.3	41.5	–	Some air bubbles, pump intake too high?
1748	11.85	–	14.25	1.520	7.04	4.79	52.6	41.8	–	
1754	12.24	120	14.03	1.536	7.02	1.52	50.8	40.2	–	
1757	12.51	–	14.08	1.533	7.02	1.37	50.0	40.2	–	
1800	12.70	–	14.09	1.576	7.01	1.42	49.8	38.7	–	
1805	Sample									
FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])			14	1.58	7.0	1.4	49.8	39		

TEMP: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 5533 = 5530, 0.696 = 0.696)
pH: nearest tenth (ex. 5.51 = 5.5)
DO: nearest tenth (ex. 5.51 = 5.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 201 = 201)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- ☑ PERISTALTIC
- ☐ SUBMERSIBLE
- ☐ BLADDER
- ☐ WATTERA
- ☐ OTHER
- ☐ OTHER

DECON FLUIDS USED
- ☐ LIQUINOX
- ☐ DEIONIZED WATER
- ☐ POTABLE WATER
- ☐ NITRIC ACID
- ☐ HEXANE
- ☐ METHANOL
- ☑ OTHER alconox

TUBING/PUMP/BLADDER MATERIALS
- ☐ SILICON TUBING
- ☐ TEFLON TUBING
- ☐ TEFLON LINED TUBING
- ☑ HDPE TUBING
- ☐ LDPE TUBING
- ☐ OTHER
- ☐ OTHER

- ☐ S. STEEL PUMP MATERIAL
- ☐ PVC PUMP MATERIAL
- ☐ GEOPROBE SCREEN
- ☐ TEFLON BLADDER
- ☐ OTHER
- ☐ OTHER
- ☐ OTHER

EQUIPMENT USED
- ☑ WL METER Heron
- ☐ PID
- ☑ WQ METER YSI
- ☑ TURB. METER Hach
- ☑ PUMP Geopump
- ☐ OTHER
- ☐ FILTERS NO. ___ TYPE ___

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
☑	VOCs	8260	–	HCl	3 x 40 mL	✓	–	

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	☑	☐
NO-PURGE METHOD UTILIZED	☐	☑

NUMBER OF GALLONS GENERATED: ~4

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

SKETCH/NOTES

Sampler Signature: John Luthmyer Print Name: John Luthmyer

Checked By: JPallazzi Date: 6/7/17

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FIGURE
LOW FLOW GROUNDWATER SAMPLING RE
NYSDEC QUALITY ASSURANCE PROJEC

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	Dinaburg Distributing- NYSDEC, Rochester, NY	LOCATION ID	MW17S
PROJECT NUMBER	3617137307	DATE	5/23/17
SAMPLE ID	828103-MW17S1017	START TIME	1410
SAMPLE TIME	1500	END TIME	1500
		SITE NAME/NUMBER	828103
		PAGE	1 OF 1

WELL DIAMETER (INCHES): ☐ 1 ☑ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER

TUBING ID (INCHES): ☐ 1/8 ☑ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER

MEASUREMENT POINT (MP): ☑ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED		✓	
COLLAR	✓		

INITIAL DTW (BMP)	6.42 FT	FINAL DTW (BMP)	9.50 FT	PROT. CASING STICKUP (AGS)	0 FT	TOC/TOR DIFFERENCE	~0.61 FT CALCULATED
WELL DEPTH (BMP)	15 FT	SCREEN LENGTH	10 FT	PID AMBIENT AIR	– PPM	REFILL TIMER SETTING	– SEC
WATER COLUMN	8.58 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	0.51 GAL	PID WELL MOUTH	– PPM	DISCHARGE TIMER SETTING	– SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	1.4 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	3.3 GAL	DRAWDOWN/ TOTAL PURGED	0.15	PRESSURE TO PUMP	– PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1410	BEGIN PURGING									
1415	6.92	300	16.51	.801	7.81	15.12	392	55.1	~14	
1420	7.48	250	14.05	.799	7.43	3.59	341	20.1	–	
1425	7.77	–	14.23	.795	7.36	3.35	>1000	17.4	–	
1430	7.85	–	14.36	.782	7.35	3.66	74.1	16.5	~13.5	
1435	8.25	–	14.13	.796	7.34	3.55	61.4	15.4	–	
1440	8.69	–	14.19	.787	7.33	3.32	55.8	14.8	–	
1447	9.16	220	14.37	.787	7.33	3.27	61.8	13.5	–	
1450	9.30	–	14.54	.787	7.32	3.00	56.8	13.4	–	
1453	9.41	–	14.53	.789	7.30	2.98	54.6	13.7	–	
1456	9.50	–	14.50	.789	7.30	2.96	51.7	13.7	–	
1500	Sample									

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

15	.789	7.3	3.0	51.7	14	

TEMP: nearest degree (ex. 10.1 = 10)
COND: 3 SF max (ex. 3333 = 3330; 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.79 = 6.8; 101 = 101)
ORP: 2 SF (443 = 44; 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: ☑ PERISTALTIC ☐ SUBMERSIBLE ☐ BLADDER ☐ WATTERA ☐ OTHER ☐ OTHER

DECON FLUIDS USED: ☐ LIQUINOX ☑ DEIONIZED WATER ☐ POTABLE WATER ☐ NITRIC ACID ☐ HEXANE ☐ METHANOL ☑ OTHER Alconox

TUBING/PUMP/BLADDER MATERIALS: ☑ SILICON TUBING ☐ TEFLON TUBING ☐ TEFLON LINED TUBING ☑ HDPE TUBING ☐ LDPE TUBING ☐ OTHER ☐ OTHER

☐ S. STEEL PUMP MATERIAL ☐ PVC PUMP MATERIAL ☐ GEOPROBE SCREEN ☐ TEFLON BLADDER ☐ OTHER ☐ OTHER ☐ OTHER

EQUIPMENT USED: ☑ WL METER Heron ☐ PID ☑ WQ METER YSI ☑ TURB. METER Hach ☑ PUMP Grundfos ☐ OTHER ☐ FILTERS NO: TYPE

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
✓ VOC's	8260	–	HCl	3x40mL	✓	–	

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: ☑ YES ☐ NO

NUMBER OF GALLONS GENERATED: ~3

NO-PURGE METHOD UTILIZED: ☐ YES ☑ NO

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

SKETCH/NOTES

Sampler Signature: John Luttinger Print Name: John Luttinger

Checked By: R Palleschi Date: 6/7/17

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FIGURE 4.17
LOW FLOW GROUNDWATER SAMPLING RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	Dinaburg Distributing- NYSDEC, Rochester, NY
PROJECT NUMBER	3617137307
SAMPLE ID	828103-MW185(0617)
SAMPLE TIME	1645
LOCATION ID	MW-185
DATE	5/22/17
START TIME	1545
END TIME	1650
SITE NAME/NUMBER	828103
PAGE	1 OF 1

WELL DIAMETER (INCHES): ☐ 1 ☑ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER

TUBING ID (INCHES): ☐ 1/8 ☑ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER

MEASUREMENT POINT (MP): ☑ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED		✓	
COLLAR	✓		

INITIAL DTW (BMP)	7.74 FT	FINAL DTW (BMP)	8.17 FT	PROT. CASING STICKUP (AGS)	0 FT	TOC/TOR DIFFERENCE	~0.28 FT CALCULATED
WELL DEPTH (BMP)	15.00 FT	SCREEN LENGTH	10 FT	PID AMBIENT AIR	— PPM	REFILL TIMER SETTING	— SEC
WATER COLUMN	4.26 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	0.07 GAL	PID WELL MOUTH	— PPM	DISCHARGE TIMER SETTING	— SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	.7 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	3.5 GAL	DRAWDOWN/ TOTAL PURGED	0.02	PRESSURE TO PUMP	— PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1600	BEGIN PURGING									
1605	7.97	300	14.35	2.114	6.69	1.27	134	156.2	~14'	
1609	7.98	—	14.18	1.965	6.85	1.26	93.5	152.5	—	
1616	8.02	—	13.77	1.875	7.02	1.19	94.2	71.7	—	
1621	8.05	—	13.62	1.646	7.02	2.43	28.2	64.7	—	
1626	8.10	—	13.55	1.593	7.01	2.74	12.4	59.0	—	
1634	8.13	—	13.44	1.542	7.00	2.72	10.3	53.8	—	
1637	8.15	—	13.43	1.535	7.00	2.76	10.1	52.5	—	
1640	8.17	—	13.42	1.526	7.00	2.80	9.34	51.5	—	
1645	Sample									
			13	1.53	7.0	2.8	9.3	52		

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

	13	1.53	7.0	2.8	9.3	52

TEMP: nearest degree (ex. 10.1 = 10)
COND: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.51 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (444.1 = 44, 193 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: ☑ PERISTALTIC ☐ SUBMERSIBLE ☐ BLADDER ☐ WATTERA ☐ OTHER ☐ OTHER

DECON FLUIDS USED: ☐ LIQUINOX ☐ DEIONIZED WATER ☐ POTABLE WATER ☐ NITRIC ACID ☐ HEXANE ☐ METHANOL ☐ OTHER Acetone

TUBING/PUMP/BLADDER MATERIALS: ☑ SILICON TUBING ☐ TEFLON TUBING ☑ TEFLON LINED TUBING ☐ HDPE TUBING ☐ LDPE TUBING ☐ OTHER ☐ OTHER

☐ S. STEEL PUMP MATERIAL ☐ PVC PUMP MATERIAL ☐ GEOPROBE SCREEN ☐ TEFLON BLADDER ☐ OTHER ☐ OTHER ☐ OTHER

EQUIPMENT USED: ☒ WL METER He3N ☐ PID ☒ WQ METER YSI ☐ TURB. METER Hach ☒ PUMP Geopump ☐ OTHER ☐ FILTERS NO. ____ TYPE ____

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
☒	VOC	8260	—	HCl	3x40mL	✓	—	—

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: ☑ YES ☐ NO — NUMBER OF GALLONS GENERATED: ~3

NO-PURGE METHOD UTILIZED: ☐ YES ☑ NO — If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

SKETCH/NOTES

Sampler Signature: [signature] Print Name: John Luttinger

Checked By: JPalermi Date: 6/7/17

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FIGURE 4
LOW FLOW GROUNDWATER SAMPLING REC
NYSDEC QUALITY ASSURANCE PROJECT

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	Dinaburg Distributing- NYSDEC, Rochester, NY
PROJECT NUMBER	3617137307
SAMPLE ID	828103-MW195 10
SAMPLE TIME	11:45
LOCATION ID	MW195
DATE	5/23/17
START TIME	10 50
END TIME	11 45
SITE NAME/NUMBER	828103
PAGE	1 OF 1

WELL DIAMETER (INCHES): ☐ 1 ☑ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER

TUBING ID (INCHES): ☐ 1/8 ☑ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER

MEASUREMENT POINT (MP): ☑ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

INITIAL DTW (BMP)	7.54 FT	FINAL DTW (BMP)	12.25 FT	PROT. CASING STICKUP (AGS)	0 FT	TOC/TOR DIFFERENCE	~0.24 FT CALCULATED
WELL DEPTH (BMP)	15 FT	SCREEN LENGTH	10 FT	PID AMBIENT AIR	– PPM	REFILL TIMER SETTING	– SEC
WATER COLUMN	7.41 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	0.77 GAL	PID WELL MOUTH	– PPM	DISCHARGE TIMER SETTING	– SEC
CALCULATED GAL/VOL. (column X well diameter squared X 0.041)	1.22 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.000026 gal/mL)	2.1 GAL	DRAWDOWN/ TOTAL PURGED	0.38	PRESSURE TO PUMP	– PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% > 10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
11 20	BEGIN PURGING									
11 05	8.7	300	15.13	1.224	7.21	3.49	47.3	-47.6	~14'	
11 10	9.58	140	14.59	1.202	7.04	.99	20.5	-50.2	–	
11 16	10.12	–	14.64	1.203	7.01	.99	18.7	-49.8	–	
11 26	11.22	–	14.65	1.200	7.00	.57	19.7	-51.7	–	
11 29	11.63	–	14.74	1.200	7.00	.58	17.9	-52.3	–	
11 34	11.93	–	14.96	1.200	7.01	.60	18.7	-54.3	–	
11 39	12.25	–	15.02	1.199	7.00	.56	17.6	-56.9	–	
11 45	Sample									
			15	1.20	7.0	.6	17.6	-57		

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

15	1.20	7.0	0.6	17.6	-57

TEMP. nearest degree (ex. 10.1 = 10)
COND. 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH nearest tenth (ex. 5.55 = 5.5)
DO. nearest tenth (ex. 3.51 = 3.5)
TURB. 3 SF max, nearest tenth (6.179 = 6.2, 101 = 101)
ORP. 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: ☑ PERISTALTIC ☐ SUBMERSIBLE ☐ BLADDER ☐ WATTERA ☐ OTHER ☐ OTHER

DECON FLUIDS USED: ☐ LIQUINOX ☑ DEIONIZED WATER ☐ POTABLE WATER ☐ NITRIC ACID ☐ HEXANE ☐ METHANOL ☑ OTHER alconox

TUBING/PUMP/BLADDER MATERIALS: ☑ SILICON TUBING ☐ TEFLON TUBING ☐ TEFLON LINED TUBING ☑ HDPE TUBING ☐ LDPE TUBING ☐ OTHER ☐ OTHER

☐ S. STEEL PUMP MATERIAL ☐ PVC PUMP MATERIAL ☐ GEOPROBE SCREEN ☐ TEFLON BLADDER ☐ OTHER: ☐ OTHER ☐ OTHER

EQUIPMENT USED: ☑ WL METER Heron ☐ PID ☑ WQ METER YSI ☑ TURB. METER Hatch ☑ PUMP Geopump ☐ OTHER ☐ FILTERS NO. ___ TYPE ___

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
☑	VOC's	8260	–	HCl	3x40mL	✓	–	

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	✓	
NO-PURGE METHOD UTILIZED		✓

NUMBER OF GALLONS GENERATED: ~2.5

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

Sampler Signature: John Luther Print Name: John Luther

Checked By: PBellezzi Date: 6/7/17

SKETCH/NOTES:

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FIGURE 4.17
LOW FLOW GROUNDWATER SAMPLING RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	Dinaburg Distributing- NYSDEC, Rochester, NY
PROJECT NUMBER	3617137307
SAMPLE ID	828103-MW20S1017
SAMPLE TIME	1155
LOCATION ID	MW-20S
DATE	5-25-17
START TIME	1030
END TIME	1215
SITE NAME/NUMBER	828103
PAGE	1 OF 1

WELL DIAMETER (INCHES): ☐ 1 ☒ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER

TUBING ID (INCHES): ☐ 1/8 ☒ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER

MEASUREMENT POINT (MP): ☒ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

INITIAL DTW (BMP)	7.51 FT	FINAL DTW (BMP)	11.20 FT	PROT. CASING STICKUP (AGS)	0 FT	TOC/TOR DIFFERENCE	0.2 FT
WELL DEPTH (BMP)	15 FT	SCREEN LENGTH	10 FT	PID AMBIENT AIR	/ PPM	REFILL TIMER SETTING	/ SEC
WATER COLUMN	7.49 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	0.605 GAL	PID WELL MOUTH	/ PPM	DISCHARGE TIMER SETTING	/ SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	1.23 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	2.106 GAL	DRAWDOWN/ TOTAL PURGED	0.3	PRESSURE TO PUMP	/ PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1055	BEGIN PURGING									
1105	8.57	200	12.51	1.335	7.10	2.66	36.3	230.0	13	
1110	8.80	180	12.52	1.328	7.14	2.64	44.5	228.1	13	
1115	8.95	180	12.51	1.328	7.17	2.71	35.7	227.4	13	
1120	9.21	180	12.50	1.334	7.17	2.67	20.8	226.1	13	
1125	9.50	180	12.48	1.334	7.18	3.00	20.4	224.3	13	
1130	9.59	180	12.47	1.336	7.18	2.97	18.0	~~226~~	13	Redox = 222.5
1135	9.65	180	12.47	1.331	7.18	2.88	12.4	221.3	13	
1140	10.00	180	12.46	1.329	7.17	2.72	9.78	221.1	13	
1145	10.13	180	12.52	1.329	7.16	2.51	7.24	220.2	13	
1150	11.20	180	12.51	1.334	7.15	2.49	6.30	220.7	13	
1155	Collect Sample									

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

~~12.51~~	~~1.334~~	~~7.15~~	~~2.49~~	~~6.30~~	~~220.7~~ (ORP)	
13	1.33	7.2	2.5	6.3	220	

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (-44.1 = -44, 199 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: ☒ PERISTALTIC ☐ SUBMERSIBLE ☐ BLADDER ☐ WATTERA ☐ OTHER ☐ OTHER

DECON FLUIDS USED: ☐ LIQUINOX ☐ DEIONIZED WATER ☐ POTABLE WATER ☐ NITRIC ACID ☐ HEXANE ☐ METHANOL ☒ OTHER Alconox

TUBING/PUMP/BLADDER MATERIALS: ☐ SILICON TUBING ☐ TEFLON TUBING ☐ TEFLON LINED TUBING ☒ HDPE TUBING ☐ LDPE TUBING ☐ OTHER ☐ OTHER

☐ S. STEEL PUMP MATERIAL ☐ PVC PUMP MATERIAL ☐ GEOPROBE SCREEN ☐ TEFLON BLADDER ☒ OTHER None ☐ OTHER ☐ OTHER

EQUIPMENT USED: ☑ WL METER ☐ PID ☑ WQ METER ☑ TURB. METER ☑ PUMP ☐ OTHER ☐ FILTERS NO. ___ TYPE ___

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
X	VOCs	8260	-	HCl	3x40mL	✓	-	
X	MNA's	6010C/14500 S2		None	2x250 mL	✓	-	
		8353.2/12320B	-	-	3x125 mL	✓	-	
		300.25D	-	-	1x60 mL	✓	-	
		RSK 175	3x	HCl 2x	None	5x40mL	-	
		5130C		HCl	3x40mL	✓	-	

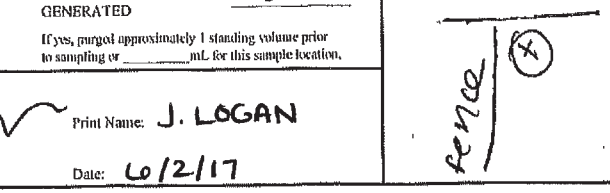
PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	☒	☐
NO-PURGE METHOD UTILIZED	☐	☒

NUMBER OF GALLONS GENERATED: ~2.1

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

SKETCH/NOTES



Sampler Signature: J Logan Print Name: J. LOGAN

Checked By: [signature] Date: 6/12/17

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FIGURE 4.17
LOW FLOW GROUNDWATER SAMPLING RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	Dinaburg Distributing- NYSDEC, Rochester, NY
PROJECT NUMBER	3617137307
SAMPLE ID	828103-MW21S1617
SAMPLE TIME	12:55
LOCATION ID	MW21S
DATE	5/23/17
START TIME	11:50
END TIME	12:55
SITE NAME/NUMBER	828103
PAGE	1 OF 1

WELL DIAMETER (INCHES): ☐ 1 ☑ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER

TUBING ID (INCHES): ☐ 1/8 ☑ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER

MEASUREMENT POINT (MP): ☑ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER

WELL INTEGRITY	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED		✓	
COLLAR	✓		

INITIAL DTW (BMP)	6.95 FT	FINAL DTW (BMP)	11.62 FT	PROT. CASING STICKUP (AGS)	0 FT	TOC/TOR DIFFERENCE	~0.43 FT
WELL DEPTH (BMP)	15 FT	SCREEN LENGTH	10 FT	PID AMBIENT AIR	– PPM	REFILL TIMER SETTING	– SEC (CALCULATED)
WATER COLUMN	8.05 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	0.77 GAL	PID WELL MOUTH	– PPM	DISCHARGE TIMER SETTING	– SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	1.32 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	2.2 GAL	DRAWDOWN/ TOTAL PURGED	0.35	PRESSURE TO PUMP	– PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% < 10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1:55	BEGIN PURGING									
12:00	7.30	140	15.98	1.629	7.07	3.65	15.5	26.3	~14'	
12:05	7.65	–	15.35	1.635	7.03	1.28	11.4	26.0	–	
12:10	8.20	–	15.38	1.634	7.01	.66	10.0	26.0	–	
12:15	8.65	–	15.05	1.643	7.00	.71	9.33	20.8	–	
12:23	9.37	–	14.89	1.638	7.00	.55	8.67	6.7	–	
12:36	10.38	–	15.39	1.591	7.00	.56	7.78	1.4	–	
12:43	10.95	–	15.41	1.635	7.01	.56	7.61	10.3	–	
12:44	11.24	–	15.44	1.651	7.02	.52	7.37	14.1	–	
12:51	11.62	–	15.47	1.680	7.04	.57	6.88	17.1	–	
12:53	Sample									

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

	15	~~1.7~~ 1.68 (ORP)	7.0	0.6	~~6.88~~ 7.0 (ORP)	17

TEMP: nearest degree (ex. 10.1 = 10)
COND: 3 SF max (ex. 1333 = 1330, 0.0986 = 0.0986)
pH: nearest tenth (ex. 5.45 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.14 = 6.2, 101 = 101)
ORP: 2 SF (-43.1 = -43, 156 = 160)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: ☑ PERISTALTIC ☐ SUBMERSIBLE ☐ BLADDER ☐ WATTERA ☐ OTHER ☐ OTHER

DECON FLUIDS USED: ☐ LIQUINOX ☐ DEIONIZED WATER ☐ POTABLE WATER ☐ NITRIC ACID ☐ HEXANE ☐ METHANOL ☐ OTHER Alconox

TUBING/PUMP/BLADDER MATERIALS: ☑ SILICON TUBING ☐ TEFLON TUBING ☐ TEFLON LINED TUBING ☑ HDPE TUBING ☐ LDPE TUBING ☐ OTHER ☐ OTHER

☐ S. STEEL PUMP MATERIAL ☐ PVC PUMP MATERIAL ☐ GEOPROBE SCREEN ☐ TEFLON BLADDER ☐ OTHER ☐ OTHER ☐ OTHER

EQUIPMENT USED: ☑ WL METER Heron ☐ PID ☑ WQ METER YSI ☑ TURB. METER Hach ☑ PUMP Grundfos ☐ OTHER ☐ FILTERS NO. ___ TYPE ___

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
☑ VOCs	8260	–	HCl	3x40mL	✓	–	

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: YES ☑ NO ☐ — NUMBER OF GALLONS GENERATED: ~3

NO-PURGE METHOD UTILIZED: YES ☐ NO ☑ — If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

SKETCH/NOTES

Sampler Signature: John Luttner Print Name: John Luttner

Checked By: J Pallozzi Date: 6/7/17

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FIGURE 4.17
LOW FLOW GROUNDWATER SAMPLING RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

ATTACHMENT 2

DATA USABILILTY SUMMARY REPORT

DATA USABILITY SUMMARY REPORT
MAY 2017 GROUNDWATER SAMPLING EVENT
DINABURG DISTRIBUTING, INC., SITE
ROCHESTER, NEW YORK

1.0 INTRODUCTION

Groundwater samples were collected at the Dinaburg Distributing, Inc., Site in Rochester, New York, in May 2017 and submitted for off-site laboratory analysis. Samples were analyzed by TestAmerica, Inc., located in Amherst, New York; Edison, New Jersey; Burlington, Vermont; and Sacramento, California. Samples were analyzed by one or more of the following methods:

- Volatile organic compounds (VOCs) by USEPA Method 8260C
- 1,4-Dioxane by USEPA Method 8260C-Selected Ion Monitoring (SIM)
- Per- and Polyfluorinated Alkyl Substances (PFAS) by Modified EPA Method 537
- Iron and Manganese by EPA Method 6010C
- Dissolved Gases by Method RSK-175
- Nitrate/Nitrite by EPA Method 353.2
- Chloride/Sulfate by EPA Method 300.0
- Sulfide by Method SM4500-S2-F
- Alkalinity by Method SM2320B
- Total Organic Carbon by Method SM5310C

Results were reported in the following sample delivery groups (SDGs):

- 480-118413-1
- 480-118498-1
- 480-118500-1
- 480-118655-1

Data quality objectives are identified in the Field Activities Plan: May 2017 Groundwater Sampling – Dinaburg Distributing, Inc. (FAP) dated April 21, 2017 (MACTEC, 2017). A Data Usability Summary Report (DUSR) review was completed for VOCs, 1,4-dioxane, and PFAS compounds based on the New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation guidance (NYSDEC, 2010). A chemist review was performed for monitored natural attenuation (MNA) parameters. Sample event information included in this DUSR/chemist review is presented in the following tables:

- Table 1 – Summary of Samples and Analytical Methods
- Table 2 – Summary of Analytical Results
- Table 3 – Summary of Qualification Actions

Laboratory deliverables included:

- Category B deliverable as defined in the NYSDEC Analytical Services Protocols (NYSDEC, 2005).

The DUSR review included the following evaluations.

- Lab Report Narrative Review
- Data Package Completeness and COC records (Table 1 verification)
- Sample Preservation and Holding Times
- Instrument Calibration (report narrative/lab-qualifier evaluation)
- QC Blanks
- Laboratory Control Samples (LCS)
- Matrix Spike/Matrix Spike Duplicates (MS/MSD)
- Surrogate Spikes
- Field Duplicates
- Target Analyte Identification and Quantitation
- Raw Data (chromatograms), Calculation Checks and Transcription Verifications
- Reporting Limits
- Electronic Data Qualification and Verification

The chemist review included the following evaluations.

- Lab Report Narrative Review
- Data Package Completeness and COC records (Table 1 verification)
- Sample Preservation and Holding Times
- Instrument Calibration (report narrative/lab-qualifier evaluation)
- QC Blanks
- Laboratory Control Samples (LCS)
- Matrix Spike/Matrix Spike Duplicates (MS/MSD)
- Surrogate Spikes
- Field Duplicates
- Reporting Limits
- Electronic Data Qualification and Verification

A table of project control limits is presented in Attachment A. DUSR and chemist review checklists and applicable laboratory QC summary forms are included in Attachment B to document checks and QC outliers associated with qualification actions.

Data qualification actions are applied when necessary based on general procedures in USEPA validation guidelines (USEPA, 2014) and the judgment of the project chemist. The following laboratory or data review qualifiers are used in the final data presentation:

J = concentration is estimated
U = target analyte is not detected above the reported detection limit
UJ = the target compound was not detected and the reporting limit is considered to be estimated

Results are interpreted to be usable as reported by the laboratory or as qualified in the following sections.

2.0 POTENTIAL DATA LIMITATIONS

Based on the DUSR review the majority of data meet the data quality objectives; however, the following potential limitations were identified:

VOCs

Dichlorodifluoromethane reporting limits in a subset of samples were qualified estimated (UJ) based on LCS recoveries that were less than the control limits.

Reporting limits for the following analytes in a subset of samples were qualified estimated (UJ) based on MS/MSD recoveries that were less than the control limits:

- Dichlorodifluoromethane
- Trichlorofluoromethane
- 1,1,2-Trichloro-1,2,2-trifluoroethane
- Cyclohexane
- Methyl cyclohexane

The positive detection for tetrachloroethene in sample 828103-MW15K2317 was qualified estimated (J) due to MS/MSD recoveries that were less than the control limits.

A subset of samples required dilutions due to concentrations of target compounds that were above the linear range of calibration. The dilutions resulted in elevated reporting limits as listed on Table 2.

The positive detection of 1,4-dioxane in sample 828103-MW03CA2817 analyzed by Method 8260C-SIM was qualified estimated (J) based on a high surrogate recovery.

PFAS

Low concentration detections of PFAS target analyte perfluorotetradecanoic acid (PFTeA) in all samples were qualified non-detect (U) based on contamination in the associated laboratory method blank and field reagent blank.

Positive and non-detect results for perfluorobutanesulfonic acid and perfluorobutanoic acid were qualified estimated (J/UJ) in samples 828103-MW03CA2817 and 828103-MW03A2217 based on low recoveries of the associated internal standards.

3.0 ADDITIONAL QC EXCEEDANCES AND OBSERVATIONS

PFAS samples 828103-MW03CA2817 and 828103-MW03A2217 were decanted prior to sample preparation due to the presence of sediment in the sample containers.

There were no additional observations or quality control exceedances not specifically addressed above (Section 2.0) or included in Table 3. Unless presented in Table 3, sample results are interpreted to be usable as reported by the laboratory.

Reference:

MACTEC Engineering and Consulting (MACTEC), 2017. "Field Activities Plan: May 2017 Groundwater Sampling – Dinaburg Distributing, Inc."; April 21, 2017.

New York State Department of Environmental Conservation (NYSDEC), 2005. "Analytical Services Protocols"; July 2005.

New York State Department of Environmental Conservation (NYSDEC), 2010. "Technical Guidance for Site Investigation and Remediation-Appendix 2B"; DER-10; Division of Environmental Remediation; May 2010.

U.S. Environmental Protection Agency (USEPA), 2014. "Validating Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry SW-846 Methods 8260B and 8260C"; USEPA Region II; HW-24; Revision 4; September 2014.

Data Validator: Julie Ricardi July 28, 2017

Julie Ricardi

Reviewed by: Chris Ricardi, QA Officer NRCC-EAC August 4, 2017

Chris Ricardi

TABLE 1 - SUMMARY OF SAMPLES AND ANALYTICAL METHODS
DATA USABILITY SUMMARY REPORT
MAY 2017 GROUNDWATER SAMPLING EVENT
DINABURG DISTRIBUTING, INC., SITE
ROCHESTER, NEW YORK

					Method Class	VOCs	1,4-Dioxane	PFAS
					Analysis Method	SW8260C	SW8260C-SIM	Modified 537
					Fraction	N	N	N
SDG	Location	Sample ID	Sample Date	Media	Qc Code	Param_Count	Param_Count	Param_Count
480-118413-1	MW-04	828103-MW041717	5/23/2017	GW	FS	51		
480-118413-1	MW-11S	828103-MW11S0917	5/23/2017	GW	FS	51		
480-118413-1	MW-12K	828103-MW12K1717	5/23/2017	GW	FS	51		
480-118413-1	MW-12S	828103-MW12S1117	5/23/2017	GW	FS	51		
480-118413-1	MW-14K	828103-MW14KA2217	5/23/2017	GW	FS	51		
480-118413-1	MW-15K	828103-MW15K2317	5/22/2017	GW	FS	51		
480-118413-1	MW-15S	828103-MW15S1017	5/22/2017	GW	FS	51		
480-118413-1	MW-16K	828103-MW16K2317	5/23/2017	GW	FS	51		
480-118413-1	MW-16S	828103-MW16S1017	5/22/2017	GW	FS	51		
480-118413-1	MW-17S	828103-MW17S1017	5/23/2017	GW	FS	51		
480-118413-1	MW-18S	828103-MW18S1017	5/22/2017	GW	FS	51		
480-118413-1	MW-19S	828103-MW19S1017	5/23/2017	GW	FS	51		
480-118413-1	MW-21S	828103-MW21S1017	5/23/2017	GW	FS	51		
480-118498-1	MW-05	828103-MW051717	5/24/2017	GW	FS			16
480-118498-1	MW-08K	828103-MW08K1417	5/24/2017	GW	FS			16
480-118500-1	MW-05	828103-MW051717	5/24/2017	GW	FS	51	1	
480-118500-1	MW-06	828103-MW061317	5/24/2017	GW	FS	51		
480-118500-1	MW-08K	828103-MW08K1417	5/24/2017	GW	FS	51	1	
480-118500-1	MW-08S	828103-MW08S1117	5/24/2017	GW	FS	51		
480-118500-1	MW-09K	828103-MW09K1817	5/24/2017	GW	FS	51		
480-118500-1	MW-09K	828103-MW09K1817D	5/24/2017	GW	FD	51		
480-118500-1	MW-09S	828103-MW09S1177	5/24/2017	GW	FS	51		
480-118500-1	MW-10K	828103-MW10K1717	5/24/2017	GW	FS	51		
480-118655-1	MW-03A	828103-MW03A2217	5/25/2017	GW	FS	51	1	16
480-118655-1	MW-03CA	828103-MW03CA2817	5/25/2017	GW	FS	51	1	16
480-118655-1	MW-10S	828103-MW10S1117	5/25/2017	GW	FS	51		
480-118655-1	MW-13K	828103-MW13K1917	5/25/2017	GW	FS	51	1	
480-118655-1	MW-13K	828103-MW13K1917D	5/25/2017	GW	FD	51		

Prepared by: BJS 7/28/17
Checked by: JAR 7/28/17

TABLE 1 - SUMMARY OF SAMPLES AND ANALYTICAL METHODS
DATA USABILITY SUMMARY REPORT
MAY 2017 GROUNDWATER SAMPLING EVENT
DINABURG DISTRIBUTING, INC., SITE
ROCHESTER, NEW YORK

					Method Class	VOCs	1,4-Dioxane	PFAS
					Analysis Method	SW8260C	SW8260C-SIM	Modified 537
					Fraction	N	N	N
SDG	**Location**	**Sample ID**	**Sample Date**	**Media**	**Qc Code**	Param_Count	Param_Count	Param_Count
480-118655-1	MW-20S	828103-MW20S1017	5/25/2017	GW	FS	51		
480-118655-1	QC	FIELD REAGENT BLANK	5/25/2017	BW	FB			16
480-118655-1	QC	TRIP BLANK	5/25/2017	BW	TB	51		

GW = groundwater, BW = blank water
FS = field sample, FD = field duplicate, TB = trip blank
FB = field reagent blank
Param_Count = number of target analytes reported

Prepared by: BJS 7/28/17
Checked by: JAR 7/28/17

TABLE 1 - SUMMARY OF SAMPLES AND ANALYTICAL METHODS
DATA USABILITY SUMMARY REPORT
MAY 2017 GROUNDWATER SAMPLING EVENT
DINABURG DISTRIBUTING, INC., SITE
ROCHESTER, NEW YORK

					Method Class	Metals	Diss Gasses	TOC	Alk
					Analysis Method	SW6010C	RSK175	SM5310C	SM2320B
					Fraction	T	N	T	N
SDG	**Location**	**Sample ID**	**Sample Date**	**Media**	**Qc Code**	Param_Count	Param_Count	Param_Count	Param_Count
480-118413-1	MW-14K	828103-MW14KA2217	5/23/2017	GW	FS	2	4	1	1
480-118500-1	MW-05	828103-MW051717	5/24/2017	GW	FS	2	4	1	1
480-118500-1	MW-08K	828103-MW08K1417	5/24/2017	GW	FS	2	4	1	1
480-118655-1	MW-03A	828103-MW03A2217	5/25/2017	GW	FS	2	4	1	1
480-118655-1	MW-03CA	828103-MW03CA2817	5/25/2017	GW	FS	2	4	1	1
480-118655-1	MW-13K	828103-MW13K1917	5/25/2017	GW	FS	2	4	1	1
480-118655-1	MW-20S	828103-MW20S1017	5/25/2017	GW	FS	2	4	1	1

GW = groundwater
FS = field sample
Param_Count = number of target analytes reported

TABLE 1 - SUMMARY OF SAMPLES AND ANALYTICAL METHODS
DATA USABILITY SUMMARY REPORT
MAY 2017 GROUNDWATER SAMPLING EVENT
DINABURG DISTRIBUTING, INC., SITE
ROCHESTER, NEW YORK

					Method Class	Sulfide	Cl/SO4	NO3/NO2
					Analysis Method	A4500F	E300.0	E353.2
					Fraction	N	N	N
SDG	**Location**	**Sample ID**	**Sample Date**	**Media**	**Qc Code**	Param_Count	Param_Count	Param_Count
480-118413-1	MW-14K	828103-MW14KA2217	5/23/2017	GW	FS	1	2	3
480-118500-1	MW-05	828103-MW051717	5/24/2017	GW	FS	1	2	3
480-118500-1	MW-08K	828103-MW08K1417	5/24/2017	GW	FS	1	2	3
480-118655-1	MW-03A	828103-MW03A2217	5/25/2017	GW	FS	1	2	3
480-118655-1	MW-03CA	828103-MW03CA2817	5/25/2017	GW	FS	1	2	3
480-118655-1	MW-13K	828103-MW13K1917	5/25/2017	GW	FS	1	2	3
480-118655-1	MW-20S	828103-MW20S1017	5/25/2017	GW	FS	1	2	3

GW = groundwater
FS = field sample
Param_Count = number of target analytes reported

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
MAY 2017 GROUNDWATER SAMPLING EVENT
DINABURG DISTRIBUTING, INC., SITE
ROCHESTER, NEW YORK

		SDG	480-118413-1		480-118413-1		480-118413-1		480-118413-1		480-118413-1	
		Location	MW-04		MW-11S		MW-12K		MW-12S		MW-14K	
		Sample Date	5/23/2017		5/23/2017		5/23/2017		5/23/2017		5/23/2017	
		Sample ID	828103-MW041717		828103-MW11S0917		828103-MW12K1717		828103-MW12S1117		828103-MW14KA2217	
		Qc Code	FS		FS		FS		FS		FS	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs	1,1,1-Trichloroethane	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	1,1,2,2-Tetrachloroethane	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	1,1,2-Trichloroethane	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	1,1-Dichloroethane	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	1,1-Dichloroethene	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	1,2,3-Trichlorobenzene	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	1,2,4-Trichlorobenzene	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	1,2-Dibromo-3-chloropropane	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	1,2-Dibromoethane	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	1,2-Dichlorobenzene	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	1,2-Dichloroethane	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	1,2-Dichloropropane	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	1,3-Dichlorobenzene	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	1,4-Dichlorobenzene	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	1,4-Dioxane	ug/l	40	U	40	U	40	U	40	U	16000	U
VOCs	2-Butanone	ug/l	10	U	10	U	10	U	10	U	4000	U
VOCs	2-Hexanone	ug/l	5	U	5	U	5	U	5	U	2000	U
VOCs	4-Methyl-2-pentanone	ug/l	5	U	5	U	5	U	5	U	2000	U
VOCs	Acetic acid, methyl ester	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	1000	U
VOCs	Acetone	ug/l	10	U	10	U	10	U	10	U	4000	U
VOCs	Benzene	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	Bromochloromethane	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	Bromodichloromethane	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	Bromoform	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	Bromomethane	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	Carbon disulfide	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	Carbon tetrachloride	ug/l	1	U	1	U	1	U	1	U	400	U

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
MAY 2017 GROUNDWATER SAMPLING EVENT
DINABURG DISTRIBUTING, INC., SITE
ROCHESTER, NEW YORK

		SDG	480-118413-1		480-118413-1		480-118413-1		480-118413-1		480-118413-1	
		Location	MW-04		MW-11S		MW-12K		MW-12S		MW-14K	
		Sample Date	5/23/2017		5/23/2017		5/23/2017		5/23/2017		5/23/2017	
		Sample ID	828103-MW041717		828103-MW11S0917		828103-MW12K1717		828103-MW12S1117		828103-MW14KA2217	
		Qc Code	FS		FS		FS		FS		FS	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs	Chlorobenzene	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	Chloroethane	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	Chloroform	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	Chloromethane	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	Cis-1,2-Dichloroethene	ug/l	1	U	1	U	1	U	1	U	8600	
VOCs	Cis-1,3-Dichloropropene	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	Cyclohexane	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	Dibromochloromethane	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	Dichlorodifluoromethane	ug/l	1	UJ	1	UJ	1	UJ	1	UJ	400	UJ
VOCs	Ethylbenzene	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	Isopropylbenzene	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	Methyl cyclohexane	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	Methyl Tertbutyl Ether	ug/l	0.35	J	1	U	1	U	1	U	400	U
VOCs	Methylene chloride	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	Styrene	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	Tetrachloroethene	ug/l	1	U	1	U	1	U	1	U	2500	
VOCs	Toluene	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	trans-1,2-Dichloroethene	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	trans-1,3-Dichloropropene	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	Trichloroethene	ug/l	1	U	1	U	5.5		1	U	8900	
VOCs	Trichlorofluoromethane	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	Vinyl chloride	ug/l	1	U	1	U	1	U	1	U	400	U
VOCs	Xylenes, Total	ug/l	2	U	2	U	2	U	2	U	800	U

ug/l = microgram per liter
U = not detected
J = estimated value

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
MAY 2017 GROUNDWATER SAMPLING EVENT
DINABURG DISTRIBUTING, INC., SITE
ROCHESTER, NEW YORK

		SDG	480-118413-1		480-118413-1		480-118413-1		480-118413-1		480-118413-1	
		Location	MW-15K		MW-15S		MW-16K		MW-16S		MW-17S	
		Sample Date	5/22/2017		5/22/2017		5/23/2017		5/22/2017		5/23/2017	
		Sample ID	828103-MW15K2317		828103-MW15S1017		828103-MW16K2317		828103-MW16S1017		828103-MW17S1017	
		Qc Code	FS		FS		FS		FS		FS	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs	1,1,1-Trichloroethane	ug/l	20	U	10	U	20	U	1	U	4	U
VOCs	1,1,2,2-Tetrachloroethane	ug/l	20	U	10	U	20	U	1	U	4	U
VOCs	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/l	20	U	10	U	20	U	1	U	4	U
VOCs	1,1,2-Trichloroethane	ug/l	20	U	10	U	20	U	1	U	4	U
VOCs	1,1-Dichloroethane	ug/l	13	J	10	U	20	U	1	U	4	U
VOCs	1,1-Dichloroethene	ug/l	13	J	10	U	20	U	1	U	4	U
VOCs	1,2,3-Trichlorobenzene	ug/l	20	U	10	U	20	U	1	U	4	U
VOCs	1,2,4-Trichlorobenzene	ug/l	20	U	10	U	20	U	1	U	4	U
VOCs	1,2-Dibromo-3-chloropropane	ug/l	20	U	10	U	20	U	1	U	4	U
VOCs	1,2-Dibromoethane	ug/l	20	U	10	U	20	U	1	U	4	U
VOCs	1,2-Dichlorobenzene	ug/l	20	U	10	U	20	U	1	U	4	U
VOCs	1,2-Dichloroethane	ug/l	20	U	10	U	20	U	1	U	4	U
VOCs	1,2-Dichloropropane	ug/l	20	U	10	U	20	U	1	U	4	U
VOCs	1,3-Dichlorobenzene	ug/l	20	U	10	U	20	U	1	U	4	U
VOCs	1,4-Dichlorobenzene	ug/l	20	U	10	U	20	U	1	U	4	U
VOCs	1,4-Dioxane	ug/l	800	U	400	U	800	U	40	U	160	U
VOCs	2-Butanone	ug/l	200	U	100	U	200	U	10	U	40	U
VOCs	2-Hexanone	ug/l	100	U	50	U	100	U	5	U	20	U
VOCs	4-Methyl-2-pentanone	ug/l	100	U	50	U	100	U	5	U	20	U
VOCs	Acetic acid, methyl ester	ug/l	50	U	25	U	50	U	2.5	U	10	U
VOCs	Acetone	ug/l	200	U	100	U	200	U	10	U	40	U
VOCs	Benzene	ug/l	20	U	10	U	20	U	1	U	4	U
VOCs	Bromochloromethane	ug/l	20	U	10	U	20	U	1	U	4	U
VOCs	Bromodichloromethane	ug/l	20	U	10	U	20	U	1	U	4	U
VOCs	Bromoform	ug/l	20	U	10	U	20	U	1	U	4	U
VOCs	Bromomethane	ug/l	20	U	10	U	20	U	1	U	4	U
VOCs	Carbon disulfide	ug/l	20	U	10	U	20	U	0.44	J	4	U
VOCs	Carbon tetrachloride	ug/l	20	U	10	U	20	U	1	U	4	U

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
MAY 2017 GROUNDWATER SAMPLING EVENT
DINABURG DISTRIBUTING, INC., SITE
ROCHESTER, NEW YORK

		SDG	480-118413-1		480-118413-1		480-118413-1		480-118413-1		480-118413-1	
		Location	MW-15K		MW-15S		MW-16K		MW-16S		MW-17S	
		Sample Date	5/22/2017		5/22/2017		5/23/2017		5/22/2017		5/23/2017	
		Sample ID	828103-MW15K2317		828103-MW15S1017		828103-MW16K2317		828103-MW16S1017		828103-MW17S1017	
		Qc Code	FS		FS		FS		FS		FS	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs	Chlorobenzene	ug/l	20	U	10	U	20	U	1	U	4	U
VOCs	Chloroethane	ug/l	20	U	10	U	20	U	1	U	4	U
VOCs	Chloroform	ug/l	20	U	10	U	20	U	1	U	4	U
VOCs	Chloromethane	ug/l	20	U	10	U	20	U	1	U	4	U
VOCs	Cis-1,2-Dichloroethene	ug/l	390		13		890		1.6		4	U
VOCs	Cis-1,3-Dichloropropene	ug/l	20	U	10	U	20	U	1	U	4	U
VOCs	Cyclohexane	ug/l	20	U	10	U	20	U	1	U	4	U
VOCs	Dibromochloromethane	ug/l	20	U	10	U	20	U	1	U	4	U
VOCs	Dichlorodifluoromethane	ug/l	20	UJ	10	UJ	20	U	1	UJ	4	UJ
VOCs	Ethylbenzene	ug/l	20	U	10	U	20	U	1	U	4	U
VOCs	Isopropylbenzene	ug/l	20	U	10	U	20	U	1	U	4	U
VOCs	Methyl cyclohexane	ug/l	20	U	10	U	20	U	1	U	4	U
VOCs	Methyl Tertbutyl Ether	ug/l	20	U	10	U	20	U	1	U	4	U
VOCs	Methylene chloride	ug/l	20	U	10	U	14	J	1	U	4	U
VOCs	Styrene	ug/l	20	U	10	U	20	U	1	U	4	U
VOCs	Tetrachloroethene	ug/l	900	J	240		120		6.7		130	
VOCs	Toluene	ug/l	20	U	10	U	20	U	1	U	4	U
VOCs	trans-1,2-Dichloroethene	ug/l	20	U	10	U	20	U	1	U	4	U
VOCs	trans-1,3-Dichloropropene	ug/l	20	U	10	U	20	U	1	U	4	U
VOCs	Trichloroethene	ug/l	280		100		380		33		110	
VOCs	Trichlorofluoromethane	ug/l	20	UJ	10	U	20	U	1	U	4	U
VOCs	Vinyl chloride	ug/l	85		10	U	58		1	U	4	U
VOCs	Xylenes, Total	ug/l	40	U	20	U	40	U	2	U	8	U

ug/l = microgram per liter
U = not detected
J = estimated value

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
MAY 2017 GROUNDWATER SAMPLING EVENT
DINABURG DISTRIBUTING, INC., SITE
ROCHESTER, NEW YORK

		SDG	480-118413-1		480-118413-1		480-118413-1	
		Location	MW-18S		MW-19S		MW-21S	
		Sample Date	5/22/2017		5/23/2017		5/23/2017	
		Sample ID	828103-MW18S1017		828103-MW19S1017		828103-MW21S1017	
		Qc Code	FS		FS		FS	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs	1,1,1-Trichloroethane	ug/l	10	U	50	U	20	U
VOCs	1,1,2,2-Tetrachloroethane	ug/l	10	U	50	U	20	U
VOCs	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/l	10	U	50	U	20	U
VOCs	1,1,2-Trichloroethane	ug/l	10	U	50	U	20	U
VOCs	1,1-Dichloroethane	ug/l	10	U	50	U	20	U
VOCs	1,1-Dichloroethene	ug/l	10	U	50	U	20	U
VOCs	1,2,3-Trichlorobenzene	ug/l	10	U	50	U	20	U
VOCs	1,2,4-Trichlorobenzene	ug/l	10	U	50	U	20	U
VOCs	1,2-Dibromo-3-chloropropane	ug/l	10	U	50	U	20	U
VOCs	1,2-Dibromoethane	ug/l	10	U	50	U	20	U
VOCs	1,2-Dichlorobenzene	ug/l	10	U	50	U	20	U
VOCs	1,2-Dichloroethane	ug/l	10	U	50	U	20	U
VOCs	1,2-Dichloropropane	ug/l	10	U	50	U	20	U
VOCs	1,3-Dichlorobenzene	ug/l	10	U	50	U	20	U
VOCs	1,4-Dichlorobenzene	ug/l	10	U	50	U	20	U
VOCs	1,4-Dioxane	ug/l	400	U	2000	U	800	U
VOCs	2-Butanone	ug/l	100	U	500	U	200	U
VOCs	2-Hexanone	ug/l	50	U	250	U	100	U
VOCs	4-Methyl-2-pentanone	ug/l	50	U	250	U	100	U
VOCs	Acetic acid, methyl ester	ug/l	25	U	130	U	50	U
VOCs	Acetone	ug/l	100	U	500	U	200	U
VOCs	Benzene	ug/l	10	U	50	U	20	U
VOCs	Bromochloromethane	ug/l	10	U	50	U	20	U
VOCs	Bromodichloromethane	ug/l	10	U	50	U	20	U
VOCs	Bromoform	ug/l	10	U	50	U	20	U
VOCs	Bromomethane	ug/l	10	U	50	U	20	U
VOCs	Carbon disulfide	ug/l	10	U	50	U	20	U
VOCs	Carbon tetrachloride	ug/l	10	U	50	U	20	U

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
MAY 2017 GROUNDWATER SAMPLING EVENT
DINABURG DISTRIBUTING, INC., SITE
ROCHESTER, NEW YORK

		SDG	480-118413-1		480-118413-1		480-118413-1	
		Location	MW-18S		MW-19S		MW-21S	
		Sample Date	5/22/2017		5/23/2017		5/23/2017	
		Sample ID	828103-MW18S1017		828103-MW19S1017		828103-MW21S1017	
		Qc Code	FS		FS		FS	
Class	**Parameter**	**Units**	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs	Chlorobenzene	ug/l	10	U	50	U	20	U
VOCs	Chloroethane	ug/l	10	U	50	U	20	U
VOCs	Chloroform	ug/l	10	U	50	U	20	U
VOCs	Chloromethane	ug/l	10	U	50	U	20	U
VOCs	Cis-1,2-Dichloroethene	ug/l	200		2000		160	
VOCs	Cis-1,3-Dichloropropene	ug/l	10	U	50	U	20	U
VOCs	Cyclohexane	ug/l	10	U	50	U	20	U
VOCs	Dibromochloromethane	ug/l	10	U	50	U	20	U
VOCs	Dichlorodifluoromethane	ug/l	10	UJ	50	U	20	UJ
VOCs	Ethylbenzene	ug/l	10	U	50	U	20	U
VOCs	Isopropylbenzene	ug/l	10	U	50	U	20	U
VOCs	Methyl cyclohexane	ug/l	10	U	50	U	20	U
VOCs	Methyl Tertbutyl Ether	ug/l	10	U	50	U	20	U
VOCs	Methylene chloride	ug/l	10	U	50	U	20	U
VOCs	Styrene	ug/l	10	U	50	U	20	U
VOCs	Tetrachloroethene	ug/l	280		50	U	20	U
VOCs	Toluene	ug/l	10	U	50	U	20	U
VOCs	trans-1,2-Dichloroethene	ug/l	10	U	50	U	20	U
VOCs	trans-1,3-Dichloropropene	ug/l	10	U	50	U	20	U
VOCs	Trichloroethene	ug/l	51		50	U	20	U
VOCs	Trichlorofluoromethane	ug/l	10	U	50	U	20	U
VOCs	Vinyl chloride	ug/l	10	U	510		20	U
VOCs	Xylenes, Total	ug/l	20	U	100	U	40	U

ug/l = microgram per liter
U = not detected
J = estimated value

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
MAY 2017 GROUNDWATER SAMPLING EVENT
DINABURG DISTRIBUTING, INC., SITE
ROCHESTER, NEW YORK

		SDG	480-118500-1		480-118500-1		480-118500-1		480-118500-1		480-118500-1	
		Location	MW-05		MW-06		MW-08K		MW-08S		MW-09K	
		Sample Date	5/24/2017		5/24/2017		5/24/2017		5/24/2017		5/24/2017	
		Sample ID	828103-MW051717		828103-MW061317		828103-MW08K1417		828103-MW08S1117		828103-MW09K1817	
		Qc Code	FS		FS		FS		FS		FS	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs	1,1,1-Trichloroethane	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	1,1,2,2-Tetrachloroethane	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	1,1,2-Trichloroethane	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	1,1-Dichloroethane	ug/l	1	U	1	U	1	U	1	U	0.81	J
VOCs	1,1-Dichloroethene	ug/l	1	U	1	U	1	U	1	U	0.33	J
VOCs	1,2,3-Trichlorobenzene	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	1,2,4-Trichlorobenzene	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	1,2-Dibromo-3-chloropropane	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	1,2-Dibromoethane	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	1,2-Dichlorobenzene	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	1,2-Dichloroethane	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	1,2-Dichloropropane	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	1,3-Dichlorobenzene	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	1,4-Dichlorobenzene	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	1,4-Dioxane	ug/l	40	U	40	U	40	U	40	U	40	U
VOCs	2-Butanone	ug/l	10	U	10	U	10	U	10	U	10	U
VOCs	2-Hexanone	ug/l	5	U	5	U	5	U	5	U	5	U
VOCs	4-Methyl-2-pentanone	ug/l	5	U	5	U	5	U	5	U	5	U
VOCs	Acetic acid, methyl ester	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
VOCs	Acetone	ug/l	10	U	10	U	10	U	10	U	10	U
VOCs	Benzene	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	Bromochloromethane	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	Bromodichloromethane	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	Bromoform	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	Bromomethane	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	Carbon disulfide	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	Carbon tetrachloride	ug/l	1	U	1	U	1	U	1	U	1	U

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
MAY 2017 GROUNDWATER SAMPLING EVENT
DINABURG DISTRIBUTING, INC., SITE
ROCHESTER, NEW YORK

		SDG	480-118500-1		480-118500-1		480-118500-1		480-118500-1		480-118500-1	
		Location	MW-05		MW-06		MW-08K		MW-08S		MW-09K	
		Sample Date	5/24/2017		5/24/2017		5/24/2017		5/24/2017		5/24/2017	
		Sample ID	828103-MW051717		828103-MW061317		828103-MW08K1417		828103-MW08S1117		828103-MW09K1817	
		Qc Code	FS		FS		FS		FS		FS	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs	Chlorobenzene	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	Chloroethane	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	Chloroform	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	Chloromethane	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	Cis-1,2-Dichloroethene	ug/l	1	U	2.5		1	U	1	U	80	
VOCs	Cis-1,3-Dichloropropene	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	Cyclohexane	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	Dibromochloromethane	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	Dichlorodifluoromethane	ug/l	1	UJ	1	UJ	1	UJ	1	UJ	1	UJ
VOCs	Ethylbenzene	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	Isopropylbenzene	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	Methyl cyclohexane	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	Methyl Tertbutyl Ether	ug/l	1	U	1	U	1	U	1	U	0.23	J
VOCs	Methylene chloride	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	Styrene	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	Tetrachloroethene	ug/l	0.4	J	1.3		1	U	1	U	26	
VOCs	Toluene	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	trans-1,2-Dichloroethene	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	trans-1,3-Dichloropropene	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	Trichloroethene	ug/l	1	U	1.3		1	U	1	U	22	
VOCs	Trichlorofluoromethane	ug/l	1	U	1	U	1	U	1	U	1	U
VOCs	Vinyl chloride	ug/l	1	U	1	U	1	U	1	U	12	
VOCs	Xylenes, Total	ug/l	2	U	2	U	2	U	2	U	2	U
1,4-Dio	1,4-Dioxane	ug/l	0.4	U			0.4	U				

ug/l = microgram per liter
U = not detected
J = estimated value

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
MAY 2017 GROUNDWATER SAMPLING EVENT
DINABURG DISTRIBUTING, INC., SITE
ROCHESTER, NEW YORK

		SDG	480-118500-1		480-118500-1		480-118500-1	
		Location	MW-09K		MW-09S		MW-10K	
		Sample Date	5/24/2017		5/24/2017		5/24/2017	
		Sample ID	828103-MW09K1817D		828103-MW09S1177		828103-MW10K1717	
		Qc Code	FD		FS		FS	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs	1,1,1-Trichloroethane	ug/l	2	U	1	U	20	U
VOCs	1,1,2,2-Tetrachloroethane	ug/l	2	U	1	U	20	U
VOCs	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/l	2	U	1	U	20	U
VOCs	1,1,2-Trichloroethane	ug/l	2	U	1	U	20	U
VOCs	1,1-Dichloroethane	ug/l	1	J	1	U	20	U
VOCs	1,1-Dichloroethene	ug/l	2	U	1	U	20	U
VOCs	1,2,3-Trichlorobenzene	ug/l	2	U	1	U	20	U
VOCs	1,2,4-Trichlorobenzene	ug/l	2	U	1	U	20	U
VOCs	1,2-Dibromo-3-chloropropane	ug/l	2	U	1	U	20	U
VOCs	1,2-Dibromoethane	ug/l	2	U	1	U	20	U
VOCs	1,2-Dichlorobenzene	ug/l	2	U	1	U	20	U
VOCs	1,2-Dichloroethane	ug/l	2	U	1	U	20	U
VOCs	1,2-Dichloropropane	ug/l	2	U	1	U	20	U
VOCs	1,3-Dichlorobenzene	ug/l	2	U	1	U	20	U
VOCs	1,4-Dichlorobenzene	ug/l	2	U	1	U	20	U
VOCs	1,4-Dioxane	ug/l	80	U	40	U	800	U
VOCs	2-Butanone	ug/l	20	U	10	U	200	U
VOCs	2-Hexanone	ug/l	10	U	5	U	100	U
VOCs	4-Methyl-2-pentanone	ug/l	10	U	5	U	100	U
VOCs	Acetic acid, methyl ester	ug/l	5	U	2.5	U	50	U
VOCs	Acetone	ug/l	20	U	10	U	200	U
VOCs	Benzene	ug/l	2	U	1	U	20	U
VOCs	Bromochloromethane	ug/l	2	U	1	U	20	U
VOCs	Bromodichloromethane	ug/l	2	U	1	U	20	U
VOCs	Bromoform	ug/l	2	U	1	U	20	U
VOCs	Bromomethane	ug/l	2	U	1	U	20	U
VOCs	Carbon disulfide	ug/l	2	U	1	U	20	U
VOCs	Carbon tetrachloride	ug/l	2	U	1	U	20	U

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
MAY 2017 GROUNDWATER SAMPLING EVENT
DINABURG DISTRIBUTING, INC., SITE
ROCHESTER, NEW YORK

		SDG	480-118500-1		480-118500-1		480-118500-1	
		Location	MW-09K		MW-09S		MW-10K	
		Sample Date	5/24/2017		5/24/2017		5/24/2017	
		Sample ID	828103-MW09K1817D		828103-MW09S1177		828103-MW10K1717	
		Qc Code	FD		FS		FS	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs	Chlorobenzene	ug/l	2	U	1	U	20	U
VOCs	Chloroethane	ug/l	2	U	1	U	20	U
VOCs	Chloroform	ug/l	2	U	1	U	20	U
VOCs	Chloromethane	ug/l	2	U	1	U	20	U
VOCs	Cis-1,2-Dichloroethene	ug/l	89		1	U	150	
VOCs	Cis-1,3-Dichloropropene	ug/l	2	U	1	U	20	U
VOCs	Cyclohexane	ug/l	2	U	1	U	20	U
VOCs	Dibromochloromethane	ug/l	2	U	1	U	20	U
VOCs	Dichlorodifluoromethane	ug/l	2	UJ	1	UJ	20	UJ
VOCs	Ethylbenzene	ug/l	2	U	1	U	20	U
VOCs	Isopropylbenzene	ug/l	2	U	1	U	20	U
VOCs	Methyl cyclohexane	ug/l	2	U	1	U	20	U
VOCs	Methyl Tertbutyl Ether	ug/l	2	U	1	U	20	U
VOCs	Methylene chloride	ug/l	2	U	1	U	20	U
VOCs	Styrene	ug/l	2	U	1	U	20	U
VOCs	Tetrachloroethene	ug/l	30		1	U	20	U
VOCs	Toluene	ug/l	2	U	1	U	20	U
VOCs	trans-1,2-Dichloroethene	ug/l	2	U	1	U	20	U
VOCs	trans-1,3-Dichloropropene	ug/l	2	U	1	U	20	U
VOCs	Trichloroethene	ug/l	24		1	U	920	
VOCs	Trichlorofluoromethane	ug/l	2	U	1	U	20	U
VOCs	Vinyl chloride	ug/l	12		1	U	20	U
VOCs	Xylenes, Total	ug/l	4	U	2	U	40	U
1,4-Dio	1,4-Dioxane	ug/l						

ug/l = microgram per liter
U = not detected
J = estimated value

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
MAY 2017 GROUNDWATER SAMPLING EVENT
DINABURG DISTRIBUTING, INC., SITE
ROCHESTER, NEW YORK

		SDG	480-118655-1		480-118655-1		480-118655-1		480-118655-1		480-118655-1	
		Location	MW-03A		MW-03CA		MW-10S		MW-13K		MW-13K	
		Sample Date	5/25/2017		5/25/2017		5/25/2017		5/25/2017		5/25/2017	
		Sample ID	828103-MW03A2217		828103-MW03CA2817		828103-MW10S1117		828103-MW13K1917		828103-MW13K1917D	
		Qc Code	FS		FS		FS		FS		FD	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs	1,1,1-Trichloroethane	ug/l	2	U	100	U	1	U	400	U	400	U
VOCs	1,1,2,2-Tetrachloroethane	ug/l	2	U	100	U	1	U	400	U	400	U
VOCs	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/l	2	U	100	U	1	U	400	UJ	400	UJ
VOCs	1,1,2-Trichloroethane	ug/l	2	U	100	U	1	U	400	U	400	U
VOCs	1,1-Dichloroethane	ug/l	2	U	100	U	1	U	400	U	400	U
VOCs	1,1-Dichloroethene	ug/l	2	U	100	U	1	U	400	U	400	U
VOCs	1,2,3-Trichlorobenzene	ug/l	2	U	100	U	1	U	400	U	400	U
VOCs	1,2,4-Trichlorobenzene	ug/l	2	U	100	U	1	U	400	U	400	U
VOCs	1,2-Dibromo-3-chloropropane	ug/l	2	U	100	U	1	U	400	U	400	U
VOCs	1,2-Dibromoethane	ug/l	2	U	100	U	1	U	400	U	400	U
VOCs	1,2-Dichlorobenzene	ug/l	2	U	100	U	1	U	400	U	400	U
VOCs	1,2-Dichloroethane	ug/l	2	U	100	U	1	U	400	U	400	U
VOCs	1,2-Dichloropropane	ug/l	2	U	100	U	1	U	400	U	400	U
VOCs	1,3-Dichlorobenzene	ug/l	2	U	100	U	1	U	400	U	400	U
VOCs	1,4-Dichlorobenzene	ug/l	2	U	100	U	1	U	400	U	400	U
VOCs	1,4-Dioxane	ug/l	80	U	4000	U	40	U	16000	U	16000	U
VOCs	2-Butanone	ug/l	20	U	1000	U	10	U	4000	U	4000	U
VOCs	2-Hexanone	ug/l	10	U	500	U	5	U	2000	U	2000	U
VOCs	4-Methyl-2-pentanone	ug/l	10	U	500	U	5	U	2000	U	2000	U
VOCs	Acetic acid, methyl ester	ug/l	5	U	250	U	2.5	U	1000	U	1000	U
VOCs	Acetone	ug/l	20	U	1000	U	10	U	4000	U	4000	U
VOCs	Benzene	ug/l	2	U	100	U	1	U	400	U	400	U
VOCs	Bromochloromethane	ug/l	2	U	100	U	1	U	400	U	400	U
VOCs	Bromodichloromethane	ug/l	2	U	100	U	1	U	400	U	400	U
VOCs	Bromoform	ug/l	2	U	100	U	1	U	400	U	400	U
VOCs	Bromomethane	ug/l	2	U	100	U	1	U	400	U	400	U
VOCs	Carbon disulfide	ug/l	2	U	100	U	1	U	400	U	400	U
VOCs	Carbon tetrachloride	ug/l	2	U	100	U	1	U	400	U	400	U

Prepared by: BJS 7/28/17
Checked by: JAR 7/28/17

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
MAY 2017 GROUNDWATER SAMPLING EVENT
DINABURG DISTRIBUTING, INC., SITE
ROCHESTER, NEW YORK

		SDG	480-118655-1		480-118655-1		480-118655-1		480-118655-1		480-118655-1	
		Location	MW-03A		MW-03CA		MW-10S		MW-13K		MW-13K	
		Sample Date	5/25/2017		5/25/2017		5/25/2017		5/25/2017		5/25/2017	
		Sample ID	828103-MW03A2217		828103-MW03CA2817		828103-MW10S1117		828103-MW13K1917		828103-MW13K1917D	
		Qc Code	FS		FS		FS		FS		FD	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs	Chlorobenzene	ug/l	2	U	100	U	1	U	400	U	400	U
VOCs	Chloroethane	ug/l	2	U	100	U	1	U	400	U	400	U
VOCs	Chloroform	ug/l	2	U	100	U	1	U	400	U	400	U
VOCs	Chloromethane	ug/l	2	U	100	U	1	U	400	U	400	U
VOCs	Cis-1,2-Dichloroethene	ug/l	55		5600		5.6		3100		3300	
VOCs	Cis-1,3-Dichloropropene	ug/l	2	U	100	U	1	U	400	U	400	U
VOCs	Cyclohexane	ug/l	2	U	100	U	1	U	400	UJ	400	UJ
VOCs	Dibromochloromethane	ug/l	2	U	100	U	1	U	400	U	400	U
VOCs	Dichlorodifluoromethane	ug/l	2	U	100	U	1	U	400	UJ	400	UJ
VOCs	Ethylbenzene	ug/l	2	U	100	U	1	U	400	U	400	U
VOCs	Isopropylbenzene	ug/l	2	U	100	U	1	U	400	U	400	U
VOCs	Methyl cyclohexane	ug/l	2	U	100	U	1	U	400	UJ	400	UJ
VOCs	Methyl Tertbutyl Ether	ug/l	2	U	100	U	1	U	400	U	400	U
VOCs	Methylene chloride	ug/l	2	U	100	U	1	U	400	U	400	U
VOCs	Styrene	ug/l	2	U	100	U	1	U	400	U	400	U
VOCs	Tetrachloroethene	ug/l	2	U	1200		50		10000		12000	
VOCs	Toluene	ug/l	2	U	100	U	1	U	400	U	400	U
VOCs	trans-1,2-Dichloroethene	ug/l	2	U	100	U	1	U	400	U	400	U
VOCs	trans-1,3-Dichloropropene	ug/l	2	U	100	U	1	U	400	U	400	U
VOCs	Trichloroethene	ug/l	2	U	1800		49		2200		2400	
VOCs	Trichlorofluoromethane	ug/l	2	U	100	U	1	U	400	UJ	400	UJ
VOCs	Vinyl chloride	ug/l	30		460		1	U	360	J	400	U
VOCs	Xylenes, Total	ug/l	4	U	200	U	2	U	800	U	800	U
1,4-Dio	1,4-Dioxane	ug/l	0.4	U	0.21	J			0.4	U		

ug/l = microgram per liter
U = not detected
J = estimated value

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
MAY 2017 GROUNDWATER SAMPLING EVENT
DINABURG DISTRIBUTING, INC., SITE
ROCHESTER, NEW YORK

		SDG	480-118655-1		480-118655-1	
		Location	MW-20S		QC	
		Sample Date	5/25/2017		5/25/2017	
		Sample ID	828103-MW20S1017		TRIP BLANK	
		Qc Code	FS		TB	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier
VOCs	1,1,1-Trichloroethane	ug/l	500	U	1	U
VOCs	1,1,2,2-Tetrachloroethane	ug/l	500	U	1	U
VOCs	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/l	500	U	1	U
VOCs	1,1,2-Trichloroethane	ug/l	500	U	1	U
VOCs	1,1-Dichloroethane	ug/l	500	U	1	U
VOCs	1,1-Dichloroethene	ug/l	500	U	1	U
VOCs	1,2,3-Trichlorobenzene	ug/l	500	U	1	U
VOCs	1,2,4-Trichlorobenzene	ug/l	500	U	1	U
VOCs	1,2-Dibromo-3-chloropropane	ug/l	500	U	1	U
VOCs	1,2-Dibromoethane	ug/l	500	U	1	U
VOCs	1,2-Dichlorobenzene	ug/l	500	U	1	U
VOCs	1,2-Dichloroethane	ug/l	500	U	1	U
VOCs	1,2-Dichloropropane	ug/l	500	U	1	U
VOCs	1,3-Dichlorobenzene	ug/l	500	U	1	U
VOCs	1,4-Dichlorobenzene	ug/l	500	U	1	U
VOCs	1,4-Dioxane	ug/l	20000	U	40	U
VOCs	2-Butanone	ug/l	5000	U	10	U
VOCs	2-Hexanone	ug/l	2500	U	5	U
VOCs	4-Methyl-2-pentanone	ug/l	2500	U	5	U
VOCs	Acetic acid, methyl ester	ug/l	1300	U	2.5	U
VOCs	Acetone	ug/l	5000	U	10	U
VOCs	Benzene	ug/l	500	U	1	U
VOCs	Bromochloromethane	ug/l	500	U	1	U
VOCs	Bromodichloromethane	ug/l	500	U	1	U
VOCs	Bromoform	ug/l	500	U	1	U
VOCs	Bromomethane	ug/l	500	U	1	U
VOCs	Carbon disulfide	ug/l	500	U	1	U
VOCs	Carbon tetrachloride	ug/l	500	U	1	U

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
MAY 2017 GROUNDWATER SAMPLING EVENT
DINABURG DISTRIBUTING, INC., SITE
ROCHESTER, NEW YORK

		SDG	480-118655-1		480-118655-1	
		Location	MW-20S		QC	
		Sample Date	5/25/2017		5/25/2017	
		Sample ID	828103-MW20S1017		TRIP BLANK	
		Qc Code	FS		TB	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier
VOCs	Chlorobenzene	ug/l	500	U	1	U
VOCs	Chloroethane	ug/l	500	U	1	U
VOCs	Chloroform	ug/l	500	U	1	U
VOCs	Chloromethane	ug/l	500	U	1	U
VOCs	Cis-1,2-Dichloroethene	ug/l	500	U	1	U
VOCs	Cis-1,3-Dichloropropene	ug/l	500	U	1	U
VOCs	Cyclohexane	ug/l	500	U	1	U
VOCs	Dibromochloromethane	ug/l	500	U	1	U
VOCs	Dichlorodifluoromethane	ug/l	500	U	1	U
VOCs	Ethylbenzene	ug/l	500	U	1	U
VOCs	Isopropylbenzene	ug/l	500	U	1	U
VOCs	Methyl cyclohexane	ug/l	500	U	1	U
VOCs	Methyl Tertbutyl Ether	ug/l	500	U	1	U
VOCs	Methylene chloride	ug/l	500	U	1	U
VOCs	Styrene	ug/l	500	U	1	U
VOCs	Tetrachloroethene	ug/l	15000		1	U
VOCs	Toluene	ug/l	500	U	1	U
VOCs	trans-1,2-Dichloroethene	ug/l	500	U	1	U
VOCs	trans-1,3-Dichloropropene	ug/l	500	U	1	U
VOCs	Trichloroethene	ug/l	450	J	1	U
VOCs	Trichlorofluoromethane	ug/l	500	U	1	U
VOCs	Vinyl chloride	ug/l	500	U	1	U
VOCs	Xylenes, Total	ug/l	1000	U	2	U
1,4-Dio	1,4-Dioxane	ug/l				

ug/l = microgram per liter
U = not detected
J = estimated value

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
MAY 2017 GROUNDWATER SAMPLING EVENT
DINABURG DISTRIBUTING, INC., SITE
ROCHESTER, NEW YORK

		SDG	480-118498-1		480-118498-1	
		Location	MW-05		MW-08K	
		Sample Date	5/24/2017		5/24/2017	
		Sample ID	828103-MW051717		828103-MW08K1417	
		Qc Code	FS		FS	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier
PFAS	Perfluorobutanesulfonic acid	ng/l	1.8	U	1.4	J
PFAS	Perfluorobutanoic acid	ng/l	11		8.2	
PFAS	Perfluorodecanesulfonic acid	ng/l	1.8	U	1.8	U
PFAS	Perfluorodecanoic acid	ng/l	1.8	U	1.8	U
PFAS	Perfluorododecanoic acid	ng/l	1.8	U	1.8	U
PFAS	Perfluoroheptanesulfonic acid	ng/l	1.8	U	1.8	U
PFAS	Perfluoroheptanoic acid	ng/l	1.8	U	1.3	J
PFAS	Perfluorohexane sulfonic acid	ng/l	1.8	U	1.8	U
PFAS	Perfluorohexanoic acid	ng/l	1.9		3.5	
PFAS	Perfluorononanoic acid	ng/l	1.8	U	1.8	U
PFAS	Perfluorooctanesulfonic acid (PFOS)	ng/l	7.2		1.8	U
PFAS	Perfluorooctanoic acid (PFOA)	ng/l	1.8	U	1.8	
PFAS	Perfluoropentanoic acid	ng/l	5.3		5.1	
PFAS	Perfluorotetradecanoic acid	ng/l	1.8	U	1.8	U
PFAS	Perfluorotridecanoic acid	ng/l	1.8	U	1.8	U
PFAS	Perfluoroundecanoic acid	ng/l	1.8	U	1.8	U
PFAS	Sum PFOA and PFOS	ng/l	7.2		1.8	

ng/l = nanogram per liter
U = not detected
J = estimated value

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
MAY 2017 GROUNDWATER SAMPLING EVENT
DINABURG DISTRIBUTING, INC., SITE
ROCHESTER, NEW YORK

		SDG	480-118655-1		480-118655-1		480-118655-1	
		Location	MW-03A		MW-03CA		QC	
		Sample Date	5/25/2017		5/25/2017		5/25/2017	
		Sample ID	828103-MW03A2217		828103-MW03CA2817		FIELD REAGENT BLANK	
		Qc Code	FS		FS		FB	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier
PFAS	Perfluorobutanesulfonic acid	ng/l	1.9	UJ	2	UJ	1.9	U
PFAS	Perfluorobutanoic acid	ng/l	19	J	12	J	1.2	J B
PFAS	Perfluorodecanesulfonic acid	ng/l	1.9	U	2	U	1.9	U
PFAS	Perfluorodecanoic acid	ng/l	1.9	U	2	U	1.9	U
PFAS	Perfluorododecanoic acid	ng/l	1.9	U	2	U	1.9	U
PFAS	Perfluoroheptanesulfonic acid	ng/l	1.9	U	2	U	1.9	U
PFAS	Perfluoroheptanoic acid	ng/l	1.1	J	2	U	1.9	U
PFAS	Perfluorohexane sulfonic acid	ng/l	1.9	U	2	U	1.9	U
PFAS	Perfluorohexanoic acid	ng/l	5.2		1.9	J	1.9	U
PFAS	Perfluorononanoic acid	ng/l	1.9	U	2	U	1.9	U
PFAS	Perfluorooctanesulfonic acid (PFOS)	ng/l	1.9	U	2	U	1.9	U
PFAS	Perfluorooctanoic acid (PFOA)	ng/l	0.98	J	2	U	1.9	U
PFAS	Perfluoropentanoic acid	ng/l	1.9	U	1.3	J	1.9	U
PFAS	Perfluorotetradecanoic acid	ng/l	1.9	U	2	U	0.24	J B *
PFAS	Perfluorotridecanoic acid	ng/l	1.9	U	2	U	1.9	U
PFAS	Perfluoroundecanoic acid	ng/l	1.9	U	2	U	1.9	U
PFAS	Sum PFOA and PFOS	ng/l	0.98	J	2	U	1.9	U

ng/l = nanogram per liter
U = not detected
J = estimated value

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
MAY 2017 GROUNDWATER SAMPLING EVENT
DINABURG DISTRIBUTING, INC., SITE
ROCHESTER, NEW YORK

		SDG	480-118413-1	
		Location	MW-14K	
		Sample Date	5/23/2017	
		Sample ID	828103-MW14KA2217	
		Qc Code	FS	
Class	Parameter	Units	Result	Qualifier
Diss Gases	Carbon Dioxide	ug/l	25000	
Diss Gases	Ethane	ug/l	7.5	U
Diss Gases	Ethene	ug/l	3	J
Diss Gases	Methane	ug/l	89	
Metals	Iron	mg/l	0.08	
Metals	Manganese	mg/l	0.051	
TOC	Total Organic Carbon	mg/l	4.7	
Anions	Chloride	mg/l	116	
Anions	Nitrate as N	mg/l	2.3	
Anions	Nitrite as N	mg/l	0.52	
Anions	Nitrogen	mg/l	2.8	
Anions	Sulfate	mg/l	102	
Anions	Sulfide	mg/l	1	U
Alk	Total Alkalinity, as CaCO3	mg/l	282	

ug/l = microgram per liter
mg/l = milligram per liter
U = not detected
J = estimated value

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
MAY 2017 GROUNDWATER SAMPLING EVENT
DINABURG DISTRIBUTING, INC., SITE
ROCHESTER, NEW YORK

		SDG	480-118500-1		480-118500-1	
		Location	MW-05		MW-08K	
		Sample Date	5/24/2017		5/24/2017	
		Sample ID	828103-MW051717		828103-MW08K1417	
		Qc Code	FS		FS	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier
Diss Gases	Carbon Dioxide	ug/l	40000		34000	
Diss Gases	Ethane	ug/l	7.5	U	7.5	U
Diss Gases	Ethene	ug/l	7	U	7	U
Diss Gases	Methane	ug/l	4	U	4	U
Metals	Iron	mg/l	0.3		0.25	
Metals	Manganese	mg/l	0.066		0.39	
TOC	Total Organic Carbon	mg/l	0.93	J	0.91	J
Anions	Chloride	mg/l	412		56.5	
Anions	Nitrate as N	mg/l	0.97		2.7	
Anions	Nitrite as N	mg/l	0.05	U	0.05	U
Anions	Nitrogen	mg/l	0.97		2.7	
Anions	Sulfate	mg/l	87.4		44.1	
Anions	Sulfide	mg/l	1	U	1	U
Alk	Total Alkalinity, as CaCO3	mg/l	409		327	

ug/l = microgram per liter
mg/l = milligram per liter
U = not detected
J = estimated value

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
MAY 2017 GROUNDWATER SAMPLING EVENT
DINABURG DISTRIBUTING, INC., SITE
ROCHESTER, NEW YORK

		SDG	480-118655-1		480-118655-1		480-118655-1		480-118655-1	
		Location	MW-03A		MW-03CA		MW-13K		MW-20S	
		Sample Date	5/25/2017		5/25/2017		5/25/2017		5/25/2017	
		Sample ID	828103-MW03A2217		828103-MW03CA2817		828103-MW13K1917		828103-MW20S1017	
		Qc Code	FS		FS		FS		FS	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Diss Gases	Carbon Dioxide	ug/l	19000		50000		55000		43000	
Diss Gases	Ethane	ug/l	75	U	7.5	U	15	U	7.5	U
Diss Gases	Ethene	ug/l	70	U	7	U	14	U	7	U
Diss Gases	Methane	ug/l	280		140		95		4	U
Metals	Iron	mg/l	1.4		0.95		0.42		0.83	
Metals	Manganese	mg/l	0.044		0.088		0.084		0.025	
TOC	Total Organic Carbon	mg/l	22		5.4		3.5		11.6	
Anions	Chloride	mg/l	169		225		396		84.2	
Anions	Nitrate as N	mg/l	0.05	U	0.05	U	0.05	U	42.8	
Anions	Nitrite as N	mg/l	0.05	U	0.05	U	0.05	U	0.028	J
Anions	Nitrogen	mg/l	0.05	U	0.05	U	0.05	U	42.8	
Anions	Sulfate	mg/l	85.9		115		82.2		96.2	
Anions	Sulfide	mg/l	1	U	1	U	1	U	1	U
Alk	Total Alkalinity, as CaCO3	mg/l	329		371		384		324	

ug/l = microgram per liter
mg/l = milligram per liter
U = not detected
J = estimated value

Prepared by: BJS 7/28/17
Checked by: JAR 7/28/17

TABLE 3 - SUMMARY OF QUALIFICATION ACTIONS
DATA USABILITY SUMMARY REPORT
MAY 2017 GROUNDWATER SAMPLING EVENT
DINABURG DISTRIBUTING, INC., SITE
ROCHESTER, NEW YORK

SDG	Analysis Method	Lab Sample Id	Field Sample ID	Parameter Name	Lab Result	Lab Qualifier	Validated Result	Validation Qualifier	Val Reason Code	Result Units	Lab Id
480-118413-1	SW8260C	480-118413-1	828103-MW18S1017	Dichlorodifluoromethane	10	U	10	UJ	LCS-L	ug/l	TALBFLO
480-118413-1	SW8260C	480-118413-10	828103-MW11S0917	Dichlorodifluoromethane	1	U	1	UJ	LCS-L	ug/l	TALBFLO
480-118413-1	SW8260C	480-118413-11	828103-MW12K1717	Dichlorodifluoromethane	1	U	1	UJ	LCS-L	ug/l	TALBFLO
480-118413-1	SW8260C	480-118413-12	828103-MW12S1117	Dichlorodifluoromethane	1	U	1	UJ	LCS-L	ug/l	TALBFLO
480-118413-1	SW8260C	480-118413-13	828103-MW041717	Dichlorodifluoromethane	1	U	1	UJ	LCS-L	ug/l	TALBFLO
480-118413-1	SW8260C	480-118413-2	828103-MW16S1017	Dichlorodifluoromethane	1	U	1	UJ	LCS-L	ug/l	TALBFLO
480-118413-1	SW8260C	480-118413-5	828103-MW21S1017	Dichlorodifluoromethane	20	U	20	UJ	LCS-L	ug/l	TALBFLO
480-118413-1	SW8260C	480-118413-6	828103-MW17S1017	Dichlorodifluoromethane	4	U	4	UJ	LCS-L	ug/l	TALBFLO
480-118413-1	SW8260C	480-118413-7	828103-MW14KA2217	Dichlorodifluoromethane	400	U	400	UJ	LCS-L	ug/l	TALBFLO
480-118413-1	SW8260C	480-118413-8	828103-MW15S1017	Dichlorodifluoromethane	10	U	10	UJ	LCS-L	ug/l	TALBFLO
480-118413-1	SW8260C	480-118413-9	828103-MW15K2317	Dichlorodifluoromethane	20	U	20	UJ	MS-L	ug/l	TALBFLO
480-118413-1	SW8260C	480-118413-9	828103-MW15K2317	Tetrachloroethene	900	F1	900	J	MS-L	ug/l	TALBFLO
480-118413-1	SW8260C	480-118413-9	828103-MW15K2317	Trichlorofluoromethane	20	U	20	UJ	MS-L	ug/l	TALBFLO
480-118498-1	Modified 537	480-118498-1	828103-MW051717	Perfluorotetradecanoic acid	0.61	J	1.8	U	BL1, BL2	ng/l	SAC
480-118498-1	Modified 537	480-118498-2	828103-MW08K1417	Perfluorotetradecanoic acid	0.97	J	1.8	U	BL1, BL2	ng/l	SAC
480-118500-1	SW8260C	480-118500-1	828103-MW09S1177	Dichlorodifluoromethane	1	U	1	UJ	LCS-L	ug/l	TALBFLO
480-118500-1	SW8260C	480-118500-2	828103-MW09K1817	Dichlorodifluoromethane	1	U	1	UJ	LCS-L	ug/l	TALBFLO
480-118500-1	SW8260C	480-118500-3	828103-MW09K1817D	Dichlorodifluoromethane	2	U	2	UJ	LCS-L	ug/l	TALBFLO
480-118500-1	SW8260C	480-118500-4	828103-MW061317	Dichlorodifluoromethane	1	U	1	UJ	LCS-L	ug/l	TALBFLO
480-118500-1	SW8260C	480-118500-5	828103-MW10K1717	Dichlorodifluoromethane	20	U	20	UJ	LCS-L	ug/l	TALBFLO
480-118500-1	SW8260C	480-118500-6	828103-MW08S1117	Dichlorodifluoromethane	1	U	1	UJ	LCS-L	ug/l	TALBFLO
480-118500-1	SW8260C	480-118500-7	828103-MW08K1417	Dichlorodifluoromethane	1	U	1	UJ	LCS-L	ug/l	TALBFLO
480-118500-1	SW8260C	480-118500-8	828103-MW051717	Dichlorodifluoromethane	1	U	1	UJ	LCS-L	ug/l	TALBFLO
480-118655-1	Modified 537	480-118655-2	828103-MW03CA2817	Perfluorobutanesulfonic acid	2	U	2	UJ	IS-L	ng/l	SAC
480-118655-1	Modified 537	480-118655-2	828103-MW03CA2817	Perfluorobutanoic acid	12	B	12	J	IS-L	ng/l	SAC
480-118655-1	Modified 537	480-118655-2	828103-MW03CA2817	Perfluorotetradecanoic acid	0.39	J B *	2	U	BL1, BL2	ng/l	SAC
480-118655-1	Modified 537	480-118655-6	828103-MW03A2217	Perfluorobutanesulfonic acid	1.9	U	1.9	UJ	IS-L	ng/l	SAC
480-118655-1	Modified 537	480-118655-6	828103-MW03A2217	Perfluorobutanoic acid	19	B	19	J	IS-L	ng/l	SAC
480-118655-1	Modified 537	480-118655-6	828103-MW03A2217	Perfluorotetradecanoic acid	0.36	J B *	1.9	U	BL1, BL2	ng/l	SAC
480-118655-1	SW8260C	480-118655-3	828103-MW13K1917	1,1,2-Trichloro-1,2,2-Trifluoroethane	400	U	400	UJ	MS-L	ug/l	TALBFLO
480-118655-1	SW8260C	480-118655-3	828103-MW13K1917	Cyclohexane	400	U F2	400	UJ	MS-L	ug/l	TALBFLO
480-118655-1	SW8260C	480-118655-3	828103-MW13K1917	Dichlorodifluoromethane	400	U F1	400	UJ	MS-L	ug/l	TALBFLO
480-118655-1	SW8260C	480-118655-3	828103-MW13K1917	Methyl cyclohexane	400	U F1	400	UJ	MS-L	ug/l	TALBFLO

Prepared by: BJS 7/28/17
Checked by: JAR 7/28/17

TABLE 3 - SUMMARY OF QUALIFICATION ACTIONS
DATA USABILITY SUMMARY REPORT
MAY 2017 GROUNDWATER SAMPLING EVENT
DINABURG DISTRIBUTING, INC., SITE
ROCHESTER, NEW YORK

SDG	Analysis Method	Lab Sample Id	Field Sample ID	Parameter Name	Lab Result	Lab Qualifier	Validated Result	Validation Qualifier	Val Reason Code	Result Units	Lab Id
480-118655-1	SW8260C	480-118655-3	828103-MW13K1917	Trichlorofluoromethane	400	U F1	400	UJ	MS-L	ug/l	TALBFLO
480-118655-1	SW8260C	480-118655-4	828103-MW13K1917D	1,1,2-Trichloro-1,2,2-Trifluoroethane	400	U	400	UJ	MS-L	ug/l	TALBFLO
480-118655-1	SW8260C	480-118655-4	828103-MW13K1917D	Cyclohexane	400	U	400	UJ	MS-L	ug/l	TALBFLO
480-118655-1	SW8260C	480-118655-4	828103-MW13K1917D	Dichlorodifluoromethane	400	U	400	UJ	MS-L	ug/l	TALBFLO
480-118655-1	SW8260C	480-118655-4	828103-MW13K1917D	Methyl cyclohexane	400	U	400	UJ	MS-L	ug/l	TALBFLO
480-118655-1	SW8260C	480-118655-4	828103-MW13K1917D	Trichlorofluoromethane	400	U	400	UJ	MS-L	ug/l	TALBFLO
480-118655-1	SW8260C-SIM	480-118655-2	828103-MW03CA2817	1,4-Dioxane	0.21	J	0.21	J	SS-H	ug/l	TA-ED

BL1 = method blank qualifier
BL2 = trip or field blank qualifier
LCS-L = laboratory control sample recovery less than control limits
MS-L = matrix spike/matrix spike duplicate recovery less than control limits
IS-L = internal standard recovery less than control limits
SS-H = surrogate recovery greater than control limits

SAC = TestAmerica - Sacramento, California
TALBFLO = TestAmerica - Amherst, New York
TA-ED = TestAmerica - Edison, New Jersey

Prepared by: BJS 7/28/17
Checked by: JAR 7/28/17

ATTACHMENT A
SUMMARY OF VALIDATION QC LIMITS FOR SURROGATES, SPIKES, AND DUPLICATES
BASED ON THE REGION 2 VALIDATION GUIDELINES

PARAMETER	QC TEST	ANALYTE	WATER (%R)	Water (RPD)
Volatiles	Surrogate	All Surrogate Compounds	80 - 120	
	LCS	All Target Compounds	70 - 130	
	MS/MSD	All Target Compounds	70 - 130	20
	Field Duplicate	All Target Compounds		50
1,4-Dioxane	Surrogate	All Surrogate Compounds	Lab Limits	
	LCS	All Target Compounds	Lab Limits	
	MS/MSD	All Target Compounds	Lab Limits	Lab Limits
	Field Duplicate	All Target Compounds		50
Per- and Polyfluorinated Alkyl Substances (PFAS)	Surrogate	All Surrogate Compounds	Lab Limits	
	LCS	All Target Compounds	Lab Limits	
	MS/MSD	All Target Compounds	Lab Limits	Lab Limits
	Field Duplicate	All Target Compounds		50

Notes:
LCS - Laboratory Control Sample
MS/MSD - Matrix spike/ Matrix Spike Duplicate
RPD = Relative percent difference
%R = percent recovery
QC Limits are based on USEPA Region II Data Validation Guidelines and Project QA/QC Objectives

DATA USABILITY SUMMARY REPORT
MAY 2017 GROUNDWATER SAMPLING RESULTS
DINABURG DISTRIBUTING, INC., SITE
ROCHESTER, NEW YORK

ATTACHMENT B

VOCs

NYSDEC DUSR PROJECT CHEMIST REVIEW RECORD

Project: Dingbug
Method: 8260C
Laboratory: TAL
Date: 7/20/17
Reviewer: Julie Ricciardi

SDG(s): 480-118413-1
480-118520-1
480-118655-1

Review Level [X] NYSDEC DUSR USEPA Region II Guideline

1. ☑ **Case Narrative Review and COC/Data Package Completeness** COMMENTS
   Were problems noted? 1) Dilutions due to foaming and target analyte concentrations
   Are Field Sample IDs and Locations assigned correctly? (YES) NO (circle one) 2) cooler temp 12.7°; OK, cooling in transit (SDG 480-118520-1)
   Were all the samples on the COC analyzed for the requested analyses? (YES) NO (circle one)

2. ☑ **Holding time and Sample Collection**
   All samples were analyzed within the 14 day holding time. (YES) NO (circle one)

3. ☑ **QC Blanks**
   Are method blanks free of contamination? (YES) NO (circle one)

   Are Trip blanks free of contamination? (YES) NO (circle one)

   Are Rinse blanks free of contamination? YES NO (NA) (circle one)

4. ☑ **Instrument Tuning – Data Package Narrative Review**
   Did the laboratory narrative identify any results that were not within method criteria? YES (NO) (circle one)
   If yes, use professional judgment to evaluate data and qualify results if needed

5. ☑ **Instrument Calibration – Data Package Narrative Review**
   Did the laboratory narrative identify compounds that were not within criteria in the initial and/or continuing calibration standards? (YES) NO (circle one)
   No impact based on prof. judgment
   Initial Calibration %RSD = 20% **(30% for 1,1-DCE, chloroform, 1,2-DCP, toluene, ethylbenzene, VC)**
   Initial Avg RRF and Continuing RRF should be ≥ 0.05 and 0.10 for Chloromethane, 1,1-Dichloroethane, Bromoform and 0.30 for Chlorobenzene and 1,1,2,2-Tetrachloroethane

   Continuing Calibration %D = 20%

   Did the laboratory qualify results based on initial or continuing calibration exceedances? YES (NO)
   If yes to above, use professional judgment to evaluate data and qualify results if needed

6. ☑ **Internal Standards – Data Package Narrative Review**
   (Area Limits = -50% to +100%, RTs within 30 seconds of daily CCAL standard (or ICAL mid-point if samples follow ICAL)
   Did the laboratory narrative identify any sample internal standards that were not within criteria?
   YES (NO) (circle one)

   Did the laboratory qualify results based on internal standard exceedances? YES (NO)
   If yes to above, use professional judgment to evaluate data and qualify results if needed

7. ☑ **Surrogate Recovery** - Region II limits (water 80-120%, soil 70-130%)

   Were all results within Region II limits? (YES) NO (circle one)

8. ☑ **Matrix Spike** - Region II limits (water and soil 70-130%, water RPD 20, soil RPD 35)

   Were MS/MSDs submitted/analyzed? (YES) NO

   Were all results within the Region II limits? YES (NO) NA (circle one)

   See attached summaries for (quals)

9. ☑ **Duplicates** - Region II Limits (water RPD 50, soil RPD 100)

Were Field Duplicates submitted/analyzed? (YES) NO
MK09K1817/1817D: OK MK13K1917/1917D: OK
Were all results within Region II limits? (soil RPD<100, water RPD<50) YES NO NA

10. ☑ **Laboratory Control Sample Results** - Region II (Water and soil 70-130%)

Were all results were within Region II control limits? YES (NO) (circle one)
See attached summaries for (qual)

11. ☑ **Raw Data Review and Calculation Checks**
See attached

12. ☑ **Electronic Data Review and Edits**
Does the EDD match the Form Is? (YES) NO (circle one)

13. ☑ **Tables and TIC Review**
Table 1 (Samples and Analytical Methods)
Table 2 (Analytical Results)
Table 3 (Qualification Actions)
Were all tables produced and reviewed? (YES) NO (circle one)

Table 4 (TICs) Did lab report TICs? YES (NO) (circle one)

Job Narrative
480-118413-1

Comments
No additional comments.

Receipt
The samples were received on 5/23/2017 7:10 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.0° C. ✓

GC/MS VOA
Method(s) 8260C: The following sample was diluted to bring the concentration of target analytes within the calibration range: 828103-MW16K2317 (480-118413-3) and 828103-MW19S1017 (480-118413-4). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The following volatiles sample was diluted due to foaming at the time of purging during the original sample analysis: 828103-MW21S1017 (480-118413-5). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The following samples was diluted to bring the concentration of target analytes within the calibration range: 828103-MW18S1017 (480-118413-1), 828103-MW17S1017 (480-118413-6), 828103-MW14KA2217 (480-118413-7) and 828103-MW15S1017 (480-118413-8). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 480-359999 recovered outside acceptance criteria, low biased, for Carbon disulfide. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported. The following sample is impacted: 828103-MW15K2317 (480-118413-9). ✓

no impact JR 7/27/17

Method(s) 8260C: The following samples were diluted to bring the concentration of target analytes within the calibration range: 828103-MW15K2317 (480-118413-9), (480-118413-C-9 MS) and (480-118413-C-9 MSD). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC
Method(s) 300.0: The following sample was reported with elevated reporting limits for all analytes: 828103-MW14KA2217 (480-118413-7). The sample was analyzed at a dilution based on screening results.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method(s) SM 2320B: The following sample was received with headspace in the sample bottle: 828103-MW14KA2217 (480-118413-7).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Case Narrative

Client: New York State D.E.C.
Project/Site: Dinaburg Distributing #828103

TestAmerica Job ID: 480-118500-1

Job ID: 480-118500-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-118500-1

Comments
No additional comments.

Receipt
The samples were received on 5/24/2017 6:50 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 12.7° C. No qual; cooling in transit (same day of collection)

Receipt Exceptions
A workshare Chain-of-Custody (COC) was not received with these samples: 828103-MW08K1417 (480-118500-7) and 828103-MW051717 (480-118500-8).

The following sample was received at the laboratory outside the required temperature criteria: 828103-MW08K1417 (480-118500-7) and 828103-MW051717 (480-118500-8). There was water present. FedEx placed a new airbill over the original, which changed the delivery date from Friday, May 26th to Tuesday, May 30th. OK; COC No qual

GC/MS VOA
Method(s) 8260C: The following sample was diluted to bring the concentration of target analytes within the calibration range: 828103-MW09K1817D (480-118500-3) and 828103-MW10K1717 (480-118500-5). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page. gn 6/28/17

HPLC/IC
Method(s) 300.0: The continuing calibration blank (CCB) for analytical batch 480-360303 contained Chloride above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed. 828103-MW08K1417 (480-118500-7) and 828103-MW051717 (480-118500-8)

Method(s) 300.0: The following sample was diluted to bring the concentration of target analytes within the calibration range: 828103-MW08K1417 (480-118500-7) and 828103-MW051717 (480-118500-8). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method(s) SM 2320B: The following sample was received with headspace in the sample bottle: 828103-MW08K1417 (480-118500-7) and 828103-MW051717 (480-118500-8).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Job Narrative
480-118655-1

Comments
No additional comments.

Receipt
The samples were received on 5/26/2017 1:25 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.0° C and 2.6° C. ✓

GC/MS VOA
Method(s) 8260C SIM: Surrogate recovery for the following samples was outside control limits: 828103-MW03CA2817 (480-118655-2) and 828103-MW03A2217 (480-118655-6). Evidence of matrix interference is present; therefore, re-analysis was not performed. Surr

Method(s) 8260C: The following samples were diluted to bring the concentration of target analytes within the calibration range: 828103-MW13K1917 (480-118655-3[MS]), 828103-MW13K1917 (480-118655-3[MSD]), 828103-MW13K1917D (480-118655-4), 828103-MW20S1017 (480-118655-5) and 828103-MW03A2217 (480-118655-6). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The following sample was diluted to bring the concentration of target analytes within the calibration range: 828103-MW03CA2817 (480-118655-2) and 828103-MW13K1917 (480-118655-3). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC
Method(s) 300.0: The following sample was diluted to bring the concentration of target analytes within the calibration range: 828103-MW03CA2817 (480-118655-2). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: The following samples was diluted to bring the concentration of target analytes within the calibration range: 828103-MW13K1917 (480-118655-3), 828103-MW20S1017 (480-118655-5) and 828103-MW03A2217 (480-118655-6). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
Method(s) RSK-175: The following sample was diluted to bring the concentration of target analytes within the calibration range: 828103-MW13K1917 (480-118655-3) and 828103-MW03A2217 (480-118655-6). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

LCMS
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method(s) SM 2320B: The following samples was received with headspace in the sample bottle: 828103-MW03CA2817 (480-118655-2), 828103-MW13K1917 (480-118655-3), 828103-MW20S1017 (480-118655-5) and 828103-MW03A2217 (480-118655-6).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method(s) 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-167754.

Method(s) 3535: The following sample: 828103-MW03CA2817 (480-118655-2) and 828103-MW03A2217 (480-118655-6) was decanted prior to preparation due to having sediment in the samples.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Lab Chronicle

Client: New York State D.E.C.
Project/Site: Dinaburg Distributing #828103

TestAmerica Job ID: 480-118500-1

Client Sample ID: 828103-MW08K1417 — **Lab Sample ID: 480-118500-7**
Date Collected: 05/24/17 11:40 — **Matrix: Water**
Date Received: 05/24/17 18:50

~~JLW WC 8260 | 8260-SIM prof. judgment~~ No qual; all samples collected same day as lab delivery; cooling in transit

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	359944	06/01/17 14:54	RRS	TAL BUF
Total/NA	Analysis	8260C SIM		1	440053	05/30/17 15:52	DAS	TAL EDI
Total/NA	Analysis	RSK-175		1	117176	05/31/17 20:32	MLT	TAL BUR
Total/NA	Analysis	RSK-175		1	359034	05/25/17 11:13	JLS	TAL BUF
Total Recoverable	Prep	3005A			359177	05/25/17 09:50	MJW	TAL BUF
Total Recoverable	Analysis	6010C		1	359811	05/31/17 08:43	SLM	TAL BUF
Total/NA	Analysis	300.0		1	360303	06/04/17 21:50	DMR	TAL BUF
Total/NA	Analysis	353.2		1	359219	05/25/17 16:39	DCB	TAL BUF
Total/NA	Analysis	353.2		1	359228	05/25/17 20:10	DCB	TAL BUF
Total/NA	Analysis	Nitrate by calc		1	359236	05/25/17 20:10	DCB	TAL BUF
Total/NA	Analysis	SM 2320B		1	359365	05/26/17 02:42	ALZ	TAL BUF
Total/NA	Analysis	SM 4500 S2 F		1	359744	05/29/17 13:30	MDL	TAL BUF
Total/NA	Analysis	SM 5310C		1	360043	06/01/17 08:39	LED	TAL BUF

3.9° OK
18.3° CO_2 OK
all originally rec'd @ 12.7°C per COC; collected same day as lab drop off – cooling in transit; OK

Client Sample ID: 828103-MW051717 — **Lab Sample ID: 480-118500-8**
Date Collected: 05/24/17 15:10 — **Matrix: Water**
Date Received: 05/24/17 18:50

JLW WC 8260 | 8260-SIM prof. judgment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	359944	06/01/17 15:21	RRS	TAL BUF
Total/NA	Analysis	8260C SIM		1	440053	05/30/17 16:15	DAS	TAL EDI
Total/NA	Analysis	RSK-175		1	117176	05/31/17 20:41	MLT	TAL BUR
Total/NA	Analysis	RSK-175		1	359034	05/25/17 11:30	JLS	TAL BUF
Total Recoverable	Prep	3005A			359177	05/25/17 09:50	MJW	TAL BUF
Total Recoverable	Analysis	6010C		1	359811	05/31/17 08:47	SLM	TAL BUF
Total/NA	Analysis	300.0		5	360303	06/04/17 22:04	DMR	TAL BUF
Total/NA	Analysis	353.2		1	359219	05/25/17 16:40	DCB	TAL BUF
Total/NA	Analysis	353.2		1	359228	05/25/17 20:11	DCB	TAL BUF
Total/NA	Analysis	Nitrate by calc		1	359236	05/25/17 20:11	DCB	TAL BUF
Total/NA	Analysis	SM 2320B		1	359365	05/26/17 02:48	ALZ	TAL BUF
Total/NA	Analysis	SM 4500 S2 F		1	359744	05/29/17 13:30	MDL	TAL BUF
Total/NA	Analysis	SM 5310C		1	360043	06/01/17 08:54	LED	TAL BUF

3.9°
18.3°
all originally rec'd @ 12.7°C per COC; see above; OK

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600
TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990
TAL EDI = TestAmerica Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

JR 7/27/17

TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Fax (716) 691-7991

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: John Luttinger	Lab PM: Johnson, Orlette S	Carrier Tracking No(s):	COC No: 480-97847-23300.3
Client Contact: Mark Stelmack	Phone: 716 998 6973	E-Mail: orlette.johnson@testamericainc.com		Page:
Company: AMEC Foster Wheeler E & I, Inc				Job #:
Address: 511 Congress St. Suite 200	Due Date Requested:			
City: Portland	TAT Requested (days): Standard			
State, Zip: ME, 04101				
Phone:	PO #: CallOut ID 122483			
Email: mark.stelmack@amec.com	WO #:			
Project Name: Dinaburg Distributing #828103	Project #: 48016060			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Ac
D - Nitric
E - NaHS
F - MeOH
G - Amch
H - Ascor
I - Ice
J - DI Wa
K - EDTA
L - EDA
M - Hexane
Z - other (specify)
480-118500 COC
ydrate
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C - (MOD) TCL list OLM04.2	8260C_SIM - (MOD) Volatile SIM	RSK_176 - Methane, Ethane, Ethene	5310C - (MOD) TOC	2320B - (MOD) Alkalinity	300.0_28D - (MOD) Cl, SO4	353.2, 353.2_Nitrite, Nitrate_Calc	9010C - (MOD) Fe, Mn	SM4500_S2_F - Sulfide	RSK_175_CO2 - CO2	Total Number of containers	Special Instructions/Note:
Preservation Code:							A	A	A	A	N	N	N	D	CB	N		
828103-MW09S1177	5/24/17	1140		W			X											
828103-MW09K1817	5/24/17	1250					X											
828103-MW09K1817D	5/24/17	1250					X											
828103-MW06I317	5/24/17	1445					X											
828103-MW10K1717	5/24/17	1600					X											
828103-MW08S1117	5/24/17	1035					X											
828103-MW08K1417	5/24/17	1140					X	X	X	X	X	X	X	X	X	X		
828103-MW05I717	5/24/17	1510					X	X	X	X	X	X	X	X	X	X		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by:	Date/Time: 5/24/17 1850	Company	Received by:	Date/Time: 05/24/17 1850	Company TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 1.2, 1.7 IR1 ICE

OK; cooling in transit from field to lab OT 7/20/17

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-359723/6
Matrix: Water
Analysis Batch: 359723

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		1.0	0.90	ug/L			05/31/17 12:19	1
Xylenes, Total	ND		2.0	0.66	ug/L			05/31/17 12:19	1
Chlorobromomethane	ND		1.0	0.87	ug/L			05/31/17 12:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*109*		*80 - 120*		*05/31/17 12:19*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*77 - 120*		*05/31/17 12:19*	*1*
4-Bromofluorobenzene (Surr)	*107*		*73 - 120*		*05/31/17 12:19*	*1*
Dibromofluoromethane (Surr)	*101*		*75 - 123*		*05/31/17 12:19*	*1*

Applies to -1, 2 -5, 6, 7, 8, 10 -11, 12, 13

Lab Sample ID: LCS 480-359723/4
Matrix: Water
Analysis Batch: 359723

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

70-130 limits

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	23.3		ug/L		93	73 - 126
1,1,2,2-Tetrachloroethane	25.0	24.6		ug/L		98	76 - 120
1,1,2-Trichloroethane	25.0	24.0		ug/L		96	76 - 122
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	23.6		ug/L		94	61 - 148
1,1-Dichloroethane	25.0	23.8		ug/L		95	77 - 120
1,1-Dichloroethene	25.0	23.5		ug/L		94	66 - 127
1,2,4-Trichlorobenzene	25.0	24.6		ug/L		98	79 - 122
1,2-Dibromo-3-Chloropropane	25.0	24.9		ug/L		99	56 - 134
1,2-Dichlorobenzene	25.0	24.2		ug/L		97	80 - 124
1,2,3-Trichlorobenzene	25.0	24.8		ug/L		99	75 - 123
1,2-Dichloroethane	25.0	22.7		ug/L		91	75 - 120
1,2-Dichloropropane	25.0	23.6		ug/L		95	76 - 120
1,3-Dichlorobenzene	25.0	24.2		ug/L		97	77 - 120
1,4-Dichlorobenzene	25.0	23.9		ug/L		96	80 - 120
2-Butanone (MEK)	125	139		ug/L		111	57 - 140
2-Hexanone	125	140		ug/L		112	65 - 127
4-Methyl-2-pentanone (MIBK)	125	129		ug/L		103	71 - 125
Acetone	125	157		ug/L		125	56 - 142
Benzene	25.0	23.7		ug/L		95	71 - 124
Bromodichloromethane	25.0	24.2		ug/L		97	80 - 122
Bromoform	25.0	27.8		ug/L		111	61 - 132
Bromomethane	25.0	22.2		ug/L		89	55 - 144
Carbon disulfide	25.0	24.4		ug/L		98	59 - 134
Carbon tetrachloride	25.0	23.8		ug/L		95	72 - 134
Chlorobenzene	25.0	23.5		ug/L		94	80 - 120
Dibromochloromethane	25.0	25.7		ug/L		103	75 - 125
Chloroethane	25.0	21.0		ug/L		84	69 - 136
Chloroform	25.0	22.8		ug/L		91	73 - 127
Chloromethane	25.0	20.9		ug/L		84	68 - 124
1,4-Dioxane J+ (ND)	500	678		ug/L		136	50 - 150
cis-1,2-Dichloroethene	25.0	24.1		ug/L		97	74 - 124
cis-1,3-Dichloropropene	25.0	25.6		ug/L		103	74 - 124

JW 7/27/17

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-359723/4
Matrix: Water
Analysis Batch: 359723

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

70-130 limits

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyclohexane	25.0	23.6		ug/L		94	59 - 135
Dichlorodifluoromethane J (MJ) LCS-L	25.0	17.4		ug/L		69	59 - 135
Ethylbenzene	25.0	24.0		ug/L		96	77 - 123
1,2-Dibromoethane	25.0	24.4		ug/L		98	77 - 120
Isopropylbenzene	25.0	24.5		ug/L		98	77 - 122
Methyl acetate	125	127		ug/L		102	74 - 133
Methyl tert-butyl ether	25.0	26.5		ug/L		106	77 - 120
Methylcyclohexane	25.0	24.3		ug/L		97	68 - 134
Methylene Chloride	25.0	25.0		ug/L		100	75 - 124
Styrene	25.0	23.9		ug/L		96	80 - 120
Tetrachloroethene	25.0	24.8		ug/L		99	74 - 122
Toluene	25.0	24.1		ug/L		96	80 - 122
trans-1,2-Dichloroethene	25.0	24.0		ug/L		96	73 - 127
trans-1,3-Dichloropropene	25.0	25.8		ug/L		103	80 - 120
Trichloroethene	25.0	23.1		ug/L		92	74 - 123
Trichlorofluoromethane	25.0	21.1		ug/L		84	62 - 150
Vinyl chloride	25.0	22.2		ug/L		89	65 - 133
Chlorobromomethane	25.0	22.9		ug/L		92	72 - 130

g 7/27/17

Applies to -1,2 -5,6,7,8,10 -11,12,13

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*97*		*77 - 120*
4-Bromofluorobenzene (Surr)	*104*		*73 - 120*
Dibromofluoromethane (Surr)	*100*		*75 - 123*

Lab Sample ID: 480-118413-13 MS
Matrix: Water
Analysis Batch: 359723

Client Sample ID: 828103-MW041717
Prep Type: Total/NA

70-130 limits

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane J+ (ND)	ND	F1	25.0	31.9	F1	ug/L		127	73 - 126
1,1,2,2-Tetrachloroethane	ND		25.0	26.6		ug/L		106	76 - 120
1,1,2-Trichloroethane	ND		25.0	26.4		ug/L		105	76 - 122
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		25.0	30.8		ug/L		123	61 - 148
1,1-Dichloroethane	ND		25.0	27.9		ug/L		112	77 - 120
1,1-Dichloroethene	ND		25.0	30.0		ug/L		120	66 - 127
1,2,4-Trichlorobenzene	ND		25.0	26.9		ug/L		108	79 - 122
1,2-Dibromo-3-Chloropropane	ND		25.0	27.4		ug/L		110	56 - 134
1,2-Dichlorobenzene	ND		25.0	26.8		ug/L		107	80 - 124
1,2,3-Trichlorobenzene	ND		25.0	27.3		ug/L		109	75 - 123
1,2-Dichloroethane	ND		25.0	29.5		ug/L		118	75 - 120
1,2-Dichloropropane	ND		25.0	27.0		ug/L		108	76 - 120
1,3-Dichlorobenzene	ND		25.0	27.4		ug/L		110	77 - 120
1,4-Dichlorobenzene	ND		25.0	27.0		ug/L		108	78 - 124
2-Butanone (MEK)	ND		125	135		ug/L		108	57 - 140
2-Hexanone	ND		125	142		ug/L		113	65 - 127
4-Methyl-2-pentanone (MIBK)	ND		125	138		ug/L		110	71 - 125

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 480-118413-13 MS
Matrix: Water
Analysis Batch: 359723

Client Sample ID: 828103-MW041717
Prep Type: Total/NA

70-130 | 20 limits

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		125	142		ug/L		114	56 - 142
Benzene	ND		25.0	27.6		ug/L		110	71 - 124
Bromodichloromethane	ND		25.0	30.3		ug/L		121	80 - 122
Bromoform	ND		25.0	29.9		ug/L		119	61 - 132
Bromomethane	ND	F2	25.0	32.6		ug/L		130	55 - 144
Carbon disulfide	ND		25.0	29.4		ug/L		118	59 - 134
Carbon tetrachloride J+ (ND)	ND	F1	25.0	33.8	F1	ug/L		(135)	72 - 134
Chlorobenzene	ND		25.0	27.9		ug/L		112	80 - 120
Dibromochloromethane	ND		25.0	30.2		ug/L		121	75 - 125
Chloroethane	ND		25.0	31.5		ug/L		126	69 - 136
Chloroform	ND		25.0	29.1		ug/L		117	73 - 127
Chloromethane	ND		25.0	23.6		ug/L		94	68 - 124
1,4-Dioxane J+ (ND)	ND		500	675		ug/L		(135)	50 - 150
cis-1,2-Dichloroethene	ND		25.0	28.1		ug/L		112	74 - 124
cis-1,3-Dichloropropene	ND		25.0	28.4		ug/L		113	74 - 124
Cyclohexane	ND		25.0	31.2		ug/L		125	59 - 135
Dichlorodifluoromethane	ND		25.0	25.8		ug/L		103	59 - 135
Ethylbenzene	ND		25.0	29.1		ug/L		116	77 - 123
1,2-Dibromoethane	ND		25.0	27.4		ug/L		109	77 - 120
Isopropylbenzene	ND		25.0	28.5		ug/L		114	77 - 122
Methyl acetate	ND		125	127		ug/L		102	74 - 133
Methyl tert-butyl ether	0.35	J	25.0	30.1		ug/L		119	77 - 120
Methylcyclohexane	ND		25.0	29.1		ug/L		116	68 - 134
Methylene Chloride	ND		25.0	27.8		ug/L		111	75 - 124
Styrene	ND		25.0	27.7		ug/L		111	80 - 120
Tetrachloroethene	ND		25.0	29.6		ug/L		118	74 - 122
Toluene	ND		25.0	27.3		ug/L		109	80 - 122
trans-1,2-Dichloroethene	ND		25.0	28.4		ug/L		113	73 - 127
trans-1,3-Dichloropropene	ND		25.0	28.4		ug/L		114	80 - 120
Trichloroethene	ND		25.0	28.1		ug/L		112	74 - 123
Trichlorofluoromethane	ND		25.0	32.2		ug/L		129	62 - 150
Vinyl chloride	ND		25.0	25.7		ug/L		103	65 - 133
Chlorobromomethane	ND		25.0	25.8		ug/L		103	72 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*105*		*77 - 120*
4-Bromofluorobenzene (Surr)	*107*		*73 - 120*
Dibromofluoromethane (Surr)	*107*		*75 - 123*

J 7/27/17

Lab Sample ID: 480-118413-13 MSD
Matrix: Water
Analysis Batch: 359723

Client Sample ID: 828103-MW041717
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND	F1	25.0	30.5		ug/L		122	73 - 126	4	15
1,1,2,2-Tetrachloroethane	ND		25.0	27.1		ug/L		108	76 - 120	2	15
1,1,2-Trichloroethane	ND		25.0	26.4		ug/L		106	76 - 122	0	15

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 480-118413-13 MSD
Matrix: Water
Analysis Batch: 359723

70-130/20 limits

Client Sample ID: 828103-MW041717
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		25.0	28.9		ug/L		115	61 - 148	7	20
1,1-Dichloroethane	ND		25.0	27.8		ug/L		111	77 - 120	1	20
1,1-Dichloroethene	ND		25.0	28.9		ug/L		116	66 - 127	4	16
1,2,4-Trichlorobenzene	ND		25.0	27.4		ug/L		110	79 - 122	2	20
1,2-Dibromo-3-Chloropropane	ND		25.0	28.6		ug/L		114	56 - 134	4	15
1,2-Dichlorobenzene	ND		25.0	27.5		ug/L		110	80 - 124	3	20
1,2,3-Trichlorobenzene	ND		25.0	28.1		ug/L		113	75 - 123	3	20
1,2-Dichloroethane	ND		25.0	28.5		ug/L		114	75 - 120	3	20
1,2-Dichloropropane	ND		25.0	26.8		ug/L		107	76 - 120	1	20
1,3-Dichlorobenzene	ND		25.0	27.7		ug/L		111	77 - 120	1	20
1,4-Dichlorobenzene	ND		25.0	27.5		ug/L		110	78 - 124	2	20
2-Butanone (MEK)	ND		125	137		ug/L		109	57 - 140	1	20
2-Hexanone	ND		125	146		ug/L		117	65 - 127	3	15
4-Methyl-2-pentanone (MIBK)	ND		125	138		ug/L		111	71 - 125	0	35
Acetone	ND		125	140		ug/L		112	56 - 142	1	15
Benzene	ND		25.0	27.2		ug/L		109	71 - 124	1	13
Bromodichloromethane	ND		25.0	29.5		ug/L		118	80 - 122	3	15
Bromoform	ND		25.0	29.3		ug/L		117	61 - 132	2 ✓	15
Bromomethane	ND	F2	25.0	26.6	F2	ug/L		107	55 - 144 ✓	20	15
Carbon disulfide	ND		25.0	32.2		ug/L		129	59 - 134	9	15
Carbon tetrachloride	ND	F1	25.0	32.5		ug/L		130 ✓	72 - 134	4	15
Chlorobenzene	ND		25.0	27.5		ug/L		110	80 - 120	1	25
Dibromochloromethane	ND		25.0	29.6		ug/L		118	75 - 125	2	15
Chloroethane	ND		25.0	28.8		ug/L		115	69 - 136	9	15
Chloroform	ND		25.0	27.9		ug/L		112	73 - 127	4	20
Chloromethane	ND		25.0	22.8		ug/L		91	68 - 124	4	15
1,4-Dioxane J+ (ND)	ND		500	698		ug/L		140	50 - 150	3	20
cis-1,2-Dichloroethene	ND		25.0	27.5		ug/L		110	74 - 124	2	15
cis-1,3-Dichloropropene	ND		25.0	27.8		ug/L		111	74 - 124	2	15
Cyclohexane	ND		25.0	30.0		ug/L		120	59 - 135	4	20
Dichlorodifluoromethane	ND		25.0	23.5		ug/L		94	59 - 135	9	20
Ethylbenzene	ND		25.0	28.4		ug/L		114	77 - 123	2	15
1,2-Dibromoethane	ND		25.0	26.7		ug/L		107	77 - 120	2	15
Isopropylbenzene	ND		25.0	29.1		ug/L		116	77 - 122	2	20
Methyl acetate JF 7/27/13	ND		125	129		ug/L		103	74 - 133	1	20
Methyl tert-butyl ether	0.35	J	25.0	29.3		ug/L		116	77 - 120	2	37
Methylcyclohexane	ND		25.0	28.5		ug/L		114	68 - 134	2	20
Methylene Chloride	ND		25.0	27.5		ug/L		110	75 - 124	1	15
Styrene	ND		25.0	27.7		ug/L		111	80 - 120	0	20
Tetrachloroethene	ND		25.0	28.7		ug/L		115	74 - 122	3	20
Toluene	ND		25.0	27.0		ug/L		108	80 - 122	1	15
trans-1,2-Dichloroethene	ND		25.0	27.5		ug/L		110	73 - 127	3	20
trans-1,3-Dichloropropene	ND		25.0	28.1		ug/L		112	80 - 120	1	15
Trichloroethene	ND		25.0	27.3		ug/L		109	74 - 123	3	16
Trichlorofluoromethane	ND		25.0	29.0		ug/L		116	62 - 150	10	20
Vinyl chloride	ND		25.0	24.4		ug/L		97	65 - 133	5	15
Chlorobromomethane	ND		25.0	25.3		ug/L		101	72 - 130	2	15

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 480-118413-9 MS
Matrix: Water
Analysis Batch: 359999

Client Sample ID: 828103-MW15K2317
Prep Type: Total/NA

70-130 | 20 limits

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibromochloromethane	ND		500	422		ug/L		84	75 - 125
Chloroethane	ND		500	410		ug/L		82	69 - 136
Chloroform	ND		500	408		ug/L		82	73 - 127
Chloromethane	ND		500	420		ug/L		84	68 - 124
1,4-Dioxane	ND		10000	11000		ug/L		110	50 - 150
cis-1,2-Dichloroethene	390	F1	500	745	F1	ug/L		70	74 - 124
cis-1,3-Dichloropropene	ND		500	404		ug/L		81	74 - 124
Cyclohexane	ND		500	436		ug/L		87	59 - 135
Dichlorodifluoromethane J UJ	ND		500	295		ug/L		59	59 - 135
Ethylbenzene	ND		500	396		ug/L		79	77 - 123
1,2-Dibromoethane	ND		500	405		ug/L		81	77 - 120
Isopropylbenzene	ND		500	402		ug/L		80	77 - 122
Methyl acetate	ND		2500	2390		ug/L		96	74 - 133
Methyl tert-butyl ether	ND		500	413		ug/L		83	77 - 120
Methylcyclohexane	ND		500	385		ug/L		77	68 - 134
Methylene Chloride	ND		500	437		ug/L		87	75 - 124
Styrene	ND		500	415		ug/L		83	80 - 120
Tetrachloroethene J UJ	900	F1	500	1060	F1	ug/L		31	74 - 122
Toluene	ND		500	400		ug/L		80	80 - 122
trans-1,2-Dichloroethene	ND		500	419		ug/L		84	73 - 127
trans-1,3-Dichloropropene	ND		500	412		ug/L		82	80 - 120
Trichloroethene	280	F1	500	630	F1	ug/L		71	74 - 123
Trichlorofluoromethane J UJ	ND		500	320		ug/L		64	62 - 150
Vinyl chloride	85		500	468		ug/L		77	65 - 133
Chlorobromomethane	ND		500	416		ug/L		83	72 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*83*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*90*		*77 - 120*
4-Bromofluorobenzene (Surr)	*83*		*73 - 120*
Dibromofluoromethane (Surr)	*86*		*75 - 123*

Lab Sample ID: 480-118413-9 MSD
Matrix: Water
Analysis Batch: 359999

JF 7/27/17

Client Sample ID: 828103-MW15K2317
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		500	422		ug/L		84	73 - 126	4	15
1,1,2,2-Tetrachloroethane	ND		500	431		ug/L		86	76 - 120	3	15
1,1,2-Trichloroethane	ND		500	424		ug/L		85	76 - 122	3	15
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		500	418		ug/L		84	61 - 148	4	20
1,1-Dichloroethane	13	J	500	454		ug/L		88	77 - 120	2	20
1,1-Dichloroethene	13	J	500	441		ug/L		86	66 - 127	5	16
1,2,4-Trichlorobenzene	ND	F1	500	409		ug/L		82	79 - 122	5	20
1,2-Dibromo-3-Chloropropane	ND		500	468		ug/L		94	56 - 134	9	15
1,2-Dichlorobenzene	ND		500	427		ug/L		85	80 - 124	6	20
1,2,3-Trichlorobenzene	ND		500	408		ug/L		82	75 - 123	4	20

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 480-118413-9 MSD
Matrix: Water
Analysis Batch: 359999

Client Sample ID: 828103-MW15K2317
Prep Type: Total/NA

70-130/20 limits

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dichloroethane	ND		500	437		ug/L		87	75 - 120	1	20
1,2-Dichloropropane	ND		500	458		ug/L		92	76 - 120	3	20
1,3-Dichlorobenzene	ND		500	421		ug/L		84	77 - 120	5	20
1,4-Dichlorobenzene	ND		500	428		ug/L		86	78 - 124	6	20
2-Butanone (MEK)	ND		2500	2430		ug/L		97	57 - 140	0	20
2-Hexanone	ND		2500	2420		ug/L		97	65 - 127	3	15
4-Methyl-2-pentanone (MIBK)	ND		2500	2400		ug/L		96	71 - 125	2	35
Acetone	ND		2500	2480		ug/L		99	56 - 142	2	15
Benzene	ND		500	430		ug/L		86	71 - 124	2	13
Bromodichloromethane	ND		500	447		ug/L		89	80 - 122	4	15
Bromoform	ND		500	470		ug/L		94	61 - 132	6	15
Bromomethane	ND		500	432		ug/L		86	55 - 144	3	15
Carbon disulfide	ND		500	415		ug/L		83	59 - 134	5	15
Carbon tetrachloride	ND		500	445		ug/L		89	72 - 134	4	15
Chlorobenzene	ND		500	409		ug/L		82	80 - 120	3	25
Dibromochloromethane	ND		500	438		ug/L		88	75 - 125	4	15
Chloroethane	ND		500	440		ug/L		88	69 - 136	7	15
Chloroform	ND		500	418		ug/L		84	73 - 127	2	20
Chloromethane	ND		500	436		ug/L		87	68 - 124	4	15
1,4-Dioxane	ND		10000	11600		ug/L		116	50 - 150	5	20
cis-1,2-Dichloroethene	390	F1	500	768		ug/L		75	74 - 124	3	15
cis-1,3-Dichloropropene	ND		500	417		ug/L		83	74 - 124	3	15
Cyclohexane	ND		500	455		ug/L		91	59 - 135	4	20
Dichlorodifluoromethane J UJ	ND		500	310		ug/L		62	59 - 135	5	20
Ethylbenzene	ND		500	410		ug/L		82	77 - 123	3	15
1,2-Dibromoethane	ND		500	425		ug/L		85	77 - 120	5	15
Isopropylbenzene	ND		500	428		ug/L		86	77 - 122	6	20
Methyl acetate	ND		2500	2410		ug/L		96	74 - 133	1	20
Methyl tert-butyl ether	ND		500	415		ug/L		83	77 - 120	0	37
Methylcyclohexane	ND		500	399		ug/L		80	68 - 134	4	20
Methylene Chloride	ND		500	442		ug/L		88	75 - 124	1	15
Styrene	ND		500	428		ug/L		86	80 - 120	3	20
Tetrachloroethene J UJ	900	F1	500	1120	F1	ug/L		44	74 - 122	6	20
Toluene	ND		500	420		ug/L		84	80 - 122	5	15
trans-1,2-Dichloroethene	ND		500	434		ug/L		87	73 - 127	4	20
trans-1,3-Dichloropropene	ND		500	431		ug/L		86	80 - 120	5	15
Trichloroethene	280	F1	500	664		ug/L		77	74 - 123	5	16
Trichlorofluoromethane J UJ	ND		500	335		ug/L		67	62 - 150	5	20
Vinyl chloride	85		500	485		ug/L		80	65 - 133	4	15
Chlorobromomethane	ND		500	431		ug/L		86	72 - 130	3	15

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*85*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*89*		*77 - 120*
4-Bromofluorobenzene (Surr)	*85*		*73 - 120*
Dibromofluoromethane (Surr)	*87*		*75 - 123*

JW 7/27/17

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-359944/4
Matrix: Water
Analysis Batch: 359944

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

70-130 limits

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyclohexane	25.0	23.8		ug/L		95	59 - 135
Dichlorodifluoromethane JKJ	25.0	16.1		ug/L		64	59 - 135
Ethylbenzene	25.0	24.2		ug/L		97	77 - 123
1,2-Dibromoethane	25.0	23.8		ug/L		95	77 - 120
Isopropylbenzene	25.0	24.7		ug/L		99	77 - 122
Methyl acetate	125	123		ug/L		99	74 - 133
Methyl tert-butyl ether	25.0	27.7		ug/L		111	77 - 120
Methylcyclohexane	25.0	23.7		ug/L		95	68 - 134
Methylene Chloride	25.0	26.1		ug/L		104	75 - 124
Styrene	25.0	23.6		ug/L		94	80 - 120
Tetrachloroethene	25.0	23.9		ug/L		96	74 - 122
Toluene	25.0	23.3		ug/L		93	80 - 122
trans-1,2-Dichloroethene	25.0	24.1		ug/L		96	73 - 127
trans-1,3-Dichloropropene	25.0	25.5		ug/L		102	80 - 120
Trichloroethene	25.0	23.8		ug/L		95	74 - 123
Trichlorofluoromethane	25.0	23.0		ug/L		92	62 - 150
Vinyl chloride	25.0	21.7		ug/L		87	65 - 133
Chlorobromomethane	25.0	23.1		ug/L		92	72 - 130

Applies to 1 thru 8

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*99*		*77 - 120*
4-Bromofluorobenzene (Surr)	*102*		*73 - 120*
Dibromofluoromethane (Surr)	*100*		*75 - 123*

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 460-440053/7
Matrix: Water
Analysis Batch: 440053

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.40	0.20	ug/L			05/30/17 11:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*71 - 144*		*05/30/17 11:41*	*1*
4-Bromofluorobenzene	*103*		*72 - 133*		*05/30/17 11:41*	*1*

Lab Sample ID: LCS 460-440053/3
Matrix: Water
Analysis Batch: 440053

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	5.00	5.04		ug/L		101	66 - 135

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*91*		*71 - 144*

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-360295/6
Matrix: Water
Analysis Batch: 360295

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		1.0	0.90	ug/L			06/03/17 01:43	1
Xylenes, Total	ND		2.0	0.66	ug/L			06/03/17 01:43	1
Chlorobromomethane	ND		1.0	0.87	ug/L			06/03/17 01:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*80 - 120*		*06/03/17 01:43*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*77 - 120*		*06/03/17 01:43*	*1*
4-Bromofluorobenzene (Surr)	*105*		*73 - 120*		*06/03/17 01:43*	*1*
Dibromofluoromethane (Surr)	*106*		*75 - 123*		*06/03/17 01:43*	*1*

Lab Sample ID: LCS 480-360295/4
Matrix: Water
Analysis Batch: 360295

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

70-130 limits

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	23.9		ug/L		95	73 - 126
1,1,2,2-Tetrachloroethane	25.0	22.8		ug/L		91	76 - 120
1,1,2-Trichloroethane	25.0	23.6		ug/L		94	76 - 122
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	21.4		ug/L		85	61 - 148
1,1-Dichloroethane	25.0	23.8		ug/L		95	77 - 120
1,1-Dichloroethene	25.0	22.0		ug/L		88	66 - 127
1,2,4-Trichlorobenzene	25.0	24.3		ug/L		97	79 - 122
1,2-Dibromo-3-Chloropropane	25.0	23.5		ug/L		94	56 - 134
1,2-Dichlorobenzene	25.0	23.6		ug/L		94	80 - 124
1,2,3-Trichlorobenzene	25.0	24.6		ug/L		98	75 - 123
1,2-Dichloroethane	25.0	26.1		ug/L		104	75 - 120
1,2-Dichloropropane	25.0	23.1		ug/L		92	76 - 120
1,3-Dichlorobenzene	25.0	23.7		ug/L		95	77 - 120
1,4-Dichlorobenzene	25.0	23.6		ug/L		94	80 - 120
2-Butanone (MEK)	125	130		ug/L		104	57 - 140
2-Hexanone	125	134		ug/L		107	65 - 127
4-Methyl-2-pentanone (MIBK)	125	129		ug/L		103	71 - 125
Acetone	125	145		ug/L		116	56 - 142
Benzene	25.0	23.0		ug/L		92	71 - 124
Bromodichloromethane	25.0	26.1		ug/L		105	80 - 122
Bromoform	25.0	27.2		ug/L		109	61 - 132
Bromomethane	25.0	30.0		ug/L		120	55 - 144
Carbon disulfide	25.0	24.6		ug/L		98	59 - 134
Carbon tetrachloride	25.0	23.9		ug/L		95	72 - 134
Chlorobenzene	25.0	23.7		ug/L		95	80 - 120
Dibromochloromethane	25.0	26.4		ug/L		106	75 - 125
Chloroethane	25.0	25.1		ug/L		100	69 - 136
Chloroform	25.0	24.5		ug/L		98	73 - 127
Chloromethane	25.0	26.2		ug/L		105	68 - 124
1,4-Dioxane J+ (ND)	500	664		ug/L		133	50 - 150
cis-1,2-Dichloroethene	25.0	23.9		ug/L		95	74 - 124
cis-1,3-Dichloropropene	25.0	25.8		ug/L		103	74 - 124

JA 7/27/17

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-360295/4
Matrix: Water
Analysis Batch: 360295

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyclohexane	25.0	19.8		ug/L		79	59 - 135
Dichlorodifluoromethane	25.0	23.9		ug/L		96	59 - 135
Ethylbenzene	25.0	23.7		ug/L		95	77 - 123
1,2-Dibromoethane	25.0	24.3		ug/L		97	77 - 120
Isopropylbenzene	25.0	22.8		ug/L		91	77 - 122
Methyl acetate	125	123		ug/L		99	74 - 133
Methyl tert-butyl ether	25.0	27.7		ug/L		111	77 - 120
Methylcyclohexane	25.0	19.7		ug/L		79	68 - 134
Methylene Chloride	25.0	26.1		ug/L		104	75 - 124
Styrene	25.0	23.5		ug/L		94	80 - 120
Tetrachloroethene	25.0	24.4		ug/L		98	74 - 122
Toluene	25.0	22.9		ug/L		91	80 - 122
trans-1,2-Dichloroethene	25.0	22.8		ug/L		91	73 - 127
trans-1,3-Dichloropropene	25.0	25.9		ug/L		103	80 - 120
Trichloroethene	25.0	23.1		ug/L		92	74 - 123
Trichlorofluoromethane	25.0	25.4		ug/L		102	62 - 150
Vinyl chloride	25.0	26.9		ug/L		108	65 - 133
Chlorobromomethane	25.0	24.2		ug/L		97	72 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*105*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*107*		*77 - 120*
4-Bromofluorobenzene (Surr)	*111*		*73 - 120*
Dibromofluoromethane (Surr)	*110*		*75 - 123*

Lab Sample ID: 480-118655-3 MS Applies to sample & DUP 70-130/20 limits
Matrix: Water
Analysis Batch: 360295

Client Sample ID: 828103-MW13K1917
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	ND		10000	7790		ug/L		78	73 - 126
1,1,2,2-Tetrachloroethane	ND		10000	9890		ug/L		99	76 - 120
1,1,2-Trichloroethane	ND		10000	9570		ug/L		96	76 - 122
1,1,2-Trichloro-1,2,2-trifluoroethane	ND J45		10000	6140		ug/L		61	61 - 148
1,1-Dichloroethane	ND		10000	9130		ug/L		91	77 - 120
1,1-Dichloroethene	ND		10000	7990		ug/L		80	66 - 127
1,2,4-Trichlorobenzene	ND		10000	9000		ug/L		90	79 - 122
1,2-Dibromo-3-Chloropropane	ND		10000	8980		ug/L		90	56 - 134
1,2-Dichlorobenzene	ND		10000	9320		ug/L		93	80 - 124
1,2,3-Trichlorobenzene	ND		10000	9170		ug/L		92	75 - 123
1,2-Dichloroethane	ND		10000	9490		ug/L		95	75 - 120
1,2-Dichloropropane	ND		10000	9580		ug/L		96	76 - 120
1,3-Dichlorobenzene	ND		10000	9290		ug/L		93	77 - 120
1,4-Dichlorobenzene	ND		10000	9270		ug/L		93	78 - 124
2-Butanone (MEK)	ND		50000	51800		ug/L		104	57 - 140
2-Hexanone	ND		50000	54700		ug/L		109	65 - 127
4-Methyl-2-pentanone (MIBK)	ND		50000	53000		ug/L		106	71 - 125

7/27/17

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 480-118655-3 MS
Matrix: Water
Analysis Batch: 360295

Client Sample ID: 828103-MW13K1917
Prep Type: Total/NA

70-130 / 20 limits

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		50000	51000		ug/L		102	56 - 142
Benzene	ND		10000	9100		ug/L		91	71 - 124
Bromodichloromethane	ND		10000	9450		ug/L		94	80 - 122
Bromoform	ND		10000	9450		ug/L		94	61 - 132
Bromomethane	ND		10000	8840		ug/L		88	55 - 144
Carbon disulfide	ND		10000	8930		ug/L		89	59 - 134
Carbon tetrachloride	ND		10000	7480		ug/L		75	72 - 134
Chlorobenzene	ND		10000	9230		ug/L		92	80 - 120
Dibromochloromethane	ND		10000	9580		ug/L		96	75 - 125
Chloroethane	ND		10000	7800		ug/L		78	69 - 136
Chloroform	ND		10000	9080		ug/L		91	73 - 127
Chloromethane	ND		10000	8600		ug/L		86	68 - 124
1,4-Dioxane	ND		200000	230000		ug/L		115	50 - 150
cis-1,2-Dichloroethene	3100		10000	12500		ug/L		94	74 - 124
cis-1,3-Dichloropropene	ND		10000	9560		ug/L		96	74 - 124
Cyclohexane	ND	F2	10000	6330		ug/L		63	59 - 135
Dichlorodifluoromethane	ND	F1	10000	5650	F1	ug/L		56	59 - 135
Ethylbenzene	ND		10000	9050		ug/L		91	77 - 123
1,2-Dibromoethane	ND		10000	9600		ug/L		96	77 - 120
Isopropylbenzene	ND		10000	8680		ug/L		87	77 - 122
Methyl acetate	ND		50000	50800		ug/L		102	74 - 133
Methyl tert-butyl ether	ND		10000	10200		ug/L		102	77 - 120
Methylcyclohexane	ND	F1	10000	5960	F1	ug/L		60	68 - 134
Methylene Chloride	ND		10000	10000		ug/L		100	75 - 124
Styrene	ND		10000	9310		ug/L		93	80 - 120
Tetrachloroethene	10000		10000	18700		ug/L		83	74 - 122
Toluene	ND		10000	8990		ug/L		90	80 - 122
trans-1,2-Dichloroethene	ND		10000	8830		ug/L		88	73 - 127
trans-1,3-Dichloropropene	ND		10000	9450		ug/L		95	80 - 120
Trichloroethene	2200		10000	10500		ug/L		83	74 - 123
Trichlorofluoromethane	ND	F1	10000	6100	F1	ug/L		61	62 - 150
Vinyl chloride	360	J	10000	8080		ug/L		81	65 - 133
Chlorobromomethane	ND		10000	9100		ug/L		91	72 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*106*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*102*		*77 - 120*
4-Bromofluorobenzene (Surr)	*107*		*73 - 120*
Dibromofluoromethane (Surr)	*101*		*75 - 123*

Lab Sample ID: 480-118655-3 MSD
Matrix: Water
Analysis Batch: 360295

Client Sample ID: 828103-MW13K1917
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		10000	8610		ug/L		86	73 - 126	10	15
1,1,2,2-Tetrachloroethane	ND		10000	9780		ug/L		98	76 - 120	1	15
1,1,2-Trichloroethane	ND		10000	9710		ug/L		97	76 - 122	1	15

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 480-118655-3 MSD
Matrix: Water
Analysis Batch: 360295

Client Sample ID: 828103-MW13K1917
Prep Type: Total/NA

70-130/20 limits

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10000	7230		ug/L		72	61 - 148	16	20
1,1-Dichloroethane	ND		10000	9620		ug/L		96	77 - 120	5	20
1,1-Dichloroethene	ND		10000	8670		ug/L		87	66 - 127	8	16
1,2,4-Trichlorobenzene	ND		10000	9350		ug/L		93	79 - 122	4	20
1,2-Dibromo-3-Chloropropane	ND		10000	9190		ug/L		92	56 - 134	2	15
1,2-Dichlorobenzene	ND		10000	9620		ug/L		96	80 - 124	3	20
1,2,3-Trichlorobenzene	ND		10000	9640		ug/L		96	75 - 123	5	20
1,2-Dichloroethane	ND		10000	9630		ug/L		96	75 - 120	1	20
1,2-Dichloropropane	ND		10000	9920		ug/L		99	76 - 120	3	20
1,3-Dichlorobenzene	ND		10000	9620		ug/L		96	77 - 120	4	20
1,4-Dichlorobenzene	ND		10000	9440		ug/L		94	78 - 124	2	20
2-Butanone (MEK)	ND		50000	51600		ug/L		103	57 - 140	0	20
2-Hexanone	ND		50000	54600		ug/L		109	65 - 127	0	15
4-Methyl-2-pentanone (MIBK)	ND		50000	53600		ug/L		107	71 - 125	1	35
Acetone	ND		50000	50900		ug/L		102	56 - 142	0	15
Benzene	ND		10000	9470		ug/L		95	71 - 124	4	13
Bromodichloromethane	ND		10000	9780		ug/L		98	80 - 122	3	15
Bromoform	ND		10000	10300		ug/L		103	61 - 132	8	15
Bromomethane	ND		10000	9550		ug/L		96	55 - 144	8	15
Carbon disulfide	ND		10000	9830		ug/L		98	59 - 134	10	15
Carbon tetrachloride	ND		10000	8280		ug/L		83	72 - 134	10	15
Chlorobenzene	ND		10000	9710		ug/L		97	80 - 120	5	25
Dibromochloromethane	ND		10000	10000		ug/L		100	75 - 125	5	15
Chloroethane	ND		10000	8360		ug/L		84	69 - 136	7	15
Chloroform	ND		10000	9410		ug/L		94	73 - 127	4	20
Chloromethane	ND		10000	8880		ug/L		89	68 - 124	3	15
1,4-Dioxane	ND		200000	237000		ug/L		119	50 - 150	3	20
cis-1,2-Dichloroethene	3100		10000	13000		ug/L		99	74 - 124	4	15
cis-1,3-Dichloropropene	ND		10000	9940		ug/L		99	74 - 124	4	15
Cyclohexane no RPD qual since J/UJ	ND	F2	10000	8240	F2	ug/L		82	59 - 135	26	20
Dichlorodifluoromethane	ND	F1	10000	6800		ug/L		68	59 - 135	19	20
Ethylbenzene	ND		10000	9570		ug/L		96	77 - 123	6	15
1,2-Dibromoethane	ND		10000	9730		ug/L		97	77 - 120	1	15
Isopropylbenzene	ND		10000	9360		ug/L		94	77 - 122	7	20
Methyl acetate	ND		50000	51000		ug/L		102	74 - 133	0	20
Methyl tert-butyl ether	ND		10000	10400		ug/L		104	77 - 120	2	37
Methylcyclohexane	ND	F1	10000	7250		ug/L		73	68 - 134	20	20
Methylene Chloride	ND		10000	10500		ug/L		105	75 - 124	5	15
Styrene	ND		10000	9800		ug/L		98	80 - 120	5	20
Tetrachloroethene	10000		10000	20700		ug/L		102	74 - 122	10	20
Toluene	ND		10000	9520		ug/L		95	80 - 122	6	15
trans-1,2-Dichloroethene	ND		10000	9110		ug/L		91	73 - 127	3	20
trans-1,3-Dichloropropene	ND		10000	10100		ug/L		101	80 - 120	7	15
Trichloroethene	2200		10000	11200		ug/L		90	74 - 123	7	16
Trichlorofluoromethane J/UJ	ND	F1	10000	6870		ug/L		69	62 - 150	12	20
Vinyl chloride	360	J	10000	8980		ug/L		90	65 - 133	11	15
Chlorobromomethane	ND		10000	9470		ug/L		95	72 - 130	4	15

6/13/17

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-360379/7
Matrix: Water
Analysis Batch: 360379

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	88		75 - 123		06/04/17 12:58	1

Lab Sample ID: LCS 480-360379/5
Matrix: Water
Analysis Batch: 360379

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

70-130 limits

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	21.4		ug/L		86	73 - 126
1,1,2,2-Tetrachloroethane	25.0	21.3		ug/L		85	76 - 120
1,1,2-Trichloroethane	25.0	21.3		ug/L		85	76 - 122
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	21.7		ug/L		87	61 - 148
1,1-Dichloroethane	25.0	22.3		ug/L		89	77 - 120
1,1-Dichloroethene	25.0	20.8		ug/L		83	66 - 127
1,2,4-Trichlorobenzene	25.0	20.4		ug/L		82	79 - 122
1,2-Dibromo-3-Chloropropane	25.0	23.3		ug/L		93	56 - 134
1,2-Dichlorobenzene	25.0	21.0		ug/L		84	80 - 124
1,2,3-Trichlorobenzene	25.0	20.5		ug/L		82	75 - 123
1,2-Dichloroethane	25.0	21.9		ug/L		88	75 - 120
1,2-Dichloropropane	25.0	22.6		ug/L		90	76 - 120
1,3-Dichlorobenzene	25.0	21.0		ug/L		84	77 - 120
1,4-Dichlorobenzene	25.0	21.1		ug/L		84	80 - 120
2-Butanone (MEK)	125	121		ug/L		97	57 - 140
2-Hexanone	125	128		ug/L		102	65 - 127
4-Methyl-2-pentanone (MIBK)	125	120		ug/L		96	71 - 125
Acetone	125	126		ug/L		101	56 - 142
Benzene	25.0	21.7		ug/L		87	71 - 124
Bromodichloromethane	25.0	22.5		ug/L		90	80 - 122
Bromoform	25.0	25.5		ug/L		102	61 - 132
Bromomethane	25.0	20.9		ug/L		83	55 - 144
Carbon disulfide	25.0	20.0		ug/L		80	59 - 134
Carbon tetrachloride	25.0	23.1		ug/L		93	72 - 134
Chlorobenzene	25.0	20.9		ug/L		84	80 - 120
Dibromochloromethane	25.0	23.5		ug/L		94	75 - 125
Chloroethane	25.0	21.9		ug/L		88	69 - 136
Chloroform	25.0	20.6		ug/L		82	73 - 127
Chloromethane	25.0	20.5		ug/L		82	68 - 124
1,4-Dioxane	500	551		ug/L		110	50 - 150
cis-1,2-Dichloroethene	25.0	20.4		ug/L		82	74 - 124
cis-1,3-Dichloropropene	25.0	21.8		ug/L		87	74 - 124
Cyclohexane	25.0	23.3		ug/L		93	59 - 135
Dichlorodifluoromethane	25.0	16.7		ug/L		67	59 - 135
Ethylbenzene	25.0	20.8		ug/L		83	77 - 123
1,2-Dibromoethane	25.0	21.1		ug/L		85	77 - 120
Isopropylbenzene	25.0	20.6		ug/L		82	77 - 122
Methyl acetate	125	120		ug/L		96	74 - 133
Methyl tert-butyl ether	25.0	20.8		ug/L		83	77 - 120
Methylcyclohexane	25.0	20.8		ug/L		83	68 - 134

Applies to TB; no quals

JLJ

JL 7/27/17

VOC Sample Calc

Report Date: 03-Jun-2017 09:50:21 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Buffalo
Target Compound Quantitation Report

Conc = 528115 / 187702 x 31.3 / 1.7844

Data File: \\ChromNA\Buffalo\ChromData\HP5973P\20170602-62966.b\P27398.D
Lims ID: 480-118655-B-1
Client ID: 828103-MW10S1117
Sample Type: Client
Inject. Date: 03-Jun-2017 02:38:30 ALS Bottle#: 8 Worklist Smp#: 14
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 480-118655-B-1
Misc. Info.: 480-0062966-014
Operator ID: AS Instrument ID: HP5973P

= 49.35 ug/L

OK

JR 7/28/17

Method: \\ChromNA\Buffalo\ChromData\HP5973P\20170602-62966.b\P-8260H2O.m
Limit Group: MV - 8260C ICAL
Last Update: 03-Jun-2017 09:50:20 Calib Date: 22-May-2017 19:18:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Buffalo\ChromData\HP5973P\20170522-62693.b\P26814.D

Column 1 : ZB-624 (0.25 mm) Det: MS SCAN
Process Host: XAWRK023

First Level Reviewer: sonkera Date: 03-Jun-2017 09:50:20

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/L	Flags
* 147 Fluorobenzene (IS)	70	9.791	9.791	0.000	97	187702	31.3	
* 2 Chlorobenzene-d5	82	13.727	13.727	0.000	88	398004	31.3	
* 3 1,4-Dichlorobenzene-d4	152	16.714	16.714	0.000	96	452536	31.3	
$ 148 Dibromofluoromethane (Surr	113	8.976	8.976	0.000	93	186836	26.8	
$ 4 1,2-Dichloroethane-d4 (Sur	67	9.420	9.414	0.006	0	137276	26.1	
$ 5 Toluene-d8 (Surr)	98	11.762	11.762	0.000	94	616030	24.8	
$ 6 4-Bromofluorobenzene (Surr	174	15.242	15.236	0.006	90	232923	25.0	
10 Dichlorodifluoromethane	85		3.969				ND	
11 Chloromethane	50		4.291				ND	
17 Vinyl chloride	62		4.504				ND	
12 Bromomethane	94		5.040				ND	
13 Chloroethane	64		5.173				ND	
14 Trichlorofluoromethane	101		5.581				ND	
16 1,1,2-Trichloro-1,2,2-trif	101		6.220				ND	
25 1,1-Dichloroethene	96		6.262				ND	
24 Acetone	43	6.299	6.299	0.012	95	6918	1.40	7
27 Carbon disulfide	76		6.646				ND	
30 Methyl acetate	43		6.664				ND	
31 Methylene Chloride	84		6.877				ND	
32 Methyl tert-butyl ether	73		7.132				ND	
35 trans-1,2-Dichloroethene	96	7.217	7.217	0.018	39	1361	0.1457	7
40 1,1-Dichloroethane	63		7.716				ND	
44 2-Butanone (MEK)	43		8.361				ND	
43 cis-1,2-Dichloroethene	96	8.428	8.416	0.012	85	60137	5.58	
50 Chlorobromomethane	128		8.726				ND	
49 Chloroform	83	8.769	8.769	0.000	52	5169	0.2677	
52 1,1,1-Trichloroethane	97	9.024	9.024	-0.006	1	2206	0.1241	7
54 Cyclohexane	56		9.097				ND	
55 Carbon tetrachloride	117		9.231				ND	
57 Benzene	78		9.481				ND	
60 1,2-Dichloroethane	62		9.505				ND	

WC Sample Calc
JR 7/26/17

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/L	Flags
62 Trichloroethene	95	10.241	10.235	0.006	93	528115	✓ 49.3 (See previous page)	
64 Methylcyclohexane	83		10.466				ND	
63 1,2-Dichloropropane	63		10.539				ND	
68 1,4-Dioxane	88		10.661				ND	
70 Dichlorobromomethane	83		10.868				ND	
73 cis-1,3-Dichloropropene	75		11.403				ND	
75 4-Methyl-2-pentanone (MIBK	43		11.512				ND	
76 Toluene	92		11.847				ND	
78 trans-1,3-Dichloropropene	75		12.109				ND	
79 1,1,2-Trichloroethane	83		12.389				ND	
80 Tetrachloroethene	166	12.595	12.589	0.006	92	549242	50.0	
83 2-Hexanone	43		12.601				ND	
81 Chlorodibromomethane	129		12.973				ND	
85 Ethylene Dibromide	107		13.167				ND	
87 Chlorobenzene	112		13.763				ND	
89 Ethylbenzene	91	13.830	13.830	0.000	1	712	0.0150	7
90 m-Xylene & p-Xylene	106		13.970				ND	
93 o-Xylene	106		14.518				ND	
94 Styrene	104		14.536				ND	
92 Bromoform	173		14.889				ND	
95 Isopropylbenzene	105		14.962				ND	
97 1,1,2,2-Tetrachloroethane	83		15.388				ND	
110 1,3-Dichlorobenzene	146		16.641				ND	
111 1,4-Dichlorobenzene	146		16.744				ND	
116 1,2-Dichlorobenzene	146		17.231				ND	
117 1,2-Dibromo-3-Chloropropan	75		18.198				ND	
119 1,2,4-Trichlorobenzene	180	19.275	19.275	0.000	1	1205	0.0597	7
122 1,2,3-Trichlorobenzene	180		20.023				ND	
S 126 Xylenes, Total	1		30.000				ND	

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Reagents:

P 8260 IS_00221	Amount Added: 1.25	Units: uL	Run Reagent
P 8260 Surr._00220	Amount Added: 1.25	Units: uL	Run Reagent

VOCs

NYSDEC DUSR PROJECT CHEMIST REVIEW RECORD

Project: Dinaburg
Method: 8260 SIM 1,4 Dioxane
Laboratory: TAL
Date: 7/20/17
Reviewer: Julie Ricardi

SDG(s): 480-118500-1, 480-118655-1

Review Level [X] NYSDEC DUSR USEPA Region II Guideline

1. ☑ **Case Narrative Review and COC/Data Package Completeness** COMMENTS
   Were problems noted? 1) Surrogate; see below 2) cooler temp 12.7°; samples cooling in transit, no qual per 7/27/17
   Are Field Sample IDs and Locations assigned correctly? (YES) NO (circle one)
   Were all the samples on the COC analyzed for the requested analyses? (YES) NO (circle one)

2. ☑ **Holding time and Sample Collection**
   All samples were analyzed within the 14 day holding time. (YES) NO (circle one)

3. ☑ **QC Blanks**
   Are method blanks free of contamination? (YES) NO (circle one)

   Are Trip blanks free of contamination? (YES) NO (circle one) N/A

   Are Rinse blanks free of contamination? YES NO (NA) (circle one)

4. ☑ **Instrument Tuning – Data Package Narrative Review**
   Did the laboratory narrative identify any results that were not within method criteria? YES (NO) (circle one)
   If yes, use professional judgment to evaluate data and qualify results if needed

5. ☑ **Instrument Calibration – Data Package Narrative Review**
   Did the laboratory narrative identify compounds that were not within criteria in the initial and/or continuing calibration standards? YES (NO) (circle one)

   Initial Calibration %RSD = 20% **(30% for 1,1-DCE, chloroform, 1,2-DCP, toluene, ethylbenzene, VC)**
   Initial Avg RRF and Continuing RRF should be ≥ 0.05 and 0.10 for Chloromethane, 1,1-Dichloroethane, Bromoform and 0.30 for Chlorobenzene and 1,1,2,2-Tetrachloroethane

   Continuing Calibration %D = 20%

   Did the laboratory qualify results based on initial or continuing calibration exceedances? YES (NO)
   If yes to above, use professional judgment to evaluate data and qualify results if needed

6. ☑ **Internal Standards – Data Package Narrative Review**
   (Area Limits = -50% to +100%, RTs within 30 seconds of daily CCAL standard (or ICAL mid-point if samples follow ICAL)
   Did the laboratory narrative identify any sample internal standards that were not within criteria?
   YES (NO) (circle one)

   Did the laboratory qualify results based on internal standard exceedances? YES (NO)
   If yes to above, use professional judgment to evaluate data and qualify results if needed

7. ☑ **Surrogate Recovery** - Region II limits (water ~~80-120%~~ lab limits, soil 70-130%)
   Were all results within ~~Region II~~ lab limits? YES (NO) (circle one) See attached summary; (J+)

8. ☑ **Matrix Spike** - Region II limits (water and soil 70-130%, water RPD 20, soil RPD 35) MW03CA 2017

   Were MS/MSDs submitted/analyzed? YES (NO)

   Were all results within the Region II limits? YES NO (NA) (circle one)

9. ☑ **Duplicates** - Region II Limits (water RPD 50, soil RPD 100)

Were Field Duplicates submitted/analyzed? YES (NO)

Were all results within Region II limits? (soil RPD<100, water RPD<50) YES NO (NA)

10. ☑ **Laboratory Control Sample Results** - Region II (Water and soil 70-130%)

Were all results were within Region II control limits? (YES) NO (circle one)

11. ☑ **Raw Data Review and Calculation Checks**

See attached

12. ☑ **Electronic Data Review and Edits**

Does the EDD match the Form Is? (YES) NO (circle one)

13. ☑ **Tables and TIC Review**

Table 1 (Samples and Analytical Methods)
Table 2 (Analytical Results)
Table 3 (Qualification Actions)
Were all tables produced and reviewed? (YES) NO (circle one)

Table 4 (TICs) Did lab report TICs? YES (NO) (circle one)

Job Narrative
480-118500-1

Comments
No additional comments.

Receipt
The samples were received on 5/24/2017 6:50 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 12.7° C. JK 7,8 JK 7/27/17

Receipt Exceptions Collected same day as delivery to lab; cooling in transit; no qualifiers JK 7/27/17
A workshare Chain-of-Custody (COC) was not received with these samples: 828103-MW08K1417 (480-118500-7) and 828103-MW051717 (480-118500-8).

The following sample was received at the laboratory outside the required temperature criteria: 828103-MW08K1417 (480-118500-7) and 828103-MW051717 (480-118500-8). There was water present. FedEx placed a new airbill over the original, which changed the delivery date from Friday, May 26th to Tuesday, May 30th.

GC/MS VOA
Method(s) 8260C: The following sample was diluted to bring the concentration of target analytes within the calibration range: 828103-MW09K1817D (480-118500-3) and 828103-MW10K1717 (480-118500-5). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC
Method(s) 300.0: The continuing calibration blank (CCB) for analytical batch 480-360303 contained Chloride above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed. 828103-MW08K1417 (480-118500-7) and 828103-MW051717 (480-118500-8)

Method(s) 300.0: The following sample was diluted to bring the concentration of target analytes within the calibration range: 828103-MW08K1417 (480-118500-7) and 828103-MW051717 (480-118500-8). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method(s) SM 2320B: The following sample was received with headspace in the sample bottle: 828103-MW08K1417 (480-118500-7) and 828103-MW051717 (480-118500-8).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Job Narrative
480-118655-1

Comments
No additional comments.

Receipt
The samples were received on 5/26/2017 1:25 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.0° C and 2.6° C.

GC/MS VOA
Method(s) 8260C SIM: Surrogate recovery for the following samples was outside control limits: 828103-MW03CA2817 (480-118655-2) and 828103-MW03A2217 (480-118655-6). Evidence of matrix interference is present; therefore, re-analysis was not performed. Surr (J+)

Method(s) 8260C: The following samples were diluted to bring the concentration of target analytes within the calibration range: 828103-MW13K1917 (480-118655-3[MS]), 828103-MW13K1917 (480-118655-3[MSD]), 828103-MW13K1917D (480-118655-4), 828103-MW20S1017 (480-118655-5) and 828103-MW03A2217 (480-118655-6). Elevated reporting limits (RLs) are provided. -2 else ND

Method(s) 8260C: The following sample was diluted to bring the concentration of target analytes within the calibration range: 828103-MW03CA2817 (480-118655-2) and 828103-MW13K1917 (480-118655-3). Elevated reporting limits (RLs) are provided. JA 7/27/17

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC
Method(s) 300.0: The following sample was diluted to bring the concentration of target analytes within the calibration range: 828103-MW03CA2817 (480-118655-2). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: The following samples was diluted to bring the concentration of target analytes within the calibration range: 828103-MW13K1917 (480-118655-3), 828103-MW20S1017 (480-118655-5) and 828103-MW03A2217 (480-118655-6). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
Method(s) RSK-175: The following sample was diluted to bring the concentration of target analytes within the calibration range: 828103-MW13K1917 (480-118655-3) and 828103-MW03A2217 (480-118655-6). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

LCMS
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method(s) SM 2320B: The following samples was received with headspace in the sample bottle: 828103-MW03CA2817 (480-118655-2), 828103-MW13K1917 (480-118655-3), 828103-MW20S1017 (480-118655-5) and 828103-MW03A2217 (480-118655-6).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method(s) 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-167754.

Method(s) 3535: The following sample: 828103-MW03CA2817 (480-118655-2) and 828103-MW03A2217 (480-118655-6) was decanted prior to preparation due to having sediment in the samples.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Surrogate Summary

Client: New York State D.E.C.
Project/Site: Dinaburg Distributing #828103

TestAmerica Job ID: 480-118655-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	TOL (80-120)	12DCE (77-120)	BFB (73-120)	DBFM (75-123)
480-118655-1	828103-MW10S1117	99	104	100	107
480-118655-2	828103-MW03CA2817	94	101	94	97
480-118655-3	828103-MW13K1917	88	100	87	94
480-118655-3 MS	828103-MW13K1917	106	102	107	101
480-118655-3 MSD	828103-MW13K1917	103	94	104	99
480-118655-4	828103-MW13K1917D	91	108	102	109
480-118655-5	828103-MW20S1017	102	110	98	109
480-118655-6	828103-MW03A2217	103	108	97	106
480-118655-7	TRIP BLANK	86	96	86	94
LCS 480-360295/4	Lab Control Sample	105	107	111	110
LCS 480-360337/4	Lab Control Sample	87	88	87	85
LCS 480-360379/5	Lab Control Sample	85	87	84	86
MB 480-360295/6	Method Blank	104	106	105	106
MB 480-360337/6	Method Blank	92	101	92	99
MB 480-360379/7	Method Blank	85	94	87	88

Surrogate Legend

TOL = Toluene-d8 (Surr)
12DCE = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	12DCE (71-144)	BFB (72-133)	lab limits
480-118655-2 J+	828103-MW03CA2817	179 X	108	
480-118655-3	828103-MW13K1917	123	107	
480-118655-6 J+ ND	828103-MW03A2217	204 X	122	
LCS 460-440053/3	Lab Control Sample	91	101	
LCSD 460-440053/4	Lab Control Sample Dup	86	103	
MB 460-440053/7	Method Blank	103	103	

jm 7/27/17

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene

1,4-Dioxane Sample Calc

Report Date: 31-May-2017 12:03:53 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Edison
Target Compound Quantitation Report

Conc 1,4-D = 75/2232 x 10/1.6287 = 0.2063 ug/L

Data File:	\\ChromNA\Edison\ChromData\CVOAMS11\20170530-55770.b\N06615.D				
Lims ID:	480-118655-O-2				
Client ID:	828103-MW03CA2817				
Sample Type:	Client				
Inject. Date:	30-May-2017 16:38:30	ALS Bottle#:	19	Worklist Smp#:	20
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	480-118655-O-2				
Misc. Info.:	460-0055770-020				
Operator ID:		Instrument ID:	CVOAMS11		
Method:	\\ChromNA\Edison\ChromData\CVOAMS11\20170530-55770.b\8260SIMW11.m				
Limit Group:	VOA - 8260C Water and Solid				
Last Update:	31-May-2017 12:03:52	Calib Date:	10-May-2017 14:06:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Edison\ChromData\CVOAMS11\20170510-54942.b\N05892.D				
Column 1 :	DB-624 (0.18 mm)		Det: MS SCAN		
Process Host:	XAWRK022				

OK

JR 7/26/17

First Level Reviewer: delpolitov Date: 31-May-2017 12:03:52

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	3.779	3.779	0.001	100	13390	0.5000	
* 2 1,4-Dioxane-d8	64	4.506	4.496	0.010	95	2232	10.0	
* 3 Chlorobenzene-d5	82	7.397	7.397	0.000	99	15140	0.5000	
$ 4 1,2-Dichloroethane-d4 (Sur	65	3.468	3.468	0.000	96	6618	0.8973	
$ 5 4-Bromofluorobenzene	95	9.124	9.124	0.000	97	16807	0.5382	
7 1,4-Dioxane	88	4.554	4.544	0.010	50	75	0.2063	✓ M

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

SimissurNEW_00006 Amount Added: 2.00 Units: uL Run Reagent

PFAS

~~SVOC~~

NYSDEC DUSR PROJECT CHEMIST REVIEW RECORD

Project: Dinebury
Method: Modified 537
Laboratory: TAL Sacramento
SDG(s): 480-118498-1, 480-118655-1
Date: 7/27/17
Reviewer: Julie Ricerdi

Review Level [X] NYSDEC DUSR USEPA Region II Guideline

1. ☑ **Case Narrative Review and Data Package Completeness** COMMENTS
   Were problems noted? See attached narratives for comments
   Were all the samples on the COC analyzed for the requested analyses? (YES) NO (circle one)
   Are Field Sample IDs and Locations assigned correctly? (YES) NO (circle one)

2. ☑ **Holding time and Sample Collection**
   Soil: 14 days from collection to extraction; 40 days from extraction to analysis
   Water: 7 days from collection to extraction; 40 days from extraction to analysis
   Hold time met for all samples? (YES) NO (circle one)

3. ☑ **QC Blanks**
   Are method blanks free of contamination? YES (NO) (circle one)
   Are Rinse blanks free of contamination? YES (NO) NA (circle one)
   See attached for (quals)

4. ☑ **Instrument Tuning – Data Package Narrative Review**
   Did the laboratory narrative identify any results that were not within method criteria? YES (NO) (circle one)
   If yes, use professional judgment to evaluate data and qualify results if needed

5. ☑ **Internal Standards – Data Package Narrative Review**
   (Area Limits = -50% to +100%, RTs within 30 seconds of daily CCAL standard (or ICAL mid-point if samples follow ICAL))
   Did the laboratory narrative identify any sample internal standards that were not within criteria?
   YES (NO) (circle one) See attached summary for (quals)
   Did the laboratory qualify results based on internal standard exceedances? YES (NO)
   If yes to above, use professional judgment to evaluate data and qualify results if needed

6. ☑ **Instrument Calibration – Data Package Narrative Review**
   Did the laboratory narrative identify compounds that were not within criteria in the initial and/or continuing calibration standards? YES (NO) (circle one)

   Control Limits (Region II HW-22): Initial Calibration %RSD = 15%, Continuing Calibration %D = 20%
   Average RRF should be ≥ 0.05 (or reject NDs, J detects or use professional judgment to J/UJ)

   Did the laboratory qualify results based on initial or continuing calibration exceedances? YES (NO)
   If yes to above, use professional judgment to evaluate data and qualify results if needed

7. ☑ **Surrogate Recovery** (water and soil limits: Base/Neutral 50-140%, Acid 30-140%)
   Were all results within limits? (YES) NO (circle one)
   Were any recoveries < 10%? (Reject fraction compounds if recoveries are < 10%)
   480-118498-1 480-118655-1 : See attached isotope dilution summary for (quals)

8. ☑ **Matrix Spike** (water & soil limits: Base/Neutral 50-140%, Acid 30-140%) (RPD soil=35,water=20)
   Were MS/MSDs submitted/analyzed? YES (NO)
   Were all results within limits? YES NO (NA) (circle one)

9. ☑ **Duplicates** (RPD limits = water:50, soil:100)
Were Field Duplicates submitted/analyzed? YES (NO)

Were RPDs within criteria? YES NO (NA) (circle one)

10. ☑ **Laboratory Control Sample Results** (water&soil limits: Base/Neutral 50-140%, Acid 30-140%)
Were all results within limits? YES (NO) (circle one)

480-118498-1 480-118655-1 ! No qual; slight high bias PFTeA but U for blanks

11. ☑ **Raw Data Review and Calculation Checks**
See attached

12. ☑ **Electronic Data Review and Edits**
Does the EDD match the Form Is? (YES) NO (circle one)

13. ☑ **Tables and TIC Review**
Table 1 (Samples and Analytical Methods)
Table 2 (Analytical Results)
Table 3 (Qualification Actions)
Were all tables produced and reviewed? (YES) NO (circle one)

Table 4 (TICs) Did lab report TICs? YES (NO) (circle one)

Case Narrative

Client: New York State D.E.C.
Project/Site: Dinaburg Distributing #828103

TestAmerica Job ID: 480-118498-1

Job ID: 480-118498-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-118498-1

Comments
No additional comments.

Receipt
The samples were received on 5/24/2017 6:50 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 10.8° C.

LCMS
Method(s) 537 (modified): The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 320-166705 and analytical batch 320-167167 were outside control limits for Perfluorotetradecanoic acid (PFTeA). Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. N/A – not analyzed on site sample

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

7/27/17

Job Narrative
480-118655-1

Comments
No additional comments.

Receipt
The samples were received on 5/26/2017 1:25 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.0° C and 2.6° C. ✓

GC/MS VOA
Method(s) 8260C SIM: Surrogate recovery for the following samples was outside control limits: 828103-MW03CA2817 (480-118655-2) and 828103-MW03A2217 (480-118655-6). Evidence of matrix interference is present; therefore, re-analysis was not performed. Surr

Method(s) 8260C: The following samples were diluted to bring the concentration of target analytes within the calibration range: 828103-MW13K1917 (480-118655-3[MS]), 828103-MW13K1917 (480-118655-3[MSD]), 828103-MW13K1917D (480-118655-4), 828103-MW20S1017 (480-118655-5) and 828103-MW03A2217 (480-118655-6). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The following sample was diluted to bring the concentration of target analytes within the calibration range: 828103-MW03CA2817 (480-118655-2) and 828103-MW13K1917 (480-118655-3). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC
Method(s) 300.0: The following sample was diluted to bring the concentration of target analytes within the calibration range: 828103-MW03CA2817 (480-118655-2). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: The following samples was diluted to bring the concentration of target analytes within the calibration range: 828103-MW13K1917 (480-118655-3), 828103-MW20S1017 (480-118655-5) and 828103-MW03A2217 (480-118655-6). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
Method(s) RSK-175: The following sample was diluted to bring the concentration of target analytes within the calibration range: 828103-MW13K1917 (480-118655-3) and 828103-MW03A2217 (480-118655-6). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

LCMS
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page. ✓ See isotope & LCS summaries

General Chemistry
Method(s) SM 2320B: The following samples was received with headspace in the sample bottle: 828103-MW03CA2817 (480-118655-2), 828103-MW13K1917 (480-118655-3), 828103-MW20S1017 (480-118655-5) and 828103-MW03A2217 (480-118655-6). OK 7/26/17

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method(s) 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-167754. OK; no MS/MSD specified on COC → note in report

Method(s) 3535: The following sample: 828103-MW03CA2817 (480-118655-2) and 828103-MW03A2217 (480-118655-6) was decanted prior to preparation due to having sediment in the samples.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method: 537 (modified) - Perfluorinated Hydrocarbons

Lab Sample ID: MB 320-167754/1-A
Matrix: Water
Analysis Batch: 168364

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 167754

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA) *	1.36	J	2.0	0.46	ng/L		06/06/17 14:22	06/08/17 16:10	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.99	ng/L		06/06/17 14:22	06/08/17 16:10	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.79	ng/L		06/06/17 14:22	06/08/17 16:10	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.80	ng/L		06/06/17 14:22	06/08/17 16:10	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.75	ng/L		06/06/17 14:22	06/08/17 16:10	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.65	ng/L		06/06/17 14:22	06/08/17 16:10	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.44	ng/L		06/06/17 14:22	06/08/17 16:10	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.75	ng/L		06/06/17 14:22	06/08/17 16:10	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.58	ng/L		06/06/17 14:22	06/08/17 16:10	1
Perfluorotridecanoic Acid (PFTriA)	ND		2.0	0.55	ng/L		06/06/17 14:22	06/08/17 16:10	1
Perfluorotetradecanoic acid (PFTeA) *	0.412	J	2.0	0.20	ng/L		06/06/17 14:22	06/08/17 16:10	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.92	ng/L		06/06/17 14:22	06/08/17 16:10	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.87	ng/L		06/06/17 14:22	06/08/17 16:10	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.71	ng/L		06/06/17 14:22	06/08/17 16:10	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	1.3	ng/L		06/06/17 14:22	06/08/17 16:10	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	1.2	ng/L		06/06/17 14:22	06/08/17 16:10	1

Isotope Dilution	MB %Recovery	MB Qualifier	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	97		25 - 150	06/06/17 14:22	06/08/17 16:10	1
13C2 PFHxA	107		25 - 150	06/06/17 14:22	06/08/17 16:10	1
13C4 PFOA	115		25 - 150	06/06/17 14:22	06/08/17 16:10	1
13C5 PFNA	102		25 - 150	06/06/17 14:22	06/08/17 16:10	1
13C2 PFDA	91		25 - 150	06/06/17 14:22	06/08/17 16:10	1
13C2 PFUnA	94		25 - 150	06/06/17 14:22	06/08/17 16:10	1
13C2 PFDoA	88		25 - 150	06/06/17 14:22	06/08/17 16:10	1
18O2 PFHxS	104		25 - 150	06/06/17 14:22	06/08/17 16:10	1
13C4 PFOS	89		25 - 150	06/06/17 14:22	06/08/17 16:10	1
13C4-PFHpA	112		25 - 150	06/06/17 14:22	06/08/17 16:10	1
13C5 PFPeA	103		25 - 150	06/06/17 14:22	06/08/17 16:10	1

Lab Sample ID: LCS 320-167754/2-A
Matrix: Water
Analysis Batch: 168364

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 167754

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	40.0	46.5		ng/L		116	74 - 138
Perfluoropentanoic acid (PFPeA)	40.0	42.4		ng/L		106	69 - 134
Perfluorohexanoic acid (PFHxA)	40.0	40.3		ng/L		101	70 - 136
Perfluoroheptanoic acid (PFHpA)	40.0	40.6		ng/L		101	63 - 135
Perfluorooctanoic acid (PFOA)	40.0	41.9		ng/L		105	63 - 141
Perfluorononanoic acid (PFNA)	40.0	42.2		ng/L		106	71 - 140
Perfluorodecanoic acid (PFDA)	40.0	41.9		ng/L		105	66 - 141
Perfluoroundecanoic acid (PFUnA)	40.0	40.8		ng/L		102	68 - 139
Perfluorododecanoic acid (PFDoA)	40.0	43.0		ng/L		107	71 - 139
Perfluorotridecanoic Acid (PFTriA)	40.0	45.8		ng/L		115	51 - 139

Method: 537 (modified) - Perfluorinated Hydrocarbons

Lab Sample ID: MB 320-166705/1-A
Matrix: Water
Analysis Batch: 167378

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 166705

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	1.17	J	2.0	0.46	ng/L		05/30/17 18:04	06/04/17 17:28	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.99	ng/L		05/30/17 18:04	06/04/17 17:28	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.79	ng/L		05/30/17 18:04	06/04/17 17:28	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.80	ng/L		05/30/17 18:04	06/04/17 17:28	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.75	ng/L		05/30/17 18:04	06/04/17 17:28	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.65	ng/L		05/30/17 18:04	06/04/17 17:28	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.44	ng/L		05/30/17 18:04	06/04/17 17:28	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.75	ng/L		05/30/17 18:04	06/04/17 17:28	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.58	ng/L		05/30/17 18:04	06/04/17 17:28	1
Perfluorotridecanoic Acid (PFTriA)	ND		2.0	0.55	ng/L		05/30/17 18:04	06/04/17 17:28	1
Perfluorotetradecanoic acid (PFTeA)	0.421	J	2.0	0.20	ng/L		05/30/17 18:04	06/04/17 17:28	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.92	ng/L		05/30/17 18:04	06/04/17 17:28	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.87	ng/L		05/30/17 18:04	06/04/17 17:28	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.71	ng/L		05/30/17 18:04	06/04/17 17:28	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	1.3	ng/L		05/30/17 18:04	06/04/17 17:28	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	1.2	ng/L		05/30/17 18:04	06/04/17 17:28	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*119*		*25 - 150*	*05/30/17 18:04*	*06/04/17 17:28*	*1*
13C2 PFHxA	*114*		*25 - 150*	*05/30/17 18:04*	*06/04/17 17:28*	*1*
13C4 PFOA	*129*		*25 - 150*	*05/30/17 18:04*	*06/04/17 17:28*	*1*
13C5 PFNA	*126*		*25 - 150*	*05/30/17 18:04*	*06/04/17 17:28*	*1*
13C2 PFDA	*133*		*25 - 150*	*05/30/17 18:04*	*06/04/17 17:28*	*1*
13C2 PFUnA	*144*		*25 - 150*	*05/30/17 18:04*	*06/04/17 17:28*	*1*
13C2 PFDoA	*122*		*25 - 150*	*05/30/17 18:04*	*06/04/17 17:28*	*1*
18O2 PFHxS	*111*		*25 - 150*	*05/30/17 18:04*	*06/04/17 17:28*	*1*
13C4 PFOS	*111*		*25 - 150*	*05/30/17 18:04*	*06/04/17 17:28*	*1*
13C4-PFHpA	*120*		*25 - 150*	*05/30/17 18:04*	*06/04/17 17:28*	*1*
13C5 PFPeA	*114*		*25 - 150*	*05/30/17 18:04*	*06/04/17 17:28*	*1*

Lab Sample ID: LCS 320-166705/2-A
Matrix: Water
Analysis Batch: 167378

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 166705

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	40.0	45.3		ng/L		113	74 - 138
Perfluoropentanoic acid (PFPeA)	40.0	39.1		ng/L		98	69 - 134
Perfluorohexanoic acid (PFHxA)	40.0	40.1		ng/L		100	70 - 136
Perfluoroheptanoic acid (PFHpA)	40.0	39.6		ng/L		99	63 - 135
Perfluorooctanoic acid (PFOA)	40.0	40.1		ng/L		100	63 - 141
Perfluorononanoic acid (PFNA)	40.0	40.9		ng/L		102	71 - 140
Perfluorodecanoic acid (PFDA)	40.0	41.8		ng/L		104	66 - 141
Perfluoroundecanoic acid (PFUnA)	40.0	39.6		ng/L		99	68 - 139
Perfluorododecanoic acid (PFDoA)	40.0	40.1		ng/L		100	71 - 139
Perfluorotridecanoic Acid (PFTriA)	40.0	45.4		ng/L		113	51 - 139

Isotope Dilution Summary

Client: New York State D.E.C.
Project/Site: Dinaburg Distributing #828103

TestAmerica Job ID: 480-118655-1

Method: 537 (modified) - Perfluorinated Hydrocarbons

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		3C4 PFBA	3C2 PFHx	3C4 PFOA	3C5 PFNA	3C2 PFDA	3C2 PFUn	3C2 PFDo	8O2 PFHx
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
480-118655-2	828103-MW03CA2817	22 *	81	96	85	67	65	63	95
480-118655-6	828103-MW03A2217	12 *	75	99	98	83	80	72	96
480-118655-8	FIELD REAGENT BLANK	92	107	116	105	86	93	86	100
LCS 320-167754/2-A	Lab Control Sample	93	107	108	102	89	88	85	95
LCSD 320-167754/3-A	Lab Control Sample Dup	94	110	113	101	89	93	89	102
MB 320-167754/1-A	Method Blank	97	107	115	102	91	94	88	104

		Percent Isotope Dilution Recovery (Acceptance Limits)		
		3C4 PFOS	3C4-PFHpA	3C5 PFPeA
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)
480-118655-2	828103-MW03CA2817	89	89	66
480-118655-6	828103-MW03A2217	92	88	49
480-118655-8	FIELD REAGENT BLANK	92	119	104
LCS 320-167754/2-A	Lab Control Sample	87	109	101
LCSD 320-167754/3-A	Lab Control Sample Dup	88	114	102
MB 320-167754/1-A	Method Blank	89	112	103

Surrogate Legend

13C4 PFBA = 13C4 PFBA
13C2 PFHxA = 13C2 PFHxA
13C4 PFOA = 13C4 PFOA
13C5 PFNA = 13C5 PFNA
13C2 PFDA = 13C2 PFDA
13C2 PFUnA = 13C2 PFUnA
13C2 PFDoA = 13C2 PFDoA
18O2 PFHxS = 18O2 PFHxS
13C4 PFOS = 13C4 PFOS
13C4-PFHpA = 13C4-PFHpA
13C5 PFPeA = 13C5 PFPeA

Method: 537 (modified) - Perfluorinated Hydrocarbons (Continued)

Lab Sample ID: LCS 320-167754/2-A
Matrix: Water
Analysis Batch: 168364

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 167754

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorotetradecanoic acid (PFTeA)	40.0	52.3	*	ng/L		131	47 - 130
Perfluorobutanesulfonic acid (PFBS)	35.4	41.7		ng/L		118	55 - 147
Perfluorohexanesulfonic acid (PFHxS)	36.4	38.2		ng/L		105	58 - 138
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	49.7		ng/L		131	32 - 170
Perfluorooctanesulfonic acid (PFOS)	37.1	41.8		ng/L		113	47 - 162
Perfluorodecanesulfonic acid (PFDS)	38.6	44.6		ng/L		116	35 - 157

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*93*		*25 - 150*
13C2 PFHxA	*107*		*25 - 150*
13C4 PFOA	*108*		*25 - 150*
13C5 PFNA	*102*		*25 - 150*
13C2 PFDA	*89*		*25 - 150*
13C2 PFUnA	*88*		*25 - 150*
13C2 PFDoA	*85*		*25 - 150*
18O2 PFHxS	*95*		*25 - 150*
13C4 PFOS	*87*		*25 - 150*
13C4-PFHpA	*109*		*25 - 150*
13C5 PFPeA	*101*		*25 - 150*

Lab Sample ID: LCSD 320-167754/3-A
Matrix: Water
Analysis Batch: 168364

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 167754

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	40.0	46.0		ng/L		115	74 - 138	1	30
Perfluoropentanoic acid (PFPeA)	40.0	41.4		ng/L		103	69 - 134	2	30
Perfluorohexanoic acid (PFHxA)	40.0	39.4		ng/L		98	70 - 136	2	30
Perfluoroheptanoic acid (PFHpA)	40.0	41.4		ng/L		103	63 - 135	2	30
Perfluorooctanoic acid (PFOA)	40.0	40.6		ng/L		101	63 - 141	3	30
Perfluorononanoic acid (PFNA)	40.0	42.4		ng/L		106	71 - 140	0	30
Perfluorodecanoic acid (PFDA)	40.0	44.2		ng/L		110	66 - 141	5	30
Perfluoroundecanoic acid (PFUnA)	40.0	39.2		ng/L		98	68 - 139	4	30
Perfluorododecanoic acid (PFDoA)	40.0	42.0		ng/L		105	71 - 139	2	30
Perfluorotridecanoic Acid (PFTriA)	40.0	45.0		ng/L		112	51 - 139	2	30
Perfluorotetradecanoic acid (PFTeA)	40.0	50.8		ng/L		127	47 - 130	3	30
Perfluorobutanesulfonic acid (PFBS)	35.4	40.0		ng/L		113	55 - 147	4	30
Perfluorohexanesulfonic acid (PFHxS)	36.4	37.3		ng/L		103	58 - 138	2	30
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	49.6		ng/L		130	32 - 170	0	30

PFAS Sample Calc

Report Date: 09-Jun-2017 10:35:06 Chrom Revision: 2.2 25-May-2017 18:29:58

TestAmerica Sacramento
Target Compound Quantitation Report

Conc = 400053 / 3707412 X 50 / 1.9186 = 5.87 ng/mL X 0.5mL / 0.2545L = 11.5 ng/L gr 7/26/17

PFBA

Data File:	\\ChromNa\Sacramento\ChromData\A8_N\20170608-44039.b\2017.06.08C_006.d		
Lims ID:	480-118655-U-2-A		
Client ID:	828103-MW03CA2817		
Sample Type:	Client		
Inject. Date:	08-Jun-2017 16:48:47	ALS Bottle#: 5	Worklist Smp#: 7
Injection Vol:	2.0 ul	Dil. Factor: 1.0000	
Sample Info:	480-118655-U-2-A		
Misc. Info.:	Plate: 1 Rack: 5		
Operator ID:	SACINSTLCMS01	Instrument ID: A8_N	
Method:	\\ChromNa\Sacramento\ChromData\A8_N\20170608-44039.b\A8_N.m		
Limit Group:	LC PFC ICAL		
Last Update:	09-Jun-2017 10:34:57	Calib Date: 06-Jun-2017 14:25:49	
Integrator:	Picker		
Quant Method:	Isotopic Dilution	Quant By: Initial Calibration	
Last ICal File:	\\ChromNA\Sacramento\ChromData\A8_N\20170606-43899.b\2017.06.06CURVE_010.d		
Column 1 :		Det: EXP1	
Process Host:	XAWRK027		

OK

First Level Reviewer: chandrasenas Date: 09-Jun-2017 10:31:28

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.673	1.681	-0.008		3707412	11.2		22.5	9497	
2 Perfluorobutyric acid										M
212.90 > 169.00	1.673	1.681	-0.008	1.000	400053	5.87 ✓			14.9	M
D 3 13C5-PFPeA										
267.90 > 223.00	1.988	1.996	-0.008		7289174	33.1		66.3	12243	
4 Perfluoropentanoic acid										M
262.90 > 219.00	1.981	1.996	-0.015	1.000	103402	0.6815			3.4	M
D 7 13C2 PFHxA										
315.00 > 270.00	2.312	2.323	-0.011		7803242	40.5		80.9	18294	
6 Perfluorohexanoic acid										M
313.00 > 269.00	2.312	2.323	-0.011	1.000	152095	0.9627			13.8	M
D 9 13C4-PFHpA										
367.00 > 322.00	2.682	2.691	-0.009		7884382	44.3		88.6	12872	
10 Perfluoroheptanoic acid										M
363.00 > 319.00	2.682	2.691	-0.009	1.000	60026	0.3633			5.8	M
D 11 18O2 PFHxS										
403.00 > 84.00	2.701	2.701	0.0		10390274	45.1		95.3	14994	
8 Perfluorohexanesulfonic acid										M
399.00 > 80.00	2.701	2.701	0.0	1.000	58522	0.2431				M
D 14 13C4 PFOA										
417.00 > 372.00	3.072	3.072	0.0		8637641	47.9		95.8	20475	
* 62 13C2-PFOA										
415.00 > 370.00	3.072	3.072	0.0		5645	50.0				
15 Perfluorooctanoic acid										M
413.00 > 369.00	3.072	3.072	0.0	1.000	61457	0.3330			12.6	M
413.00 > 169.00	3.072	3.072	0.0	1.000	37792		1.63(0.90-1.10)		50.1	M
D 18 13C4 PFOS										
503.00 > 80.00	3.446	3.446	0.0		7611450	42.7		89.4	15706	

Job Narrative
480-118413-1

Comments
No additional comments.

Receipt
The samples were received on 5/23/2017 7:10 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.0° C. ✓

GC/MS VOA
Method(s) 8260C: The following sample was diluted to bring the concentration of target analytes within the calibration range: 828103-MW16K2317 (480-118413-3) and 828103-MW19S1017 (480-118413-4). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The following volatiles sample was diluted due to foaming at the time of purging during the original sample analysis: 828103-MW21S1017 (480-118413-5). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The following samples was diluted to bring the concentration of target analytes within the calibration range: 828103-MW18S1017 (480-118413-1), 828103-MW17S1017 (480-118413-6), 828103-MW14KA2217 (480-118413-7) and 828103-MW15S1017 (480-118413-8). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 480-359999 recovered outside acceptance criteria, low biased, for Carbon disulfide. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported. The following sample is impacted: 828103-MW15K2317 (480-118413-9). ✓

Method(s) 8260C: The following samples were diluted to bring the concentration of target analytes within the calibration range: 828103-MW15K2317 (480-118413-9), (480-118413-C-9 MS) and (480-118413-C-9 MSD). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC
Method(s) 300.0: The following sample was reported with elevated reporting limits for all analytes: 828103-MW14KA2217 (480-118413-7). The sample was analyzed at a dilution based on screening results. Elevated RLs JR 7/26/17

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method(s) SM 2320B: The following sample was received with headspace in the sample bottle: 828103-MW14KA2217 (480-118413-7).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Job Narrative
480-118500-1

Comments
No additional comments.

Receipt
The samples were received on 5/24/2017 6:50 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 12.7° C. Wet chem - recd same day as sampling; cooling in transit; no qual applied gn 7/28/17

Receipt Exceptions
A workshare Chain-of-Custody (COC) was not received with these samples: 828103-MW08K1417 (480-118500-7) and 828103-MW051717 (480-118500-8).

The following sample was received at the laboratory outside the required temperature criteria: 828103-MW08K1417 (480-118500-7) and 828103-MW051717 (480-118500-8). There was water present. FedEx placed a new airbill over the original, which changed the delivery date from Friday, May 26th to Tuesday, May 30th.

GC/MS VOA
Method(s) 8260C: The following sample was diluted to bring the concentration of target analytes within the calibration range: 828103-MW09K1817D (480-118500-3) and 828103-MW10K1717 (480-118500-5). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC
Method(s) 300.0: The continuing calibration blank (CCB) for analytical batch 480-360303 contained Chloride above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed. 828103-MW08K1417 (480-118500-7) and 828103-MW051717 (480-118500-8)

No qual gn 7/27/17

Method(s) 300.0: The following sample was diluted to bring the concentration of target analytes within the calibration range: 828103-MW08K1417 (480-118500-7) and 828103-MW051717 (480-118500-8). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method(s) SM 2320B: The following sample was received with headspace in the sample bottle: 828103-MW08K1417 (480-118500-7) and 828103-MW051717 (480-118500-8).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Job Narrative
480-118655-1

Comments
No additional comments.

Receipt
The samples were received on 5/26/2017 1:25 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.0° C and 2.6° C. ✓

GC/MS VOA
Method(s) 8260C SIM: Surrogate recovery for the following samples was outside control limits: 828103-MW03CA2817 (480-118655-2) and 828103-MW03A2217 (480-118655-6). Evidence of matrix interference is present; therefore, re-analysis was not performed. Surr

Method(s) 8260C: The following samples were diluted to bring the concentration of target analytes within the calibration range: 828103-MW13K1917 (480-118655-3[MS]), 828103-MW13K1917 (480-118655-3[MSD]), 828103-MW13K1917D (480-118655-4), 828103-MW20S1017 (480-118655-5) and 828103-MW03A2217 (480-118655-6). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The following sample was diluted to bring the concentration of target analytes within the calibration range: 828103-MW03CA2817 (480-118655-2) and 828103-MW13K1917 (480-118655-3). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC
Method(s) 300.0: The following sample was diluted to bring the concentration of target analytes within the calibration range: 828103-MW03CA2817 (480-118655-2). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: The following samples was diluted to bring the concentration of target analytes within the calibration range: 828103-MW13K1917 (480-118655-3), 828103-MW20S1017 (480-118655-5) and 828103-MW03A2217 (480-118655-6). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
Method(s) RSK-175: The following sample was diluted to bring the concentration of target analytes within the calibration range: 828103-MW13K1917 (480-118655-3) and 828103-MW03A2217 (480-118655-6). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

LCMS
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method(s) SM 2320B: The following samples was received with headspace in the sample bottle: 828103-MW03CA2817 (480-118655-2), 828103-MW13K1917 (480-118655-3), 828103-MW20S1017 (480-118655-5) and 828103-MW03A2217 (480-118655-6). ✓

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method(s) 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-167754.

Method(s) 3535: The following sample: 828103-MW03CA2817 (480-118655-2) and 828103-MW03A2217 (480-118655-6) was decanted prior to preparation due to having sediment in the samples.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

ATTACHMENT 3

BIOCHLOR MNA FORMS

Natural Attenuation Screening Protocol

The following is taken from the USEPA protocol (USEPA, 1998). The results of this scoring process have no regulatory significance.

Interpretation	Score
Inadequate evidence for anaerobic biodegradation* of chlorinated organics	0 to 5
Limited evidence for anaerobic biodegradation* of chlorinated organics	6 to 14
Adequate evidence for anaerobic biodegradation* of chlorinated organics	15 to 20
Strong evidence for anaerobic biodegradation* of chlorinated organics	>20

* reductive dechlorination

MW-03A

Score: 14

Scroll to End of Table

Analysis	Concentration in Most Contam. Zone	Interpretation	Yes	No	Points Awarded
Oxygen*	<0.5 mg/L	Tolerated, suppresses the reductive pathway at higher concentrations	○	◉	0
	> 5mg/L	Not tolerated; however, VC may be oxidized aerobically	○	◉	0
Nitrate*	<1 mg/L	At higher concentrations may compete with reductive pathway	◉	○	2
Iron II*	>1 mg/L	Reductive pathway possible; VC may be oxidized under Fe(III)-reducing conditions	◉	○	3
Sulfate*	<20 mg/L	At higher concentrations may compete with reductive pathway	○	◉	0
Sulfide*	>1 mg/L	Reductive pathway possible	○	◉	0
Methane*	>0.5 mg/L	Ultimate reductive daughter product, VC Accumulates	○	◉	0
Oxidation Reduction Potential* (ORP)	<50 millivolts (mV)	Reductive pathway possible	◉	○	1
	<-100mV	Reductive pathway likely	○	◉	0
pH*	5 < pH < 9	Optimal range for reductive pathway	◉	○	0
TOC	>20 mg/L	Carbon and energy source; drives dechlorination; can be natural or anthropogenic	◉	○	2
Temperature*	>20°C	At T >20°C biochemical process is accelerated	○	◉	0
Carbon Dioxide	>2x background	Ultimate oxidative daughter product	○	◉	0
Alkalinity	>2x background	Results from interaction of carbon dioxide with aquifer minerals	○	◉	0
Chloride*	>2x background	Daughter product of organic chlorine	◉	○	2
Hydrogen	>1 nM	Reductive pathway possible, VC may accumulate	○	○	
Volatile Fatty Acids	>0.1 mg/L	Intermediates resulting from biodegradation of aromatic compounds; carbon and energy source	○	○	
BTEX*	>0.1 mg/L	Carbon and energy source; drives dechlorination	○	◉	0
PCE*		Material released	○	◉	0
TCE*		Daughter product of PCE [a/]	○	◉	0
DCE*		Daughter product of TCE. If cis is greater than 80% of total DCE it is likely a daughter product of TCE[a/]; 1,1-DCE can be a chem. reaction product of TCA	◉	○	2
VC*		Daughter product of DCE[a/]	◉	○	2
1,1,1-Trichloroethane*		Material released	○	◉	0
DCA		Daughter product of TCA under reducing conditions	○	◉	0
Carbon Tetrachloride		Material released	○	◉	0
Chloroethane*		Daughter product of DCA or VC under reducing conditions	○	◉	0
Ethene/Ethane	>0.01 mg/L	Daughter product of VC/ethene	○	◉	0
	>0.1 mg/L	Daughter product of VC/ethene	○	◉	0
Chloroform		Daughter product of Carbon Tetrachloride	○	◉	0
Dichloromethane		Daughter product of Chloroform	○	◉	0

* required analysis.

a/ Points awarded only if it can be shown that the compound is a daughter product (i.e., not a constituent of the source NAPL).

SCORE

Reset

End of Form

Natural Attenuation Screening Protocol

The following is taken from the USEPA protocol (USEPA, 1998). The results of this scoring process have no regulatory significance.

Interpretation	Score
Inadequate evidence for anaerobic biodegradation* of chlorinated organics	0 to 5
Limited evidence for anaerobic biodegradation* of chlorinated organics	6 to 14
Adequate evidence for anaerobic biodegradation* of chlorinated organics	15 to 20
Strong evidence for anaerobic biodegradation* of chlorinated organics	>20

* reductive dechlorination

MW-03CA
Score: 14
Scroll to End of Table

Analysis	Concentration in Most Contam. Zone	Interpretation	Yes	No	Points Awarded
Oxygen*	<0.5 mg/L	Tolerated, suppresses the reductive pathway at higher concentrations	○	◉	0
	> 5mg/L	Not tolerated; however, VC may be oxidized aerobically	○	◉	0
Nitrate*	<1 mg/L	At higher concentrations may compete with reductive pathway	◉	○	2
Iron II*	>1 mg/L	Reductive pathway possible; VC may be oxidized under Fe(III)-reducing conditions	○	◉	0
Sulfate*	<20 mg/L	At higher concentrations may compete with reductive pathway	○	◉	0
Sulfide*	>1 mg/L	Reductive pathway possible	○	◉	0
Methane*	>0.5 mg/L	Ultimate reductive daughter product, VC Accumulates	◉	○	3
Oxidation Reduction Potential* (ORP)	<50 millivolts (mV)	Reductive pathway possible	◉	○	1
	<-100mV	Reductive pathway likely	○	◉	0
pH*	5 < pH < 9	Optimal range for reductive pathway	◉	○	0
TOC	>20 mg/L	Carbon and energy source; drives dechlorination; can be natural or anthropogenic	○	◉	0
Temperature*	>20°C	At T >20°C biochemical process is accelerated	○	◉	0
Carbon Dioxide	>2x background	Ultimate oxidative daughter product	○	◉	0
Alkalinity	>2x background	Results from interaction of carbon dioxide with aquifer minerals	○	◉	0
Chloride*	>2x background	Daughter product of organic chlorine	◉	○	2
Hydrogen	>1 nM	Reductive pathway possible, VC may accumulate	○	○	
Volatile Fatty Acids	>0.1 mg/L	Intermediates resulting from biodegradation of aromatic compounds; carbon and energy source	○	○	
BTEX*	>0.1 mg/L	Carbon and energy source; drives dechlorination	○	○	
PCE*		Material released	◉	○	0
TCE*		Daughter product of PCE [a/]	◉	○	2
DCE*		Daughter product of TCE. If cis is greater than 80% of total DCE it is likely a daughter product of TCE[a/]; 1,1-DCE can be a chem. reaction product of TCA	◉	○	2
VC*		Daughter product of DCE[a/]	◉	○	2
1,1,1-Trichloroethane*		Material released	○	◉	0
DCA		Daughter product of TCA under reducing conditions	○	◉	0
Carbon Tetrachloride		Material released	○	◉	0
Chloroethane*		Daughter product of DCA or VC under reducing conditions	○	◉	0
Ethene/Ethane	>0.01 mg/L	Daughter product of VC/ethene	○	◉	0
	>0.1 mg/L	Daughter product of VC/ethene	○	○	
Chloroform		Daughter product of Carbon Tetrachloride	○	○	
Dichloromethane		Daughter product of Chloroform	○	○	

* required analysis.

a/ Points awarded only if it can be shown that the compound is a daughter product (i.e., not a constituent of the source NAPL).

SCORE | Reset

End of Form

Natural Attenuation Screening Protocol

The following is taken from the USEPA protocol (USEPA, 1998). The results of this scoring process have no regulatory significance.

Interpretation	Score
Inadequate evidence for anaerobic biodegradation* of chlorinated organics	0 to 5
Limited evidence for anaerobic biodegradation* of chlorinated organics	6 to 14
Adequate evidence for anaerobic biodegradation* of chlorinated organics	15 to 20
Strong evidence for anaerobic biodegradation* of chlorinated organics	>20

MW-05
Score: 4
Scroll to End of Table

* reductive dechlorination

Analysis	Concentration in Most Contam. Zone	Interpretation	Yes	No	Points Awarded
Oxygen*	<0.5 mg/L	Tolerated, suppresses the reductive pathway at higher concentrations	○	◉	0
	> 5mg/L	Not tolerated; however, VC may be oxidized aerobically	○	◉	0
Nitrate*	<1 mg/L	At higher concentrations may compete with reductive pathway	◉	○	2
Iron II*	>1 mg/L	Reductive pathway possible; VC may be oxidized under Fe(III)-reducing conditions	○	◉	0
Sulfate*	<20 mg/L	At higher concentrations may compete with reductive pathway	○	◉	0
Sulfide*	>1 mg/L	Reductive pathway possible	○	◉	0
Methane*	>0.5 mg/L	Ultimate reductive daughter product, VC Accumulates	○	◉	0
Oxidation Reduction Potential* (ORP)	<50 millivolts (mV)	Reductive pathway possible	○	◉	0
	<-100mV	Reductive pathway likely	○	◉	0
pH*	5 < pH < 9	Optimal range for reductive pathway	◉	○	0
TOC	>20 mg/L	Carbon and energy source; drives dechlorination; can be natural or anthropogenic	○	◉	0
Temperature*	>20°C	At T >20°C biochemical process is accelerated	○	◉	0
Carbon Dioxide	>2x background	Ultimate oxidative daughter product	○	◉	0
Alkalinity	>2x background	Results from interaction of carbon dioxide with aquifer minerals	○	◉	0
Chloride*	>2x background	Daughter product of organic chlorine	◉	○	2
Hydrogen	>1 nM	Reductive pathway possible, VC may accumulate	○	○	
Volatile Fatty Acids	>0.1 mg/L	Intermediates resulting from biodegradation of aromatic compounds; carbon and energy source	○	○	
BTEX*	>0.1 mg/L	Carbon and energy source; drives dechlorination	○	○	
PCE*		Material released	○	◉	0
TCE*		Daughter product of PCE [a/]	○	◉	0
DCE*		Daughter product of TCE. If cis is greater than 80% of total DCE it is likely a daughter product of TCE[a/]; 1,1-DCE can be a chem. reaction product of TCA	○	◉	0
VC*		Daughter product of DCE[a/]	○	◉	0
1,1,1-Trichloroethane*		Material released	○	◉	0
DCA		Daughter product of TCA under reducing conditions	○	◉	0
Carbon Tetrachloride		Material released	○	◉	0
Chloroethane*		Daughter product of DCA or VC under reducing conditions	○	◉	0
Ethene/Ethane	>0.01 mg/L	Daughter product of VC/ethene	○	◉	0
	>0.1 mg/L	Daughter product of VC/ethene	○	◉	0
Chloroform		Daughter product of Carbon Tetrachloride	○	◉	0
Dichloromethane		Daughter product of Chloroform	○	◉	0

* required analysis.

a/ Points awarded only if it can be shown that the compound is a daughter product (i.e., not a constituent of the source NAPL).

SCORE | Reset

End of Form

Natural Attenuation Screening Protocol

The following is taken from the USEPA protocol (USEPA, 1998). The results of this scoring process have no regulatory significance.

Interpretation	Score
Inadequate evidence for anaerobic biodegradation* of chlorinated organics	0 to 5
Limited evidence for anaerobic biodegradation* of chlorinated organics	6 to 14
Adequate evidence for anaerobic biodegradation* of chlorinated organics	15 to 20
Strong evidence for anaerobic biodegradation* of chlorinated organics	>20

MW-13K
Score: 11
Scroll to End of Table

* reductive dechlorination

Analysis	Concentration in Most Contam. Zone	Interpretation	Yes	No	Points Awarded
Oxygen*	<0.5 mg/L	Tolerated, suppresses the reductive pathway at higher concentrations	○	◉	0
	> 5mg/L	Not tolerated; however, VC may be oxidized aerobically	○	◉	0
Nitrate*	<1 mg/L	At higher concentrations may compete with reductive pathway	◉	○	2
Iron II*	>1 mg/L	Reductive pathway possible; VC may be oxidized under Fe(III)-reducing conditions	○	◉	0
Sulfate*	<20 mg/L	At higher concentrations may compete with reductive pathway	○	◉	0
Sulfide*	>1 mg/L	Reductive pathway possible	○	◉	0
Methane*	>0.5 mg/L	Ultimate reductive daughter product, VC Accumulates	○	◉	0
Oxidation Reduction Potential* (ORP)	<50 millivolts (mV)	Reductive pathway possible	◉	○	1
	<-100mV	Reductive pathway likely	○	◉	0
pH*	5 < pH < 9	Optimal range for reductive pathway	◉	○	0
TOC	>20 mg/L	Carbon and energy source; drives dechlorination; can be natural or anthropogenic	○	◉	0
Temperature*	>20°C	At T >20°C biochemical process is accelerated	○	◉	0
Carbon Dioxide	>2x background	Ultimate oxidative daughter product	○	◉	0
Alkalinity	>2x background	Results from interaction of carbon dioxide with aquifer minerals	○	◉	0
Chloride*	>2x background	Daughter product of organic chlorine	◉	○	2
Hydrogen	>1 nM	Reductive pathway possible, VC may accumulate	○	○	
Volatile Fatty Acids	>0.1 mg/L	Intermediates resulting from biodegradation of aromatic compounds; carbon and energy source	○	○	
BTEX*	>0.1 mg/L	Carbon and energy source; drives dechlorination	○	○	
PCE*		Material released	◉	○	0
TCE*		Daughter product of PCE [a/]	◉	○	2
DCE*		Daughter product of TCE. If cis is greater than 80% of total DCE it is likely a daughter product of TCE[a/]; 1,1-DCE can be a chem. reaction product of TCA	◉	○	2
VC*		Daughter product of DCE[a/]	◉	○	2
1,1,1-Trichloroethane*		Material released	○	◉	0
DCA		Daughter product of TCA under reducing conditions	○	◉	0
Carbon Tetrachloride		Material released	○	◉	0
Chloroethane*		Daughter product of DCA or VC under reducing conditions	○	◉	0
Ethene/Ethane	>0.01 mg/L	Daughter product of VC/ethene	○	◉	0
	>0.1 mg/L	Daughter product of VC/ethene	○	◉	0
Chloroform		Daughter product of Carbon Tetrachloride	○	◉	0
Dichloromethane		Daughter product of Chloroform	○	◉	0

* required analysis.

a/ Points awarded only if it can be shown that the compound is a daughter product (i.e., not a constituent of the source NAPL).

SCORE | Reset

End of Form

Natural Attenuation Screening Protocol

The following is taken from the USEPA protocol (USEPA, 1998). The results of this scoring process have no regulatory significance.

Interpretation	Score
Inadequate evidence for anaerobic biodegradation* of chlorinated organics	0 to 5
Limited evidence for anaerobic biodegradation* of chlorinated organics	6 to 14
Adequate evidence for anaerobic biodegradation* of chlorinated organics	15 to 20
Strong evidence for anaerobic biodegradation* of chlorinated organics	>20

MW-14KA
Score: 10
Scroll to End of Table

* reductive dechlorination

Analysis	Concentration in Most Contam. Zone	Interpretation	Yes	No	Points Awarded
Oxygen*	<0.5 mg/L	Tolerated, suppresses the reductive pathway at higher concentrations	◉	○	3
	> 5mg/L	Not tolerated; however, VC may be oxidized aerobically	○	◉	0
Nitrate*	<1 mg/L	At higher concentrations may compete with reductive pathway	○	◉	0
Iron II*	>1 mg/L	Reductive pathway possible; VC may be oxidized under Fe(III)-reducing conditions	○	◉	0
Sulfate*	<20 mg/L	At higher concentrations may compete with reductive pathway	○	◉	0
Sulfide*	>1 mg/L	Reductive pathway possible	○	◉	0
Methane*	>0.5 mg/L	Ultimate reductive daughter product, VC Accumulates	○	◉	0
Oxidation Reduction Potential* (ORP)	<50 millivolts (mV)	Reductive pathway possible	◉	○	1
	<-100mV	Reductive pathway likely	○	◉	0
pH*	5 < pH < 9	Optimal range for reductive pathway	◉	○	0
TOC	>20 mg/L	Carbon and energy source; drives dechlorination; can be natural or anthropogenic	○	◉	0
Temperature*	>20°C	At T >20°C biochemical process is accelerated	○	◉	0
Carbon Dioxide	>2x background	Ultimate oxidative daughter product	○	◉	0
Alkalinity	>2x background	Results from interaction of carbon dioxide with aquifer minerals	○	◉	0
Chloride*	>2x background	Daughter product of organic chlorine	◉	○	2
Hydrogen	>1 nM	Reductive pathway possible, VC may accumulate	○	○	
Volatile Fatty Acids	>0.1 mg/L	Intermediates resulting from biodegradation of aromatic compounds; carbon and energy source	○	○	
BTEX*	>0.1 mg/L	Carbon and energy source; drives dechlorination	○	○	
PCE*		Material released	◉	○	0
TCE*		Daughter product of PCE [a/]	◉	○	2
DCE*		Daughter product of TCE. If cis is greater than 80% of total DCE it is likely a daughter product of TCE[a/]; 1,1-DCE can be a chem. reaction product of TCA	◉	○	2
VC*		Daughter product of DCE[a/]	○	◉	0
1,1,1-Trichloroethane*		Material released	○	◉	0
DCA		Daughter product of TCA under reducing conditions	○	◉	0
Carbon Tetrachloride		Material released	○	◉	0
Chloroethane*		Daughter product of DCA or VC under reducing conditions	○	◉	0
Ethene/Ethane	>0.01 mg/L	Daughter product of VC/ethene	○	◉	0
	>0.1 mg/L	Daughter product of VC/ethene	○	◉	0
Chloroform		Daughter product of Carbon Tetrachloride	○	◉	0
Dichloromethane		Daughter product of Chloroform	○	◉	0

* required analysis.

a/ Points awarded only if it can be shown that the compound is a daughter product (i.e., not a constituent of the source NAPL).

SCORE | Reset

End of Form

Natural Attenuation Screening Protocol

The following is taken from the USEPA protocol (USEPA, 1998). The results of this scoring process have no regulatory significance.

Interpretation	Score
Inadequate evidence for anaerobic biodegradation* of chlorinated organics	0 to 5
Limited evidence for anaerobic biodegradation* of chlorinated organics	6 to 14
Adequate evidence for anaerobic biodegradation* of chlorinated organics	15 to 20
Strong evidence for anaerobic biodegradation* of chlorinated organics	>20

MW-20S
Score: 2
Scroll to End of Table

* reductive dechlorination

Analysis	Concentration in Most Contam. Zone	Interpretation	Yes	No	Points Awarded
Oxygen*	<0.5 mg/L	Tolerated, suppresses the reductive pathway at higher concentrations	○	◉	0
	> 5mg/L	Not tolerated; however, VC may be oxidized aerobically	○	◉	0
Nitrate*	<1 mg/L	At higher concentrations may compete with reductive pathway	○	◉	0
Iron II*	>1 mg/L	Reductive pathway possible; VC may be oxidized under Fe(III)-reducing conditions	○	◉	0
Sulfate*	<20 mg/L	At higher concentrations may compete with reductive pathway	○	◉	0
Sulfide*	>1 mg/L	Reductive pathway possible	○	◉	0
Methane*	>0.5 mg/L	Ultimate reductive daughter product, VC Accumulates	○	◉	0
Oxidation Reduction Potential* (ORP)	<50 millivolts (mV)	Reductive pathway possible	○	◉	0
	<-100mV	Reductive pathway likely	○	◉	0
pH*	5 < pH < 9	Optimal range for reductive pathway	◉	○	0
TOC	>20 mg/L	Carbon and energy source; drives dechlorination; can be natural or anthropogenic	○	◉	0
Temperature*	>20°C	At T >20°C biochemical process is accelerated	○	◉	0
Carbon Dioxide	>2x background	Ultimate oxidative daughter product	○	◉	0
Alkalinity	>2x background	Results from interaction of carbon dioxide with aquifer minerals	○	◉	0
Chloride*	>2x background	Daughter product of organic chlorine	○	◉	0
Hydrogen	>1 nM	Reductive pathway possible, VC may accumulate	○	○	
Volatile Fatty Acids	>0.1 mg/L	Intermediates resulting from biodegradation of aromatic compounds; carbon and energy source	○	○	
BTEX*	>0.1 mg/L	Carbon and energy source; drives dechlorination	○	○	
PCE*		Material released	◉	○	0
TCE*		Daughter product of PCE [a/]	◉	○	2
DCE*		Daughter product of TCE. If cis is greater than 80% of total DCE it is likely a daughter product of TCE[a/]; 1,1-DCE can be a chem. reaction product of TCA	○	◉	0
VC*		Daughter product of DCE[a/]	○	◉	0
1,1,1-Trichloroethane*		Material released	○	◉	0
DCA		Daughter product of TCA under reducing conditions	○	◉	0
Carbon Tetrachloride		Material released	○	◉	0
Chloroethane*		Daughter product of DCA or VC under reducing conditions	○	◉	0
Ethene/Ethane	>0.01 mg/L	Daughter product of VC/ethene	○	◉	0
	>0.1 mg/L	Daughter product of VC/ethene	○	◉	0
Chloroform		Daughter product of Carbon Tetrachloride	○	◉	0
Dichloromethane		Daughter product of Chloroform	○	◉	0

* required analysis.

a/ Points awarded only if it can be shown that the compound is a daughter product (i.e., not a constituent of the source NAPL).

SCORE | Reset

End of Form

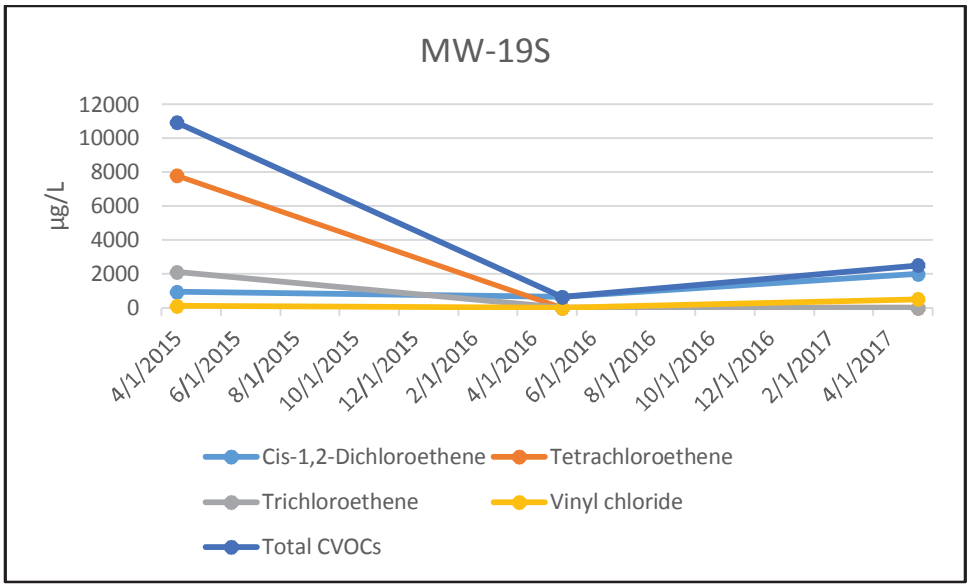
ATTACHMENT 4

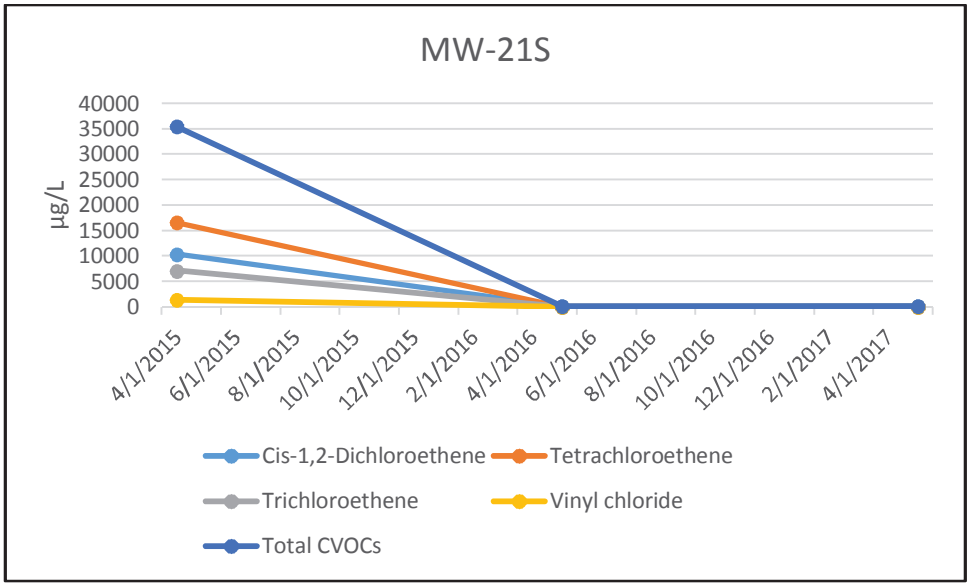
GROUNDWATER CONTAMINANT TREND PLOTS

GROUNDWATER CONTAMINANT TREND PLOTS

(ERH Operated from 5/28/2015 through 12/9/2015)

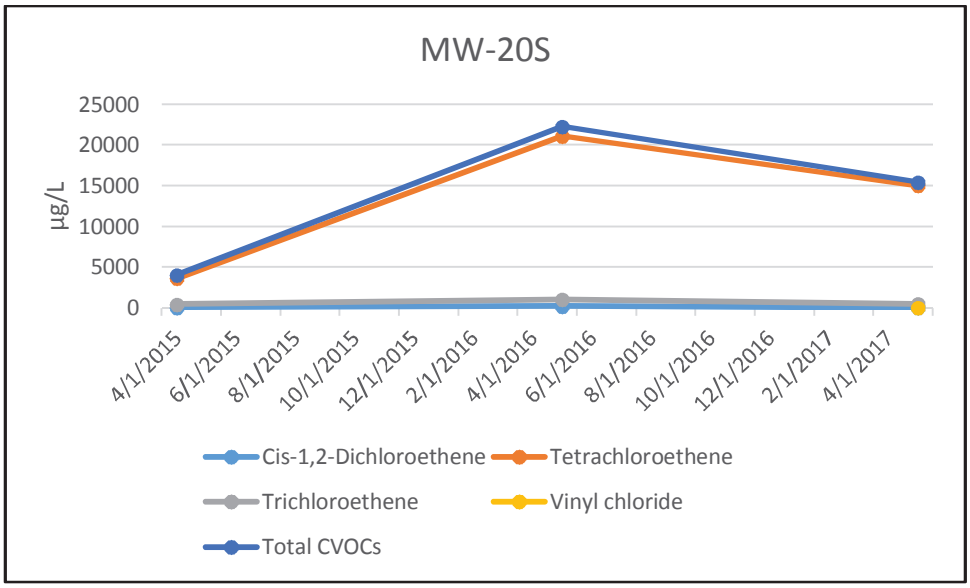
Overburden Source Areas Wells

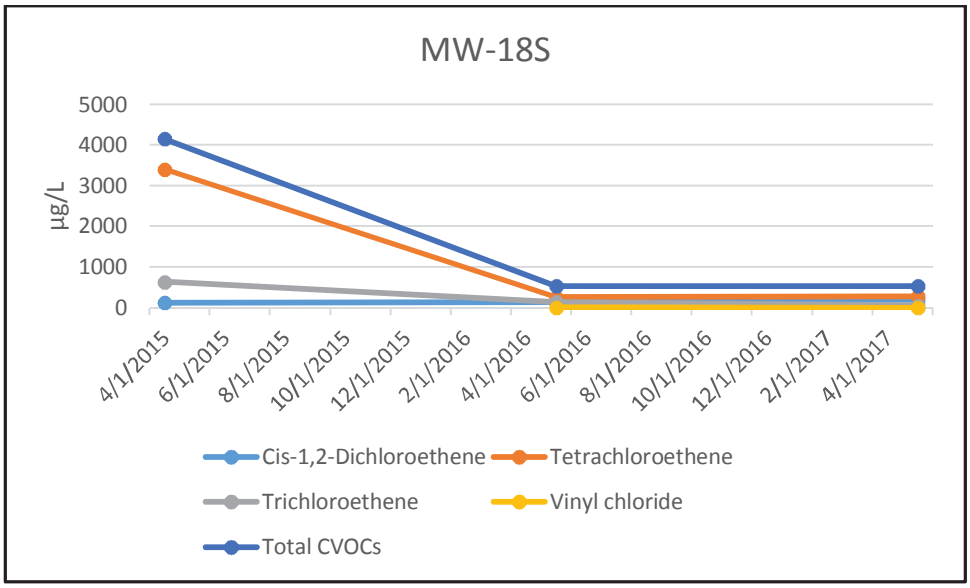




Created By: CRS 9/7/17
Checked By: TL 9/11/17

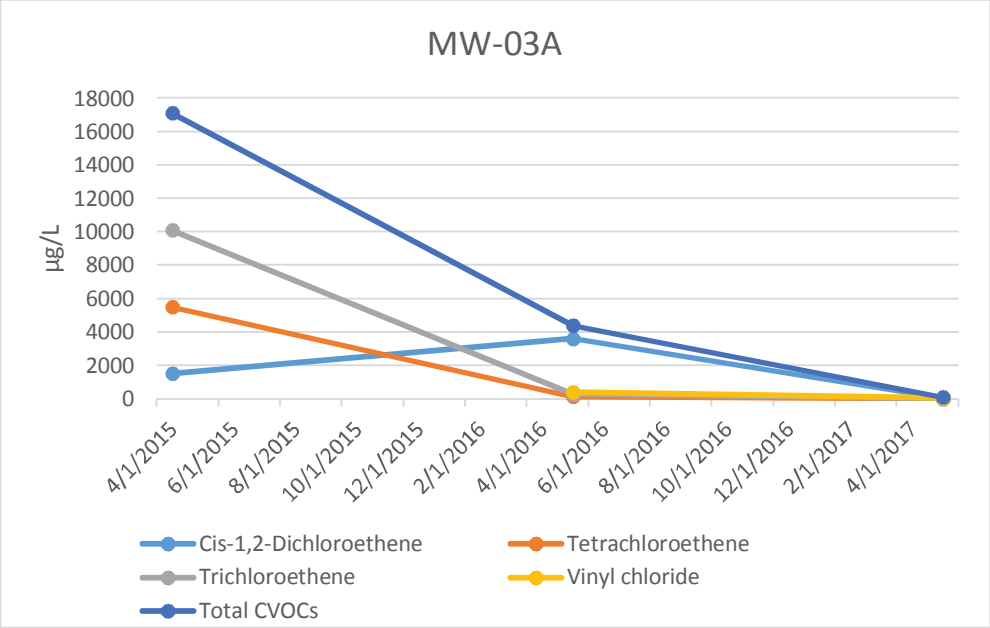
Overburden Perimeter Wells



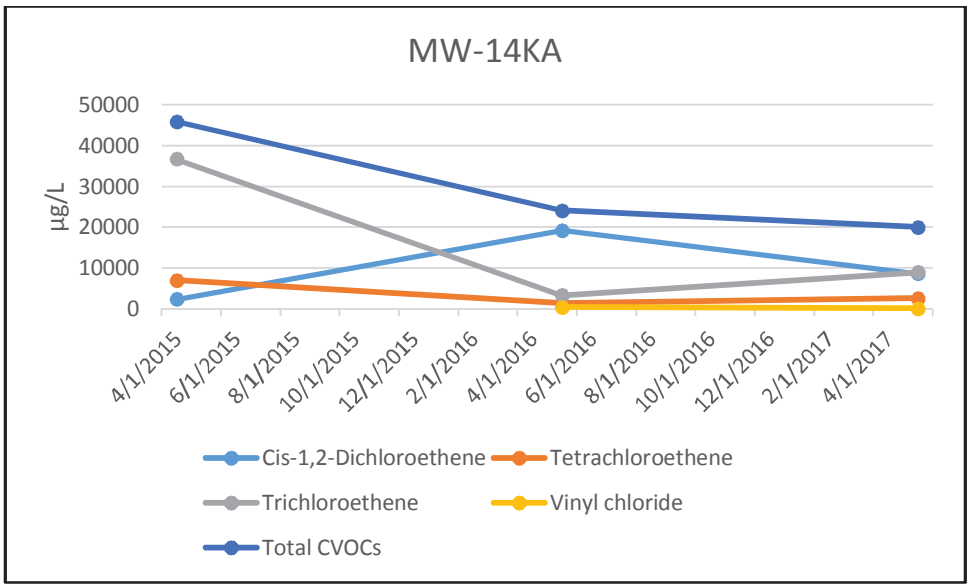


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Checked By: TL 9/11/17

Overburden/Bedrock Interface – Source Area Well

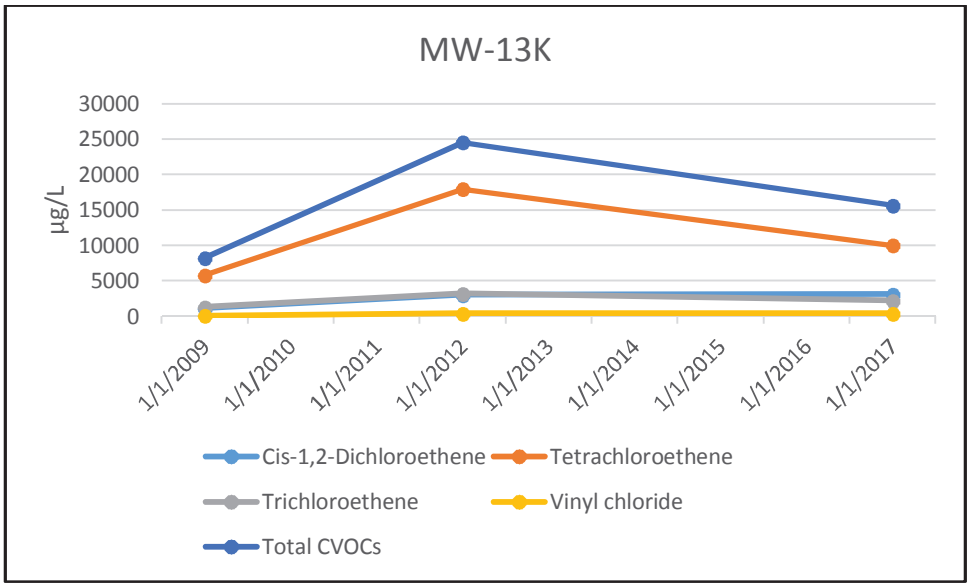


Overburden/Bedrock Interface – Perimeter Well

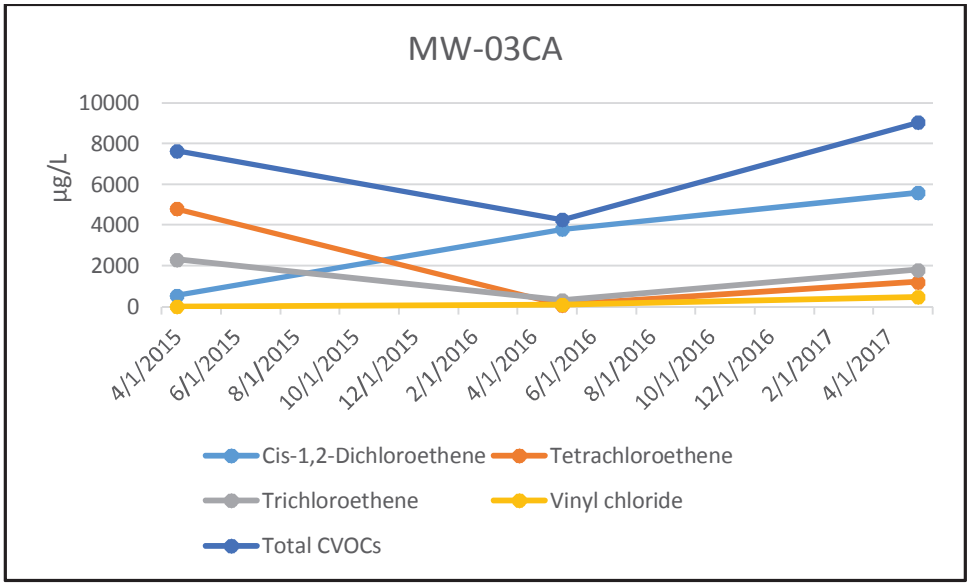


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Checked By: TL 9/11/17

Overburden/Bedrock Interface – Downgradient Well



Bedrock Source Area Well



Created By: CRS 9/7/17
Checked By: TL 9/11/17