Mitchell, Brian

From: Bollinger, Karen <Karen.Bollinger@tetratech.com>
Sent: Tuesday, October 13, 2020 3:16 PM
To: Mitchell, Brian
Cc: Slanczka, Ryan; Pyakuryal, Kumud
Subject: Final Downtown Wells CERCLA Assessment 2020 Trip Report
Attachments: Downtown Wells CERCLA Assessment 2020 Trip Report.pdf; SITE FILING FORMFillable 2019.pdf

Brian,

Attached is the Final Downtown Wells CERCLA Assessment 2020 Trip Report.

Could you please fill out the attached site filing form and return it to me? I'll send it and the report to the EPA Records Center.

Thanks,
Karen

Karen Bollinger | Contract Administrator
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TETRA TECH

From: Mitchell, Brian <Mitchell.Brian@epa.gov>
Sent: Tuesday, October 13, 2020 2:19 PM
To: Bollinger, Karen <Karen.Bollinger@tetratech.com>
Cc: Slanczka, Ryan <Ryan.Slanczka@tetratech.com>; Pyakuryal, Kumud <pyakuryal.kumud@epa.gov>
Subject: RE: Draft Downtown Wells CERCLA Assessment 2020 Trip Report

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Approved, submit as final.

Brian Mitchell
RCRA Corrective Action Officer
EPA Region 7
LCRD/ROAG
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From: Bollinger, Karen <Karen.Bollinger@tetratech.com>
Sent: Wednesday, October 07, 2020 12:39 PM
To: Mitchell, Brian <Mitchell.Brian@epa.gov>
Cc: Slanczka, Ryan <Ryan.Slanczka@tetratech.com>
Subject: Draft Downtown Wells CERCLA Assessment 2020 Trip Report

Mr. Mitchell,

Attached is a .pdf copy of the Draft Downtown Wells CERCLA Assessment 2020 Trip Report.

Let me know if you have any questions.

Thanks,
Karen

Karen Bollinger | Contract Administrator
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TETRA TECH

TETRA TECH

October 7, 2020

Mr. Brian Mitchell
EPA Project Manager
U.S. Environmental Protection Agency, Region 7
11201 Renner Boulevard
Lenexa, Kansas 66219

Subject: **CERCLA Assessment July 2020 Trip Report**
Downtown Wells Site and Former Electrolux Site, Jefferson, Iowa
U.S. EPA Region 7 START 5, Contract No. 68HE0719D0001
Task Order No. 19F0086.003
Task Monitor: Brian Mitchell, EPA Project Manager

Dear Mr. Mitchell:

Tetra Tech, Inc. submits the attached Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Assessment July 2020 Trip Report regarding sampling activities at the Downtown Wells Site and Former Electrolux Site in Jefferson, Iowa. If you have any questions or comments, please contact the START Project Manager at (816) 412-1770.

Sincerely,

Ryan Slanczka
START Project Manager

Ted Faile, PG, CHMM
START Program Manager

Enclosures

DRAFT

415 Oak Street, Kansas City, MO 64106
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CERCLA ASSESSMENT JULY 2020 TRIP REPORT

DOWNTOWN WELLS SITE AND FORMER ELECTROLUX SITE

JEFFERSON, IOWA

Superfund Technical Assessment and Response Team (START) 5

Contract No. 68HE0719D0001, Task Order 19F0086.003

Prepared For:

U.S. Environmental Protection Agency
Region 7
Superfund Division
11201 Renner Blvd.
Lenexa, Kansas 66219

October 7, 2020

Prepared By:

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1.0 INTRODUCTION

The U.S. Environmental Protection Agency (EPA) Region 7 Superfund Division tasked Tetra Tech, Inc. (Tetra Tech) Superfund Technical Assessment and Response Team (START), under contract number 68HE0719D0001, Task Order 19F0086.003, to conduct Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Assessment activities, including a Preliminary Assessment (PA) of the Downtown Wells Site and a Site Investigation (SI) of the Former Electrolux Site, in Jefferson, Iowa (see Figure 1, Appendix A). The volatile organic compound (VOC) *cis*-1,2-dichloroethene (DCE) has been identified in three of four municipal water supply wells in the downtown area. This VOC is a common degradation product of the common industrial solvent trichloroethene (TCE) and the dry cleaning solvent tetrachloroethene (PCE).

As directed by the Sub-Task Modification under contract number 68HE0719D0001, Task Order 19F0086.003, the Tetra Tech team developed a Quality Assurance Project Plan (QAPP) for PA and SI activities (Tetra Tech 2020). This trip report summarizes implementation of the QAPP, and conveys site background information, field sampling techniques, and analytical results from the EPA Region 7 laboratory. Submittals of the PA and SI reports will occur after completion of additional CERCLA Assessment activities.

The purpose of the CERCLA Assessment was to determine presence or absence of contaminants at the sites. Analytical data from the CERCLA Assessment will be used to determine whether further evaluation at each site would be warranted.

Primary components of PA and SI tasks were as follows:

- Obtain continuous soil cores from two direct-push technology (DPT) borings at the Former Electrolux Site and one DPT boring at the Downtown Wells Site, collocated with DPT temporary monitoring wells. The purpose of the soil cores is to document lithological observations and evaluate potential water bearing zones for DPT temporary wells.
- Collect two groundwater samples from each of eight DPT temporary monitoring wells installed within city rights-of-way in downtown Jefferson. Wells will be located next to five historical dry cleaning facilities identified through review of database listings compiled in an Area Corridor Report provided by Environmental Data Resources, Inc. (EDR).
- Collect two groundwater samples from each of seven DPT temporary monitoring wells installed on private property adjacent to the Former Electrolux Plant.
- Determine and document Global Positional System (GPS) coordinates at all sample locations.
- Submit groundwater samples to the EPA Region 7 laboratory for VOC analysis.

During July 6 through 8, 2020, START Project Manager (PM) Ryan Slanczka, assisted by START Members (SM) geologists Lauren Murphy, Kaylee Thomas, and Lauren Robertson, conducted CERCLA Assessment activities. Iowa Department of Natural Resources (IDNR) Environmental Specialist Matthew Graesch was on site during this investigation. Brian Mitchell was the EPA PM and Task Monitor.

2.0 DESCRIPTIONS AND BACKGROUNDS OF THE SITES

Section 2.0 specifies locations of the Downtown Wells Site and Former Electrolux Site, describes the sites, and recounts operational and investigative histories related to the sites.

2.1 LOCATIONS/DESCRIPTIONS OF THE SITES

The Downtown Wells Site is at the intersection of Elm Street and Monroe Street in Jefferson, Greene County, Iowa, with the 10-year capture zone of the downtown Jefferson municipal drinking water wells forming the informal boundary of this site (see Figure 1, Appendix A). The Downtown Wells Site includes four Jefferson municipal drinking water wells screened at total depths of approximately 150 feet below ground surface (bgs) in the Pleistocene Sand and Gravel Unit. Drillers' logs for these water wells indicate that the sand and gravel aquifer is typically encountered within about 100 to 150 feet bgs, and is overlain by glacial till. This aquifer is localized to a buried alluvial channel and overlies Pennsylvanian Cherokee Group bedrock consisting of interbedded shale, coal, and limestone (IDNR 2013).

The Former Electrolux Site is the former Electrolux property at 601 East Central Street in Jefferson, Greene County, Iowa. This site is within the southeast quarter of Section 5, Township 83 North, Range 30 West (see Figure 1, Appendix A). The former manufacturing facility occupied approximately 7.5 acres at the northwest part of the 20.75-acre Electrolux parcel. The facility buildings have been demolished, leaving concrete pads surrounded by a gated fence. WCI Laundry Division (Electrolux) owns the parcel, which is zoned for industrial use (Greene County, Iowa Assessor's Office 2016).

2.2 OPERATIONAL AND INVESTIGATIVE HISTORIES OF THE SITES

The approximately 21-acre Former Electrolux Site previously included a 75,500-square-foot facility that manufactured dishwasher motor transmissions from 1960 until it was decommissioned in March 2011. The former manufacturing building was demolished, and the facility now includes a 7.5-acre area of concrete building slabs, parking lots, fencing, and sidewalks where manufacturing activities previously occurred. In 2010, Electrolux began to evaluate potential subsurface contamination derived from manufacturing activities. A phased site assessment approach was followed from 2010 through 2013 to assess facility subsurface conditions downgradient of and in areas exterior to the former manufacturing facility. Additional groundwater monitoring occurred in 2014, and Golder Associates, Inc. (Golder) completed a Site Assessment and Summary Report that included a conceptual site model in October 2016 (Golder 2016).

Results from the site assessments indicate that soil and groundwater in the former manufacturing area are contaminated with chlorinated VOCs (CVOC), primarily TCE and its breakdown products. Contamination was identified within 0 to 40 feet bgs, within the upper glacial tills. CVOC-impacted soils were found only within the footprint of the former facility and adjacent landscaped areas within 1 to 7 feet bgs. Highest concentrations of CVOC contaminants in groundwater were detected in the yellow brown till within approximately 30 to 40 feet bgs near the southeast portion of the former facility. The October 2016 Site Assessment report concluded that natural attenuation and chlorinated degradation were occurring in the former manufacturing area, and that extents of contamination were within the Electrolux property boundary. Sources of VOC contamination at the former manufacturing area are believed to be former manufacturing operations within the eastern portion of the facility (Golder 2016).

Groundwater in the following Jefferson municipal drinking water wells was found to contain DCE: Well 4 (~150 feet total depth, 30 feet of screen from 120 to 150 feet bgs), Well 6 (160 feet total depth, 15 feet of screen from ~142 to 157 feet bgs), and Well 9 (159 feet total depth, screen depth unknown). Documents obtained from the Jefferson Water Department Source Water Protection Plan indicate that the southwest portion of the former Electrolux plant is within the 10-year capture zone of four of the Jefferson municipal drinking water wells (Tetra Tech 2016).

An investigation by Toeroek Associates Inc. (Toeroek) completed in April 2017 included collection of groundwater samples by use of a DPT drilling rig. Four groundwater samples were collected off site at 30- and 50-foot depths at two temporary wells downgradient (south) of the approximate manufacturing area. The DPT was unable to reach the two planned lower target collection depths of 120 and 150 feet bgs, encountering clay refusal at approximately 77 feet bgs. No VOC was detected in any sample collected during the sampling event (Toeroek 2017).

An additional investigation completed in May 2018 included installation of two permanent monitoring wells downgradient of the former facility. The monitoring wells were installed to depths of 98 feet bgs (MW-1) and 133 feet bgs (MW-2) by use of sonic rotary technology. The wells were screened from 88 to 98 feet bgs (MW-1) and 123 to 133 feet bgs (MW-2), and groundwater samples were collected by use of low-flow QED Micropurge equipment. Facility-related VOCs were not detected in any sample collected during the sampling event; however, minor amounts of chloroform were detected at concentrations below its maximum contaminant level (MCL) (Toeroek 2018).

In 2019, the Electrolux Site was referred to the EPA Region 7 Superfund Division for further assessment, and was divided into the Downtown Wells Site and the Former Electrolux Site. Under Task Order 19F0086.003, Tetra Tech START conducted initial CERCLA Assessment activities, including a PA of the Downtown Wells Site and an SI of the Former Electrolux Site during November 11 through 13, 2019. Primary components of the PA task were to complete a review of the Downtown Wells Site to determine the top six sites likely to have contributed to the contamination found in downtown Jefferson municipal drinking water wells, and to install temporary monitoring wells near each of those six sites for collection of groundwater samples to undergo full VOC analysis. Groundwater was encountered at two of the six temporary monitoring wells. No facility-related contamination was found in samples collected from the Downtown Wells Site during the initial PA activities. Primary components of the SI task were to install a permanent monitoring well approximately 400 feet west of the former Electrolux facility, and to collect groundwater samples from the well for VOC analysis. START rotary sonic subcontractor Cascade Drilling, L.P. advanced a borehole to 115 feet bgs for the proposed installation of permanent monitoring well MW-3 in the Pleistocene Sand and Gravel Unit used as the drinking water aquifer for Jefferson. However, this unit was not encountered, and the borehole was terminated at 115 feet bgs in Pennsylvanian shale bedrock. Because of failure to encounter either this aquifer or any other stratum capable of producing a quantity of groundwater adequate for sampling purposes, START discontinued well installation activities, and the borehole was abandoned.

3.0 CERCLA ASSESSMENT

During July 6 through 8, 2020, START conducted additional CERCLA Assessment activities as part of an SI of the Former Electrolux Site and a PA of the Downtown Wells Site. The purpose of the CERCLA Assessment was to determine presence or absence of contaminants at the sites. On July 7, 2020, the City of Jefferson provided the approved Building Permit (see Appendix F) pertaining to DPT locations within the downtown area. Mr. Slanczka and SM geologists Lauren Murphy, Kaylee Thomas, and Lauren Robertson mobilized to Jefferson on July 6, 2020, and subsequently were joined on site by IDNR Environmental Specialist Matthew Graesch during July 6 through 7, 2020. Drilling services were provided by Below Ground Surface, Inc., (BGS) of Lawrence, Kansas.

The following sections describe CERCLA Assessment activities. A site-specific field logbook is in Appendix B, and photographic documentation is in Appendix C.

3.1 FORMER ELECTROLUX SITE INVESTIGATION

To document lithological observations and evaluate potential water bearing zones for DPT temporary wells, continuous soil cores were collected and logged (Appendix D) from two (DPT) borings collocated with DPT temporary monitoring wells GW-09 and GW-12 (see Figure 2, Appendix A).

START was to collect two groundwater samples from each of seven DPT temporary monitoring wells installed on private property adjacent to the Former Electrolux Plant. On July 6 and 7, 2020, two groundwater samples were collected from GW-07. Due to lithologic restrictions, and based on consultation with EPA and IDNR, only one groundwater sample each was collected from GW-08, -09, -10, -11, -12, and -13 on July 6 and 7, 2020. All samples were submitted for VOC analysis to the EPA Region 7 laboratory in Kansas City, Kansas.

3.2 DOWNTOWN WELLS SITE PRELIMINARY ASSESSMENT

START selected locations of temporary monitoring wells to be sampled within the Downtown Wells Site based on a December 2019 Tetra Tech historical review of the community and local industry/commercial businesses. Intent of that review was to identify sites most likely to have contributed to the contamination found in the Jefferson municipal drinking water wells 4, 6, and 9. Five historical dry cleaning facilities were so identified through listings in an Area Corridor Report provided by EDR (EDR 2019). Locations of temporary monitoring wells for groundwater sampling subsequently were selected based on hydraulic positions of those facilities relative to Jefferson municipal drinking water wells 4, 6, and 9 (see Appendix A, Figure 3).

The selected dry cleaning facilities likely to have contributed to the contamination found in Jefferson municipal drinking water wells 4, 6, and 9 were as follows:

- **Rohovit Cleaners and Elite Cleaners and Furriers:** The EDR Area Corridor Report lists Rohovit Cleaners at 108 South Wilson Avenue, and Elite Cleaners and Furriers at 112 South Wilson. Temporary monitoring well GW-14 was advanced approximately 60 feet south-southwest of Rohovit Cleaners and approximately 50 feet west of Elite Cleaners and Furriers. Temporary monitoring well GW-15 was advanced 40 feet south of Rohovit Cleaners and approximately 5 feet south of Elite Cleaners and Furriers.

- **White Cleaners:** The EDR Area Corridor Report lists White Cleaners at 215 South Wilson Avenue. Temporary monitoring well GW-16 was advanced in the alleyway approximately 10 feet north of the building. Temporary monitoring well GW-17 was advanced approximately 12 feet east of the former dry cleaner facility.

- **Jefferson Dry Cleaners**: The EDR Area Corridor Report lists Jefferson Dry Cleaners at 116 North Wilson Avenue. Temporary monitoring well GW-18 was advanced approximately 50 feet southwest of the former dry cleaner facility. Temporary monitoring well GW-19 was advanced approximately 50 feet southeast of the former dry cleaner facility.

- **Rohovit Cleaners & Laundromat:** The EDR Area Corridor Report lists Rohovit Cleaners & Laundromat at 204 West Washington Street. Temporary monitoring well GW-20 was advanced approximately 25 feet southwest of the former dry cleaner facility. Temporary monitoring well GW-21 was advanced approximately 45 feet southeast of the former dry cleaner facility.

To document lithological observations and evaluate potential water bearing zones for DPT temporary wells, one continuous soil core was collected and logged (Appendix D) at temporary monitoring well GW-14 (see Figure 3, Appendix A).

START was to collect two groundwater samples from each of eight DPT monitoring wells within city rights-of-way next to each of the five facility locations. Due to lithologic restrictions and in coordination with the EPA OSC, only one groundwater sample each was collected from GW-14, -15, -16, -17, -18, -19, and -21 at the Downtown Wells Site. Groundwater was not encountered at GW-20. All samples were submitted for VOC analysis to the EPA Region 7 laboratory in Kansas City, Kansas.

3.3 GROUNDWATER SAMPLING AT TEMPORARY MONITORING WELLS

Groundwater sampling at DPT-advanced temporary monitoring wells proceeded by use of a Geoprobe® Screen Point 16 groundwater sampler. Groundwater was collected through disposable polyethylene tubing fitted with a check valve (i.e., inertial pump method). Samples were collected at greatest depth, with subsequent raising of the sampler to the upper depth interval. Prior to collection of a sample at a given depth, approximately three tubing volumes (or 1 gallon of water) was purged by use of a bottom check valve. Samples were collected directly into laboratory-provided sample containers. Pertinent data, including sample locations and analyses to be performed, were recorded on electronic field sheets (see Appendix E).

The groundwater sampler and rods were decontaminated following sampling at each location, and new disposable polyethylene tubing was used at each location. After completion of sampling, each DPT borehole was plugged with Cetco 3/8" bentonite pellets, and a Portland cement and bentonite grout mixture was applied to make the borehole flush with the surrounding paved surfaces.

Each of the 15 groundwater samples (eight from the Former Electrolux Site and seven from the Downtown Wells Site) was collected for analysis for VOCs into three 40-milliliter (mL) volatile organic analysis (VOA) vials preserved with hydrochloric acid (HCl). The sample vials were labelled and packaged accordingly, and then placed in a cooler maintained at or below a temperature of 4 degrees Celsius (°C) until submitted for analysis to the EPA Region 7 laboratory on July 9, 2020, under Analytical Services Request 8596. Table 1 summarizes sample locations, identification numbers, depths, and laboratory analyses.

TABLE 1

SUMMARY OF SAMPLES
FORMER ELECTROLUX AND DOWNTOWN WELLS SITES, JEFFERSON, IOWA

Boring Location	EPA Sample ID	Date	Time	Depth Interval (ft bgs)	Latitude (°N), Longitude (°W)	Potential Source Area	Analyses
Former Electrolux Site							
GW-07	8596-4	7/6/2020	17:05	35-39	42.025015, 94.368324	Former Electrolux Facility	VOCs
	8596-7	7/7/2020	7:45	11-15			
GW-08	8596-6	7/6/2020	18:10	35-39	42.024706, 94.368252		
GW-09	8596-2	7/6/2020	16:00	35-39	42.024325, 94.368137		
	8596-2-FD	7/6/2020	16:00	35-39			
GW-10	8596-12	7/72020	11:15	46-50	42.024200, 94.367700		
GW-11	8596-5	7/6/2020	17:23	46-50	42.023900, 94.367400		
GW-12	8596-1	7/6/2020	11:35	40-44	42.023600, 94.367000		
GW-13	8596-13	7/7/2020	12:35	46-50	42.023638, 94.366120		
Downtown Wells Site							
GW-14	8596-8	7/7/2020	10:35	41-45	42.014828, 94.375389	Rohovit Cleaners and Elite Cleaners & Furriers	VOCs
GW-15	8596-9	7/7/2020	11:54	41-45	42.014805, 94.375158		
	8596-9-FD	7/7/2020	11:54	41-45			
GW-16	8596-11	7/72020	13:50	38-42	42.013841, 94.374404	White Cleaners	
GW-17	8596-14	7/7/2020	15:45	47-51	42.013765, 94.374062		
GW-18	8596-16	7/7/2020	16:30	46-50	42.015759, 94.375304	Jefferson Dry Cleaners	
GW-19	8596-17	7/8/2020	9:00	47-51	42.015771, 94.375018		
GW-20	NA	NA	NA	NA	42.017328, 94.376727	Rohovit Cleaners & Laundromat	NA
GW-21	8596-18	7/8/2020	9:25	40-44	42.017317,94.376350		VOCs
Trip Blank	8596-19	7/1/2020	7:18	NA	NA	NA	VOCs
Field Blank	8596-20	7/8/2020	10:49				
Rinsate Blank	8596-15	7/7/2020	16:19				

Notes:

°N Decimal degrees North
°W Decimal degrees West
EPA U.S. Environmental Protection Agency
FD Field duplicate
ft bgs Feet below ground surface
ID Identification
NA Not applicable
VOC Volatile organic compound

3.4 QUALITY ASSURANCE/QUALITY CONTROL SAMPLING

Field quality control (QC) sampling included a laboratory-supplied aqueous trip blank sample. Analytical data from the trip blank sample were referenced to determine whether contamination had been introduced during transportation of the containers and samples. Additional QC sampling involved collections of a field blank sample and equipment rinsate blank sample. The field blank sample was analyzed to assess field-introduced and laboratory-introduced contamination. The rinsate blank sample was analyzed to determine adequacy of decontamination procedures. Two field duplicate samples were also submitted to determine total method precision. Table 1 above summarizes QC samples collected.

3.5 DECONTAMINATION

BGS decontaminated direct-push sampling equipment prior to first use and after sampling at each location. Decontamination consisted of thoroughly scrubbing the equipment with a non-phosphate detergent solution and rinsing the equipment with deionized water. Decontamination of additional sampling equipment was not necessary because all other sampling equipment was disposable.

3.6 INVESTIGATION-DERIVED WASTE

Investigation-derived waste (IDW) consisted of expendable sampling supplies and personal protective equipment (PPE). Disposal of expendable sampling materials and PPE occurred as municipal solid waste.

4.0 ANALYTICAL DATA SUMMARY

During field activities from July 6 through 8, 2020, START collected groundwater samples to determine presence or absence of contaminant concentrations at the EPA Region 7 laboratory's achievable reporting/detection concentration limits. On July 9, 2020, samples were submitted for analysis to the EPA Region 7 laboratory in Kansas City, Kansas. The following sections summarize analytical results from the SI and PA. The analytical data package, including field sheets and chain-of-custody records, is in Appendix E.

4.1 GROUNDWATER SAMPLES

START collected 15 groundwater samples from temporary monitoring wells installed at 14 DPT boring locations: GW-07, -08, -09, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, and -21 (see Appendix A, Figures 2 and 3). Groundwater sampling was attempted at boring location GW-20; however, groundwater was not encountered. Samples were analyzed for VOCs only.

The common laboratory contaminant acetone was detected in most samples. Detected in the sample collected from GW-21, near the former Rohovit Cleaners, were fuel-related VOCs cyclohexane, ethylbenzene, methylcyclohexane, and m- and/or p-xylenes. Each detected analyte concentration was below that analyte's EPA MCL (or Regional Screening Level [RSL] if an MCL had not been established).

Cis-1,2-DCE also was detected in the groundwater sample collected from GW-21 at concentration of 29 micrograms per liter (µg/L), below the MCL of 70 µg/L. Presence of petroleum hydrocarbons, as evidenced in sample GW-21, can enhance degradation of both PCE and TCE to the *cis*- and *trans*- isomers of 1,2-DCE, and to 1,1-DCE.

No other VOC was detected in groundwater samples. Table 2 summarizes analytical results from the groundwater samples.

4.2 QUALITY ASSURANCE/QUALITY CONTROL SAMPLES

QC samples collected during the CERCLA Assessment included one aqueous trip blank sample, one field duplicate sample, one field blank sample, and one equipment rinsate blank sample.

The VOC analyte acetone was detected at concentration well below the RSL for tap water (No MCL for acetone has been established) in both field duplicates and the rinsate blank. No other VOC was detected in any QC sample collected. Table 2 summarizes analytical results from the QC samples submitted to the EPA Region 7 laboratory.

TABLE 2

SUMMARY OF VOLATILE ORGANIC COMPOUNDS DETECTED IN SAMPLES
FORMER ELECTROLUX AND DOWNTOWN WELLS SITES, JEFFERSON, IOWA

Analyte	Regional Screening Levels	Sample Identification																			
		Former Electrolux Site								Downtown Wells Site							Quality Control				
		8596-7	8596-4	8596-6	8596-2	8596-12	8596-5	8596-1	8596-13	8596-8	8596-9	8596-11	8596-14	8596-16	8596-17	8596-18	8596-2-FD	8596-9-FD	8596-19-FB	8596-20-FB	8596-15
	MCL(µg/L)	GW-07 (11-15)	GW-07 (35-39)	GW-08 (35-39)	GW-09 (35-39)	GW-10 (46-50)	GW-11 (46-50)	GW-12 (40-44)	GW-13 (46-50)	GW-14 (41-45)	GW-15 (41-45)	GW-16 (38-42)	GW-17 (38-42)	GW-18 (46-50)	GW-19 (47-51)	GW-21 (40-44)	GW-09 (35-39)	GW-15 (41-45)	Trip Blank	Field Blank	Rinsate Blank
Acetone	1400[a]	19 J	6.0	6.3	5.6	5.7	16 J	6.2	6.4 J	8.5	6.2	8.1	6.8	5.5	5.0 U	11	5.7	7.1	5.0 U	5.0 U	11
Cyclohexane	1300[a]	0.50 UJ	0.50 U	0.50 U	0.50 U	0.50 U	0.50 UJ	0.50 U	0.50 UJ	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.67	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,2-Dichloroethene	70	0.50 UJ	0.50 U	0.50 U	0.50 U	0.50 U	0.50 UJ	0.50 U	0.50 UJ	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	29	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Ethylbenzene	700	0.50 UJ	0.50 U	0.50 U	0.50 U	0.50 U	0.50 UJ	0.50 U	0.50 UJ	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.6	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Methylcyclohexane	NE	0.50 UJ	0.50 U	0.50 U	0.50 U	0.50 U	0.50 UJ	0.50 U	0.50 UJ	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.2	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
m- and/or p-Xylene	19[a]	0.50 UJ	0.50 U	0.50 U	0.50 U	0.50 U	0.50 UJ	0.50 U	0.50 UJ	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5.4	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U

Notes:

[a] No MCL for this analyte has been established. The benchmark listed is the RSL for tap water.

FB Field Blank
FD Field Duplicate
GW Groundwater
J Identification of the analyte is acceptable; the reported value is an estimate.
MCL Maximum Contaminant Level
NA Not Applicable
NE Not Established
µg/L Micrograms per Liter
RSL Regional Screening Level
U Analyte not detected at concentration at or above reporting limit
UJ Analyte not detected at concentration at or above estimated reporting limit

5.0 DEVIATIONS FROM THE QAPP

The following deviations from the EPA-approved QAPP occurred, and were communicated to EPA PM and Task Monitor Brian Mitchell:

- Two groundwater samples were collected from GW-07. However, only one groundwater sample each was collected from GW-08, -09, -10, -11, -12, and -13 at the Former Electrolux site.
- Only one groundwater sample each was collected from GW-14, -15, -16, -17, -18, -19, and -21 at the Downtown Wells site. Groundwater was not encountered at GW-20.

6.0 CONCLUSIONS

The EPA Region 7 Superfund Division tasked START, under contract number 68HE0719D0001, Task Order 19F0086.003, to conduct CERCLA Assessment activities, including a PA of the Downtown Wells Site and an SI of the Former Electrolux Site, in Jefferson, Iowa (see Figure 1, Appendix A). CERCLA Assessment activities occurred July 6 through 8, 2020. Primary components of the PA task were to conduct a review of the Downtown Wells Site to investigate five former dry cleaning facilities that may have contributed to the contamination found in downtown Jefferson municipal drinking water wells, and to install temporary monitoring wells near locations of each of those former facilities for collection of groundwater samples to undergo full VOC analysis. Primary components of the SI task were to collect two groundwater samples from each of seven DPT temporary monitoring wells installed on private property adjacent to the Former Electrolux site for VOC analysis. To document lithology and evaluate potential water bearing zones for DPT temporary wells, soil cores were collected from two DPT borings near the Former Electrolux site and one DPT boring at the Downtown Wells site collocated with temporary monitoring wells.

Over the course of the PA, START collected 15 groundwater samples at temporary monitoring well locations GW-08 through -19 and at GW-21 for analysis for VOCs. Each of VOC analytes acetone, cyclohexane, ethylbenzene, methylcyclohexane, and m- and/or p-xylene was detected at concentration below its EPA MCL (or its RSL if an MCL had not been established). These analytes are either common laboratory contaminants or are commonly associated with fuel releases.

Cis-1,2-DCE was detected in the groundwater sample collected from GW-21 at 29 µg/L, below the MCL of 70 µg/L. No other chlorinated VOC was detected.

The groundwater sample containing *cis*-1,2-DCE (GW-21) was collected in front of a historical dry cleaner and adjacent to two filling stations. *Cis*-1,2-DCE is a degradation product of TCE. Presence of petroleum hydrocarbons, as evidenced in sample GW-21, can enhance degradation of both PCE and TCE to the *cis*- and *trans*- isomers of 1,2-DCE, and to 1,1-DCE. Therefore, the likely source of the *cis*-1,2-DCE detected in GW-21 may be a result of historical dry cleaning activity at 204 West Washington Street. START recommends further investigation of the historical dry cleaning activity at 204 West Washington Street to identify the source of contamination prior to completion of the requested PA and SI reports.

7.0 REFERENCES

Environmental Data Resources, Inc. (EDR). 2019. Shelton, Connecticut, Area Corridor Report. December 26.

Golder Associates, Inc. (Golder). 2016. Site Assessment Summary Report, Former Electrolux Home Products, Inc. Facility, Jefferson, Iowa. October.

Greene County, Iowa Assessor's Office. 2016. Online Parcel Report. Accessed September 2019. http://greeneia.mygisonline.com/

Iowa Department of Natural Resources (IDNR). 2013. Jefferson Groundwater Investigation, Green County, Iowa, Iowa Geological and Water Survey, Technical Information Series 56. December.

Tetra Tech, Inc. (Tetra Tech). 2016. Personal communication regarding Jefferson supply wells. From Brian Mitchell, U.S. Environmental Protection Agency (EPA) Region 7. To Kirk Mammoliti, Tetra Tech. November 16, 2016.

Tetra Tech. 2020. Quality Assurance Project Plan, Revision 02. Prepared for EPA Region 7 under Contract No. 68HE0719D0001. June.

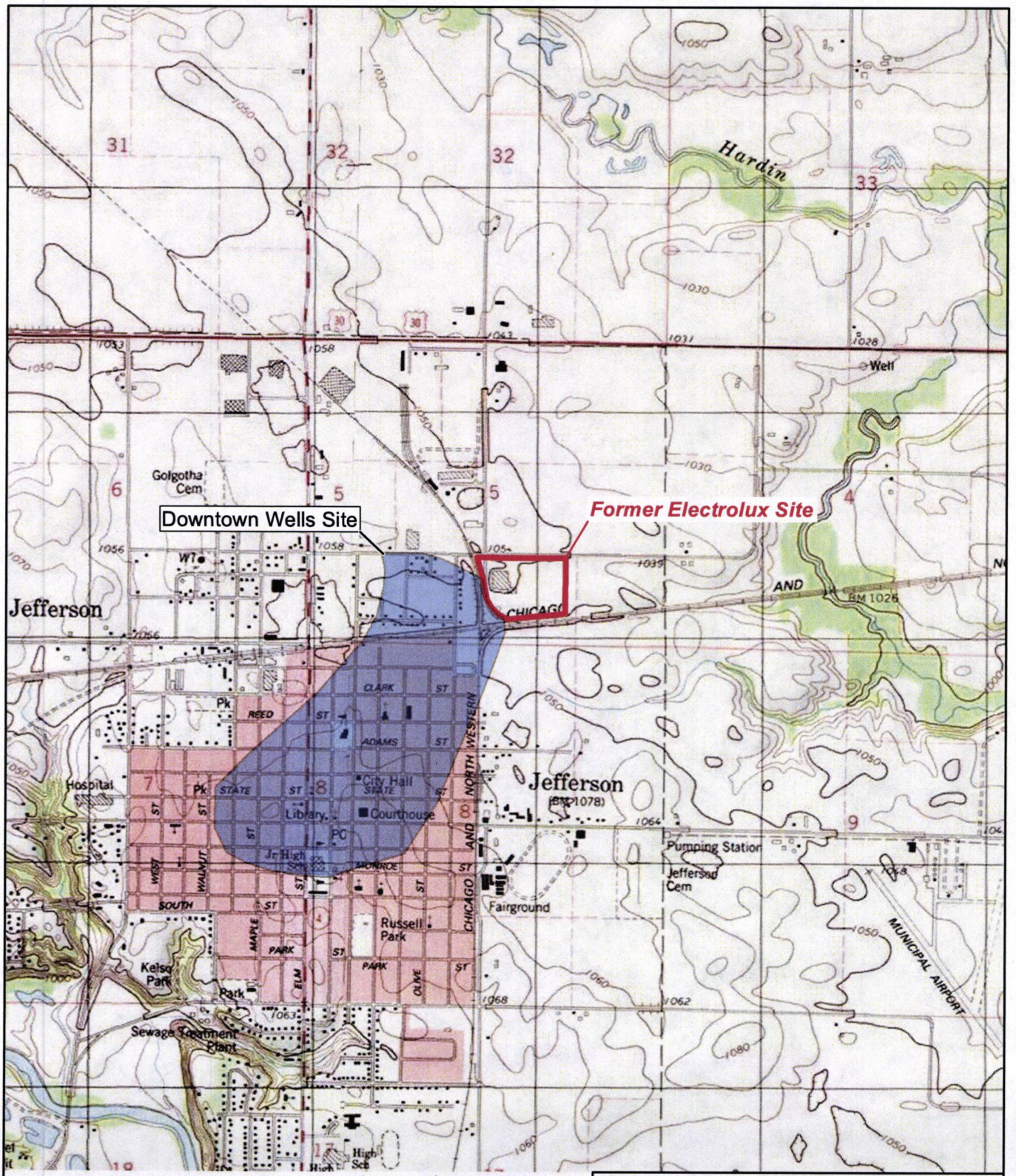
Toeroek Associates Inc. (Toeroek). 2017. Groundwater Sampling Event – Final Report of Findings, Rev. 01 – Former Electrolux, Inc. Facility, Jefferson, Iowa. September 30.

Toeroek. 2018. Monitoring Well Installation and Groundwater Sampling Event – Final Report of Findings – Former Electrolux, Inc. Facility, Jefferson, Iowa. September 30.

DRAFT

APPENDIX A

FIGURES



N

0 1,000 2,000

Feet

Source: Jefferson West, Iowa USGS 7.5 Minute Topo Quad, 1986;
Jefferson East, Iowa USGS 7.5 Minute Topo Quad, 1986.

Downtown Wells Site
and Former Electrolux Site
Jefferson, Iowa

Figure 1
Site Location Map

TETRA TECH

Date: 10/1/2019 Drawn By: Rose Micke Project No: X903019F0086.003

X:\G\903\0086\003\Projects\mxd\Figure1_101019.mxd

Legend

- DPT groundwater sample location
- DPT soil boring and groundwater sample location
- Former Electrolux site
- Former manufacturing area
- DPT Direct push technology

N

0 100 200

Feet

Source: Esri, ArcGIS Online, World Imagery, 2018.

Former Electrolux Site
Jefferson, Iowa

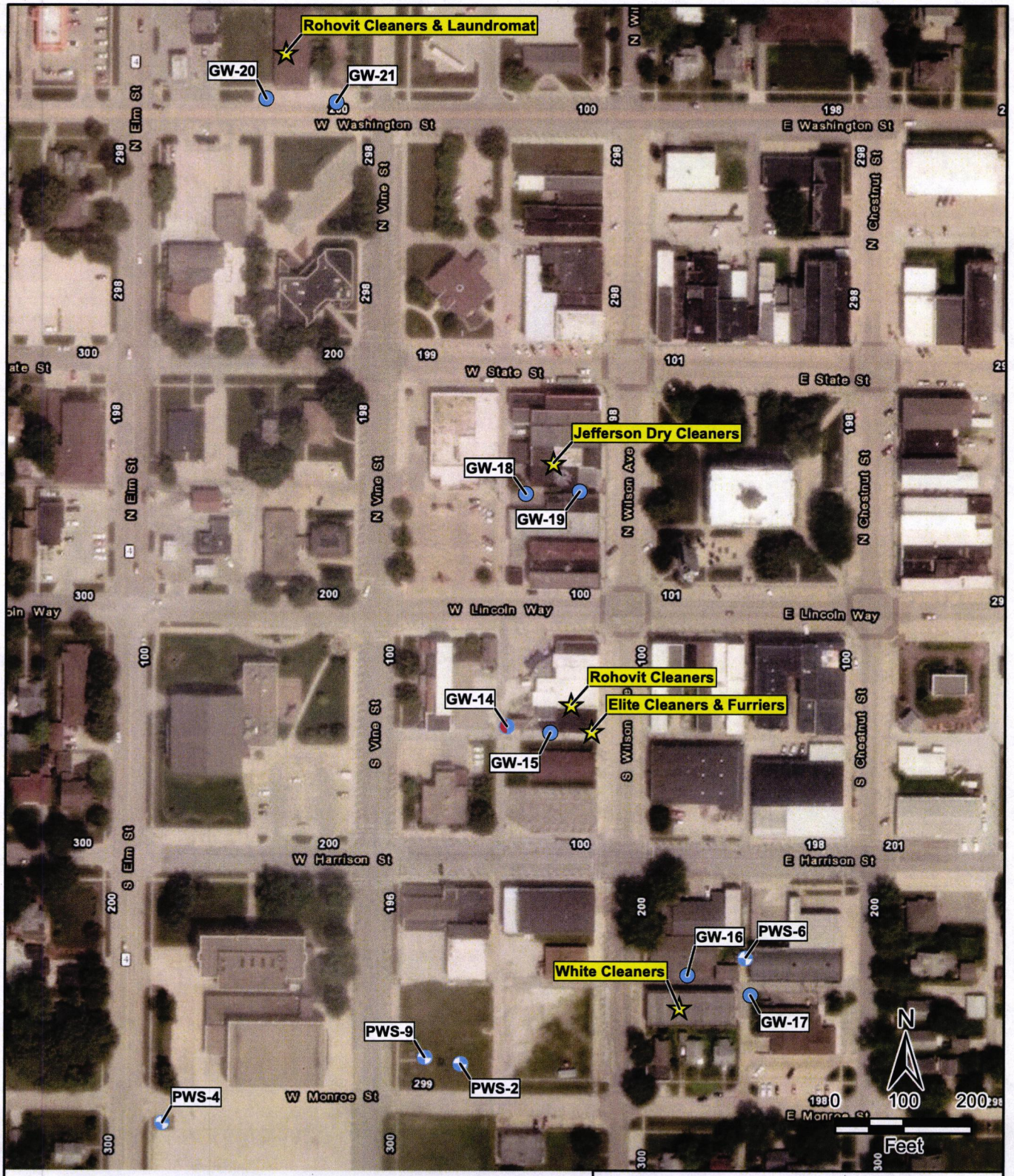
Figure 2

DPT Boring Location Map

TETRA TECH

Date: 9/1/2020 Drawn By: Nick Wiederholt Project No: X903019F0086.003

X:\G903\0\0086\003\Projects\mxd\Figure2_082820.mxd



Legend

- DPT groundwater sample location
- DPT soil boring and groundwater sample location
- Potential contamination source
- PWS well location
- DPT Direct push technology
- PWS Public water supply

Source: Esri, ArcGIS Online, World Imagery, 2018.

Downtown Wells Site
Jefferson, Iowa

Figure 3
DPT Boring Location Map

TETRA TECH

Date: 10/2/2020 Drawn By: Nick Wiederholt Project No: X903019F0086.003

X:\G\903019\0086\003\Projects\mxd\Figure3_082820.mxd

APPENDIX B

FIELD LOGBOOK

7/5/2020

~1900 - Departed Tetra Tech for Jefferson, IA.

~2300 - Arrived at hotel in Jefferson, IA.

7/6/2020

~0730 - TT met with DPT subcontractor BGS, Tetra Tech geologist Lauren Murphy, seagull geologists Kaylee Thomas and Lauren Robertson, and IDNR Geologist Matt Graesche.

~0742 - Mobilized crew to Former Electrolux site

~0935 - Began soil boring at GW-12

~0952 - Met with Landus Coop Personnel Ethan Taube

~1045 - Met w/ Landus Coop personnel Ethan T. and ~~Jason~~ Chase Hunter

1110 - Encountered groundwater at 42-44' bgs

1115 - Advanced rods for GW sampling at GW-12 later in the day

1135 - Quantity of GW was immediately adequate for sampling, collected sample GW-12 from 40'-44' bgs.

1150 - Break for lunch
1245 - Resume work; Met at GW-09.
1300 - Begin soil boring at GW-09.
1600 - Collected sample GW-09 from a screening interval of 35-39' bgs. ~~Could not collect~~ (B) Groundwater was not encountered at any other depth, so no second sample was collected. Elevation was ~5' lower at GW-09 than at GW-12.
1636 - Began advancing geoprobe for GW at GW-11
1641 - Began advancing geoprobe for GW at (B) ~~GW-08~~ GW-07
1723 - Collected sample GW-11 from 46'-50'
1705 - Collected sample GW-07 from 35-39' bgs
- Left rods at GW-07 to attempt collection of a shallow sample in the morning
1746 - Began advancing geoprobe for GW at GW-08
1810 - Collected sample GW-08 from 35-39' bgs
1830 - TT and BGS personnel leave site; End of work day

7-7-2020

0730 - Tetra Tech, BGS, and IDNR personnel met for morning meeting.
0745 - Collected sample GW-07 from 11-15' bgs.
0822 - Began advancing geoprobe at GW-14 for soil coring
0857 - Paid fee to city of Jefferson for Building Permit
1115 - Collected sample GW-10 from 46'-50' bgs
1152 - Began advancing geoprobe at GW-13
1235 - Collected sample GW-13 from 46'-50'
1123 - Began advancing geoprobe at GW-15
1154 - Collected samples GW-15 and GW-15-DUP from 41-45' bgs.
1315 - Began advancing geoprobe at GW-16
1350 - Encountered refusal at 42' bgs; collected sample GW-16 from 38-42' bgs
1425 - Began advancing geoprobe at GW-17
1545 - Collected sample GW-17 from 38-42' bgs
1654 - At GW-19, reached target depth of 45' bgs, checked every 4' interval up to 16' bgs, did not encounter groundwater, discontinued boring GW-19; began advancing geoprobe at GW-18

Rite in the Rain

1619 - Collected Rinsate Blank Sample (8596-15)
1630 - Collected Sample GW-18 from 46-50' bgs
1600 - Seagull personnel demobilize from site
1650 - Arrived at Electrolux site to advance rods to 15' bgs at GW-08 and GW-09
1712 - Rods completely advanced; End of workday

7/8/2020

0730 - Tetra Tech and BGS met at GW-08 and GW-09, ~~the~~ observed that groundwater had not accumulated overnight, retrieved rods.
0810 - Began advancing geoprobe at GW-19, in an attempt to get to a greater depth than previously, for groundwater
0900 - collected GW-19 from 47-51' bgs
0845 - Began advancing geoprobe at GW-21
0925 - collected GW-21 from 40-44' bgs
0945 - Began advancing geoprobe at GW-20;
*BGS personnel noted strong petroleum odors, consistent at GW-21 and GW-14 ~~at~~ GW-21
1040 - After checking for groundwater at 2' intervals from 45' to 36', Tt personnel discontinued sampling efforts at GW-20.
1049 - Collected sample Field Blank (8596-19)
1115 - Tetra Tech and BGS personel demobilized from project site.
1530 - Arrived at Tt Kansas city office; End of work ~~project~~ day

Rite in the Rain

7/9/2020

1400 - Tetra Tech personnel Ryan Slaneczka began preparing samples for lab delivery.

1548 - Samples delivered to EPA Region 7 lab in Kansas City, KS.

1600 - End of Work

APPENDIX C

PHOTOGRAPHIC LOG

Downtown Wells Site and Former Electrolux Site
Jefferson, Iowa

TETRA TECH PROJECT NO. 103X903019F0086.003	DESCRIPTION	This photograph shows the direct-push technology (DPT) Geoprobe® at the location of temporary monitoring well GW-07.	1
			Date
Direction: Southeast	PHOTOGRAPHER	Ryan Slanczka	7/6/2020

TETRA TECH PROJECT NO. 103X903019F0086.003	DESCRIPTION	This photograph shows the DPT Geoprobe at the location of temporary monitoring well GW-08.	2
			Date
Direction: North	PHOTOGRAPHER	Ryan Slanczka	7/6/2020

Downtown Wells Site and Former Electrolux Site
Jefferson, Iowa

TETRA TECH PROJECT NO. 103X903019F0086.003	DESCRIPTION	This photograph shows the DPT Geoprobe at the location of temporary monitoring well GW-09.	3
Direction: North	PHOTOGRAPHER	Ryan Slanczka	Date 7/6/2020

TETRA TECH PROJECT NO. 103X903019F0086.003	DESCRIPTION	This photograph shows the DPT Geoprobe at the location of temporary monitoring well GW-10.	4
Direction: North	PHOTOGRAPHER	Ryan Slanczka	Date 7/7/2020

Downtown Wells Site and Former Electrolux Site
Jefferson, Iowa

TETRA TECH PROJECT NO. 103X903019F0086.003	DESCRIPTION	This photograph shows the DPT Geoprobe at the location of temporary monitoring well GW-12.	5
			Date
Direction: South	PHOTOGRAPHER	Ryan Slanczka	7/6/2020

TETRA TECH PROJECT NO. 103X903019F0086.003	DESCRIPTION	This photograph shows Superfund Technical Assessment and Response Team (START) personnel inspecting and logging soil cores from GW-12.	6
			Date
Direction: -	PHOTOGRAPHER	Ryan Slanczka	7/6/2020

Downtown Wells Site and Former Electrolux Site
Jefferson, Iowa

TETRA TECH PROJECT NO. 103X903019F0086.003	DESCRIPTION	This photograph shows the DPT Geoprobe at the location of temporary monitoring well GW-13.	7
			Date
Direction: Southwest	PHOTOGRAPHER	Ryan Slanczka	7/7/2020

TETRA TECH PROJECT NO. 103X903019F0086.003	DESCRIPTION	This photograph shows the DPT Geoprobe at the location of temporary monitoring well GW-14.	8
			Date
Direction: East	PHOTOGRAPHER	Ryan Slanczka	7/7/2020

Downtown Wells Site and Former Electrolux Site
Jefferson, Iowa

TETRA TECH PROJECT NO. 103X903019F0086.003	DESCRIPTION	This photograph shows the DPT Geoprobe at the location of temporary monitoring well GW-15.	9
			Date
Direction: East	PHOTOGRAPHER	Ryan Slanczka	7/7/2020

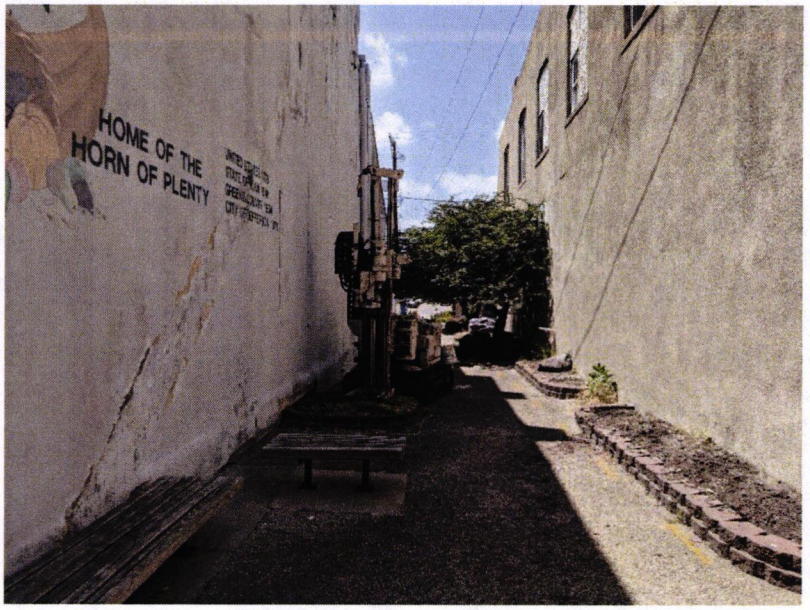
TETRA TECH PROJECT NO. 103X903019F0086.003	DESCRIPTION	This photograph shows the DPT Geoprobe at the location of temporary monitoring well GW-16.	10
			Date
Direction: West	PHOTOGRAPHER	Ryan Slanczka	7/7/2020

Downtown Wells Site and Former Electrolux Site
Jefferson, Iowa

TETRA TECH PROJECT NO. 103X903019F0086.003	DESCRIPTION	This photograph shows the DPT Geoprobe at the location of temporary monitoring well GW-17.	11
Direction: North	PHOTOGRAPHER	Ryan Slanczka	Date 7/7/2020

TETRA TECH PROJECT NO. 103X903019F0086.003	DESCRIPTION	This photograph shows the DPT Geoprobe at the location of temporary monitoring well GW-18.	12
Direction: Northwest	PHOTOGRAPHER	Ryan Slanczka	Date 7/7/2020

Downtown Wells Site and Former Electrolux Site
Jefferson, Iowa



TETRA TECH PROJECT NO. 103X903019F0086.003	DESCRIPTION	This photograph shows the DPT Geoprobe at the location of temporary monitoring well GW-19.	13
			Date
Direction: West	PHOTOGRAPHER	Ryan Slanczka	7/7/2020

APPENDIX D

BORING LOGS

Boring Log Form

Site Name: Former Electrolux Site
Boring Number: GW-12
Date Drilled (Start/Finish): 7/6/2020
Drilling Method: DPT - Geoprobe
Drilling Company: BGS
Elevation: ~ 1055ft amsl
Total Depth: 45ft
Coordinates: 42.0236, -94.367
Depth to Water: 43ft
Geologist: L. Robertson, K. Thomas, L. Murphy
Project Number: 103X903019F0086.003
Weather: Partly Cloudy

Sample Interval	Interval	Soil Recv.	PID Reading (ppm or ppb)	Depth (Feet)	Color (Munsell or Rock)	Lithology	Graphic Log	Description and Remarks
								TOPSOIL
						CL/ML		CLAY, sandy, silty, brown grading to dark brown, nonplastic; damp.
				5		CL		CLAY, sandy, light brown grading to grey with yellow mottling, nonplastic; damp.
				10		CH		CLAY, sandy with small pebble clasts, light grey with iron mottling, soft, plastic; moist.
				15		CH		CLAY, sandy with small pebble clasts, light brown with iron mottling, soft, plastic; moist.
						CH		CLAY, sandy with small pebble clasts, medium brown with red mottling, soft, plastic; moist.
				20		CH		CLAY, sandy with small pebble clasts, light brown grading to grey, soft, plastic; moist.
				25		CL		CLAY, sandy with small pebble clasts, hard, nonplastic; damp.
				30		CL		

Boring Log Form

Site Name: Former Electrolux Site
Boring Number: GW-12
Date Drilled (Start/Finish): 7/6/2020
Drilling Method: DPT - Geoprobe
Drilling Company: BGS
Elevation: ~ 1055ft amsl
Total Depth: 45ft
Coordinates: 42.0236, -94.367
Depth to Water: 43ft
Geologist: L. Robertson, K. Thomas, L. Murphy
Project Number: 103X903019F0086.003
Weather: Partly Cloudy

Sample Interval	Interval	Soil Recv.	PID Reading (ppm or ppb)	Depth (Feet)	Color (Munsell or Rock)	Lithology	Graphic Log	Description and Remarks
								CLAY, sandy with small pebble clasts, grey, hard, nonplastic; damp.
				35				CLAY, sandy with small pebble clasts, grey, moderately firm, nonplastic; damp.
						CL		CLAY, sandy with small pebble clasts, grey with brown mottling, increasing sand coarseness with depth, nonplastic; damp.
				40				
GW-12 (40-44) Triple volume								CLAY, sandy with small pebble clasts, grey grading to light brown, hard; damp becoming moist.
						SC		SAND, clayey with small pebble clasts, light brown grading to grey, soft, nonplastic; wet.
				45		CL		CLAY, sandy with small pebble clasts, hard, nonplastic; damp.
				50				
				55				
				60				

Boring Log Form

Site Name: Former Electrolux Site
Boring Number: GW-09
Date Drilled (Start/Finish): 7/6/2020
Drilling Method: DPT - Geoprobe
Drilling Company: BGS
Elevation: ~ 1052ft amsl
Total Depth: 40ft
Coordinates: 42.0243, -94.3681
Depth to Water: 37ft
Geologist: L. Robertson, K. Thomas, L. Murphy
Project Number: 103X903019F0086.003
Weather: Partly Cloudy

Sample Interval	Interval	Soil Recv.	PID Reading (ppm or ppb)	Depth (Feet)	Color (Munsell or Rock)	Lithology	Graphic Log	Description and Remarks
								TOPSOIL
						CL		CLAY, sandy, brown, hard, nonplastic; dry.
				5				CLAY, sandy, grey with slight mottling, hard becoming soft, nonplastic, increasing sand content with depth; damp.
								CLAY, sandy, light brown grading to brown with grey and iron mottling, increasing hardness with depth; moist.
								CLAY, sandy, grey with red mottling, nonplastic; moist.
				10				CLAY, sandy with small pebble clasts, grey-brown, increasing sand content with depth, hard, nonplastic; moist.
						CL/CH		CLAY, sandy with small pebble clasts, grey with red mottling, moderately hard, moderately plastic; moist.
				15				CLAY, sandy with small pebble clasts, grey with red mottling, moderately hard, moderately plastic; moist.
				20				CLAY, sandy with small pebble clasts, grey, moderately soft becoming soft, nonplastic becoming moderately plastic; moist.
				25				
				30		CL		CLAY, sandy with small pebble clasts, grey, hard, nonplastic; most.

Boring Log Form

Site Name: Former Electrolux Site
Boring Number: GW-09
Date Drilled (Start/Finish): 7/6/2020
Drilling Method: DPT - Geoprobe
Drilling Company: BGS
Elevation: ~ 1052ft amsl
Total Depth: 40ft
Coordinates: 42.0243, -94.3681
Depth to Water: 37ft
Geologist: L. Robertson, K. Thomas, L. Murphy
Project Number: 103X903019F0086.003
Weather: Partly Cloudy

Sample Interval	Interval	Soil Recv.	PID Reading (ppm or ppb)	Depth (Feet)	Color (Munsell or Rock)	Lithology	Graphic Log	Description and Remarks
				35		CL		CLAY, sandy with small pebble clasts, grey, increasing sand content with depth, hard becoming soft, nonplastic; moist becoming saturated at 37 ft bgs
GW-09 (35-39) GW-09 (35-39)DUP				40				CLAY, sandy with small pebble clasts, grey, hard; nonplastic; moist.
				45				
				50				
				55				
				60				

Boring Log Form

Site Name: Downtown Wells Site
Boring Number: GW-14
Date Drilled (Start/Finish): 7/7/2020
Drilling Method: DPT - Geoprobe
Drilling Company: BGS
Elevation: ~ 1069ft amsl
Total Depth: 45ft
Coordinates: 42.0148, -94.3753
Depth to Water: 41ft
Geologist: L. Robertson, K. Thomas, L. Murphy
Project Number: 103X903019F0086.003
Weather: Partly Cloudy

Sample Interval	Interval	Soil Recv.	PID Reading (ppm or ppb)	Depth (Feet)	Color (Munsell or Rock)	Lithology	Graphic Log	Description and Remarks
								GRAVEL & ASPHALT
								TOPSOIL
						CL/CH		CLAY, sandy with small pebble clasts, brown with yellow mottling, moderately plastic; moist.
				5		CH		CLAY, sandy, brown, plastic; moist.
								CLAY, sandy, grey with light brown mottling, soft, plastic; moist.
				10		CL		CLAY, grey-black, petroleum odor, hard, nonplastic; damp.
								CLAY, sandy, grey, hard, nonplastic; damp.
				15		CL/CH		CLAY, sandy with small pebble clasts, light brown, moderately soft, moderately plastic; moist.
						CL		CLAY, sandy with small pebble clasts, grey with red-brown mottling, hard, nonplastic; damp.
				20				CLAY, sandy with small pebble clasts, brown grading to grey, hard, nonplastic; damp.
				25				CLAY, sandy with small pebbles, grey with red mottling, hard, nonplastic; damp.
				30		CH		CLAY, sandy with small pebble clasts, brown with grey mottling, soft, plastic; moist.

Boring Log Form

Site Name: Downtown Wells Site
Boring Number: GW-14
Date Drilled (Start/Finish): 7/7/2020
Drilling Method: DPT - Geoprobe
Drilling Company: BGS
Elevation: ~ 1069ft amsl
Total Depth: 45ft
Coordinates: 42.0148, -94.3753
Depth to Water: 41ft
Geologist: L. Robertson, K. Thomas, L. Murphy
Project Number: 103X903019F0086.003
Weather: Partly Cloudy

Sample Interval	Interval	Soil Recv.	PID Reading (ppm or ppb)	Depth (Feet)	Color (Munsell or Rock)	Lithology	Graphic Log	Description and Remarks
				35		CL		CLAY, sandy with small pebble clasts, grey, hard, nonplastic; moist.
				40				
GW-14 (41-45)				45				CLAY, sandy with small pebble clasts, grey, hard, nonplastic; moist becoming saturated at 41 ft bgs.
				50				
				55				
				60				

APPENDIX E

EPA ANALYTICAL DATA

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: 08/05/2020

Subject: Transmittal of Sample Analysis Results for ASR #: 8596

Project ID: BMFESDWS

Project Description: Downtown Wells site and Former Electrolux site

From: Margaret E.W. St. Germain, Chief
Laboratory Technology & Analysis Branch
Laboratory Services and Applied Sciences Division

To: Brian Mitchell
LCRD/ROAG

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. These results are based on samples as received at the Science and Technology Center. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please ensure that you file this electronic (.pdf only) transmittal in your records management system. The Regional Laboratory will now retain all of the original hardcopy documentation (e.g. COC[s] and the R7LIMS field sheet[s], etc.) according to our LSASD records management system.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the Online ASR Sample/Data Disposition and Customer Survey for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Online ASR Sample/Data Disposition and Customer Survey. It is critical that we receive your response in accordance to RCRA and the laboratory accreditation.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Project Manager: Brian Mitchell **Org:** LCRD/ROAG **Phone:** 913-551-7633

Project ID: BMFESDWS **QAPP Number:** 2020006

Project Desc: Downtown Wells site and Former Electrolux site

Location: Jefferson **State:** Iowa **Program:** Superfund

Site Name: Multi-Site - General **Site ID:** 07ZZ **Site OU:** 00

Purpose: Site Preliminary Assessment **GPRA PRC:** 000DD2

CERCLIS ID: IAD047055140. GW sampling for preliminary assessment and site investigation.

EPA PM (BM)/TT sampler noted on the submitted ASR dated 6/3/2020 that this activity is not part of a litigation hold activity at this time.

GPRA/site code (+OU) ok per DB on 6/3/2020.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample
FB = Field Blank
FD = Field Duplicate

Units: Specific units in which results are reported.

ug/L = Micrograms per Liter

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank)= Values have been reviewed and found acceptable for use.
UJ = The analyte was not detected at or above the reporting limit. The reporting limit is an estimate.
U = The analyte was not detected at or above the reporting limit.
J = The identification of the analyte is acceptable; the reported value is an estimate.

ASR Number: 8596 **Sample Information Summary** **08/05/2020**

Project ID: BMFESDWS **Project Desc:** Downtown Wells site and Former Electrolux site

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 -	__	Water	GW-12		07/06/2020	11:35			07/09/2020
2 -	__	Water	GW-09		07/06/2020	16:00			07/09/2020
2 -	FD	Water	GW-09		07/06/2020	16:00			07/09/2020
4 -	__	Water	GW-07		07/06/2020	17:05			07/09/2020
5 -	__	Water	GW-11		07/06/2020	17:23			07/09/2020
6 -	__	Water	GW-08		07/06/2020	18:10			07/09/2020
7 -	__	Water	GW-07		07/07/2020	07:45			07/09/2020
8 -	__	Water	GW-14		07/07/2020	10:35			07/09/2020
9 -	__	Water	GW-15		07/07/2020	11:54			07/09/2020
9 -	FD	Water	GW-15		07/07/2020	11:54			07/09/2020
11 -	__	Water	GW-16		07/07/2020	13:50			07/09/2020
12 -	__	Water	GW-10		07/07/2020	11:15			07/09/2020
13 -	__	Water	GW-13		07/07/2020	12:35			07/09/2020
14 -	__	Water	GW-17		07/07/2020	15:45			07/09/2020
15 -	__	Water	Rinsate sample		07/07/2020	16:19			07/09/2020
16 -	__	Water	GW-18		07/07/2020	16:30			07/09/2020
17 -	__	Water	GW-19		07/08/2020	09:00			07/09/2020
18 -	__	Water	GW-21		07/08/2020	09:25			07/09/2020
19 -	FB	Water	Trip Blank sample		07/01/2020	07:18			07/09/2020
20 -	FB	Water	Field Blank sample		07/08/2020	10:49			07/09/2020

Analysis	Comments About Results For This Analysis

1 VOCs in Water by GC/MS for Low Detection Limits

Lab: Contract Lab Program (Out-Source)

Method: CLP Statement of Work

Samples:						
1-__	2-__	2-FD	4-__	5-__	6-__	7-__
8-__	9-__	9-FD	11-__	12-__	13-__	14-__
15-__	16-__	17-__	18-__	19-FB	20-FB	

Comments:

Samples -5, -7 and -13 were analyzed 1 day past their 7-day holing time. A holding time of 7-days is applicable since these samples were not acidified to a pH of <2.0. All positive results were reported with a J-code indicating that they are estimated values. The actual concentration of some or all analytes may have been higher than the reported result. The results for analytes that were not found at or above the reporting limit were UJ-coded to indicate that the reporting limit is an estimated value.

Cis-1,2 Dichloroethene, trans-1,2-Dichloroethene and 1,1-Dichloroethene were UJ-coded in samples -2 and -2FD. Chlorobenzene, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, Ethyl Benzene, Isopropylbenzene, Styrene, Toluene, Tetrachloroethene, Trichloroethene, o-Xylene and m and/or p-Xylene were UJ-coded in sample -2. These analytes were not found in the samples at or above the reporting limits; however, the reporting limits are an estimate (UJ-coded) due to low recoveries of the surrogate analytes. The actual reporting limits for these analytes may be higher than the reported values.

Analysis/ Analyte	Units	1-__	2-__	2-FD	4-__
1 VOCs in Water by GC/MS for Low Detection Limits					
Acetone	ug/L	6.2	5.6	5.7	6.0
Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromodichloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromoform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Butanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Carbon Disulfide	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Tetrachloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chlorobenzene	ug/L	0.50 U	0.50 UJ	0.50 U	0.50 U
Chloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Cyclohexane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromo-3-Chloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromoethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	ug/L	0.50 U	0.50 UJ	0.50 U	0.50 U
1,3-Dichlorobenzene	ug/L	0.50 U	0.50 UJ	0.50 U	0.50 U
1,4-Dichlorobenzene	ug/L	0.50 U	0.50 UJ	0.50 U	0.50 U
Dichlorodifluoromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethene	ug/L	0.50 U	0.50 UJ	0.50 UJ	0.50 U
cis-1,2-Dichloroethene	ug/L	0.50 U	0.50 UJ	0.50 UJ	0.50 U
trans-1,2-Dichloroethene	ug/L	0.50 U	0.50 UJ	0.50 UJ	0.50 U
1,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Ethyl Benzene	ug/L	0.50 U	0.50 UJ	0.50 U	0.50 U
2-Hexanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Isopropylbenzene	ug/L	0.50 U	0.50 UJ	0.50 U	0.50 U
Methyl Acetate	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Methyl tert-butyl ether	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Methylcyclohexane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Methylene Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Methyl-2-Pentanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	0.50 U	0.50 UJ	0.50 U	0.50 U
1,1,2,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Tetrachloroethene	ug/L	0.50 U	0.50 UJ	0.50 U	0.50 U
Toluene	ug/L	0.50 U	0.50 UJ	0.50 U	0.50 U
1,2,3-Trichlorobenzene	ug/L	0.50 U	0.50 UJ	0.50 U	0.50 U
1,2,4-Trichlorobenzene	ug/L	0.50 U	0.50 UJ	0.50 U	0.50 U
1,1,1-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	1-__	2-__	2-FD	4-__
Trichloroethene	ug/L	0.50 U	0.50 UJ	0.50 U	0.50 U
Trichlorofluoromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichlorotrifluoroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
m and/or p-Xylene	ug/L	0.50 U	0.50 UJ	0.50 U	0.50 U
o-Xylene	ug/L	0.50 U	0.50 UJ	0.50 U	0.50 U

Analysis/ Analyte	Units	5-__	6-__	7-__	8-__
1 VOCs in Water by GC/MS for Low Detection Limits					
Acetone	ug/L	16 J	6.3	19 J	8.5
Benzene	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
Bromochloromethane	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
Bromodichloromethane	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
Bromoform	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
Bromomethane	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
2-Butanone	ug/L	5.0 UJ	5.0 U	5.0 UJ	5.0 U
Carbon Disulfide	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
Carbon Tetrachloride	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
Chlorobenzene	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
Chloroethane	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
Chloroform	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
Chloromethane	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
Cyclohexane	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
1,2-Dibromo-3-Chloropropane	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
Dibromochloromethane	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
1,2-Dibromoethane	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
1,2-Dichlorobenzene	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
1,3-Dichlorobenzene	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
1,4-Dichlorobenzene	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
Dichlorodifluoromethane	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
1,1-Dichloroethane	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
1,2-Dichloroethane	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
1,1-Dichloroethene	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
cis-1,2-Dichloroethene	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
trans-1,2-Dichloroethene	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
1,2-Dichloropropane	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
cis-1,3-Dichloropropene	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
trans-1,3-Dichloropropene	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
Ethyl Benzene	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
2-Hexanone	ug/L	5.0 UJ	5.0 U	5.0 UJ	5.0 U
Isopropylbenzene	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
Methyl Acetate	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
Methyl tert-butyl ether	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
Methylcyclohexane	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
Methylene Chloride	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
4-Methyl-2-Pentanone	ug/L	5.0 UJ	5.0 U	5.0 UJ	5.0 U
Styrene	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
1,1,2,2-Tetrachloroethane	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
Tetrachloroethene	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
Toluene	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
1,2,3-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 UJ	0.50 U
1,2,4-Trichlorobenzene	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
1,1,1-Trichloroethane	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
1,1,2-Trichloroethane	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U

ASR Number: 8596 **RLAB Approved Sample Analysis Results** **08/05/2020**

Project ID: BMFESDWS **Project Desc:** Downtown Wells site and Former Electrolux site

Analysis/ Analyte	Units	5-__	6-__	7-__	8-__
Trichloroethene	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
Trichlorofluoromethane	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
1,1,2-Trichlorotrifluoroethane	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
Vinyl Chloride	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
m and/or p-Xylene	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U
o-Xylene	ug/L	0.50 UJ	0.50 U	0.50 UJ	0.50 U

ASR Number: 8596 **RLAB Approved Sample Analysis Results** **08/05/2020**

Project ID: BMFESDWS **Project Desc:** Downtown Wells site and Former Electrolux site

Analysis/ Analyte	Units	9-__	9-FD	11-__	12-__
1 VOCs in Water by GC/MS for Low Detection Limits					
Acetone	ug/L	6.2	7.1	8.1	5.7
Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromodichloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromoform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Butanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Carbon Disulfide	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Tetrachloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Cyclohexane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromo-3-Chloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromoethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,4-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dichlorodifluoromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Ethyl Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Hexanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Isopropylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Methyl Acetate	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Methyl tert-butyl ether	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Methylcyclohexane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Methylene Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Methyl-2-Pentanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Tetrachloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Toluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,3-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	9-__	9-FD	11-__	12-__
Trichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Trichlorofluoromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichlorotrifluoroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
m and/or p-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
o-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	13-__	14-__	15-__	16-__
1 VOCs in Water by GC/MS for Low Detection Limits					
Acetone	ug/L	6.4 J	6.8	11	5.5
Benzene	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
Bromochloromethane	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
Bromodichloromethane	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
Bromoform	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
Bromomethane	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
2-Butanone	ug/L	5.0 UJ	5.0 U	5.0 U	5.0 U
Carbon Disulfide	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
Carbon Tetrachloride	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
Chlorobenzene	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
Chloroethane	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
Chloroform	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
Chloromethane	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
Cyclohexane	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
1,2-Dibromo-3-Chloropropane	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
Dibromochloromethane	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
1,2-Dibromoethane	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
1,3-Dichlorobenzene	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
1,4-Dichlorobenzene	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
Dichlorodifluoromethane	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
1,1-Dichloroethane	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
1,2-Dichloroethane	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
1,1-Dichloroethene	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
cis-1,2-Dichloroethene	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
trans-1,2-Dichloroethene	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
1,2-Dichloropropane	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
trans-1,3-Dichloropropene	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
Ethyl Benzene	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
2-Hexanone	ug/L	5.0 UJ	5.0 U	5.0 U	5.0 U
Isopropylbenzene	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
Methyl Acetate	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
Methyl tert-butyl ether	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
Methylcyclohexane	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
Methylene Chloride	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
4-Methyl-2-Pentanone	ug/L	5.0 UJ	5.0 U	5.0 U	5.0 U
Styrene	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
1,1,2,2-Tetrachloroethane	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
Tetrachloroethene	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
Toluene	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
1,2,3-Trichlorobenzene	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
1,1,1-Trichloroethane	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	13-__	14-__	15-__	16-__
Trichloroethene	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
Trichlorofluoromethane	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
1,1,2-Trichlorotrifluoroethane	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
m and/or p-Xylene	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U
o-Xylene	ug/L	0.50 UJ	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	17-__	18-__	19-FB	20-FB
1 VOCs in Water by GC/MS for Low Detection Limits					
Acetone	ug/L	5.0 U	11	5.0 U	5.0 U
Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromodichloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromoform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Butanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Carbon Disulfide	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Tetrachloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Cyclohexane	ug/L	0.50 U	0.67	0.50 U	0.50 U
1,2-Dibromo-3-Chloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromoethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,4-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dichlorodifluoromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,2-Dichloroethene	ug/L	0.50 U	29	0.50 U	0.50 U
trans-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Ethyl Benzene	ug/L	0.50 U	1.6	0.50 U	0.50 U
2-Hexanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Isopropylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Methyl Acetate	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Methyl tert-butyl ether	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Methylcyclohexane	ug/L	0.50 U	1.2	0.50 U	0.50 U
Methylene Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Methyl-2-Pentanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Tetrachloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Toluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,3-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

ASR Number: 8596 **RLAB Approved Sample Analysis Results** **08/05/2020**

Project ID: BMFESDWS **Project Desc:** Downtown Wells site and Former Electrolux site

Analysis/ Analyte	Units	17-__	18-__	19-FB	20-FB
Trichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Trichlorofluoromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichlorotrifluoroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
m and/or p-Xylene	ug/L	0.50 U	5.4	0.50 U	0.50 U
o-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

CHAIN OF CUSTODY RECORD

ENVIRONMENTAL PROTECTION AGENCY REGION VII

EPA PROJECT MANAGER (Print)	SITE OR SAMPLING EVENT	DATE OF SAMPLE COLLECTION(S)	SHEET
Brian Mitchell	ASR #8596	07 (MONTH) 06-08 (DAY) 2020 (YEAR)	1 of 1

CONTENTS OF SHIPMENT

ASR AND SAMPLE NUMBER	TYPE OF CONTAINERS: 1 L PLASTIC BOTTLE	CANISTER	BOTTLE	BOTTLE	VOA SET (3 VIALS EA)	SAMPLE MEDIA: WATER	SO LID	HAZ WASTE	AIR	OTHER	RECEIVING LABORATORY REMARKS OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBER(S) OF CONTAINERS PER SAMPLE NUMBER										
8596-1					3	✓					
8596-2					1	✓					
8596-2-FD					1	✓					
8596-4					1	✓					
8596-5					1	✓					
8596-6					1	✓					
8596-7					1	✓					
8596-8					1	✓					
8596-9					1	✓					
8596-9-FD					1	✓					Some water LDL VOA vials were
8596-11					1	✓					rec'd at the STC with small air
8596-12					1	✓					bubble(s) &/or little sediment in them.
8596-13					1	✓					Lab has been informed to note &
8596-14					1	✓					proceed accordingly. Email sent to
8596-15					1	✓					EPA PM (BM) on 7/9/2020. nr7/9/2020
8596-16					1	✓					
8596-17					1	✓					
8596-18					1	✓					
8596-19-FB					1	✓					
8596-20-FB					1	✓					
											ASR is complete
											Cooler temperature rec'd between
											0-1 degC. nr7/9/2020

DESCRIPTION OF SHIPMENT

22 CONTAINER(S) CONSISTING OF _____ CRATE(S)

1 ICE CHEST(S): OTHER _____

MODE OF SHIPMENT

☐ COMMERCIAL CARRIER _____

☑ SAMPLER CONVEYED _____ (SHIPPING AIRBILL NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (PM/SAMPLER)	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
Ryan Slanczka Digitally signed by Ryan Slanczka Date: 2020.07.09 15:07:02 -05'00' SEALED ☐ UNSEALED ☑	NICOLE ROBLEZ Digitally signed by NICOLE ROBLEZ Date: 2020.07.09 16:06:28 -05'00' SEALED ☐ UNSEALED ☑	STC analyses
RELINQUISHED BY (PM/SAMPLER) SEALED ☐ UNSEALED ☐	RECEIVED BY SEALED ☐ UNSEALED ☐	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY (PM/SAMPLER) SEALED ☐ UNSEALED ☐	RECEIVED BY SEALED ☐ UNSEALED ☐	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY (PM/SAMPLER) SEALED ☐ UNSEALED ☐	RECEIVED BY SEALED ☐ UNSEALED ☐	REASON FOR CHANGE OF CUSTODY

APPENDIX F

BUILDING PERMIT APPLICATION

CITY OF JEFFERSON - BUILDING PERMIT APPLICATION

Building Permit No. 41-20

The undersigned hereby makes application with the Building Official of the City of Jefferson, Iowa for a permit to **Erect, Reconstruct or Alter** at the address described on this application.

There is to be made a part of this application, on the **Plot Plan Form,** a scale drawing of the outline of the proposed structure in relation to the lot lines and all required dimensions of the lot and proposed structure. Before a building permit is issued, the proposed structure and lot lines must be staked and string lined so all yard requirements can be verified.

Issuance of this Building Permit will be made solely upon the representation of the undersigned applicant. The City of Jefferson assumes no responsibility for the accuracy of the information furnished, including, but not limited to, the location of property lines. The City of Jefferson retains the right to revoke a permit invalidly issued. Further, the City of Jefferson assumes no responsibility for the consequences of a permit invalidly issued, including any rights, which may accrue to adjoining property owners and other affected citizens. Applicant further states that they are familiar with the Zoning Ordinance of the City of Jefferson and that said structure will be used for the purpose herein stated and no other. **The applicant hereby acknowledges that he/she has been informed that the State of Iowa has adopted Building Codes and that compliance with all applicable Codes is a State Law and the applicant's sole responsibility. Applicants must comply with Federal, State and local erosion control regulations.**

All commercial buildings must meet ADA Requirements. **Iowa State Plumbing Code prohibits the drainage of storm water into sewers intended for sanitary sewage use only.**

Permit Required: A permit shall be obtained **before** beginning construction, alteration or repairs, other than ordinary repairs. Ordinary repairs are nonstructural repairs including painting, wall finishes, roof coverings, exterior siding replacement, repairs to plumbing, mechanical and electrical systems. A permit is required for the construction of: a new building, addition, alteration, repair or replacement, garage, accessory building, deck, porch, fences and signs. A permit is also required for: driveways, sidewalks, water and sewer service connections, excavation on any city property or city right of way, moving or relocating an existing building or structure within the corporate limits of the City of Jefferson.

Permit Application: It is very important to complete the application in detail, so that it can be processed in a timely manner. Verifying zoning requirements and permit processing may take 2 to 5 business days. You will be contacted when your permit is ready.

Iowa law requires that all owners and occupants of homes built before 1978 are informed about **LEAD-BASED PAINT** before you ***renovate, remodel, or repaint.*** Contact the Iowa Department of Public Health at 800-972-2026 for additional information and forms.

Diggers Hotline 1-800-292-8989

Call at least 48 hours in advance, when digging.

If you have any questions, please contact the Jefferson Building Inspection Office.

Building Inspection Office
220 N Chestnut Street
Jefferson, IA 50129

Phone: 515-386-4660
Fax: 515-386-4671
Email: bicjeff@netins.net

BUILDING PERMIT APPLICATION

Owner
Name: U.S. Environmental Protection Agency c/o Brian Mitchell
Address: 11201 Renner Boulevard
City, State & Zip: Lenexa, KS 66219-9601
Phone: 913-551-7633
Mobile: _____
Fax: _____

Contractor
Name: Tetra Tech, Inc. c/o Ryan Slanczka
Address: 415 Oak Street
City, State & Zip: Kansas City, MO 64106
Phone: 816-412-1770
Mobile: _____
Fax: 816-410-1748

Project Location
Address: See attached figure

Estimated Total Cost of Project: $ $60,000 (labor and materials)

Legal Description: Lot(s): _____ Block: _____ Subdivision: _____

Unplatted Legal Description

Improvement Type:

[ ] New Building
[ ] Garage-Accessory Building
[ ] Sign
[ ] Sidewalk-Driveway
[ ] Other (specify)
[ ] Addition
[ ] Deck-Porch
[ ] Water-Sewer Service Connect.
[ ] Alteration-Repair-Replacement
[ ] Fence
[x] Excavate City ROW/Property

Brief description of project: Installation of one soil boring and eight temporary monitoring wells for EPA in City right-of-way/property.

Project Information (Check all that apply)

Type of siding material: [ ] Wood [ ] Steel [ ] Masonry [ ] Other: _____

Construction Type: [ ] Wood Frame [ ] Steel Frame [ ] Masonry [ ] Other: _____

Floor Area: 1st Floor _____ sq. ft. 2nd Floor _____ sq. ft. 3rd Floor _____ sq. ft.

Basement: Finished _____ sq. ft. Unfinished _____ sq. ft.

Heating System: [ ] Electric [ ] Gas [ ] Combination Elec./Gas [ ] Geo-Thermal

Water Heater: [ ] Electric [ ] Gas [ ] Other _____

Water Service: [ ] City Service [ ] Rural Service [ ] Well

Sewer System: [ ] City Service [ ] Septic (Obtain state permit from County Sanitation Official)

Electrical System: [ ] 100 amp [ ] 200 amp [ ] other _____ amp

Temporary Electric: [ ] Yes [ ] No

BUILDING PERMIT APPLICATION

I hereby certify that the data submitted on or with this application is true and correct, that I am the owner at this address or, that for the purpose of obtaining this approval, am acting as agent in owners' behalf. **Contractors who are registered with the Secretary of State, State of Iowa, and who carry Contractors Commercial Liability Insurance of not less than $500,000.00 will perform all work done on this project.** When approved and numbered, this application becomes a permit to build. Granting of this permit does not presume to give authority to violate or cancel the provisions of any state or local law regulating construction or the performance of construction. This permit expires if the work in not commenced within six months from the date of issue, or if the work is not completed within one year from the date of issuance. In the discharge of duties, the Building Inspector shall have the authority to enter the building, structure or premises for the purpose of inspecting the work permitted and posting notices.

I also certify that the Plot Plan attached hereto is a true representation of this lot and accurately shows all dimensions, easements, proposed and existing structures on said lot. Any deviation from this approved Plot Plan may void the related building permit, zoning approvals or waivers. I further state that all property lines have been located by myself or by a legal surveyor for the lot located at the legal description noted on this application.

Signature _____ **Date** 6/3/2020

Print Name Ryan Slanczka

Building Inspection Office use only. **Building Permit No.** 41-20

Building permit fees to be collected: **Zoning** RS-6

Type of improvement:

New Building	Fee Based on Construction Cost	
Addition	Fee Based on Construction Cost	
Alteration, Repair or Replacement	Fee Based on Construction Cost	
Garage – Accessory Building	Fee Based on Construction Cost	
Deck - Porch	Fee Based on Construction Cost	
[ ] Building	(total of projects listed above)	Fee:
[ ] Fence	$20.00	Fee:
[ ] Sign	$20.00	Fee:
[ ] Driveway/Sidewalk	$20.00	Fee:
[ ] Demolition	$20.00	Fee:
[ ] House Movers	$20.00	Fee:
[ ] Curb Cutting	$20.00	Fee:

Service connections required – Permit Fees

[ ] Water Service Line Permit	$50.00	Fee:
[ ] Sewer Service Line Permit	$50.00	Fee:
[ ] Water System Hookup	$1000.00	Fee:
[ ] Sewer System Hookup	$(Variable)	Fee:
[✓] Right-of-way excavation	$20.00 e 8	Fee:
[ ] Other (specify _____)		Fee: $160.00

TOTAL $ 160.00 paid

Permit: [✓] Issued **[ ] Denied** _____

Building Official _____

Date: 7/7/2020

CITY OF JEFFERSON – PLOT PLAN FORM

Building Permit Number: 41-20

Project Location
Address: _____

See locations on attached figure

N

NOTE: It is the responsibility of the applicant to call for utility locations before any excavation or digging. (1-800-292-8989)

BUILDING PERMIT APPLICATION

Building Official Office use only.

Building Permit No. 41-20

Zoning RS-6

Final Inspection Signatures (if applicable)

Y / N Building Official _____ Date _____ Approved [__] Denied [__]

Nick Sorensen 386-4660

Y / N Water Superintendant _____ Date _____ Approved [__] Denied [__]

Tom Schilling 386-2611

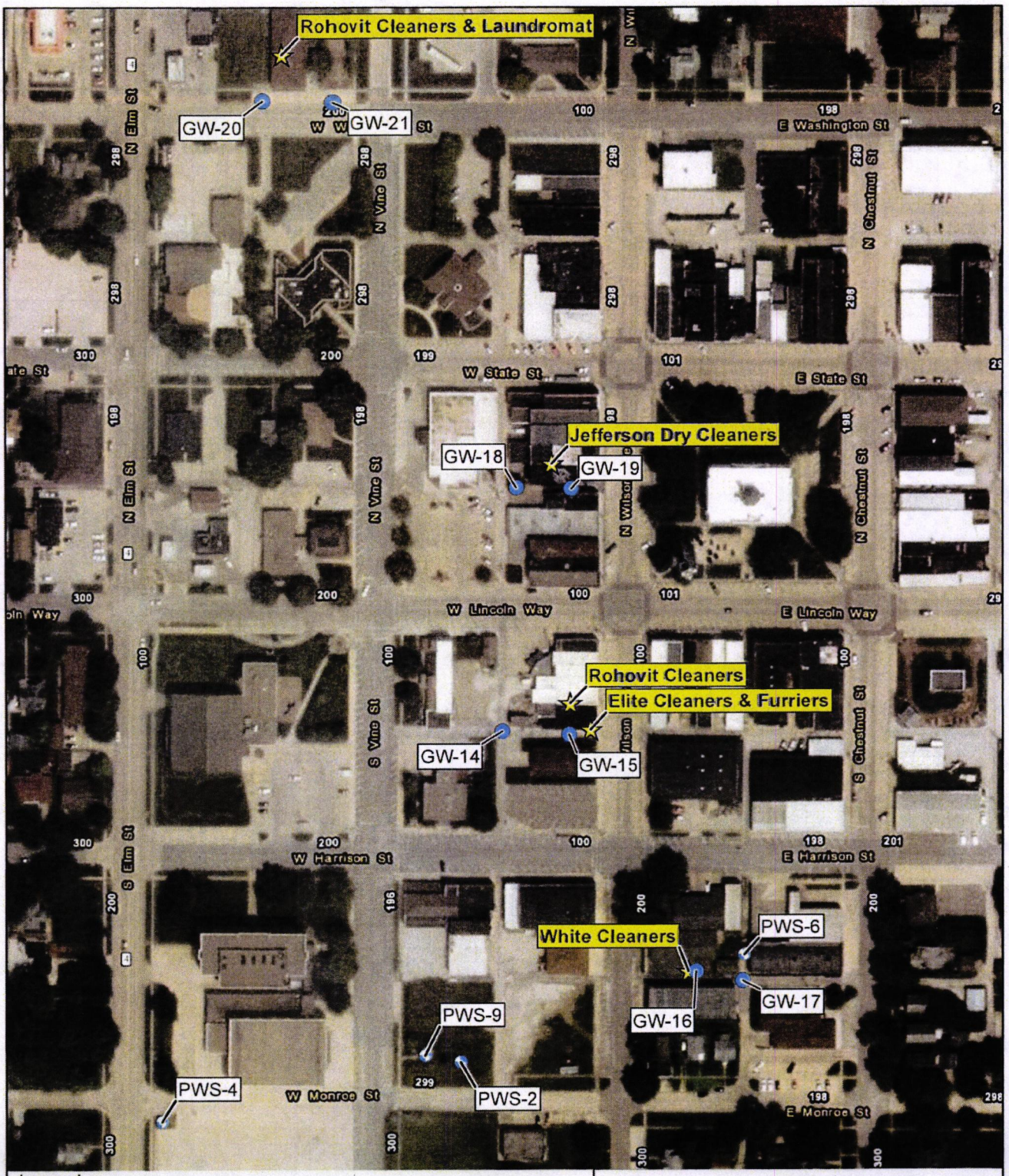
Y / N Sewer Superintendant _____ Date _____ Approved [__] Denied [__]

Dan Moranville 386-4711

Y / N Street Superintendant _____ Date _____ Approved [__] Denied [__]

Dave Teeples 386-3252

Actual Project Cost $_____
Initial Estimated Cost $_____
Total Amount Due or $_____
Credited $_____



Legend

- Proposed DPT Boring Location
- Potential contamination source
- PWS well location

PWS Public water supply

DPT Direct push technology

N

0 100 200

Feet

Source: Esri, ArcGIS Online, World Imagery, 2018.

Downtown Wells Site
Jefferson, Iowa

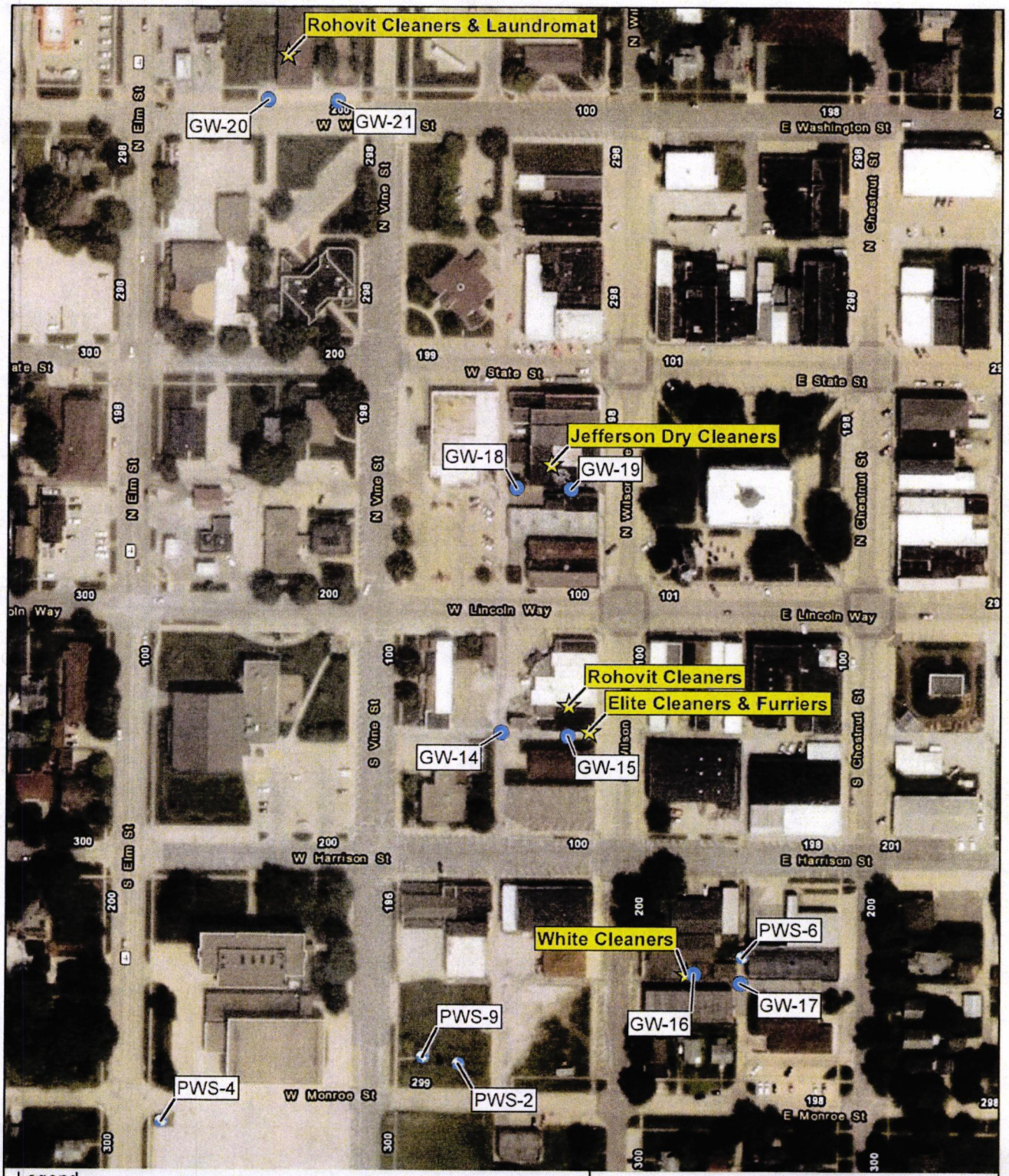
Figure 1

Proposed DPT Boring Locations

TETRA TECH

Date: 6/3/2020 Drawn By: Rose Micke Project No: X993019F0086.003

X:\GIS\X0\0086\003\Projects\mxd\Figure1_06032020.mxd



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- Potential contamination source
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DPT Direct push technology

Source: Esri, ArcGIS Online, World Imagery, 2018.

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0 100 200

Feet

Downtown Wells Site
Jefferson, Iowa

Figure 1

Proposed DPT Boring Locations

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Date: 6/3/2020 Drawn By: Rose Micke Project No: X903019F0086.003