VIA ELECTRONIC MAIL

January 31, 2017

Mr. Alexander Wardle
Virginia Department of Environmental Quality
Northern Regional Office
13901 Crown Court
Woodbridge, Virginia, 22193

RE: Fourth Quarter 2016 CAP Monitoring Report
Inactive Fairfax Facility # 26140
9901 Georgetown Pike
Great Falls, Fairfax County, Virginia
PC# 2010-3028

Dear Mr. Wardle:

Kleinfelder, on behalf of Fairfax Petroleum Realty, LLC (Fairfax), is submitting this Corrective Action Plan (CAP) Monitoring Report for the above-referenced facility (Site). This report outlines the activities completed during the Fourth Quarter 2016.

Fairfax Petroleum and Kleinfelder appreciate the continued guidance of the DEQ in the successful completion of this project. Please feel free to contact us at (410) 850-0404 should you have questions.

Sincerely,

KLEINFELDER

Paxton Wertz
Geologist

Mark C. Steele
Senior Program Manager

Attachment

cc: Mr. Marshall Yacoe – Fairfax Petroleum Realty, LLC

CAP MONITORING REPORT – FOURTH QUARTER 2016
INACTIVE FAIRFAX FACILITY # 26140
9901 GEORGETOWN PIKE
GREAT FALLS, FAIRFAX COUNTY, VIRGINIA

REGULATORY INFORMATION

Regulatory Agency:	Virginia Department of Environmental Quality (DEQ)
Agency Contact:	Mr. Alexander Wardle
Pollution Complaint No.:	2010-3028
Current Case Status:	Corrective Action Plan (CAP) Implementation
Reporting Period:	October 1 through December 31, 2016
Last Report:	CAP Monitoring Report (CMR), October 27, 2016

GENERAL SITE INFORMATION

Fairfax Petroleum Realty Contact:	Mr. Marshall Yacoe
Consultant Contact:	Mr. Mark C. Steele
Facility Status:	Under construction for a retail bank. The former station structures were removed in March 2016. The underground storage tank (UST) system was removed in August 2012.
Area Property Use:	See Local Area Map (**Figure 1**)
Site Well Network:	MW-1 through MW-3, MW-5, MW-6S, MW-6D, MW-7, MW-9 through MW-20D, MW-21I, MW-21S, MW-22, MW-23D, MW-24, W-1 through W-7, PW-1, and RW-1 (**Figure 2** and **Table 1**)
Soil Vapor Monitoring Points	VP-1, VP-2S, VP-2D, and VP-3
Site Geology:	Schist saprolite grading to competent schist bedrock
Groundwater Flow Directions:	Southeast

ACTIVITIES COMPLETED THIS PERIOD

Remediation System Relocation

In order to accommodate site improvements to the property by TD Bank, as well as to accommodate the construction process of the site improvements, the groundwater recovery system is being relocated. A summary of the relocation activities conducted during the Fourth Quarter 2016 is presented below:

- As approved in the August 25, 2016 DEQ letter (**Appendix A**), monitoring well MW-13 and soil vapor extraction wells SVE-1, SVE-3, SVE-4 and SVE-5 were abandoned by Odyssey Environmental Services on October 19, 2016.
- On October 19 and 20, 2016, the below grade portions of the remediation piping to wells RW-1 and MW-16D was installed. The piping was terminated at the end of the southern end of the TD Bank retaining wall for future above grade connections to the remediation system.
- From November 30, 2016 through December 2, 2016, the remediation system trailer and external carbon vessels were placed in position between the retaining wall and the septic setback. A wooden shed was constructed around the liquid carbon vessels.
- Also from November 30, 2016 through December 2, 2016, the well pads for the on-site monitoring wells MW-1, MW-2, MW-5, MW-7, MW-11, MW-15, SVE-2, and the recovery wells MW-16D and RW-1 were reconstructed in order to match the pavement grade for the new parking lot.
- During the December 2016 groundwater sampling event, MW-14 was unable to be located and presumed destroyed during site development activities. The DEQ is in agreement that well MW-2 has been determined to provide comparable data to well MW-14, and well MW-14 will not be replaced (**Appendix A**).
- During the December 2016 groundwater sampling event, monitoring wells MW-1, MW-2 and MW-5 were dry. Review of the pre-construction sampling data indicates the bottom elevation of monitoring wells MW-1, MW-2, and MW-5 were determined to have changed from 5 to 12 feet (i.e. soil and or debris in the bottom of the wells) during construction. The monitoring wells will be overdrilled and replaced in the First Quarter 2017.

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Monitoring, Bedrock, and CMT Well Gauging and Sampling

December 13 through 15, 2016

Groundwater gauging and sampling was conducted on the Site monitoring well network, including open bedrock wells and the CMT well during the Fourth Quarter 2016. Groundwater gauging was conducted during the sampling event and as an independent activity to monitor groundwater elevations. The gauging data used to generate potentiometric surface maps is included on **Table 2** and depicted on **Figures 3** and **4**. With the exception of the groundwater extraction wells, the CMT wells and the MW-20D wells, the sampled monitoring wells were purged using the low-flow parameter stabilization sampling methodology with a submersible electric pump and YSI multi-parameter water quality meter. The recovery wells RW-1 and MW-16D were not sampled during the Fourth Quarter while the remediation system was not operational. The recovery pumps for both wells were left in place to prevent damage and risk to the plumbing and electrical connections during the groundwater recovery system relocation. The size of the recovery equipment in the wells prevents the insertion of sampling pumps required for groundwater purging and sampling. Because of the narrow diameter of the CMT wells and the nested MW-20D well group, these were purged via three-volume purge methodology. Groundwater samples were submitted under chain of custody protocol to Lancaster Laboratories for analysis of benzene, toluene, ethylbenzene, total xylenes (BTEX), methyl tertiary butyl ether (MTBE), tertiary amyl methyl ether (TAME), tertiary butyl alcohol (TBA), ethyl tertiary butyl ether (ETBE), and di-isopropyl ether (DIPE) using EPA Method 8260B. Wells MW-23D, MW-24, and MW-25 were sampled for full list volatile organic compounds (VOCs).

Summaries of groundwater analytical results are presented in **Tables 3** and **4** and are included on **Figures 3** and **4**. A summary of monitoring and natural attenuation parameters collected during sampling is presented in **Table 5**. The Lancaster Laboratories Analysis Report for the groundwater sampling event are included as **Appendix B**. A summary of the gauging and sampling conducted during the December 2016 groundwater monitoring event is provided below.

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Wells Gauged and Sampled:	MW-7, MW-15, MW-17D, MW-20D(73-83), MW-20D (90-100), MW-20D(132-142), MW-21S/I, MW-23D, MW-24, MW-25D(90), MW-27S/I, PW-1(65), W-1, W-2, W-6, and W-7
Wells Gauged Only:	MW-1, MW-2, MW-3, MW-5, MW-6S/D, MW-9, MW-10, MW-11, MW-16D, MW-18D, MW-19D, MW-22, MW-26D, SVE-2, W-3 through W-5, GFSCMW-3, and RW-1
Minimum/Maximum Depth to Water:	3.59 feet (MW-26D) / 46.75 feet (MW-19D)
Shallow Groundwater Flow Direction:	Southeast
Shallow Hydraulic Gradient:	0.018 ft/ft between MW-15 and MW-22
Deep Groundwater Flow Direction:	Southeast
Deep Hydraulic Gradient:	0.012 ft/ft between PW-1 and MW-20D(73-83)

Groundwater gauging and sampling was conducted December 13 through 15, 2016. Groundwater samples were collected from on-site and off-site monitoring wells in accordance with the monitoring schedule presented in the October 2, 2014 CAP Addendum (CAPA) as modified by the DEQ and communicated in the March 2, 2015 CAPA Approval letter. Groundwater monitoring and analytical data for the shallow and deep monitoring wells is summarized in **Tables 3** and **4**, respectively. An MTBE isoconcentration map of the analytical results (10 micrograms per liter (µg/L) to 1,000 µg/L) from the shallow wells is included as **Figure 5**. Please note that the indicated MTBE concentration at RW-1 for the shallow isoconcentration map is based on the last available analytical result from August 2016. An MTBE isoconcentration map of the analytical results (10 µg/L to 10,000 µg/L) from the deep wells is included as **Figure 6**.

FOURTH QUARTER 2016 REMEDIAL ACTIVITIES

Following DEQ notification and approval, the groundwater recovery system was taken off-line on August 19, 2016, and removed from the Site shortly thereafter to facilitate the redevelopment of the property from an inactive retail service station to a TD Bank branch location. The remediation system was not operational during the Fourth Quarter 2016.

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A vapor barrier and venting system was installed on the TD Bank in October 2016 by others. The documentation for the installation and testing of the vapor barrier by TD Bank is included within **Appendix C**.

REMEDIATION SYSTEM REINSTALLATION SCHEDULE

The remediation system has reinstalled on-site in a location approved by Fairfax County. The installation of subsurface piping and conduit for electrical service to the recovery wells (RW-1 and MW-16) within the TD Bank parking lot area was completed the week of October 17, 2016. The storm water filtration structure installed by others was completed in late January 2017. Due to changes in grade elevation with the retaining walls, the electrical service to the remediation system has been de-energized and was modified to meet Fairfax County code. It is anticipated that Dominion Virginia Power will reconnect the electrical service in February 2017. Following completion of the work by Dominion Virginia Power, the groundwater discharge line and above grade remedial piping are also expected to be installed in February 2017. The DEQ will be notified of changes to this anticipated schedule.

MTBE DISTRIBUTION AND RECOMMENDATIONS

The groundwater recovery and treatment system was not operated during the period of August 19, 2106 to present due to TD Bank construction. Analysis of the MTBE data collected to date indicates that the remedial system performed as designed, and has effectively lowered concentrations of MTBE in groundwater to values which are protective of area receptors and meet the remediation endpoints. Analysis of the monitored natural attenuation (MNA) data collected to date indicates that the biotic (aerobic respiration, sulfate reduction, and iron reduction) and abiotic degradation of MTBE is continuing both on and off-site.

No significant rebound in MTBE concentrations was noted in on or off-site monitoring wells with the exception of wells noted below. The MW-23D with concentrations are consistent between the August and December 2016 sampling events and remain below the approved remedial endpoint of 343 µg/L MTBE.

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The MTBE concentrations in groundwater samples collected from MW-17D have historically demonstrated greater variability between sampling events than other monitoring wells. Packer testing conducted in 2013 demonstrated that average hydraulic conductivity values of borehole intervals shallower than approximately 100 feet below grade is significantly greater than those deeper than 100 feet. The concentrations in the deeper intervals (117, 129.75, and 147) have declined as anticipated, through dilution of impacted groundwater initially emplaced during the installation of the multichannel casing.

Considering all the sampling intervals at MW-17D, the maximum concentration of MTBE detected in any interval has steadily declined since the remedial system commenced operation, as has the average concentration of all sampled intervals. While concentrations of MTBE in groundwater sampled from some intervals has increased above those observed in August 2016, the maximum and average concentration is less than observed in April 2016, August 2015, June 2015, and December 2014. These variations are driven primarily by the range of concentrations in MTBE detected in samples collected from the 75 and 81 foot intervals. These intervals correspond to the intake depth of the pump in RW-1, which are more profoundly impacted by the pumping RW-1, and the MTBE results are likely impacted from the effect of volume of water conveyed. The continued sampling at MW-17D is recommended and the concentrations noted in the 6-inch sampling intervals of this well alone do not justify the restart of the groundwater recovery system. Kleinfelder, on behalf of Fairfax Petroleum, proposes to take advantage of this extended system shut down imposed by the redevelopment and postpone the resumption of groundwater recovery until after replacement on-site monitoring wells MW-1 and MW-2 have been installed, the completion of a March 2016 sampling event, and the data analyzed to determine the effect of the long term cessation of groundwater recovery.

While maintaining an overall statistically significant decreasing trend (S statistic of -65), the MTBE concentrations in the area of W-1 have decreased more slowly than at other wells and a slight rebound in MTBE concentration within the historical range of MTBE concentrations was noted from August 2016 (8,400 µg/L) to December 2016 (9,900 µg/L); however, these concentrations are lower than the May 2016 rebound test sampling result (13,000 µg/L). The MTBE concentrations in monitoring well MW-21S have also increased slightly from August 2016 (670 µg/L) to December 2016 (1,400 µg/L) and similar to W-1 the recent results are lower than the May 2016 rebound test sampling result (2,400 µg/L).

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As previously presented as part of the CAP and CAPA, multiple lines of evidence has shown that MTBE is unlikely to migrate beyond the Great Falls Shopping Center, let alone pose a risk to potential receptors located east and southeast of the new Exxon. This is evidenced by the extent of MTBE in the overburden off-site has remained constant as defined by the 10 µg/L isoconcentration contour through the monitoring of off-site delineation wells supporting the previous predictive tools utilized. Despite reductions in MTBE concentrations in groundwater throughout the treatment area to the system operation and the constant downgradient extent of MTBE on the new Exxon indicating a contracting plume, concentrations at W-1 have been more persistent with a slower attenuation rate than other wells. Due to these persistent concentrations of MTBE at monitoring well W-1, Kleinfelder maintains that there may be a separate source of MTBE located near W-1 and has presented evidence that MTBE in this areas cannot solely be attributed to the migration of MTBE from the former Exxon. The appropriate action for MTBE concentrations off-site on the new Exxon is to allow natural attenuation to continue or the DEQ to re-open the PC #2003-3230 associated with the MTBE release from Shell operations and require the investigation into the contribution of this secondary source of MTBE to the plume. However, the DEQ has indicated their expectation for Fairfax Petroleum to present a plan to actively address this area of remaining shallow MTBE impact if MTBE concentrations in W-1 and MW-21S do not show significant natural attenuation. To satisfy the DEQ, a limited remedial action is proposed to address the area of W-1 and MW-21S. The implementation of groundwater recovery on the new Exxon is not practical and recovery of groundwater from a downgradient portion of the plume is not technically sound as has previously been discussed with the DEQ. The limited remedial action proposed is in-situ chemical oxidation (ISCO) and the ISCO reagent(s) will be directly injected into the shallow aquifer at concentrations and locations designed to reduce concentrations of MTBE at W-1 and MW-21S. As the proposed limited remedial action will not modify the existing the CAP or CAP Addendum, a work plan will be submitted for DEQ review by February 28, 2017.

ACTIVITIES PLANNED FOR NEXT PERIOD (FIRST QUARTER 2017)

Activities planned for the First Quarter 2017 include replacement of wells MW-1, MW-2, and MW-5, continuation of the work to re-install the remediation system, submission of a limited remedial action work plan, and one groundwater sampling event.

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LIMITATIONS

This work was performed in a manner consistent with that level of care and skill ordinarily exercised by other members of Kleinfelder's profession practicing in the same locality, under similar conditions and at the date the services are provided. Our conclusions, opinions and recommendations are based on a limited number of observations and data. It is possible that conditions could vary between or beyond the data evaluated. Kleinfelder makes no other representation, guarantee or warranty, express or implied, regarding the services, communication (oral or written), report, opinion, or instrument of service provided.

Sincerely,

KLEINFELDER

Paxton D. Wertz
Geologist

Mark C. Steele
Senior Program Manager

FIGURES

1 Local Area Map
2 Site Plan
3 Hydrocarbon Distribution / Groundwater Contour Map – Shallow Wells (December 13 through 15, 2016)
4 Hydrocarbon Distribution / Groundwater Contour Map – Deep Wells (December 13 through 15, 2016)
5 MTBE Isoconcentration Map – Shallow Wells (December 13 through 15, 2016)
6 MTBE Isoconcentration Map – Deep Wells (December 13 through 15, 2016)

TABLES

1 Monitoring Well Construction Data
2 Monitoring Well Gauging Data Summary (December 13, 2016)
3 Groundwater Monitoring & Analytical Data – Shallow Wells
4 Groundwater Monitoring & Analytical Data – Deep Wells
5 Monitored Natural Attenuation Field Parameters Summary

APPENDICES

A DEQ Correspondence
B Lancaster Laboratories Analysis Report – Groundwater
C Final Certification Report for Sub-Slab Venting and Barrier System

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FIGURES

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LOCAL AREA MAP

INACTIVE FAIRFAX FACILITY # 26140
9901 GEORGETOWN PIKE
GREAT FALLS, VIRGINIA

FIGURE
1

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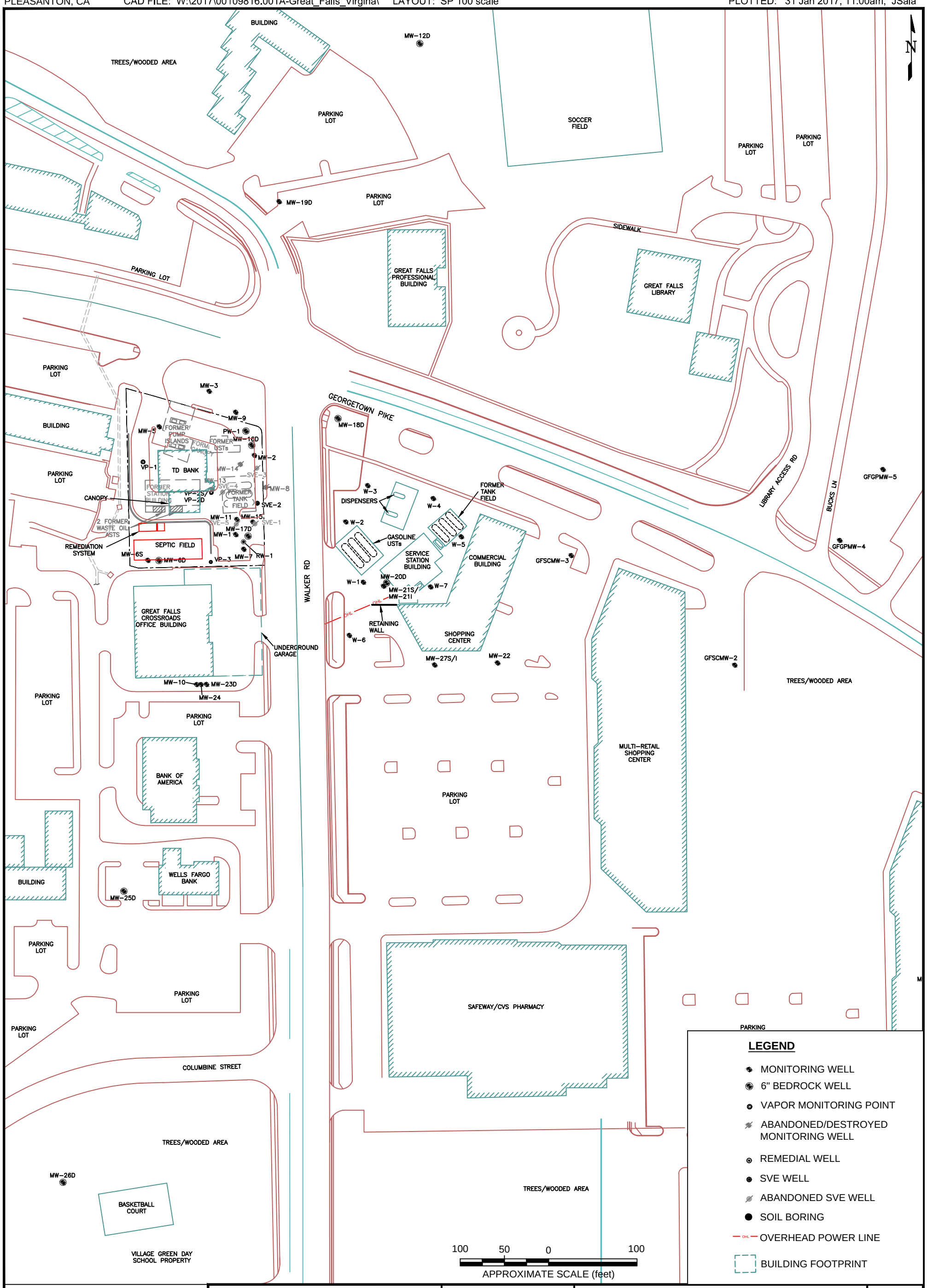

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SITE PLAN

INACTIVE FAIRFAX FACILITY #26140
9901 GEORGETOWN PIKE
GREAT FALLS, VIRGINIA

FIGURE
2

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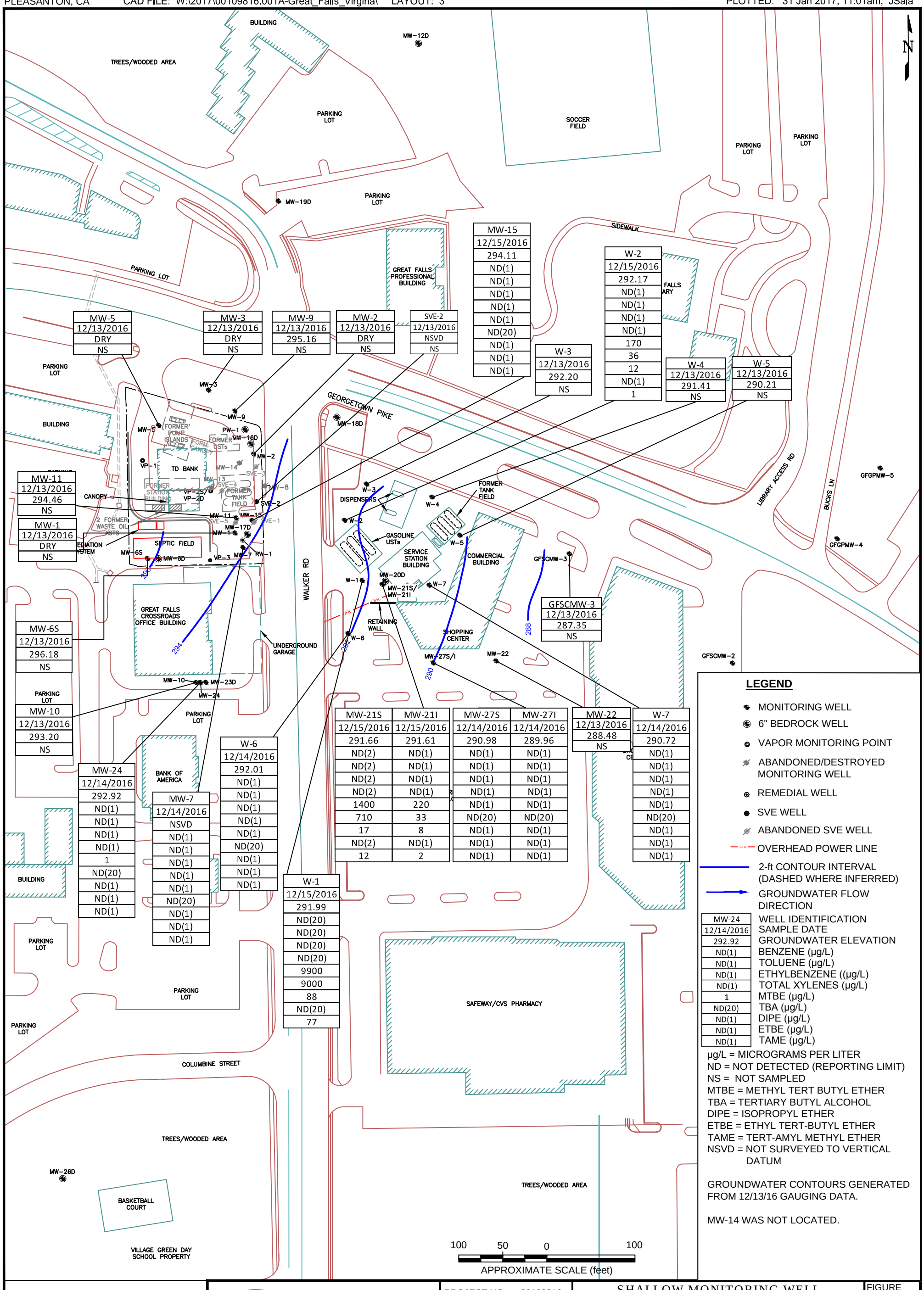

LEGEND

- MONITORING WELL
- 6" BEDROCK WELL
- VAPOR MONITORING POINT
- ABANDONED/DESTROYED MONITORING WELL
- REMEDIAL WELL
- SVE WELL
- ABANDONED SVE WELL
- OVERHEAD POWER LINE
- 2-ft CONTOUR INTERVAL (DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION

MW-24	WELL IDENTIFICATION
12/14/2016	SAMPLE DATE
292.92	GROUNDWATER ELEVATION
ND(1)	BENZENE (µg/L)
ND(1)	TOLUENE (µg/L)
ND(1)	ETHYLBENZENE ((µg/L)
ND(1)	TOTAL XYLENES (µg/L)
1	MTBE (µg/L)
ND(20)	TBA (µg/L)
ND(1)	DIPE (µg/L)
ND(1)	ETBE (µg/L)
ND(1)	TAME (µg/L)

µg/L = MICROGRAMS PER LITER
ND = NOT DETECTED (REPORTING LIMIT)
NS = NOT SAMPLED
MTBE = METHYL TERT BUTYL ETHER
TBA = TERTIARY BUTYL ALCOHOL
DIPE = ISOPROPYL ETHER
ETBE = ETHYL TERT-BUTYL ETHER
TAME = TERT-AMYL METHYL ETHER
NSVD = NOT SURVEYED TO VERTICAL DATUM

GROUNDWATER CONTOURS GENERATED FROM 12/13/16 GAUGING DATA.

MW-14 WAS NOT LOCATED.

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SHALLOW MONITORING WELL GROUNDWATER CONTOUR / HYDROCARBON DISTRIBUTION MAP DECEMBER 13 THROUGH 15, 2016

INACTIVE FAIRFAX FACILITY #26140
9901 GEORGETOWN PIKE
GREAT FALLS, VIRGINIA

FIGURE
3

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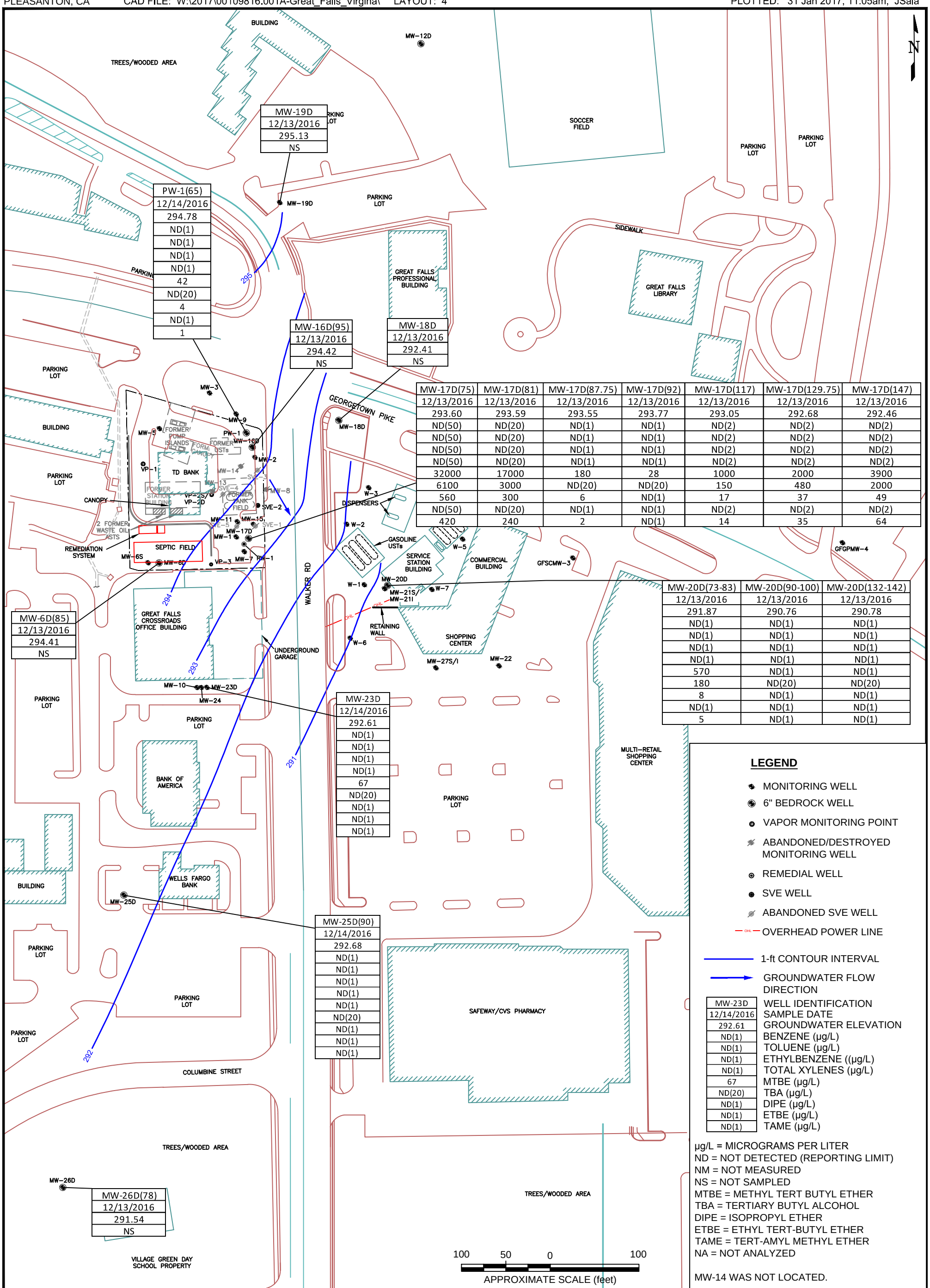

MW-17D(75)	MW-17D(81)	MW-17D(87.75)	MW-17D(92)	MW-17D(117)	MW-17D(129.75)	MW-17D(147)
12/13/2016	12/13/2016	12/13/2016	12/13/2016	12/13/2016	12/13/2016	12/13/2016
293.60	293.59	293.55	293.77	293.05	292.68	292.46
ND(50)	ND(20)	ND(1)	ND(1)	ND(2)	ND(2)	ND(2)
ND(50)	ND(20)	ND(1)	ND(1)	ND(2)	ND(2)	ND(2)
ND(50)	ND(20)	ND(1)	ND(1)	ND(2)	ND(2)	ND(2)
ND(50)	ND(20)	ND(1)	ND(1)	ND(2)	ND(2)	ND(2)
32000	17000	180	28	1000	2000	3900
6100	3000	ND(20)	ND(20)	150	480	2000
560	300	6	ND(1)	17	37	49
ND(50)	ND(20)	ND(1)	ND(1)	ND(2)	ND(2)	ND(2)
420	240	2	ND(1)	14	35	64

MW-20D(73-83)	MW-20D(90-100)	MW-20D(132-142)
12/13/2016	12/13/2016	12/13/2016
291.87	290.76	290.78
ND(1)	ND(1)	ND(1)
ND(1)	ND(1)	ND(1)
ND(1)	ND(1)	ND(1)
ND(1)	ND(1)	ND(1)
570	ND(1)	ND(1)
180	ND(20)	ND(20)
8	ND(1)	ND(1)
ND(1)	ND(1)	ND(1)
5	ND(1)	ND(1)

LEGEND

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MW-23D	WELL IDENTIFICATION
12/14/2016	SAMPLE DATE
292.61	GROUNDWATER ELEVATION
ND(1)	BENZENE (µg/L)
ND(1)	TOLUENE (µg/L)
ND(1)	ETHYLBENZENE ((µg/L)
ND(1)	TOTAL XYLENES (µg/L)
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ND(20)	TBA (µg/L)
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ND(1)	ETBE (µg/L)
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ETBE = ETHYL TERT-BUTYL ETHER
TAME = TERT-AMYL METHYL ETHER
NA = NOT ANALYZED

MW-14 WAS NOT LOCATED.

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DEEP MONITORING WELL GROUNDWATER CONTOUR / HYDROCARBON DISTRIBUTION MAP DECEMBER 13 THROUGH 15, 2016

INACTIVE FAIRFAX FACILITY #26140
9901 GEORGETOWN PIKE
GREAT FALLS, VIRGINIA

FIGURE
4

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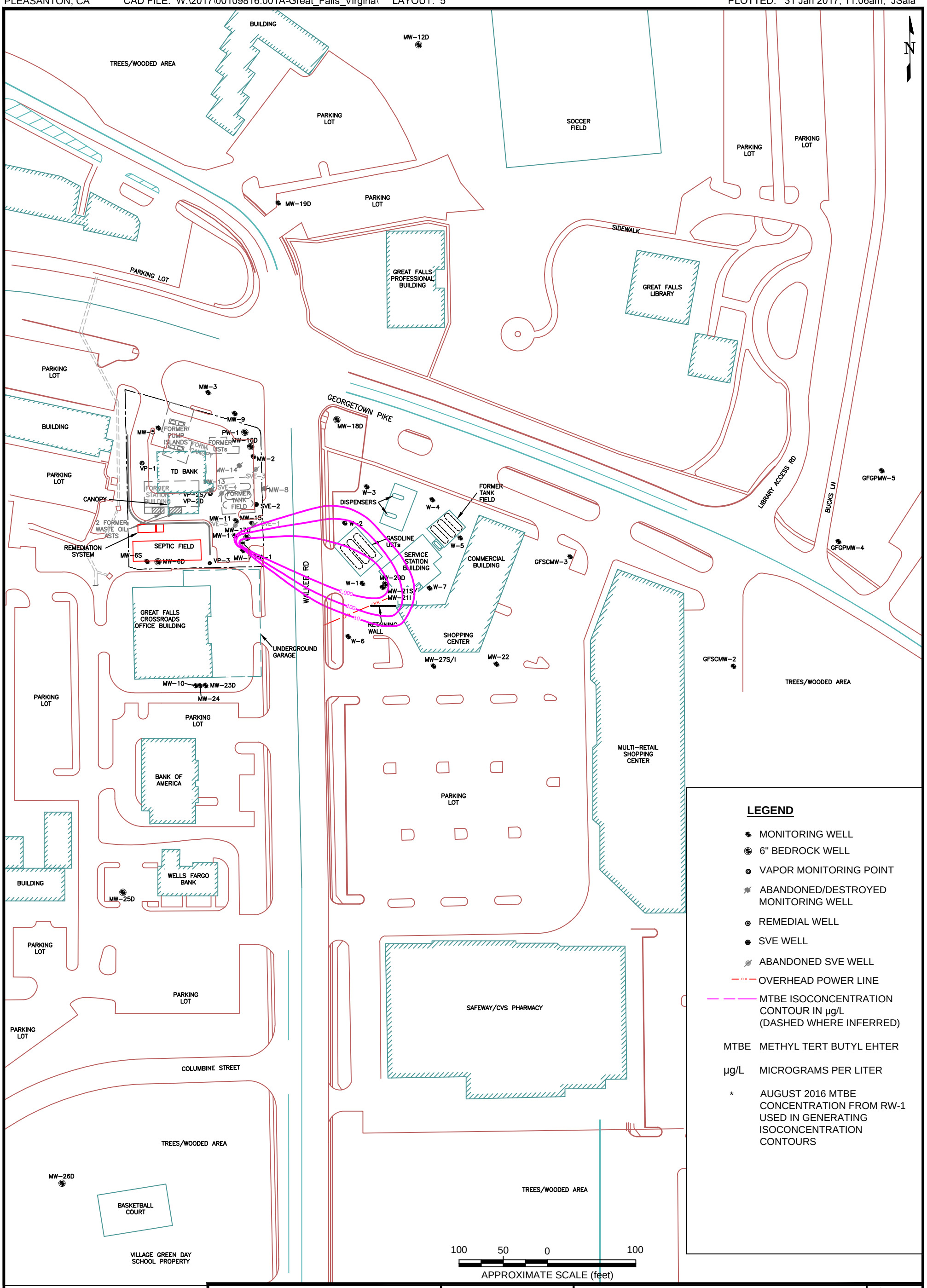

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- ABANDONED SVE WELL
- OHL — OVERHEAD POWER LINE
- MTBE ISOCONCENTRATION CONTOUR IN µg/L (DASHED WHERE INFERRED)

MTBE METHYL TERT BUTYL EHTER

µg/L MICROGRAMS PER LITER

* AUGUST 2016 MTBE CONCENTRATION FROM RW-1 USED IN GENERATING ISOCONCENTRATION CONTOURS

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PROJECT NO.	00109816
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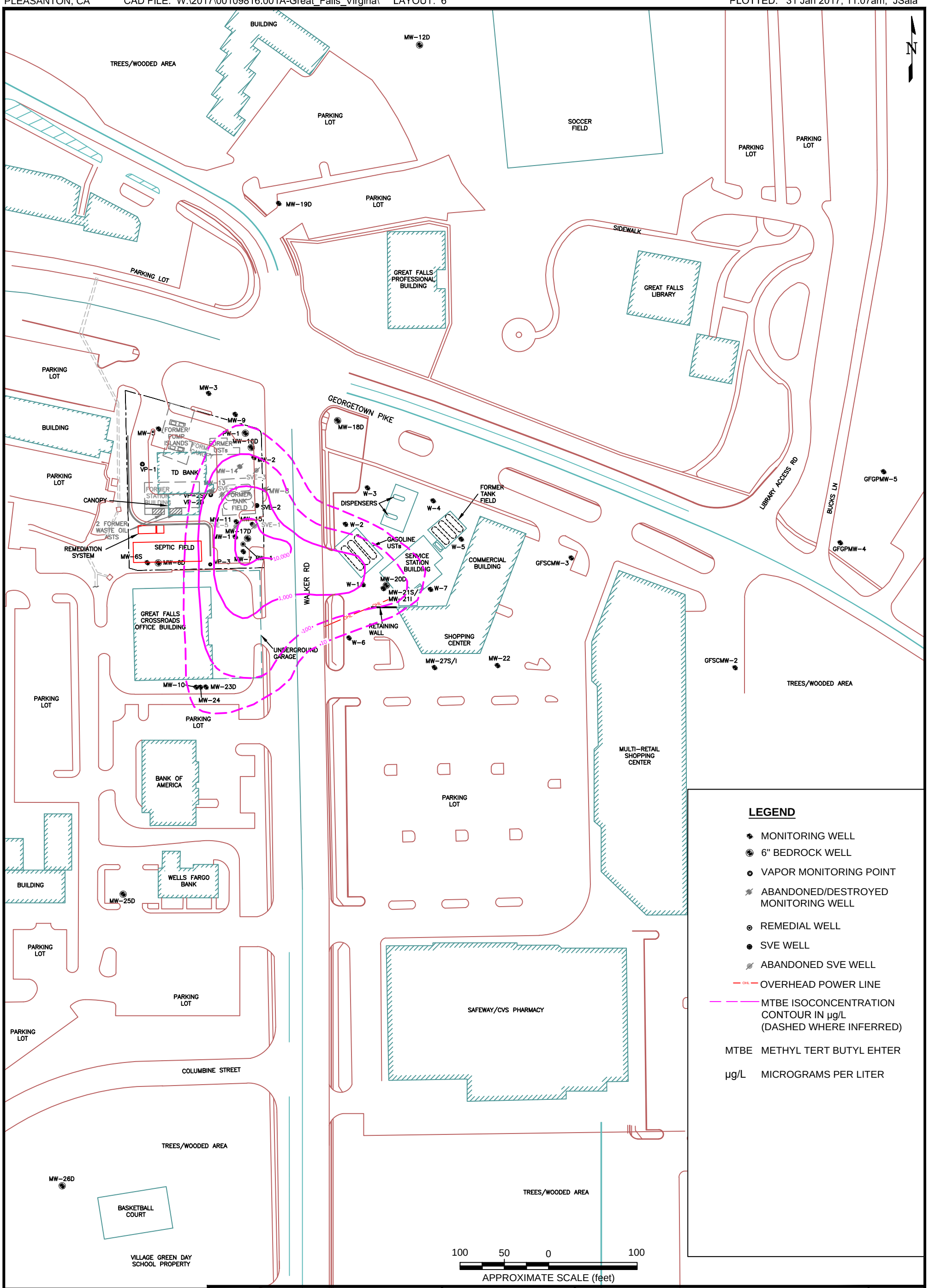
FILE NAME:	26140_Q4_16.dwg

MTBE ISOCONCENTRATION MAP
SHALLOW MONITORING WELLS
DECEMBER 13 THROUGH 15, 2016

INACTIVE FAIRFAX FACILITY #26140
9901 GEORGETOWN PIKE
GREAT FALLS, VIRGINIA

FIGURE
5

ATTACHED IMAGES: Images: 26140 deep ExtractPage1.jpg Images: 26140 SHALLOWExtractPage1.jpg Images: 26140SHALLOWExtractPage2.jpg Images: MPC6004__201701111437_Page_3.jpg Images: MPC6
ATTACHED XREFS: XRef: X-Exst-S107520: XRef: Eng-B_11x17_P_StyleA
PLEASANTON, CA CAD FILE: W:\2017\00109816.001A-Great_Falls_Virgina\ LAYOUT: 6 PLOTTED: 31 Jan 2017, 11:07am, JSala



LEGEND

- MONITORING WELL
- 6" BEDROCK WELL
- VAPOR MONITORING POINT
- ABANDONED/DESTROYED MONITORING WELL
- REMEDIAL WELL
- SVE WELL
- ABANDONED SVE WELL
- OHL — OVERHEAD POWER LINE
- MTBE ISOCONCENTRATION CONTOUR IN µg/L (DASHED WHERE INFERRED)

MTBE METHYL TERT BUTYL EHTER

µg/L MICROGRAMS PER LITER

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PROJECT NO.	00109816
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MTBE ISOCONCENTRATION MAP
DEEP MONITORING WELLS
DECEMBER 13 THROUGH 15, 2016

INACTIVE FAIRFAX FACILITY #26140
9901 GEORGETOWN PIKE
GREAT FALLS, VIRGINIA

FIGURE
6

TABLES

TABLE 1
Monitoring Well Construction Details

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia

Monitoring Well	Installation Date	Well Type	Well Diameter (inch)	Top of Casing Elevation (feet)	Riser / Casing Length (feet)	Screen Length / Open Interval (feet)	Total Borehole Depth (feet below grade)	Screen / Open Interval (feet below grade)	Comments
MW-1	7/20/2009	Monitoring	2	328.99	20	17	37	20-37	
MW-2	7/21/2009	Monitoring	2	332.05	25	15	42	25-40	
MW-3	7/22/2009	Monitoring	2	333.98	25	10	35	25-35	
MW-5	7/22/2009	Monitoring	2	332.35	30	10	42	30-40	
MW-6S	9/11/2009	Monitoring	4	321.85	20	15	35	20-35	
MW-6D	9/11/2009	Deep Monitoring	6	323.09	70	50	120	70-120	Open borehole after 70 feet
MW-7	10/16/2009	Monitoring	2	327.96	15	25	40	15-40	
MW-8	10/8/2009	Monitoring	2	330.54	25	20	45	25-45	Abandoned 9/19/2013
MW-9	10/9/2009	Monitoring	2	333.46	25	20	45	25-45	
MW-10	10/12/2009	Monitoring	2	324.17	10	30	40	10-40	
MW-11	10/14/2009	Monitoring	2	329.64	10	30	40	10-40	
MW-12D	1/11/2011	Deep Monitoring	6	326.43	100	60	160	100-160	Open borehole after 100 feet
MW-13	8/18/2011	Monitoring	4	332.00	25	20	45	25-45	Abandoned 10/19/2016
MW-14	8/18/2011	Monitoring	4	331.81	25	20	45	25-45	Destroyed during TD Bank construction
MW-15	8/18/2011	Monitoring	4	328.95	25	20	45	25-45	
MW-16D	11/22/2011	Monitoring	6	332.90	85	25	110	85-110	Open borehole after 85 feet.
MW-17D	4/9/2013	Deep Monitoring	6	328.99	68	82	150	68-150	Converted to CMT on 4/9/2014.

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TABLE 1
Monitoring Well Construction Details

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia

Monitoring Well	Installation Date	Well Type	Well Diameter (inch)	Top of Casing Elevation (feet)	Riser / Casing Length (feet)	Screen Length / Open Interval (feet)	Total Borehole Depth (feet below grade)	Screen / Open Interval (feet below grade)	Comments
MW-17D (CMT-1)	4/9/2014	Discrete Interval Monitoring	0.4	328.84	71	6	150	71-77	The Continuous Multichannel Tubing (CMT) screens are approximately six inches in length. The Screen Length / Open Interval and Screen / Open Interval columns refer to the sand pack installed in the borehole annulus surrounding the CMT port.
MW-17D (CMT-2)	4/9/2014	Discrete Interval Monitoring	0.4	328.84	79	4	150	79-83	
MW-17D (CMT-3)	4/9/2014	Discrete Interval Monitoring	0.4	328.84	86	4	150	86-90	
MW-17D (CMT-4)	4/9/2014	Discrete Interval Monitoring	0.4	328.84	91	2	150	91-93	
MW-17D (CMT-5)	4/9/2014	Discrete Interval Monitoring	0.4	328.84	114	6	150	114-120	
MW-17D (CMT-6)	4/9/2014	Discrete Interval Monitoring	0.4	328.84	126	6	150	126-132	
MW-17D (CMT-7)	4/9/2014	Discrete Interval Monitoring	0.38	328.84	146	4	150	146-150	
MW-18D	11/22/2011	Deep Monitoring	6	334.88	97	58	136	92-150	Open borehole after 92 feet. Borehole blocked by rock at 101 feet during testing on 4/30/13.
MW-19D	3/8/2014	Deep Monitoring	2	341.91	80	20	100	80-100	
MW-20D	4/7/2014	Deep Monitoring	6	329.80	70	72	142	70-142	Open borehole after 70 feet.
MW-20D	4/7/2014	Deep Monitoring	1	329.57	73	73	83	70-142	MW-20D was converted to three discrete monitoring intervals on 8/20/2014
MW-20D	4/7/2014	Deep Monitoring	1	329.58	90	90	100	70-142	
MW-20D	4/7/2014	Deep Monitoring	1	329.56	132	132	142	70-142	
MW-21I	4/1/2014	Monitoring	2	329.71	56	10	66	56-66	Part of a nested well pair including MW-21S
MW-21S	4/1/2014	Monitoring	2	329.69	26	20	46	26-46	Part of a nested well pair including MW-21I
MW-22	4/3/2014	Monitoring	2	320.97	20	20	40	20-40	
MW-23D	5/1/2014	Deep Monitoring	2	324.81	90	10	100	90-100	
MW-24	4/3/2014	Monitoring	2	324.49	50	10	60	50-60	

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TABLE 1
Monitoring Well Construction Details

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia

Monitoring Well	Installation Date	Well Type	Well Diameter (inch)	Top of Casing Elevation (feet)	Riser / Casing Length (feet)	Screen Length / Open Interval (feet)	Total Borehole Depth (feet below grade)	Screen / Open Interval (feet below grade)	Comments
MW-25D	8/17/2014	Deep Monitoring	6	317.18	65	36	101	65-101	Open borehole after 65 feet.
MW-26D	8/21/2014	Deep Monitoring	6	295.13	57	47	104	57-104	Open borehole after 57 feet.
MW-27I	8/21/2014	Monitoring	2	323.35	55	10	65	55-65	Part of a nested well pair including MW-27S
MW-27S	8/21/2014	Monitoring	2	323.40	20	20	40	20-40	Part of a nested well pair including MW-27I
PW-1	Unknown	Deep Monitoring	6	334.54	55	20	75	55 - 75	Former potable well. Partially abandoned in November 2011. Original well depth was approximately 116 feet.
RW-1	3/13/2014	Recovery	6	328.31	21	70	91	21-91	Total drilled depth was 100 feet; borehole collapsed to 91 feet during the installation of screen and casing.
SVE-1	2/17/2014	Soil Vapor Extraction	4	NSVD	15	20	35	15-35	Abandoned 10/19/2016
SVE-2	2/18/2014	Soil Vapor Extraction	4	329.64	25	20	45	25-45	Designed to serve as a SVE well and monitoring well to replace the abandoned MW-8
SVE-3	2/19/2014	Soil Vapor Extraction	4	NSVD	15	20	35	15-35	Abandoned 10/19/2016
SVE-4	2/19/2014	Soil Vapor Extraction	4	NSVD	15	20	35	15-35	Abandoned 10/19/2016
SVE-5	2/18/2014	Soil Vapor Extraction	4	NSVD	15	20	35	15-35	Abandoned 10/19/2016

Notes:
NSVD - Not Surveyed to Vertical Datum
CMT - Continuous Multichannel Tubing

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TABLE 2

Monitoring Well Gauging Data Summary
Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia

December 13, 2016

Sample ID	Date	Top of Casing Elevation	Depth to Water (feet)	Depth to Hydro-carbon (feet)	Hydro-carbon Thickness (feet)	Corrected GW Elevation (feet)	Comments
MW-1	12/13/2016	NSVD	DRY	DRY	DRY	NSVD	
MW-2	12/13/2016	NSVD	DRY	DRY	DRY	DRY	
MW-3	12/13/2016	333.98	DRY	DRY	DRY	DRY	
MW-5	12/13/2016	NSVD	DRY	DRY	DRY	NSVD	
MW-6S	12/13/2016	321.85	25.67	ND	ND	296.18	
MW-6D	12/13/2016	323.09	28.68	ND	ND	294.41	
MW-7	12/13/2016	NSVD	34.70	ND	ND	NSVD	
SVE-2	12/13/2016	NSVD	36.66	ND	ND	NSVD	
MW-9	12/13/2016	333.46	38.30	ND	ND	295.16	
MW-10	12/13/2016	324.17	30.97	ND	ND	293.20	
MW-11	12/13/2016	329.64	35.18	ND	ND	294.46	
MW-15	12/13/2016	328.95	34.84	ND	ND	294.11	
MW-16D	12/13/2016	332.90	38.48	ND	ND	294.42	
MW-17D(75)	12/13/2016	328.84	35.24	ND	ND	293.60	
MW-17D(81)	12/13/2016	328.84	35.25	ND	ND	293.59	
MW-17D(87.75)	12/13/2016	328.84	35.29	ND	ND	293.55	
MW-17D(92)	12/13/2016	328.84	35.07	ND	ND	293.77	
MW-17D(117)	12/13/2016	328.84	35.79	ND	ND	293.05	
MW-17D(129.75)	12/13/2016	328.84	36.16	ND	ND	292.68	
MW-17D(147)	12/13/2016	328.84	36.38	ND	ND	292.46	
MW-18D	12/13/2016	334.88	42.47	ND	ND	292.41	
MW-19D	12/13/2016	341.91	46.78	ND	ND	295.13	
MW-20D(73-83)	12/13/2016	329.57	37.70	ND	ND	291.87	
MW-20D(90-100)	12/13/2016	329.58	38.82	ND	ND	290.76	
MW-20D(132-142)	12/13/2016	329.56	38.78	ND	ND	290.78	
MW-21S	12/13/2016	329.69	37.79	ND	ND	291.66	
MW-21I	12/13/2016	329.71	37.96	ND	ND	291.61	
MW-22	12/13/2016	320.97	32.49	ND	ND	288.48	
MW-23D	12/13/2016	324.81	32.19	ND	ND	292.62	
MW-24	12/13/2016	324.49	31.58	ND	ND	292.92	
MW-25D	12/13/2016	317.18	24.67	ND	ND	292.51	
MW-26D	12/13/2016	295.13	3.59	ND	ND	291.54	

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1340 Charwood Road, Suite I , Hanover, MD

TABLE 2

Monitoring Well Gauging Data Summary
Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia

December 13, 2016

Sample ID	Date	Top of Casing Elevation	Depth to Water (feet)	Depth to Hydro-carbon (feet)	Hydro-carbon Thickness (feet)	Corrected GW Elevation (feet)	Comments
MW-27S	12/13/2016	323.40	33.38	ND	ND	290.98	
MW-27I	12/13/2016	323.35	33.35	ND	ND	289.96	
PW-1	12/13/2016	334.54	39.98	ND	ND	294.78	
RW-1	12/13/2016	328.31	34.77	ND	ND	293.54	
W-1	12/13/2016	328.53	36.46	ND	ND	291.99	
W-2	12/13/2016	329.47	37.27	ND	ND	292.17	
W-3	12/13/2016	330.14	37.94	ND	ND	292.20	
W-4	12/13/2016	327.67	36.26	ND	ND	291.41	
W-5	12/13/2016	327.81	37.60	ND	ND	290.21	
W-6	12/13/2016	325.21	33.19	ND	ND	292.01	
W-7	12/13/2016	329.77	39.01	ND	ND	290.72	
GFSCMW-3	12/13/2016	319.78	32.43	ND	ND	287.35	

Notes:
GW - Groundwater
ND - Not detected
NM - Not monitored
NSVD - Not surveyed to vertical datum

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1340 Charwood Road, Suite I , Hanover, MD

Table 3

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	Date	Top of Casing Elevation (feet)	Depth to Water (feet)	Depth to Hydro-carbon (feet)	Hydro-carbon Thickness (feet)	Corrected GW Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Comments
MW-1	7/24/2009	328.99	30.45	ND	ND	298.54	13.3	<1.0	0.53	24	193000	NA	NA	NA	NA	Screened from 20-37'
	8/18/2009	328.99	NM	NM	NM	NM	ND(200)	ND(200)	ND(200)	ND(200)	138000	NA	NA	NA	NA	
	10/15/2009	328.99	31.88	ND	ND	297.11	ND(200)	ND(200)	ND(200)	ND(200)	139000	47000	4070	ND(1000)	2130	
	6/22/2010	328.99	28.65	ND	ND	300.34	ND(5)	ND(7)	ND(8)	ND(8)	13000	NA	NA	NA	NA	
	9/30/2010	328.99	31.11	ND	ND	297.88	ND(50)	ND(70)	ND(80)	110	240000	NA	NA	NA	NA	
	12/16/2010	328.99	30.93	ND	ND	298.06	ND(100)	ND(140)	ND(160)	ND(160)	220000	NA	NA	NA	NA	
	2/17/2011	328.99	31.46	ND	ND	297.53	ND(250)	ND(350)	ND(400)	ND(400)	190000	NA	NA	NA	NA	
	5/24/2011	328.99	30.24	ND	ND	298.75	ND(50)	ND(70)	ND(80)	ND(80)	140000	NA	NA	NA	NA	
	9/2/2011	328.99	32.92	ND	ND	296.07	ND(50)	ND(70)	ND(80)	ND(80)	160000	NA	NA	NA	NA	
	12/29/2011	328.99	30.99	ND	ND	298.00	ND(50)	ND(70)	ND(80)	ND(80)	160000	NA	NA	NA	NA	
	6/1/2012	328.99	31.47	ND	ND	297.52	ND(50)	ND(70)	ND(80)	ND(80)	140000	NA	NA	NA	NA	
	2/25/2013	328.99	32.84	ND	ND	296.15	ND(250)	ND(250)	ND(250)	ND(250)	120000	15000	3700	ND(250)	1700	
	6/6/2013	328.99	32.14	ND	ND	296.85	ND(50)	ND(70)	ND(80)	ND(80)	150000	NA	NA	NA	NA	
	12/19/2013	328.99	33.06	ND	ND	295.93	ND(250)	ND(250)	ND(250)	ND(250)	84000	6900	2200	ND(250)	1100	
	3/25/2014	328.99	31.04	ND	ND	297.95	ND(500)	ND(500)	ND(500)	ND(500)	71000	ND(8000)	1200	ND(500)	850	
	6/20/2014	328.99	29.43	ND	ND	299.56	ND(20)	ND(20)	ND(20)	ND(20)	20000	ND(400)	490	ND(20)	210	
	9/8/2014	328.99	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/9/2014	328.99	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/11/2015	328.99	33.01	ND	ND	295.98	ND(5)	ND(5)	ND(5)	ND(5)	2800	180	23	ND(5)	20	
	6/4/2015	328.99	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/1/2015	328.99	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/2/2015	328.99	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/16/2016	328.99	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	5/3/2016	328.99	32.45	ND	ND	296.54	ND(1)	ND(1)	ND(1)	ND(1)	48	ND(20)	12	ND(1)	ND(1)	
	8/16/2016	328.99	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/13/2016	NSVD	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	

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1340 Charwood Road, Suite I , Hanover, MD

Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
Mann-Kendall Statistic							0	0	0	0	-24	-8	-15	0	-15	

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Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
MW-2	7/24/2009	102.90	33.19	ND	ND	69.71	70.2	8.0	1.0	131	107000	NA	NA	NA	NA	Screened from 25-40'
	8/18/2009	332.05	NM	NM	NM	NM	ND(100)	ND(100)	ND(100)	ND(100)	87100	NA	NA	NA	NA	
	10/15/2009	332.05	34.41	ND	ND	297.64	ND(200)	ND(200)	ND(200)	ND(200)	122000	ND(5000)	6130	ND(1000)	2420	
	7/1/2010	332.05	31.63	ND	ND	300.42	ND(100)	91.3	ND(100)	ND(100)	52400	NA	NA	NA	NA	
	9/30/2010	332.05	32.96	ND	ND	299.09	ND(25)	ND(35)	ND(40)	ND(40)	37000	NA	NA	NA	NA	
	12/16/2010	332.05	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	Well inaccessible
	2/17/2011	332.05	34.15	ND	ND	297.90	ND(100)	ND(140)	ND(160)	ND(160)	140000	NA	NA	NA	NA	
	5/24/2011	332.05	32.92	ND	ND	299.13	ND(25)	ND(35)	ND(40)	ND(40)	54000	NA	NA	NA	NA	
	9/2/2011	332.05	35.53	ND	ND	296.52	ND(50)	ND(70)	ND(80)	ND(80)	160000	NA	NA	NA	NA	
	12/29/2011	332.05	33.64	ND	ND	298.41	ND(25)	ND(35)	ND(40)	ND(40)	49000	NA	NA	NA	NA	
	6/1/2012	332.05	34.16	ND	ND	297.89	ND(50)	ND(70)	ND(80)	ND(80)	100000	NA	NA	NA	NA	
	2/25/2013	332.05	35.47	ND	ND	296.58	ND(250)	ND(250)	ND(250)	ND(250)	71000	4600	1900	ND(250)	1100	
	6/6/2013	332.05	34.91	ND	ND	297.14	ND(3)	ND(4)	ND(4)	ND(4)	3500	NA	NA	NA	NA	
	12/19/2013	332.05	35.50	ND	ND	296.55	ND(130)	ND(130)	ND(130)	ND(130)	19000	6800	710	ND(130)	280	
	3/25/2014	332.05	33.30	ND	ND	298.75	ND(50)	ND(50)	ND(50)	ND(50)	7500	2500	310	ND(50)	110	
	6/20/2014	332.05	31.27	ND	ND	300.78	ND(1)	ND(1)	ND(1)	ND(1)	450	ND(20)	29	ND(1)	7	
	9/10/2014	332.05	33.74	ND	ND	298.31	ND(1)	ND(1)	ND(1)	ND(1)	860	ND(20)	38	ND(1)	15	
	12/9/2014	332.05	40.02	ND	ND	292.03	NS	NS	NS	NS	NS	NS	NS	NS	NS	Insufficient volume to sample
	3/12/2015	332.05	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/4/2015	332.05	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/1/2015	332.05	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/2/2015	332.05	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/16/2016	332.05	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	5/3/2016	332.05	34.70	ND	ND	297.35	ND(1)	ND(1)	ND(1)	ND(1)	5	ND(20)	ND(1)	ND(1)	ND(1)	
	8/16/2016	332.05	37.09	ND	ND	294.96	NS	NS	NS	NS	NS	NS	NS	NS	NS	Insufficient Volume to Sample
	12/13/2016	NSVD	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	

Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
Mann-Kendall Statistic							0	0	0	0	-22	-10	-13	0	-13	

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Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
MW-3	7/24/2009	104.99	33.67	ND	ND	71.32	<0.50	<1.0	<1.0	ND	5.7	NA	NA	NA	NA	Screened from 25-35'
	8/18/2009	333.98	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	10/15/2009	333.98	34.51	ND	ND	299.47	NS	NS	NS	NS	NS	NS	NS	NS	NS	Insufficent volume to sample
	7/1/2010	333.98	32.39	ND	ND	301.59	ND(2)	ND(2)	ND(2)	ND(2)	1.9	NA	NA	NA	NA	
	9/30/2010	333.98	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/16/2010	333.98	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	2/17/2011	333.98	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	5/24/2011	333.98	33.63	ND	ND	300.35	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	2 J	NA	NA	NA	NA	
	9/2/2011	333.98	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/29/2011	333.98	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/1/2012	333.98	34.56	ND	ND	299.42	NS	NS	NS	NS	NS	NS	NS	NS	NS	Insufficient volume to sample
	2/25/2013	333.98	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/6/2013	333.98	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/18/2013	333.98	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/24/2014	333.98	34.25	ND	ND	299.73	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/19/2014	333.98	32.09	ND	ND	301.89	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/4/2014	333.98	34.42	ND	ND	299.56	NS	NS	NS	NS	NS	NS	NS	NS	NS	Insufficent volume to sample
	12/9/2014	333.98	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/12/2015	333.98	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/4/2015	333.98	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/1/2015	333.98	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/2/2015	333.98	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/16/2016	333.98	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	5/2/2016	333.98	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	8/16/2016	333.98	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/13/2016	333.98	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	

Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
Mann-Kendall Statistic							N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	Date	Top of Casing Elevation (feet)	Depth to Water (feet)	Depth to Hydro-carbon (feet)	Hydro-carbon Thickness (feet)	Corrected GW Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Comments
MW-5	7/24/2009	103.43	30.72	ND	ND	72.71	<0.50	<1.0	<1.0	ND	1.3	NA	NA	NA	NA	Screened from 30-40'
	8/18/2009	332.35	NM	NM	NM	NM	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	0.48	NA	NA	NA	NA	
	10/15/2009	332.35	32.51	ND	ND	299.84	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	11.4	ND(25)	0.46	ND(5.0)	ND(5.0)	
	6/22/2010	332.35	29.40	ND	ND	302.95	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	1 J	NA	NA	NA	NA	
	9/30/2010	332.35	32.30	ND	ND	300.05	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	1	NA	NA	NA	NA	
	12/16/2010	332.35	32.12	ND	ND	300.23	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	12	NA	NA	NA	NA	
	2/17/2011	332.35	32.31	ND	ND	300.04	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	2 J	NA	NA	NA	NA	
	5/24/2011	332.35	30.84	ND	ND	301.51	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	0.9 J	NA	NA	NA	NA	
	9/2/2011	332.35	33.39	ND	ND	298.96	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	0.9 J	NA	NA	NA	NA	
	12/29/2011	332.35	31.36	ND	ND	300.99	ND(0.5)	1 J	ND(0.8)	1 J	7	NA	NA	NA	NA	
	6/1/2012	332.35	31.93	ND	ND	300.42	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	0.8 J	NA	NA	NA	NA	
	2/25/2013	332.35	33.28	ND	ND	299.07	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	
	6/6/2013	332.35	32.55	ND	ND	299.80	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	1 J	NA	NA	NA	NA	
	12/18/2013	332.35	33.92	ND	ND	298.43	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	
	3/24/2014	332.35	31.32	ND	ND	301.03	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/19/2014	332.35	29.30	ND	ND	303.05	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/2/2014	332.35	31.37	ND	ND	300.98	ND(1)	ND(1)	ND(1)	ND(1)	2	ND(20)	ND(1)	ND(1)	ND(1)	
	12/9/2014	332.35	35.19	ND	ND	297.16	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/12/2015	332.35	34.59	ND	ND	297.76	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/4/2015	332.35	33.31	ND	ND	299.04	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/3/2015	332.35	35.55	ND	ND	296.80	ND(1)	ND(1)	ND(1)	2	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/2/2015	332.35	36.61	ND	ND	295.74	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/16/2016	332.35	33.71	ND	ND	298.64	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	5/2/2016	332.35	32.04	ND	ND	300.31	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	8/17/2016	332.35	34.41	ND	ND	297.94	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/13/2016	NSVD	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	

Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
Mann-Kendall Statistic							0	0	0	4	-3	0	0	0	0	

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Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
MW-6S	9/24/2009	321.85	NM	NM	NM	NM	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	2.8	ND(25)	2.1	ND(5.0)	ND(5.0)	Screened from 20-35'
	10/15/2009	321.85	23.35	ND	ND	298.50	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	2.8	ND(25)	1.3	ND(5.0)	ND(5.0)	
	6/22/2010	321.85	20.22	ND	ND	301.63	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	2	NA	NA	NA	NA	
	9/30/2010	321.85	23.00	ND	ND	298.85	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	0.9	NA	NA	NA	NA	
	12/16/2010	321.85	22.82	ND	ND	299.03	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	1	NA	NA	NA	NA	
	2/17/2011	321.85	23.02	ND	ND	298.83	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	1 J	NA	NA	NA	NA	
	5/24/2011	321.85	21.66	ND	ND	300.19	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	1 J	NA	NA	NA	NA	
	9/2/2011	321.85	24.04	ND	ND	297.81	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	1 J	NA	NA	NA	NA	
	12/29/2011	321.85	22.15	ND	ND	299.70	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	2 J	NA	NA	NA	NA	
	6/1/2012	321.85	22.72	ND	ND	299.13	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	0.8 J	NA	NA	NA	NA	
	2/25/2013	321.85	24.03	ND	ND	297.82	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	
	6/6/2013	321.85	23.49	ND	ND	298.36	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	ND(0.5)	NA	NA	NA	NA	
	12/17/2013	321.85	24.63	ND	ND	297.22	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	
	3/24/2014	321.85	22.19	ND	ND	299.66	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/19/2014	321.85	20.01	ND	ND	301.84	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/3/2014	321.85	22.41	ND	ND	299.44	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/9/2014	321.85	26.42	ND	ND	295.43	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/12/2015	321.85	25.91	ND	ND	295.94	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/4/2015	321.85	36.59	ND	ND	285.26	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/2/2015	321.85	27.01	ND	ND	294.84	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/2/2015	321.85	27.84	ND	ND	294.01	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/16/2016	321.85	25.18	ND	ND	296.67	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	5/2/2016	321.85	23.04	ND	ND	298.81	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	8/18/2016	321.85	25.64	ND	ND	296.21	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/13/2016	321.85	25.67	ND	ND	296.18	NS	NS	NS	NS	NS	NS	NS	NS	NS	

Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
Mann-Kendall Statistic							0	0	0	0	-6	0	0	0	0	

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Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
MW-7	10/15/2009	327.96	31.21	ND	ND	296.75	2.7	ND(10)	ND(10)	ND(10)	10600	2650	232	ND(50)	217	Screened from 15-40'
	6/22/2010	327.96	28.00	ND	ND	299.96	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	87	NA	NA	NA	NA	
	9/30/2010	327.96	30.24	ND	ND	297.72	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	ND(0.5)	NA	NA	NA	NA	
	12/16/2010	327.96	30.15	ND	ND	297.81	2	ND(1)	ND(2)	ND(2)	2100	NA	NA	NA	NA	
	2/17/2011	327.96	30.75	ND	ND	297.21	ND(10)	ND(14)	ND(16)	ND(16)	9700	NA	NA	NA	NA	
	5/24/2011	327.96	29.56	ND	ND	298.40	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	130	NA	NA	NA	NA	
	9/2/2011	327.96	32.21	ND	ND	295.75	11 J	ND(14)	ND(16)	ND(16)	16000	NA	NA	NA	NA	
	12/29/2011	327.96	30.24	ND	ND	297.72	ND(1)	ND(1)	ND(2)	ND(2)	1600	NA	NA	NA	NA	
	6/1/2012	327.96	30.74	ND	ND	297.22	ND(5)	ND(7)	ND(8)	ND(8)	6700	NA	NA	NA	NA	
	2/25/2013	327.96	32.23	ND	ND	295.73	ND(250)	ND(250)	ND(250)	ND(250)	61000	14000	1700	ND(250)	940	
	6/6/2013	327.96	31.49	ND	ND	296.47	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	950	NA	NA	NA	NA	
	12/18/2013	327.96	32.79	ND	ND	295.17	ND(250)	ND(250)	ND(250)	ND(250)	140000	29000	3000	ND(250)	1600	
	3/28/2014	327.96	30.35	ND	ND	297.61	ND(1)	ND(1)	ND(1)	ND(1)	430	ND(20)	13	ND(1)	6	
	6/20/2014	327.96	28.19	ND	ND	299.77	ND(1)	ND(1)	ND(1)	ND(1)	72	35	9	ND(1)	ND(1)	
	9/8/2014	327.96	37.53	ND	ND	290.43	NS	NS	NS	NS	NS	NS	NS	NS	NS	Insufficent volume to sample
	12/9/2014	327.96	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/12/2015	327.96	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/4/2015	327.96	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/1/2015	327.96	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/2/2015	327.96	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	2/12/2016	327.96	33.67	ND	ND	294.29	ND(1)	ND(1)	ND(1)	ND(1)	2	ND(20)	ND(1)	ND(1)	ND(1)	
	3/16/2016	327.96	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	5/2/2016	327.96	31.80	ND	ND	296.16	ND(1)	ND(1)	ND(1)	ND(1)	15	ND(20)	ND(1)	ND(1)	ND(1)	
	8/16/2016	327.96	34.45	ND	ND	293.51	NS	NS	NS	NS	NS	NS	NS	NS	NS	Insufficient Volume to Sample
	12/14/2016	NSVD	34.81	ND	ND	NSVD	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	

Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
Mann-Kendall Statistic							0	0	0	0	-22	-11	-16	0	-13	

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Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
MW-8	10/15/2009	330.54	34.01	ND	ND	296.53	ND(500)	ND(500)	ND(500)	ND(500)	226000	30800	6250	ND(2500)	3080	Screened from 25-45'
	6/22/2010	330.54	30.91	ND	ND	299.63	ND(5)	ND(7)	ND(8)	ND(8)	15000	NA	NA	NA	NA	
	9/30/2010	330.54	32.97	ND	ND	297.57	11	ND(14)	ND(16)	ND(16)	44000	NA	NA	NA	NA	
	12/16/2010	330.54	32.85	ND	ND	297.69	ND(25)	ND(35)	ND(40)	ND(40)	49000	NA	NA	NA	NA	
	2/17/2011	330.54	33.62	ND	ND	296.92	ND(25)	ND(35)	ND(40)	ND(40)	41000	NA	NA	NA	NA	
	5/24/2011	330.54	32.44	ND	ND	298.10	ND(5)	ND(7)	ND(8)	ND(8)	8400	NA	NA	NA	NA	
	9/2/2011	330.54	35.18	ND	ND	295.36	ND(10)	ND(14)	ND(16)	ND(16)	15000	NA	NA	NA	NA	
	12/29/2011	330.54	33.23	ND	ND	297.31	ND(3)	ND(4)	ND(4)	ND(4)	1800	NA	NA	NA	NA	
	6/1/2012	330.54	33.73	ND	ND	296.81	3 J	ND(1)	ND(2)	4 J	1200	NA	NA	NA	NA	
	2/25/2013	330.54	35.27	ND	ND	295.27	ND(5)	ND(5)	ND(5)	ND(5)	180	280	220	ND(5)	ND(5)	
	6/6/2013	330.54	34.49	ND	ND	296.05	0.7 J	ND(0.7)	ND(0.8)	ND(0.8)	160	NA	NA	NA	NA	
	9/19/2013	330.54	36.01	ND	ND	294.53	ND(5)	ND(5)	ND(5)	ND(5)	170	NA	NA	NA	NA	Abandoned (9/19/2013)
Mann-Kendall Statistic							4	0	0	5	-53	N/A	N/A	N/A	N/A	

Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
SVE-2	3/25/2014	329.69	31.32	ND	ND	298.37	ND(1)	ND(1)	ND(1)	ND(1)	600	76	44	ND(1)	11	Screened from 25-45'
	6/19/2014	329.69	27.45	ND	ND	302.24	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/10/2014	329.69	30.79	ND	ND	298.90	ND(1)	ND(1)	ND(1)	ND(1)	8	ND(20)	3	ND(1)	ND(1)	
	12/9/2014	329.69	35.25	ND	ND	294.44	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/12/2015	329.69	34.40	ND	ND	295.29	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/4/2015	329.69	36.48	ND	ND	293.21	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/3/2015	329.69	39.75	ND	ND	289.94	ND(1)	ND(1)	ND(1)	ND(1)	45	ND(20)	5	ND(1)	ND(1)	
	12/2/2015	329.64	40.46	ND	ND	289.18	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/16/2016	329.64	37.96	ND	ND	291.68	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	5/2/2016	329.64	32.82	ND	ND	296.82	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	8/17/2016	329.64	37.47	ND	ND	292.17	ND(1)	ND(1)	ND(1)	ND(1)	2	ND(20)	ND(1)	ND(1)	ND(1)	
	12/13/2016	NSVD	36.66	ND	ND	NSVD	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Mann-Kendall Statistic							0	0	0	0	-1	-1	-1	0	-1	

Kleinfelder
1340 Charwood Road, Suite I , Hanover, MD

Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	Date	Top of Casing Elevation (feet)	Depth to Water (feet)	Depth to Hydro-carbon (feet)	Hydro-carbon Thickness (feet)	Corrected GW Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Comments
MW-9	10/15/2009	333.46	35.60	ND	ND	297.86	ND(1.0)	0.33	ND(1.0)	0.38	64.7	ND(25)	125	ND(5.0)	2.9	Screened from 25-45'
	6/22/2010	333.46	32.32	ND	ND	301.14	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	22	NA	NA	NA	NA	
	9/30/2010	333.46	34.85	ND	ND	298.61	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	52	NA	NA	NA	NA	
	12/16/2010	333.46	34.73	ND	ND	298.73	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	81	NA	NA	NA	NA	
	2/17/2011	333.46	35.28	ND	ND	298.18	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	48	NA	NA	NA	NA	
	5/24/2011	333.46	34.04	ND	ND	299.42	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	26	NA	NA	NA	NA	
	9/2/2011	333.46	36.86	ND	ND	296.60	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	80	NA	NA	NA	NA	
	12/29/2011	333.46	34.68	ND	ND	298.78	ND(0.5)	2 J	ND(0.8)	1 J	58	NA	NA	NA	NA	
	6/1/2012	333.46	35.17	ND	ND	298.29	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	190	NA	NA	NA	NA	
	2/25/2013	333.46	36.65	ND	ND	296.81	ND(5)	ND(5)	ND(5)	ND(5)	55	ND(80)	17	ND(5)	ND(5)	
	6/6/2013	333.46	35.98	ND	ND	297.48	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	20	NA	NA	NA	NA	
	12/18/2013	333.46	37.33	ND	ND	296.13	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	
	3/24/2014	333.46	34.67	ND	ND	298.79	ND(5)	ND(5)	ND(5)	ND(5)	12	ND(80)	6	ND(5)	ND(5)	
	6/19/2014	333.46	32.56	ND	ND	300.90	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/8/2014	333.46	35.91	ND	ND	297.55	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/9/2014	333.46	40.12	ND	ND	293.34	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/12/2015	333.46	40.65	ND	ND	292.81	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/4/2015	333.46	39.21	ND	ND	294.25	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/1/2015	333.46	41.15	ND	ND	292.31	NS	NS	NS	NS	NS	NS	NS	NS	NS	Insufficient volume to sample
	12/2/2015	333.46	46.21	ND	ND	287.25	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/16/2016	333.46	39.27	ND	ND	294.19	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	5/2/2016	333.46	35.85	ND	ND	297.61	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	8/17/2016	333.46	38.85	ND	ND	294.61	ND(1)	ND(1)	ND(1)	ND(1)	2	ND(20)	3	ND(1)	ND(1)	
	12/13/2016	333.46	38.30	ND	ND	295.16	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Mann-Kendall Statistic							0	0	0	0	-11	0	-2	0	0	

Kleinfelder
1340 Charwood Road, Suite I , Hanover, MD

Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
MW-10	10/15/2009	324.17	28.77	ND	ND	295.40	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	10.3	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	Screened from 10-40'
	6/22/2010	324.17	25.80	ND	ND	298.37	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	4	NA	NA	NA	NA	
	12/16/2010	324.17	27.72	ND	ND	296.45	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	10	NA	NA	NA	NA	
	2/17/2011	324.17	28.05	ND	ND	296.12	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	7	NA	NA	NA	NA	
	5/24/2011	324.17	27.04	ND	ND	297.13	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	3 J	NA	NA	NA	NA	
	9/2/2011	324.17	29.60	ND	ND	294.57	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	8	NA	NA	NA	NA	
	12/29/2011	324.17	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	Well inaccessible
	6/1/2012	324.17	28.17	ND	ND	296.00	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	4 J	NA	NA	NA	NA	
	2/25/2013	324.17	29.45	ND	ND	294.72	ND(5)	ND(5)	ND(5)	ND(5)	7	ND(80)	ND(5)	ND(5)	ND(5)	
	6/6/2013	324.17	28.87	ND	ND	295.30	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	ND(0.5)	NA	NA	NA	NA	
	12/18/2013	324.17	30.04	ND	ND	294.13	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	
	3/24/2014	324.17	27.24	ND	ND	296.93	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/18/2014	324.17	25.67	ND	ND	298.50	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	9/3/2014	324.17	28.02	ND	ND	296.15	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/9/2014	324.17	32.88	ND	ND	291.29	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/12/2015	324.17	32.22	ND	ND	291.95	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/4/2015	324.17	31.04	ND	ND	293.13	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/2/2015	324.17	33.51	ND	ND	290.66	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/2/2015	324.17	34.13	ND	ND	290.04	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/16/2016	324.17	32.24	ND	ND	291.93	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	5/2/2016	324.17	28.77	ND	ND	295.40	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	8/17/2016	324.17	31.88	ND	ND	292.29	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/13/2016	324.17	30.97	ND	ND	293.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Mann-Kendall Statistic							0	0	0	0	-11	0	0	0	0	

Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	Date	Top of Casing Elevation (feet)	Depth to Water (feet)	Depth to Hydro-carbon (feet)	Hydro-carbon Thickness (feet)	Corrected GW Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Comments
MW-11	10/16/2009	329.64	NM	NM	NM	NM	15.3	ND(10)	ND(10)	10.9	38400	23300	1290	ND(50)	464	Screened from 10-40'
	6/22/2010	329.64	29.00	ND	ND	300.64	ND(50)	ND(70)	ND(80)	ND(80)	170000	NA	NA	NA	NA	
	9/30/2010	329.64	31.42	ND	ND	298.22	ND(50)	ND(70)	ND(80)	ND(80)	130000	NA	NA	NA	NA	
	12/16/2010	329.64	31.22	ND	ND	298.42	ND(25)	ND(35)	ND(40)	ND(40)	41000	NA	NA	NA	NA	
	2/17/2011	329.64	31.81	ND	ND	297.83	ND(10)	ND(14)	ND(16)	ND(16)	23000	NA	NA	NA	NA	
	5/24/2011	329.64	30.56	ND	ND	299.08	ND(13)	ND(18)	ND(20)	ND(20)	16000	NA	NA	NA	NA	
	9/2/2011	329.64	33.22	ND	ND	296.42	4 J	ND(4)	ND(4)	ND(4)	7400	NA	NA	NA	NA	
	12/29/2011	329.64	31.29	ND	ND	298.35	ND(10)	ND(14)	ND(16)	ND(16)	9000	NA	NA	NA	NA	
	6/1/2012	329.64	31.77	ND	ND	297.87	7 J	21 J	ND(8)	34 J	4200	NA	NA	NA	NA	
	2/25/2013	329.64	33.03	ND	ND	296.61	ND(10)	ND(10)	ND(10)	ND(10)	1400	180	530	ND(10)	22	
	6/6/2013	329.64	32.46	ND	ND	297.18	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	770	NA	NA	NA	NA	
	12/18/2013	329.64	33.91	ND	ND	295.73	ND(5)	ND(5)	ND(5)	7	140	ND(80)	130	ND(5)	ND(5)	
	3/24/2014	329.64	31.19	ND	ND	298.45	ND(5)	ND(5)	ND(5)	ND(5)	41	ND(80)	25	ND(5)	ND(5)	
	6/20/2014	329.64	28.93	ND	ND	300.71	ND(1)	ND(1)	ND(1)	ND(1)	27	ND(20)	6	ND(1)	ND(1)	
	9/10/2014	329.64	30.90	ND	ND	298.74	ND(1)	ND(1)	ND(1)	ND(1)	26	ND(20)	13	ND(1)	ND(1)	
	12/9/2014	329.64	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/12/2015	329.64	36.52	ND	ND	293.12	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/4/2015	329.64	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/1/2015	329.64	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/2/2015	329.64	38.85	ND	ND	290.79	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/16/2016	329.64	38.18	ND	ND	291.46	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	5/2/2016	329.64	32.72	ND	ND	296.92	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	8/18/2016	329.64	38.31	ND	ND	291.33	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/13/2016	329.64	35.18	ND	ND	294.46	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Mann-Kendall Statistic							-7	-7	0	-9	-28	-5	-13	0	-5	

Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
MW-13	9/2/2011	332.00	34.37	ND	ND	297.63	5	ND(0.7)	ND(0.8)	5	6800	NA	NA	NA	NA	Screened from 25-45'
	12/29/2011	332.00	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	Well inaccessible
	6/1/2012	332.00	32.88	ND	ND	299.12	ND(5)	ND(7)	ND(8)	ND(8)	5700	NA	NA	NA	NA	
	2/25/2013	332.00	33.80	ND	ND	298.20	ND(25)	ND(25)	ND(25)	ND(25)	5300	ND(400)	150	ND(25)	80	
	6/6/2013	332.00	33.33	ND	ND	298.67	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	1300	NA	NA	NA	NA	
	12/19/2013	332.00	34.43	ND	ND	297.57	ND(5)	ND(5)	ND(5)	ND(5)	1100	ND(80)	43	ND(5)	18	
	3/24/2014	332.00	32.29	ND	ND	299.71	ND(5)	ND(5)	ND(5)	ND(5)	21	ND(80)	ND(5)	ND(5)	ND(5)	
	6/19/2014	332.00	30.07	ND	ND	301.93	ND(1)	ND(1)	ND(1)	ND(1)	3	ND(20)	ND(1)	ND(1)	ND(1)	
	9/10/2014	332.00	32.95	ND	ND	299.05	ND(1)	ND(1)	ND(1)	ND(1)	7	ND(20)	ND(1)	ND(1)	ND(1)	
	12/9/2014	332.00	30.16	ND	ND	301.84	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/12/2015	332.00	34.27	ND	ND	297.73	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/4/2015	332.00	35.94	ND	ND	296.06	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/3/2015	332.00	38.73	ND	ND	293.27	ND(1)	ND(1)	ND(1)	ND(1)	1	ND(20)	ND(1)	ND(1)	ND(1)	
	12/2/2015	332.00	39.03	ND	ND	292.97	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/16/2016	3320.00	36.84	ND	ND	3283.16	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	5/2/2016	332.00	33.71	ND	ND	298.29	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	8/16/2016	332.00	36.35	ND	ND	295.65	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	10/19/2016	332.00	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	Well Abandoned 10/19/16
Mann-Kendall Statistic							0	0	0	0	-34	0	-11	0	-11	

Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
MW-14	9/2/2011	331.81	35.02	ND	ND	296.79	54	ND(4)	ND(4)	55	170000	NA	NA	NA	NA	Screened from 25-45'
	12/29/2011	331.81	33.36	ND	ND	298.45	ND(50)	ND(70)	ND(80)	ND(80)	99000	NA	NA	NA	NA	
	6/1/2012	331.81	33.90	ND	ND	297.91	ND(50)	ND(70)	ND(80)	ND(80)	91000	NA	NA	NA	NA	
	2/25/2013	331.81	35.07	ND	ND	296.74	ND(50)	ND(50)	ND(50)	ND(50)	29000	2500	1100	ND(50)	450	
	6/6/2013	331.81	34.35	ND	ND	297.46	ND(1)	ND(1)	ND(2)	ND(2)	3600	NA	NA	NA	NA	
	12/19/2013	331.81	35.15	ND	ND	296.66	ND(5)	ND(5)	ND(5)	ND(5)	33	ND(80)	11	ND(5)	ND(5)	
	3/24/2014	331.82	32.91	ND	ND	298.91	ND(5)	ND(5)	ND(5)	ND(5)	14	ND(80)	ND(5)	ND(5)	ND(5)	
	6/19/2014	331.82	27.27	ND	ND	304.55	ND(1)	ND(1)	ND(1)	ND(1)	62	ND(20)	14	ND(1)	2	
	9/10/2014	331.82	24.65	ND	ND	307.17	ND(1)	ND(1)	ND(1)	ND(1)	190	ND(20)	5	ND(1)	3	
	12/9/2014	331.82	33.27	ND	ND	298.55	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/12/2015	331.82	24.74	ND	ND	307.08	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/4/2015	331.82	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/1/2015	331.82	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/2/2015	331.82	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/16/2016	331.82	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	5/2/2016	331.82	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	8/16/2016	331.82	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/13/2016	NSVD	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	Destroyed during construction
Mann-Kendall Statistic							0	0	0	0	-11	-4	-4	0	1	

Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
MW-15	9/2/2011	328.95	33.06	ND	ND	295.89	ND(0.5)	ND(0.7)	ND(0.8)	1 J	21000	NA	NA	NA	NA	Screened from 25-45'
	12/29/2011	328.95	31.10	ND	ND	297.85	ND(1)	ND(1)	ND(2)	ND(2)	1100	NA	NA	NA	NA	
	6/1/2012	328.95	31.64	ND	ND	297.31	ND(10)	ND(14)	ND(16)	ND(16)	14000	NA	NA	NA	NA	
	2/25/2013	328.95	33.10	ND	ND	295.85	ND(10)	ND(10)	ND(10)	ND(10)	1800	300	140	ND(10)	28	
	6/6/2013	328.95	32.32	ND	ND	296.63	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	120	NA	NA	NA	NA	
	12/18/2013	328.95	33.86	ND	ND	295.09	ND(10)	ND(10)	ND(10)	14	1700	260	210	ND(10)	27	
	3/25/2014	328.95	30.90	ND	ND	298.05	ND(5)	ND(5)	ND(5)	ND(5)	350	ND(80)	50	ND(5)	5	
	6/20/2014	328.95	28.74	ND	ND	300.21	ND(1)	ND(1)	ND(1)	ND(1)	42	ND(20)	17	ND(1)	ND(1)	
	9/10/2014	328.95	31.49	ND	ND	297.46	ND(1)	ND(1)	ND(1)	1	530	110	150	ND(1)	12	
	12/10/2014	328.95	38.19	ND	ND	290.76	ND(2)	ND(2)	ND(2)	5	2100	750	370	ND(2)	42	
	3/11/2015	328.95	36.23	ND	ND	292.72	ND(1)	ND(1)	ND(1)	ND(1)	63	ND(20)	21	ND(1)	ND(1)	
	6/3/2015	328.95	36.27	ND	ND	292.68	ND(1)	ND(1)	ND(1)	ND(1)	62	ND(20)	8	ND(1)	ND(1)	
	9/1/2015	328.95	40.62	ND	ND	288.33	NS	NS	NS	NS	NS	NS	NS	NS	NS	Insufficient volume to sample
	12/2/2015	328.95	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/17/2016	328.95	38.86	ND	ND	290.09	ND(1)	ND(1)	ND(1)	ND(1)	2	ND(20)	1	ND(1)	ND(1)	
	5/2/2016	328.95	32.38	ND	ND	296.57	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	8/16/2016	328.95	36.17	ND	ND	292.78	ND(1)	ND(1)	ND(1)	ND(1)	30	ND(20)	1	ND(1)	ND(1)	
	12/15/2016	328.95	34.84	ND	ND	294.11	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
Mann-Kendall Statistic							0	0	0	-8	-60	-24	-42	0	-31	

Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
MW-21S	4/11/2014	329.69	33.65	ND	ND	296.04	ND(10)	ND(10)	ND(10)	ND(10)	7500	6200	79	ND(10)	78	Screened from 26-46'
	6/18/2014	329.69	31.42	ND	ND	298.27	ND(1)	ND(1)	ND(1)	ND(1)	53	ND(20)	1	ND(1)	ND(1)	
	9/16/2014	329.69	34.26	ND	ND	295.43	ND(1)	ND(1)	ND(1)	ND(1)	130	31	4	ND(1)	1	
	12/10/2014	329.69	37.30	ND	ND	292.39	ND(1)	ND(1)	ND(1)	ND(1)	780	320	20	ND(1)	8	
	3/11/2015	329.69	37.33	ND	ND	292.36	ND(2)	ND(2)	ND(2)	ND(2)	910	610	17	ND(2)	8	
	6/3/2015	329.69	35.74	ND	ND	293.95	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	9/4/2015	329.69	37.78	ND	ND	291.91	ND(1)	ND(1)	ND(1)	ND(1)	32	ND(20)	3	ND(1)	ND(1)	
	12/1/2015	329.69	38.98	ND	ND	290.71	ND(1)	ND(1)	ND(1)	ND(1)	1500	890	23	ND(1)	16	
	3/17/2016	329.69	36.24	ND	ND	293.45	ND(1)	ND(1)	ND(1)	ND(1)	1400	760	18	ND(1)	16	
	5/4/2016	329.69	34.54	ND	ND	295.15	ND(2)	ND(2)	ND(2)	3	2400	900	30	ND(2)	22	
	8/19/2016	329.69	36.24	ND	ND	293.45	ND(1)	ND(1)	ND(1)	ND(1)	670	150	10	ND(1)	7	
	12/15/2016	329.69	38.03	ND	ND	291.66	ND(2)	ND(2)	ND(2)	ND(2)	1400	710	17	ND(2)	12	
Mann-Kendall Statistic							0	0	0	7	11	11	5	0	11	

Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
MW-21I	4/11/2014	329.71	33.71	ND	ND	296.00	ND(2)	ND(2)	ND(2)	ND(2)	2500	1700	31	ND(2)	28	Screened from 56-66'
	6/18/2014	329.71	31.52	ND	ND	298.19	ND(1)	ND(1)	ND(1)	ND(1)	1700	910	26	ND(1)	18	
	9/16/2014	329.71	34.35	ND	ND	295.36	ND(1)	ND(1)	ND(1)	ND(1)	2100	1500	29	ND(1)	26	
	12/10/2014	329.71	37.40	ND	ND	292.31	ND(1)	ND(1)	ND(1)	ND(1)	1900	1400	29	ND(1)	24	
	3/11/2015	329.71	37.40	ND	ND	292.31	ND(2)	ND(2)	ND(2)	ND(2)	1300	1000	22	ND(2)	15	
	5/6/2015	329.71	35.89	ND	ND	293.82	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	4	ND(1)	ND(1)	
	6/3/2015	329.71	35.81	ND	ND	293.90	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	9/4/2015	329.71	37.88	ND	ND	291.83	ND(2)	ND(2)	ND(2)	ND(2)	2300	1500	24	ND(2)	23	
	12/2/2015	329.71	39.04	ND	ND	290.67	ND(2)	ND(2)	ND(2)	ND(2)	2100	1400	23	ND(2)	22	
	3/17/2016	329.71	36.52	ND	ND	293.19	ND(1)	ND(1)	ND(1)	ND(1)	1300	880	20	ND(1)	17	
	5/3/2016	329.71	34.75	ND	ND	294.96	ND(1)	ND(1)	ND(1)	ND(1)	630	220	15	ND(1)	6	
	8/19/2016	329.71	36.37	ND	ND	293.34	ND(1)	ND(1)	ND(1)	ND(1)	1400	510	20	ND(1)	16	
	12/15/2016	329.71	38.10	ND	ND	291.61	ND(1)	ND(1)	ND(1)	ND(1)	220	33	8	ND(1)	2	
Mann-Kendall Statistic							0	0	0	0	-27	-33	-42	0	-35	

Kleinfelder
1340 Charwood Road, Suite I , Hanover, MD

Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
MW-22	4/11/2014	320.97	28.55	ND	ND	292.42	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	Screened from 20-40'
	6/18/2014	320.97	25.75	ND	ND	295.22	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	9/2/2014	320.97	27.48	ND	ND	293.49	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/9/2014	320.97	30.54	ND	ND	290.43	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/12/2015	320.97	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/4/2015	320.97	28.49	ND	ND	292.48	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/2/2015	320.97	30.29	ND	ND	290.68	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/2/2015	320.97	31.76	ND	ND	289.21	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/16/2016	320.97	29.04	ND	ND	291.93	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	5/2/2016	320.97	28.32	ND	ND	292.65	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	8/18/2016	320.97	29.38	ND	ND	291.59	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/13/2016	320.97	32.49	ND	ND	288.48	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Mann-Kendall Statistic							0	0	0	0	0	0	0	0	0	

Kleinfelder
1340 Charwood Road, Suite I , Hanover, MD

Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
MW-24	4/11/2014	324.49	27.66	ND	ND	296.83	ND(1)	1	ND(1)	ND(1)	29	ND(20)	1	ND(1)	ND(1)	Screened from 50-60'
	6/18/2014	324.49	26.39	ND	ND	298.10	ND(1)	ND(1)	ND(1)	ND(1)	21	ND(20)	ND(1)	ND(1)	ND(1)	
	9/3/2014	324.49	29.30	ND	ND	295.19	ND(1)	ND(1)	ND(1)	ND(1)	21	ND(20)	ND(1)	ND(1)	ND(1)	
	12/9/2014	324.49	33.93	ND	ND	290.56	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/12/2015	324.49	33.66	ND	ND	290.83	ND(1)	ND(1)	ND(1)	ND(1)	2	ND(20)	ND(1)	ND(1)	ND(1)	
	6/3/2015	324.49	32.51	ND	ND	291.98	ND(1)	ND(1)	ND(1)	ND(1)	2	ND(20)	ND(1)	ND(1)	ND(1)	
	9/4/2015	324.49	35.15	ND	ND	289.34	ND(1)	ND(1)	ND(1)	ND(1)	2	ND(20)	ND(1)	ND(1)	ND(1)	
	12/2/2015	324.49	35.09	ND	ND	289.40	ND(1)	ND(1)	ND(1)	ND(1)	2	ND(20)	ND(1)	ND(1)	ND(1)	
	3/16/2016	324.49	33.35	ND	ND	291.14	ND(1)	ND(1)	ND(1)	ND(1)	3	ND(20)	ND(1)	ND(1)	ND(1)	
	5/2/2016	324.49	29.28	ND	ND	295.21	ND(1)	ND(1)	ND(1)	ND(1)	2	ND(20)	ND(1)	ND(1)	ND(1)	
	8/18/2016	324.49	33.25	ND	ND	291.24	ND(1)	ND(1)	ND(1)	ND(1)	10	ND(20)	ND(1)	ND(1)	ND(1)	
	12/14/2016	324.49	31.57	ND	ND	292.92	ND(1)	ND(1)	ND(1)	ND(1)	1	ND(20)	ND(1)	ND(1)	ND(1)	
Mann-Kendall Statistic							0	-9	0	0	-14	0	-9	0	0	

Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
MW-27S	8/26/2014	323.40	28.42	ND	ND	294.98	ND(1)	ND(1)	ND(1)	ND(1)	1	ND(20)	ND(1)	ND(1)	ND(1)	
	9/2/2014	323.40	28.88	ND	ND	294.52	ND(1)	ND(1)	ND(1)	ND(1)	1	ND(20)	ND(1)	ND(1)	ND(1)	
	12/9/2014	323.40	32.28	ND	ND	291.12	ND(1)	ND(1)	ND(1)	ND(1)	2	ND(20)	ND(1)	ND(1)	ND(1)	
	3/11/2015	323.40	32.35	ND	ND	291.05	ND(1)	ND(1)	ND(1)	ND(1)	1	ND(20)	ND(1)	ND(1)	ND(1)	
	6/3/2015	323.40	30.72	ND	ND	292.68	ND(1)	ND(1)	ND(1)	ND(1)	2	ND(20)	ND(1)	ND(1)	ND(1)	
	9/3/2015	323.40	32.46	ND	ND	290.94	ND(1)	ND(1)	ND(1)	7	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/1/2015	323.40	33.80	ND	ND	289.60	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	3/16/2016	323.40	30.99	ND	ND	292.41	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	5/2/2016	323.40	29.95	ND	ND	293.45	ND(1)	ND(1)	ND(1)	ND(1)	1	ND(20)	ND(1)	ND(1)	ND(1)	
	8/18/2016	323.40	31.33	ND	ND	292.07	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/14/2016	323.40	32.42	ND	ND	290.98	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
Mann-Kendall Statistic							0	0	0	0	-22	0	0	0	0	

Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
MW-27I	8/26/2014	323.35	28.26	ND	ND	295.09	ND(1)	ND(1)	ND(1)	ND(1)	1	ND(20)	ND(1)	ND(1)	ND(1)	
	9/2/2014	323.35	27.69	ND	ND	295.66	ND(1)	ND(1)	ND(1)	ND(1)	1	ND(20)	ND(1)	ND(1)	ND(1)	
	12/9/2014	323.35	32.31	ND	ND	291.04	ND(1)	ND(1)	ND(1)	ND(1)	1	ND(20)	ND(1)	ND(1)	ND(1)	
	3/11/2015	323.35	32.39	ND	ND	290.96	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	6/3/2015	323.35	30.75	ND	ND	292.60	ND(1)	ND(1)	ND(1)	ND(1)	2	ND(20)	ND(1)	ND(1)	ND(1)	
	9/3/2015	323.35	32.41	ND	ND	290.94	ND(1)	ND(1)	3	38	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/1/2015	323.35	33.42	ND	ND	289.93	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	3/16/2016	323.35	31.01	ND	ND	292.34	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	5/2/2016	323.35	29.86	ND	ND	293.49	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	8/18/2016	323.35	31.29	ND	ND	292.06	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/14/2016	323.35	33.39	ND	ND	289.96	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
Mann-Kendall Statistic							0	0	0	0	-23	0	0	0	0	

Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
W-1	1/18/2003	328.53	33.83	ND	ND	294.70	ND(5)	ND(5)	ND(5)	ND(10)	13000	9100	81	ND(5)	240	Screened from 10-40'
	8/5/2008	328.53	34.81	ND	ND	293.72	9.6	ND(5.0)	ND(5.0)	ND(5.0)	5200	NA	NA	NA	NA	
	6/7/2013	328.53	34.52	ND	ND	294.01	ND(10)	ND(14)	ND(16)	ND(16)	26000	NA	NA	NA	NA	
	12/19/2013	328.53	36.11	ND	ND	292.42	ND(100)	ND(100)	ND(100)	ND(100)	13000	6900	150	ND(100)	130	
	3/25/2014	328.53	33.50	ND	ND	295.03	ND(25)	ND(25)	ND(25)	ND(25)	16000	15000	170	ND(25)	170	
	6/19/2014	328.53	29.91	ND	ND	298.62	ND(50)	ND(50)	ND(50)	ND(50)	15000	13000	130	ND(50)	140	
	9/3/2014	328.53	31.77	ND	ND	296.76	ND(20)	ND(20)	ND(20)	ND(20)	13000	8900	95	ND(20)	100	
	12/10/2014	328.53	36.07	ND	ND	292.46	ND(20)	ND(20)	ND(20)	ND(20)	18000	14000	170	ND(20)	170	
	3/12/2015	328.53	35.89	ND	ND	292.64	ND(20)	ND(20)	ND(20)	ND(20)	11000	9100	120	ND(20)	110	
	6/4/2015	328.53	34.34	ND	ND	294.19	ND(50)	ND(50)	ND(50)	ND(50)	8800	4700	98	ND(50)	84	
	9/4/2015	328.53	36.46	ND	ND	292.07	ND(10)	ND(10)	ND(10)	ND(10)	11000	7800	94	ND(10)	89	
	12/2/2015	328.53	37.57	ND	ND	290.96	ND(10)	ND(10)	ND(10)	ND(10)	16000	16000	140	ND(10)	160	
	2/12/2016	328.53	36.02	ND	ND	292.51	ND(10)	ND(10)	ND(10)	ND(10)	10000	8200	94	ND(10)	90	
	3/17/2016	328.53	34.72	ND	ND	293.81	ND(1)	ND(1)	ND(1)	ND(1)	9800	7800	110	4	100	
	5/4/2016	328.53	33.16	ND	ND	295.37	ND(10)	ND(10)	ND(10)	ND(10)	13000	8100	140	ND(10)	110	
	6/27/2016	328.53	34.09	ND	ND	294.44	ND(5)	ND(5)	ND(5)	ND(5)	6400	NA	NA	NA	NA	
	8/19/2016	328.53	35.04	ND	ND	293.49	ND(10)	ND(10)	ND(10)	ND(10)	8400	4000	83	ND(10)	81	
	12/15/2016	328.53	36.54	ND	ND	291.99	ND(20)	ND(20)	ND(20)	ND(20)	9900	9000	88	ND(20)	77	
Mann-Kendall Statistic							0	0	0	0	-65	-20	-42	7	-42	

Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
W-2	1/18/2003	329.47	34.56	ND	ND	294.91	ND(5)	ND(5)	ND(5)	ND(10)	100	ND(100)	ND(5)	ND(5)	ND(5)	Screened from 10-40'
	8/5/2008	329.47	35.53	ND	ND	293.94	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	320	NA	NA	NA	NA	
	6/7/2013	329.47	35.30	ND	ND	294.17	ND(5)	ND(7)	ND(8)	ND(8)	14000	NA	NA	NA	NA	
	12/19/2013	329.47	36.82	ND	ND	292.65	ND(50)	ND(50)	ND(50)	ND(50)	7700	ND(800)	130	ND(50)	74	
	3/25/2014	329.47	34.26	ND	ND	295.21	ND(100)	ND(100)	ND(100)	ND(100)	7000	ND(1600)	130	ND(100)	ND(100)	
	6/19/2014	329.47	30.74	ND	ND	298.73	ND(10)	ND(10)	ND(10)	ND(10)	5000	ND(200)	39	ND(10)	38	
	9/3/2014	329.47	32.64	ND	ND	296.83	ND(10)	ND(10)	ND(10)	ND(10)	3900	ND(200)	21	ND(10)	27	
	12/10/2014	329.47	36.75	ND	ND	292.72	ND(2)	ND(2)	ND(2)	ND(2)	2100	ND(40)	25	ND(2)	18	
	3/11/2015	329.47	36.74	ND	ND	292.73	ND(2)	ND(2)	ND(2)	ND(2)	1000	84	20	ND(2)	9	
	6/3/2015	329.47	35.19	ND	ND	294.28	ND(5)	ND(5)	ND(5)	ND(5)	1400	ND(100)	15	ND(5)	11	
	9/4/2015	329.47	DRY	DRY	DRY	DRY	ND(1)	ND(1)	ND(1)	ND(1)	1100	ND(20)	22	ND(1)	9	
	12/2/2015	329.47	38.42	ND	ND	291.05	ND(1)	ND(1)	ND(1)	ND(1)	440	ND(20)	16	ND(1)	3	
	3/17/2016	329.47	35.81	ND	ND	293.66	ND(1)	ND(1)	ND(1)	ND(1)	970	ND(20)	32	ND(1)	9	
	5/3/2016	329.47	34.06	ND	ND	295.41	ND(1)	ND(1)	ND(1)	ND(1)	580	ND(20)	33	ND(1)	4	
	8/18/2016	329.47	35.86	ND	ND	293.61	ND(1)	ND(1)	ND(1)	ND(1)	190	ND(20)	14	ND(1)	1	
	12/15/2016	329.47	37.30	ND	ND	292.17	ND(1)	ND(1)	ND(1)	ND(1)	170	36	12	ND(1)	1	
Mann-Kendall Statistic							0	0	0	0	-58	1	-7	0	-18	

Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
W-3	1/18/2003	330.14	35.88	ND	ND	294.26	ND(5)	ND(5)	ND(5)	ND(10)	ND(5)	ND(100)	ND(5)	ND(5)	ND(5)	Screened from 10-45'
	8/5/2008	330.14	35.92	ND	ND	294.22	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	22	NA	NA	NA	NA	
	6/7/2013	330.14	35.84	ND	ND	294.30	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	2 J	NA	NA	NA	NA	
	12/18/2013	330.14	37.22	ND	ND	292.92	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	
	3/24/2014	330.14	34.57	ND	ND	295.57	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/19/2014	330.14	31.08	ND	ND	299.06	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/3/2014	330.14	33.20	ND	ND	296.94	ND(1)	ND(1)	ND(1)	ND(1)	1	ND(20)	ND(1)	ND(1)	ND(1)	
	12/9/2014	330.14	37.11	ND	ND	293.03	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/12/2015	330.14	35.61	ND	ND	294.53	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/4/2015	330.14	35.69	ND	ND	294.45	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/4/2015	330.14	37.66	ND	ND	292.48	ND(1)	ND(1)	ND(1)	ND(1)	1	ND(20)	ND(1)	ND(1)	ND(1)	
	12/2/2015	330.14	38.92	ND	ND	291.22	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/16/2016	330.14	36.24	ND	ND	293.90	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	5/2/2016	330.14	34.68	ND	ND	295.46	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	8/18/2016	330.14	36.24	ND	ND	293.90	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/13/2016	330.14	37.94	ND	ND	292.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Mann-Kendall Statistic							0	0	0	0	-1	0	0	0	0	

Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
W-4	1/18/2003	327.67	34.12	ND	ND	293.55	71	920	850	8700	55	790	ND(5)	ND(5)	ND(5)	Screened from 10-40'
	8/5/2008	327.67	34.25	ND	ND	293.42	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	22	NA	NA	NA	NA	
	6/7/2013	327.67	34.08	ND	ND	293.59	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	ND(0.5)	NA	NA	NA	NA	
	12/18/2013	327.67	35.91	ND	ND	291.76	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	
	3/24/2014	327.67	33.24	ND	ND	294.43	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/19/2014	327.67	29.62	ND	ND	298.05	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/8/2014	327.67	31.54	ND	ND	296.13	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/9/2014	327.67	35.98	ND	ND	291.69	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/12/2015	327.67	35.09	ND	ND	292.58	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/4/2015	327.67	33.00	ND	ND	294.67	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/2/2015	327.67	34.91	ND	ND	292.76	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/2/2015	327.67	36.46	ND	ND	291.21	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/16/2016	327.67	33.62	ND	ND	294.05	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	5/2/2016	327.67	31.32	ND	ND	296.35	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	8/18/2016	327.67	33.90	ND	ND	293.77	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/13/2016	327.67	36.26	ND	ND	291.41	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Mann-Kendall Statistic							-3	-3	-3	-3	-5	-1	0	0	0	

Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
W-5	8/5/2008	327.81	35.93	ND	ND	291.88	320	3000	3000	16000	ND(5.0)	NA	NA	NA	NA	Interval not available
	6/7/2013	327.81	35.30	ND	ND	292.51	180	96	270	11000	ND(0.5)	NA	NA	NA	NA	
	12/18/2013	327.81	37.46	ND	ND	290.35	290	160	860	6000	ND(13)	ND(200)	ND(13)	ND(13)	ND(13)	
	3/24/2014	327.81	34.75	ND	ND	293.06	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/19/2014	327.81	31.23	ND	ND	296.58	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/8/2014	327.81	31.98	ND	ND	295.83	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/9/2014	327.81	37.19	ND	ND	290.62	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/12/2015	327.81	37.15	ND	ND	290.66	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/4/2015	327.81	33.47	ND	ND	294.34	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/3/2015	327.81	35.20	ND	ND	292.61	240	210	790	7600	ND(1)	51	ND(1)	ND(1)	ND(1)	
	12/2/2015	327.81	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/16/2016	327.81	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	5/2/2016	327.81	33.33	ND	ND	294.48	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	8/18/2016	327.81	34.50	ND	ND	293.31	210	330	700	5400	ND(2)	58	ND(2)	ND(2)	ND(2)	
	12/13/2016	327.81	37.60	ND	ND	290.21	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Mann-Kendall Statistic							-1	-1	-1	-3	0	N/A	N/A	N/A	N/A	

Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
W-6	8/5/2008	325.21	31.63	ND	ND	293.58	ND(5.0)	ND(5.0)	ND(5.0)	18.6	16	NA	NA	NA	NA	Interval not available
	6/7/2013	325.21	31.12	ND	ND	294.09	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	6	NA	NA	NA	NA	
	12/18/2013	325.21	32.12	ND	ND	293.09	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	
	3/25/2014	325.21	29.37	ND	ND	295.84	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	
	6/18/2014	325.21	26.56	ND	ND	298.65	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	9/3/2014	325.21	26.98	ND	ND	298.23	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/9/2014	325.21	30.37	ND	ND	294.84	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	3/11/2015	325.21	25.36	ND	ND	299.85	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	6/2/2015	325.21	31.07	ND	ND	294.14	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	9/3/2015	325.21	34.37	ND	ND	290.84	1	1	3	40	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/1/2015	325.21	34.34	ND	ND	290.87	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	3/16/2016	325.21	31.65	ND	ND	293.56	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	5/2/2016	325.21	29.96	ND	ND	295.25	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	8/17/2016	325.21	31.73	ND	ND	293.48	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/14/2016	325.21	33.20	ND	ND	292.01	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
Mann-Kendall Statistic							4	4	4	-9	-27	0	0	0	0	

Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
W-7	8/5/2008	329.77	37.35	ND	ND	292.42	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	16	NA	NA	NA	NA	Interval not available
	6/6/2013	329.77	37.04	ND	ND	292.73	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	ND(0.5)	NA	NA	NA	NA	
	12/18/2013	329.77	38.24	ND	ND	291.53	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	
	3/24/2014	329.77	35.60	ND	ND	294.17	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	
	6/18/2014	329.77	32.49	ND	ND	297.28	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	9/3/2014	329.77	34.24	ND	ND	295.53	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/9/2014	329.77	37.70	ND	ND	292.07	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	3/10/2015	329.77	37.74	ND	ND	292.03	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	6/2/2015	329.77	34.60	ND	ND	295.17	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	9/3/2015	329.77	37.95	ND	ND	291.82	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/1/2015	329.77	39.19	ND	ND	290.58	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	3/16/2016	329.77	36.46	ND	ND	293.31	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	5/2/2016	329.77	34.42	ND	ND	295.35	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	8/17/2016	329.77	36.72	ND	ND	293.05	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/14/2016	329.77	39.05	ND	ND	290.72	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
Mann-Kendall Statistic							0	0	0	0	-14	0	0	0	0	

Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
GFSCMW-2	3/24/2014	316.79	30.18	ND	ND	286.61	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	Interval not available
	6/19/2014	316.79	29.12	ND	ND	287.67	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/4/2014	316.79	27.99	ND	ND	288.80	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/9/2014	316.79	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/12/2015	316.79	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/4/2015	316.79	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/1/2015	316.79	29.38	ND	ND	287.41	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/2/2015	316.79	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/16/2016	316.79	29.89	ND	ND	286.90	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	5/2/2016	316.79	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	8/16/2016	316.79	29.82	ND	ND	286.97	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/13/2016	316.79	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Mann-Kendall Statistic							N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
GFSCMW-3	3/24/2014	319.78	29.14	ND	ND	290.64	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	Interval not available
	6/19/2014	319.78	28.42	ND	ND	291.36	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/4/2014	319.78	27.24	ND	ND	292.54	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/9/2014	319.78	34.56	ND	ND	285.22	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/12/2015	319.78	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/4/2015	319.78	27.82	ND	ND	291.96	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/1/2015	319.78	29.81	ND	ND	289.97	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/2/2015	319.78	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/16/2016	319.78	28.65	ND	ND	291.13	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	5/2/2016	319.78	28.20	ND	ND	291.58	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	8/16/2016	319.78	28.90	ND	ND	290.88	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/13/2016	319.78	32.43	ND	ND	287.35	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Mann-Kendall Statistic							N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
GFGPMW-4	3/24/2014	310.10	18.87	ND	ND	291.23	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	Screened from 5.5-20.5'
	6/19/2014	310.10	17.21	ND	ND	292.89	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/4/2014	310.10	18.39	ND	ND	291.71	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/9/2014	310.10	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/12/2015	310.10	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/4/2015	310.10	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/1/2015	310.10	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/2/2015	310.10	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/16/2016	310.10	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	5/2/2016	310.10	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	8/16/2016	310.10	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/13/2016	310.10	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Mann-Kendall Statistic							N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
GFGPMW-5	3/24/2014	310.72	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	Screened from 5-25'
	6/19/2014	310.72	DRY	DRY	DRY	DRY	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/4/2014	310.72	22.31	ND	ND	288.41	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/9/2014	310.72	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/12/2015	310.72	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/4/2015	310.72	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/1/2015	310.72	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/2/2015	310.72	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/16/2016	310.72	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	5/2/2016	310.72	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	8/16/2016	310.72	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/13/2016	310.72	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Mann-Kendall Statistic							N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

Table 3 (Continued)

Groundwater Monitoring & Analytical Data – Shallow Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
January 18, 2003 through December 15, 2016

Notes:

µg/L - micrograms per liter (µg/L)
CMT - Continuous Multichannel Tubing
DIPE - Isopropyl ether
ETBE - Ethyl tert-butyl ether
GW - Groundwater
J - Indicates an estimated value
MTBE - Methyl Tertiary Butyl Ether
NA - Not analyzed
ND - Not detected
ND(5.0) - Not detected at or above the laboratory reporting limit, laboratory reporting limit included.
NM - Not monitored
NS - Not sampled
NSVD - Not surveyed to vertical datum
TAME - Tert-Amyl methyl ether
TBA - Tert-Butyl alcohol

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Table 4

Groundwater Monitoring & Analytical Data – Deep Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
August 17, 2009 through December 14, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
MW-6D(85)	6/22/2010	323.09	26.69	ND	ND	296.40	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	1	NA	NA	NA	NA	
	9/30/2010	323.09	26.51	ND	ND	296.58	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	1	NA	NA	NA	NA	
	12/16/2010	323.09	25.92	ND	ND	297.17	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	6	NA	NA	NA	NA	
	2/17/2011	323.09	26.14	ND	ND	296.95	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	ND(1) J	NA	NA	NA	NA	
	5/24/2011	323.09	25.83	ND	ND	297.26	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	1 J	NA	NA	NA	NA	
	9/2/2011	323.09	27.45	ND	ND	295.64	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	0.9 J	NA	NA	NA	NA	
	12/22/2011	323.09	25.47	ND	ND	297.62	ND(0.5)	1 J	ND(0.8)	ND(0.8)	0.8 J	NA	NA	NA	NA	
	6/1/2012	323.09	25.95	ND	ND	297.14	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	0.8 J	NA	NA	NA	NA	
	2/25/2013	323.09	27.13	ND	ND	295.96	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	
	6/6/2013	323.09	26.66	ND	ND	296.43	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	ND(0.5)	NA	NA	NA	NA	
	6/18/2014	323.09	23.37	ND	ND	299.72	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	3/12/2015	323.09	28.85	ND	ND	294.24	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/4/2015	323.09	39.72	ND	ND	283.37	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/2/2015	323.09	30.33	ND	ND	292.76	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/2/2015	323.09	30.80	ND	ND	292.29	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/16/2016	323.09	28.67	ND	ND	294.42	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	5/2/2016	323.09	26.21	ND	ND	296.88	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	8/18/2016	323.09	29.28	ND	ND	293.81	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/13/2016	323.09	28.68	ND	ND	294.41	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Mann-Kendall Statistic							0	-3	0	0	-21	0	0	0	0	

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Table 4 (Continued)

Groundwater Monitoring & Analytical Data – Deep Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
August 17, 2009 through December 14, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
MW-12D(110)	5/24/2011	326.43	28.12	ND	ND	298.31	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	ND(0.5)	NA	NA	NA	NA	Open from 100-160'
	9/2/2011	326.43	32.37	ND	ND	294.06	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	ND(0.5)	NA	NA	NA	NA	
	12/22/2011	326.43	29.63	ND	ND	296.80	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	ND(0.5)	NA	NA	NA	NA	
	6/1/2012	326.43	29.75	ND	ND	296.68	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	ND(0.5)	NA	NA	NA	NA	
	2/25/2013	326.43	30.86	ND	ND	295.57	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	
	6/6/2013	326.43	30.59	ND	ND	295.84	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	ND(0.5)	NA	NA	NA	NA	
	12/17/2013	326.43	31.51	ND	ND	294.92	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/24/2014	326.43	29.33	ND	ND	297.10	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/18/2014	326.43	25.98	ND	ND	300.45	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	9/2/2015	326.43	32.43	ND	ND	294.00	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	3/16/2016	326.43	30.45	ND	ND	295.98	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	5/2/2016	326.43	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	8/17/2016	326.43	31.64	ND	ND	294.79	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/13/2016	326.43	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Mann-Kendall Statistic							0	0	0	0	0	0	0	0	0	

Table 4 (Continued)

Groundwater Monitoring & Analytical Data – Deep Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
August 17, 2009 through December 14, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
MW-16D(95)	6/1/2012	332.90	35.33	ND	ND	297.57	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	140	NA	NA	NA	NA	Abandoned to 110' (April 2011)
	2/25/2013	332.90	36.83	ND	ND	296.07	ND(100)	ND(100)	ND(100)	ND(100)	9800	ND(1600)	360	ND(100)	200	Open from 85-110'
	6/6/2013	332.90	36.15	ND	ND	296.75	18 J	ND(7)	ND(8)	ND(8)	11000	NA	NA	NA	NA	
	12/19/2013	332.90	37.13	ND	ND	295.77	ND(130)	ND(130)	ND(130)	ND(130)	19000	2800	770	ND(130)	390	
	3/25/2014	332.90	34.64	ND	ND	298.26	25	ND(25)	ND(25)	ND(25)	14000	2000	520	ND(25)	300	
	6/19/2014	332.90	32.75	ND	ND	300.15	28	ND(20)	ND(20)	ND(20)	13000	1100	660	ND(20)	280	
	9/3/2014	332.90	36.14	ND	ND	296.76	6	ND(5)	ND(5)	ND(5)	3600	450	140	ND(5)	69	
	12/9/2014	332.90	40.36	ND	ND	292.54	ND(5)	ND(5)	ND(5)	ND(5)	2100	ND(100)	29	ND(5)	19	
	3/9/2015	332.90	NM	NM	NM	NM	ND(2)	ND(2)	ND(2)	ND(2)	1300	290	67	ND(2)	17	
	6/1/2015	332.90	NM	NM	NM	NM	ND(1)	ND(1)	ND(1)	ND(1)	610	34	47	ND(1)	9	
	8/17/2015	332.90	NM	NM	NM	NM	ND(2)	ND(2)	ND(2)	ND(2)	450	NA	NA	NA	NA	
	8/31/2015	332.90	44.79	ND	ND	288.11	ND(1)	ND(1)	ND(1)	ND(1)	300	23	26	ND(1)	4	
	12/1/2015	332.90	NM	NM	NM	NM	ND(1)	ND(1)	ND(1)	ND(1)	490	35	21	ND(1)	7	
	2/12/2016	332.90	37.98	ND	ND	294.92	ND(1)	ND(1)	ND(1)	ND(1)	81	ND(20)	4	ND(1)	ND(1)	
	3/17/2016	332.90	NM	NM	NM	NM	ND(1)	ND(1)	ND(1)	ND(1)	39	ND(20)	1	ND(1)	1	
	5/6/2016	332.90	NM	NM	NM	NM	ND(1)	ND(1)	ND(1)	ND(1)	200	ND(20)	8	ND(1)	3	
	8/16/2016	332.90	38.25	ND	ND	294.65	ND(1)	ND(1)	ND(1)	ND(1)	19	ND(20)	ND(1)	ND(1)	ND(1)	
	12/13/2016	332.90	38.48	ND	ND	294.42	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Mann-Kendall Statistic							-38	0	0	0	-91	-56	-68	0	-69	

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Table 4 (Continued)

Groundwater Monitoring & Analytical Data – Deep Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
August 17, 2009 through December 14, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
MW-17D(75)	4/25/2014	328.84	30.77	ND	ND	298.07	ND(100)	ND(100)	ND(100)	ND(100)	120000	39000	2000	ND(100)	1900	CMT
	6/11/2014	328.84	29.81	ND	ND	299.03	ND(1)	ND(1)	ND(1)	ND(1)	20	ND(20)	2	ND(1)	ND(1)	
	9/2/2014	328.84	31.70	ND	ND	297.14	ND(1)	ND(1)	ND(1)	ND(1)	190	ND(20)	31	ND(1)	2	
	12/8/2014	328.84	49.65	ND	ND	279.19	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/9/2014	328.84	NM	NM	NM	NM	21	ND(20)	ND(20)	ND(20)	37000	8300	860	ND(20)	600	
	3/9/2015	328.84	42.23	ND	ND	286.61	ND(20)	ND(20)	ND(20)	ND(20)	23000	4900	300	ND(20)	210	
	6/1/2015	328.84	35.71	ND	ND	293.13	ND(1)	ND(1)	ND(1)	ND(1)	200	ND(20)	21	ND(1)	4	
	8/31/2015	328.84	36.89	ND	ND	291.95	ND(10)	ND(10)	ND(10)	ND(10)	13000	3400	400	ND(10)	280	
	12/29/2015	328.84	44.73	ND	ND	284.11	ND(10)	ND(10)	ND(10)	ND(10)	7100	1200	190	ND(10)	120	
	3/17/2016	328.84	48.50	ND	ND	280.34	4	ND(1)	ND(1)	ND(1)	6400	970	180	ND(1)	110	
	4/29/2016	328.84	33.00	ND	ND	295.84	13	ND(10)	ND(10)	ND(10)	37000	7700	700	ND(10)	510	
	8/16/2016	328.84	37.84	ND	ND	291.00	ND(10)	ND(10)	ND(10)	ND(10)	3800	650	110	ND(10)	55	
	12/13/2016	328.84	35.24	ND	ND	293.60	ND(50)	ND(50)	ND(50)	ND(50)	32000	6100	560	ND(50)	420	
Mann-Kendall Statistic							9	0	0	0	-2	-6	-3	0	-1	

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Table 4 (Continued)

Groundwater Monitoring & Analytical Data – Deep Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
August 17, 2009 through December 14, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
MW-17D(81)	4/25/2014	328.84	28.89	ND	ND	299.95	ND(100)	ND(100)	ND(100)	ND(100)	92000	23000	1700	ND(100)	1400	CMT
	6/11/2014	328.84	30.72	ND	ND	298.12	ND(10)	ND(10)	ND(10)	ND(10)	5000	1800	70	ND(10)	60	
	9/2/2014	328.84	31.13	ND	ND	297.71	ND(1)	ND(1)	ND(1)	ND(1)	10	ND(20)	2	ND(1)	ND(1)	
	12/8/2014	328.84	50.40	ND	ND	278.44	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/9/2014	328.84	NM	NM	NM	NM	ND(10)	ND(10)	ND(10)	ND(10)	5900	2800	89	ND(10)	73	
	3/9/2015	328.84	42.25	ND	ND	286.59	ND(1)	ND(1)	ND(1)	ND(1)	14	ND(20)	2	ND(1)	ND(1)	
	6/1/2015	328.84	35.58	ND	ND	293.26	ND(5)	ND(5)	ND(5)	ND(5)	2600	400	88	ND(5)	44	
	8/31/2015	328.84	36.62	ND	ND	292.22	3	ND(2)	ND(2)	ND(2)	790	150	41	ND(2)	18	
	12/29/2015	328.84	44.94	ND	ND	283.90	ND(5)	ND(5)	ND(5)	ND(5)	2500	430	62	ND(5)	43	
	3/17/2016	328.84	49.35	ND	ND	279.49	1	ND(1)	ND(1)	ND(1)	2700	300	84	ND(1)	48	
	4/29/2016	328.84	32.77	ND	ND	296.07	ND(10)	ND(10)	ND(10)	ND(10)	12000	1900	310	ND(10)	170	
	8/16/2016	328.84	38.02	ND	ND	290.82	ND(5)	ND(5)	ND(5)	ND(5)	1800	290	49	ND(5)	25	
	12/13/2016	328.84	35.25	ND	ND	293.59	ND(20)	ND(20)	ND(20)	ND(20)	17000	3000	300	ND(20)	240	
Mann-Kendall Statistic							7	0	0	0	-3	-8	-2	0	-4	

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Table 4 (Continued)

Groundwater Monitoring & Analytical Data – Deep Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
August 17, 2009 through December 14, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
MW-17D(87.75)	4/25/2014	328.84	30.93	ND	ND	297.91	ND(50)	ND(50)	ND(50)	ND(50)	40000	11000	700	ND(50)	620	CMT
	6/11/2014	328.84	29.96	ND	ND	298.88	ND(25)	ND(25)	ND(25)	ND(25)	12000	2600	240	ND(25)	170	
	9/2/2014	328.84	31.57	ND	ND	297.27	ND(1)	ND(1)	ND(1)	ND(1)	250	61	6	ND(1)	3	
	12/8/2014	328.84	34.62	ND	ND	294.22	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/9/2014	328.84	NM	NM	NM	NM	ND(20)	ND(20)	ND(20)	ND(20)	25000	1200	360	ND(20)	290	
	3/9/2015	328.84	36.27	ND	ND	292.57	ND(1)	ND(1)	ND(1)	ND(1)	80	21	3	ND(1)	ND(1)	
	6/1/2015	328.84	35.16	ND	ND	293.68	2	ND(1)	ND(1)	ND(1)	630	57	31	ND(1)	11	
	8/31/2015	328.84	36.20	ND	ND	292.64	ND(20)	ND(20)	ND(20)	ND(20)	7200	ND(400)	120	ND(20)	77	
	12/29/2015	328.84	34.65	ND	ND	294.19	ND(2)	ND(2)	ND(2)	ND(2)	1700	190	52	ND(2)	32	
	3/17/2016	328.84	38.21	ND	ND	290.63	ND(1)	ND(1)	ND(1)	ND(1)	27	ND(20)	3	ND(1)	ND(1)	
	4/29/2016	328.84	32.98	ND	ND	295.86	ND(1)	ND(1)	ND(1)	ND(1)	150	ND(20)	7	ND(1)	1	
	8/16/2016	328.84	35.22	ND	ND	293.62	ND(1)	ND(1)	ND(1)	ND(1)	17	ND(20)	1	ND(1)	ND(1)	
	12/13/2016	328.84	35.29	ND	ND	293.55	ND(1)	ND(1)	ND(1)	ND(1)	180	ND(20)	6	ND(1)	2	
Mann-Kendall Statistic							0	0	0	0	-31	-37	-28	0	-28	

Table 4 (Continued)

Groundwater Monitoring & Analytical Data – Deep Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
August 17, 2009 through December 14, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
MW-17D(92)	4/25/2014	328.84	30.94	ND	ND	297.90	ND(25)	ND(25)	ND(25)	ND(25)	15000	3200	370	ND(25)	270	CMT
	6/10/2014	328.84	29.95	ND	ND	298.89	ND(10)	ND(10)	ND(10)	ND(10)	11000	2200	320	ND(10)	200	
	9/2/2014	328.84	32.84	ND	ND	296.00	ND(10)	ND(10)	ND(10)	ND(10)	11000	3300	200	ND(10)	130	
	12/8/2014	328.84	37.26	ND	ND	291.58	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/9/2014	328.84	NM	NM	NM	NM	ND(20)	ND(20)	ND(20)	ND(20)	32000	12000	600	ND(20)	390	
	3/9/2015	328.84	37.04	ND	ND	291.80	ND(3)	ND(3)	ND(3)	ND(3)	620	220	16	ND(3)	8	
	6/1/2015	328.84	35.00	ND	ND	293.84	ND(50)	ND(50)	ND(50)	ND(50)	17000	3700	410	ND(50)	200	
	8/31/2015	328.84	36.01	ND	ND	292.83	ND(10)	ND(10)	ND(10)	ND(10)	8100	200	140	ND(10)	95	
	12/29/2015	328.84	38.96	ND	ND	289.88	ND(1)	ND(1)	ND(1)	ND(1)	85	ND(20)	5	ND(1)	2	
	3/17/2016	328.84	37.92	ND	ND	290.92	ND(1)	ND(1)	ND(1)	ND(1)	5	ND(20)	ND(1)	ND(1)	ND(1)	
	4/29/2016	328.84	33.10	ND	ND	295.74	ND(1)	ND(1)	ND(1)	ND(1)	13	ND(20)	ND(1)	ND(1)	ND(1)	
	8/16/2016	328.84	35.78	ND	ND	293.06	ND(1)	ND(1)	ND(1)	ND(1)	5	ND(20)	ND(1)	ND(1)	ND(1)	
	12/13/2016	328.84	35.07	ND	ND	293.77	ND(1)	ND(1)	ND(1)	ND(1)	28	ND(20)	ND(1)	ND(1)	ND(1)	
Mann-Kendall Statistic							0	0	0	0	-35	-31	-36	0	-39	

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Table 4 (Continued)

Groundwater Monitoring & Analytical Data – Deep Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
August 17, 2009 through December 14, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
MW-17D(117)	4/25/2014	328.84	31.35	ND	ND	297.49	ND(100)	ND(100)	ND(100)	ND(100)	120000	31000	2300	ND(100)	1800	CMT
	6/10/2014	328.84	30.58	ND	ND	298.26	ND(50)	ND(50)	ND(50)	ND(50)	54000	14000	1000	ND(50)	740	
	9/3/2014	328.84	32.99	ND	ND	295.85	ND(50)	ND(50)	ND(50)	ND(50)	23000	5500	450	ND(50)	300	
	12/8/2014	328.84	38.28	ND	ND	290.56	ND(5)	ND(5)	ND(5)	ND(5)	5000	1400	130	ND(5)	76	
	3/10/2015	328.84	37.65	ND	ND	291.19	ND(20)	ND(20)	ND(20)	ND(20)	8700	3300	350	ND(20)	120	
	6/2/2015	328.84	35.72	ND	ND	293.12	ND(50)	ND(50)	ND(50)	ND(50)	19000	2900	500	ND(50)	230	
	9/1/2015	328.84	36.70	ND	ND	292.14	ND(10)	ND(10)	ND(10)	ND(10)	9400	2400	290	ND(10)	160	
	12/29/2015	328.84	38.68	ND	ND	290.16	ND(10)	ND(10)	ND(10)	ND(10)	5800	1600	170	ND(10)	120	
	3/17/2016	328.84	37.48	ND	ND	291.36	ND(5)	ND(5)	ND(5)	ND(5)	4200	1100	100	ND(5)	74	
	4/29/2016	328.84	33.57	ND	ND	295.27	ND(5)	ND(5)	ND(5)	ND(5)	3500	590	79	ND(5)	43	
	8/16/2016	328.84	35.76	ND	ND	293.08	ND(5)	ND(5)	ND(5)	ND(5)	3300	660	95	ND(5)	55	
	12/13/2016	328.84	35.79	ND	ND	293.05	ND(2)	ND(2)	ND(2)	ND(2)	1000	150	17	ND(2)	14	
Mann-Kendall Statistic							0	0	0	0	-54	-56	-52	0	-51	

Table 4 (Continued)

Groundwater Monitoring & Analytical Data – Deep Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
August 17, 2009 through December 14, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
MW-17D(129.75)	4/25/2014	328.84	32.77	ND	ND	296.07	ND(100)	ND(100)	ND(100)	ND(100)	120000	30000	2300	ND(100)	1800	CMT
	6/10/2014	328.84	31.59	ND	ND	297.25	ND(50)	ND(50)	ND(50)	ND(50)	49000	17000	830	ND(50)	690	
	9/3/2014	328.84	33.61	ND	ND	295.23	ND(100)	ND(100)	ND(100)	ND(100)	80000	23000	1400	ND(100)	990	
	12/8/2014	328.84	38.10	ND	ND	290.74	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/9/2014	328.84	NM	NM	NM	NM	ND(50)	ND(50)	ND(50)	ND(50)	69000	21000	1500	ND(50)	1000	
	3/10/2015	328.84	43.87	ND	ND	284.97	ND(10)	ND(10)	ND(10)	ND(10)	12000	3300	360	ND(10)	180	
	6/2/2015	328.84	35.96	ND	ND	292.88	ND(100)	ND(100)	ND(100)	ND(100)	64000	9500	1300	ND(100)	790	
	8/31/2015	328.84	36.95	ND	ND	291.89	ND(100)	ND(100)	ND(100)	ND(100)	49000	15000	910	ND(100)	660	
	12/29/2015	328.84	38.24	ND	ND	290.60	ND(50)	ND(50)	ND(50)	ND(50)	18000	7000	320	ND(50)	320	
	3/17/2016	328.84	37.41	ND	ND	291.43	ND(5)	ND(5)	ND(5)	ND(5)	5600	600	97	ND(5)	73	
	4/29/2016	328.84	34.25	ND	ND	294.59	ND(2)	ND(2)	ND(2)	ND(2)	2100	290	42	ND(2)	24	
	8/16/2016	328.84	36.61	ND	ND	292.23	ND(2)	ND(2)	ND(2)	ND(2)	2200	450	61	ND(2)	37	
	12/13/2016	328.84	36.16	ND	ND	292.68	ND(2)	ND(2)	ND(2)	ND(2)	2000	480	37	ND(2)	35	
Mann-Kendall Statistic							0	0	0	0	-40	-41	-39	0	-39	

Table 4 (Continued)

Groundwater Monitoring & Analytical Data – Deep Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
August 17, 2009 through December 14, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
MW-17D(147)	4/25/2014	328.84	33.41	ND	ND	295.43	ND(100)	ND(100)	ND(100)	ND(100)	98000	30000	2000	ND(100)	1500	CMT
	6/11/2014	328.84	31.96	ND	ND	296.88	ND(100)	ND(100)	ND(100)	ND(100)	82000	22000	1500	ND(100)	1200	
	9/3/2014	328.84	33.92	ND	ND	294.92	6	ND(1)	ND(1)	ND(1)	55000	16000	790	ND(1)	570	
	12/8/2014	328.84	37.99	ND	ND	290.85	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/9/2014	328.84	NM	NM	NM	NM	ND(50)	ND(50)	ND(50)	ND(50)	70000	21000	1500	ND(50)	1000	
	3/10/2015	328.84	49.26	ND	ND	279.58	ND(50)	ND(50)	ND(50)	ND(50)	25000	9500	470	ND(50)	280	
	6/2/2015	328.84	35.87	ND	ND	292.97	ND(100)	ND(100)	ND(100)	ND(100)	56000	11000	960	ND(100)	650	
	9/1/2015	328.84	36.92	ND	ND	291.92	ND(50)	ND(50)	ND(50)	ND(50)	43000	13000	900	ND(50)	630	
	12/29/2015	328.84	37.52	ND	ND	291.32	ND(20)	ND(20)	ND(20)	ND(20)	13000	5400	170	ND(20)	230	
	3/17/2016	328.84	37.29	ND	ND	291.55	ND(1)	ND(1)	ND(1)	ND(1)	2600	3300	58	ND(1)	57	
	4/29/2016	328.84	34.26	ND	ND	294.58	ND(10)	ND(10)	ND(10)	ND(10)	3700	2400	41	ND(10)	44	
	8/16/2016	328.84	36.43	ND	ND	292.41	ND(1)	ND(1)	ND(1)	ND(1)	1100	2400	10	ND(1)	14	
	12/13/2016	328.84	36.38	ND	ND	292.46	ND(2)	ND(2)	ND(2)	ND(2)	3900	2000	49	ND(2)	64	
Mann-Kendall Statistic							-6	0	0	0	-45	-46	-44	0	-45	

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Table 4 (Continued)

Groundwater Monitoring & Analytical Data – Deep Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
August 17, 2009 through December 14, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
MW-18D	5/10/2013	334.88	40.57	ND	ND	294.31	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	Open from 97-136'
	6/6/2013	334.88	40.69	ND	ND	294.19	ND(0.5)	ND(0.7)	ND(0.8)	ND(0.8)	ND(0.5)	NA	NA	NA	NA	
	12/18/2013	334.88	41.60	ND	ND	293.28	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/24/2014	334.88	38.94	ND	ND	295.94	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/18/2014	334.88	36.04	ND	ND	298.84	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	9/3/2014	334.88	38.14	ND	ND	296.74	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/9/2014	334.88	42.23	ND	ND	292.65	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/12/2015	334.88	42.19	ND	ND	292.69	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/4/2015	334.88	40.72	ND	ND	294.16	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/2/2015	334.88	42.77	ND	ND	292.11	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/2/2015	334.88	43.90	ND	ND	290.98	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/16/2016	334.88	41.29	ND	ND	293.59	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	5/2/2016	334.88	39.45	ND	ND	295.43	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	8/17/2016	334.88	41.24	ND	ND	293.64	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/13/2016	334.88	42.47	ND	ND	292.41	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Mann-Kendall Statistic							0	0	0	0	0	0	0	0	0	

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Table 4 (Continued)

Groundwater Monitoring & Analytical Data – Deep Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
August 17, 2009 through December 14, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
MW-19D	3/28/2014	341.91	43.16	ND	ND	298.75	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	6/20/2014	341.91	41.11	ND	ND	300.80	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	9/4/2014	341.91	43.36	ND	ND	298.55	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/9/2014	341.91	47.56	ND	ND	294.35	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/12/2015	341.91	48.76	ND	ND	293.15	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/4/2015	341.91	47.39	ND	ND	294.52	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/2/2015	341.91	49.27	ND	ND	292.64	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/2/2015	341.91	50.59	ND	ND	291.32	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/16/2016	341.91	47.40	ND	ND	294.51	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	5/2/2016	341.91	44.21	ND	ND	297.70	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	8/19/2016	341.91	47.35	ND	ND	294.56	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/13/2016	341.91	46.78	ND	ND	295.13	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Mann-Kendall Statistic							0	0	0	0	0	0	0	0	0	

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Table 4 (Continued)

Groundwater Monitoring & Analytical Data – Deep Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
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August 17, 2009 through December 14, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
MW-20D(73-83)	4/11/2014	329.57	NM	NM	NM	NM	ND(1)	ND(1)	ND(1)	ND(1)	72	32	2	ND(1)	ND(1)	
	7/10/2014	329.57	NM	NM	NM	NM	ND(1)	ND(1)	ND(1)	ND(1)	100	28	3	ND(1)	ND(1)	
	8/26/2014	329.57	31.26	ND	ND	298.31	ND(1)	ND(1)	ND(1)	ND(1)	100	34	2	ND(1)	ND(1)	
	9/2/2014	329.57	33.62	ND	ND	295.95	ND(1)	ND(1)	ND(1)	ND(1)	120	27	3	ND(1)	1	
	12/9/2014	329.57	36.52	ND	ND	293.05	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/12/2015	329.57	38.02	ND	ND	291.55	ND(2)	ND(2)	ND(2)	ND(2)	740	340	15	ND(2)	8	
	3/27/2015	329.57	37.51	ND	ND	292.06	ND(1)	ND(1)	ND(1)	ND(1)	1400	480	24	ND(1)	18	
	5/6/2015	329.57	36.48	ND	ND	293.09	ND(1)	ND(1)	ND(1)	ND(1)	980	280	15	ND(1)	9	
	6/1/2015	329.57	36.52	ND	ND	293.05	ND(2)	ND(2)	ND(2)	ND(2)	940	190	16	ND(2)	10	
	9/1/2015	329.57	38.69	ND	ND	290.88	ND(1)	ND(1)	ND(1)	ND(1)	990	360	19	ND(1)	11	
	12/1/2015	329.57	38.97	ND	ND	290.60	ND(1)	ND(1)	ND(1)	ND(1)	900	400	15	ND(1)	11	
	3/17/2016	329.57	NM	NM	NM	NM	ND(1)	ND(1)	ND(1)	ND(1)	680	250	12	ND(1)	8	
	4/29/2016	329.57	35.41	ND	ND	294.16	ND(1)	ND(1)	ND(1)	ND(1)	670	190	13	ND(1)	5	
	8/19/2016	329.57	36.56	ND	ND	293.01	2	ND(1)	ND(1)	ND(1)	740	150	14	ND(1)	8	
	12/13/2016	329.57	37.70	ND	ND	291.87	ND(1)	ND(1)	ND(1)	ND(1)	570	180	8	ND(1)	5	
Mann-Kendall Statistic							12	0	0	0	24	17	23	0	29	

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Groundwater Monitoring & Analytical Data – Deep Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
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August 17, 2009 through December 14, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
MW-20D(90-100)	4/11/2014	329.58	NM	NM	NM	NM	ND(1)	ND(1)	ND(1)	ND(1)	55	24	1	ND(1)	ND(1)	
	7/10/2014	329.58	NM	NM	NM	NM	ND(1)	ND(1)	ND(1)	ND(1)	73	21	2	ND(1)	ND(1)	
	8/26/2014	329.58	32.88	ND	ND	296.70	ND(1)	ND(1)	ND(1)	ND(1)	75	26	1	ND(1)	ND(1)	
	9/2/2014	329.58	34.25	ND	ND	295.33	ND(1)	ND(1)	ND(1)	ND(1)	2	ND(20)	ND(1)	ND(1)	ND(1)	
	12/9/2014	329.58	37.24	ND	ND	292.34	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/12/2015	329.58	38.22	ND	ND	291.36	ND(1)	ND(1)	ND(1)	ND(1)	1	ND(20)	ND(1)	ND(1)	ND(1)	
	6/1/2015	329.58	36.72	ND	ND	292.86	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	9/1/2015	329.58	38.82	ND	ND	290.76	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/1/2015	329.58	39.42	ND	ND	290.16	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	3/17/2016	329.58	NM	NM	NM	NM	ND(1)	ND(1)	ND(1)	ND(1)	1	ND(20)	ND(1)	ND(1)	ND(1)	
	4/29/2016	329.58	35.63	ND	ND	293.95	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	8/19/2016	329.58	37.30	ND	ND	292.28	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/13/2016	329.58	38.82	ND	ND	290.76	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
Mann-Kendall Statistic							0	0	0	0	-32	-23	-24	0	0	

Table 4 (Continued)

Groundwater Monitoring & Analytical Data – Deep Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
August 17, 2009 through December 14, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
MW-20D(132-142)	4/11/2014	329.56	NM	NM	NM	NM	ND(1)	ND(1)	ND(1)	ND(1)	32	ND(20)	ND(1)	ND(1)	ND(1)	
	7/10/2014	329.56	NM	NM	NM	NM	ND(1)	ND(1)	ND(1)	ND(1)	55	ND(20)	1	ND(1)	ND(1)	
	8/26/2014	329.56	33.85	ND	ND	295.71	ND(1)	ND(1)	ND(1)	ND(1)	130	42	2	ND(1)	1	
	9/2/2014	329.56	34.36	ND	ND	295.20	ND(1)	ND(1)	ND(1)	ND(1)	100	38	3	ND(1)	ND(1)	
	12/9/2014	329.56	38.19	ND	ND	291.37	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/12/2015	329.56	38.26	ND	ND	291.30	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	6/1/2015	329.56	36.73	ND	ND	292.83	ND(1)	ND(1)	ND(1)	ND(1)	8	ND(20)	ND(1)	ND(1)	ND(1)	
	9/1/2015	329.56	38.80	ND	ND	290.76	ND(1)	ND(1)	ND(1)	ND(1)	7	ND(20)	ND(1)	ND(1)	ND(1)	
	12/1/2015	329.56	39.79	ND	ND	289.77	ND(1)	ND(1)	ND(1)	ND(1)	2	ND(20)	ND(1)	ND(1)	ND(1)	
	3/17/2016	329.56	NM	NM	NM	NM	ND(1)	ND(1)	ND(1)	ND(1)	1	ND(20)	ND(1)	ND(1)	ND(1)	
	4/29/2016	329.56	35.64	ND	ND	293.92	ND(1)	ND(1)	ND(1)	ND(1)	1	ND(20)	ND(1)	ND(1)	ND(1)	
	8/19/2016	329.56	37.36	ND	ND	292.20	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/13/2016	329.56	38.78	ND	ND	290.78	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
Mann-Kendall Statistic							0	0	0	0	-33	-11	-15	0	-6	

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Groundwater Monitoring & Analytical Data – Deep Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
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August 17, 2009 through December 14, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
MW-23D	5/19/2014	324.81	27.72	ND	ND	297.09	ND(10)	ND(10)	ND(10)	ND(10)	8000	1800	260	ND(10)	120	Screened from 90-100'
	6/10/2014	324.81	27.34	ND	ND	297.47	ND(20)	ND(20)	ND(20)	ND(20)	11000	2200	340	ND(20)	180	
	6/19/2014	324.81	27.19	ND	ND	297.62	ND(10)	ND(10)	ND(10)	ND(10)	5100	ND(200)	130	ND(10)	57	
	8/20/2014	324.81	28.42	ND	ND	296.39	ND(10)	ND(10)	ND(10)	ND(10)	10000	2100	270	ND(10)	140	
	9/3/2014	324.81	29.86	ND	ND	294.95	ND(20)	ND(20)	ND(20)	ND(20)	9300	1700	280	ND(20)	130	
	9/22/2014	324.81	32.83	ND	ND	291.98	ND(5)	ND(5)	ND(5)	ND(5)	4600	950	NA	NA	NA	
	10/21/2014	324.81	33.46	ND	ND	291.35	ND(10)	ND(10)	ND(10)	ND(10)	4100	790	120	ND(10)	68	
	12/10/2014	324.81	34.79	ND	ND	290.02	ND(1)	ND(1)	ND(1)	ND(1)	400	24	21	ND(1)	6	
	3/11/2015	324.81	33.63	ND	ND	291.18	ND(1)	27	ND(1)	2	200	32	11	ND(1)	2	
	6/3/2015	324.81	32.59	ND	ND	292.22	ND(1)	ND(1)	ND(1)	ND(1)	3	ND(20)	3	ND(1)	ND(1)	
	9/4/2015	324.81	35.85	ND	ND	288.96	ND(1)	ND(1)	ND(1)	ND(1)	53	ND(20)	4	ND(1)	ND(1)	
	12/2/2015	324.81	35.39	ND	ND	289.42	ND(1)	1	ND(1)	ND(1)	120	ND(20)	3	ND(1)	1	
	2/12/2016	324.81	31.55	ND	ND	293.26	ND(1)	ND(1)	ND(1)	ND(1)	87	ND(20)	3	ND(1)	ND(1)	
	3/16/2016	324.81	33.78	ND	ND	291.03	ND(1)	ND(1)	ND(1)	ND(1)	16	ND(20)	ND(1)	ND(1)	ND(1)	
	5/2/2016	324.81	29.94	ND	ND	294.87	ND(1)	ND(1)	ND(1)	ND(1)	36	ND(20)	2	ND(1)	ND(1)	
	8/18/2016	324.81	34.12	ND	ND	290.69	ND(1)	ND(1)	ND(1)	ND(1)	70	ND(20)	ND(1)	ND(1)	ND(1)	
	12/14/2016	324.81	32.20	ND	ND	292.61	ND(1)	ND(1)	ND(1)	ND(1)	67	ND(20)	ND(1)	ND(1)	ND(1)	
Mann-Kendall Statistic							0	3	0	-1	-84	-70	-89	0	-74	

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9901 Georgetown Pike
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		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
MW-25D(90)	8/20/2014	323.92	22.06	ND	ND	301.86	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	9/2/2014	317.18	22.63	ND	ND	294.55	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/9/2014	317.18	25.04	ND	ND	292.14	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	3/10/2015	317.18	23.25	ND	ND	293.93	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	6/2/2015	317.18	23.76	ND	ND	293.42	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	9/2/2015	317.18	26.12	ND	ND	291.06	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/1/2015	317.18	37.27	ND	ND	279.91	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	3/16/2016	317.18	24.33	ND	ND	292.85	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	5/2/2016	317.18	22.37	ND	ND	294.81	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	8/17/2016	317.18	25.27	ND	ND	291.91	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/14/2016	317.18	24.50	ND	ND	292.68	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
Mann-Kendall Statistic							0	0	0	0	0	0	0	0	0	

Table 4 (Continued)

Groundwater Monitoring & Analytical Data – Deep Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
August 17, 2009 through December 14, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
MW-26D(78)	8/26/2014	295.13	2.63	ND	ND	292.50	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	9/2/2014	295.13	2.68	ND	ND	292.45	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/9/2014	295.13	2.46	ND	ND	292.67	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	3/10/2015	295.13	1.98	ND	ND	293.15	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	6/4/2015	295.13	1.82	ND	ND	293.31	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/2/2015	295.13	2.08	ND	ND	293.05	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/2/2015	295.13	3.52	ND	ND	291.61	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/16/2016	295.13	1.97	ND	ND	293.16	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	5/2/2016	295.13	1.65	ND	ND	293.48	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	8/18/2016	295.13	3.43	ND	ND	291.70	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(20)	ND(1)	ND(1)	ND(1)	
	12/13/2016	295.13	3.59	ND	ND	291.54	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Mann-Kendall Statistic							0	0	0	0	0	0	0	0	0	

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Groundwater Monitoring & Analytical Data – Deep Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
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August 17, 2009 through December 14, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
PW-1(65)	8/17/2009	334.54	NM	NM	NM	NM	0.76	ND(0.50)	ND(0.50)	0.46 J	1320	80.9	148	ND(0.50)	36.8	Abandoned to 75' (Nov 2011)
	10/16/2009	334.54	NM	NM	NM	NM	8	ND	ND	8.4	2520	NA	NA	NA	NA	Open from 55-75'
	6/22/2010	334.54	34.47	ND	ND	300.07	8	ND(0.7)	ND(0.8)	7	1600	NA	NA	NA	NA	
	9/30/2010	334.54	36.84	ND	ND	297.70	9	ND(0.7)	ND(0.8)	5	1600	NA	NA	NA	NA	
	12/16/2010	334.54	36.51	ND	ND	298.03	6	ND(1)	ND(2)	5	1700	NA	NA	NA	NA	
	5/24/2011	334.54	35.87	ND	ND	298.67	8 J	ND(4)	ND(4)	4 J	2100	NA	NA	NA	NA	
	9/2/2011	334.54	38.61	ND	ND	295.93	6	ND(0.7)	ND(0.8)	3 J	1800	NA	NA	NA	NA	Abandoned to 75' (Nov 2011)
	12/22/2011	334.54	36.37	ND	ND	298.17	4 J	ND(4)	ND(4)	ND(4)	1300	NA	NA	NA	NA	
	6/1/2012	334.54	36.82	ND	ND	297.72	3 J	ND(1)	ND(2)	ND(2)	860	NA	NA	NA	NA	
	2/25/2013	334.54	38.28	ND	ND	296.26	ND(5)	ND(5)	ND(5)	ND(5)	800	110	140	ND(5)	51	
	6/6/2013	334.54	37.41	ND	ND	297.13	3 J	ND(0.7)	ND(0.8)	ND(0.8)	1200	NA	NA	NA	NA	
	12/19/2013	334.54	38.60	ND	ND	295.94	ND(25)	ND(25)	ND(25)	ND(25)	4700	630	280	ND(25)	140	
	3/25/2014	334.54	36.19	ND	ND	298.35	ND(10)	ND(10)	ND(10)	ND(10)	6900	1000	290	ND(10)	180	
	6/19/2014	334.54	34.23	ND	ND	300.31	ND(5)	ND(5)	ND(5)	ND(5)	3300	420	170	ND(5)	76	
	9/10/2014	334.54	36.96	ND	ND	297.58	ND(10)	ND(10)	ND(10)	ND(10)	4600	370	210	ND(10)	120	
	12/10/2014	334.54	42.23	ND	ND	292.31	1	ND(1)	ND(1)	ND(1)	890	110	130	ND(1)	40	
	3/12/2015	334.54	43.30	ND	ND	291.24	ND(1)	ND(1)	ND(1)	ND(1)	460	70	100	ND(1)	21	
	6/3/2015	334.54	41.52	ND	ND	293.02	ND(1)	ND(1)	ND(1)	ND(1)	360	ND(20)	75	ND(1)	13	
	9/4/2015	334.54	43.42	ND	ND	291.12	ND(1)	ND(1)	ND(1)	ND(1)	150	29	36	ND(1)	4	
	12/1/2015	334.54	56.30	ND	ND	278.24	ND(1)	ND(1)	ND(1)	ND(1)	25	ND(20)	10	ND(1)	ND(1)	
	3/17/2016	334.54	41.23	ND	ND	293.31	ND(1)	ND(1)	ND(1)	ND(1)	32	ND(20)	9	ND(1)	ND(1)	
	5/3/2016	334.54	37.43	ND	ND	297.11	ND(1)	ND(1)	ND(1)	ND(1)	41	ND(20)	10	ND(1)	ND(1)	
	8/17/2016	334.54	41.04	ND	ND	293.50	ND(1)	ND(1)	ND(1)	ND(1)	32	ND(20)	5	ND(1)	ND(1)	
	12/14/2016	334.54	39.76	ND	ND	294.78	ND(1)	ND(1)	ND(1)	ND(1)	42	ND(20)	4	ND(1)	1	
Mann-Kendall Statistic							-29	0	0	0	-67	-63	-76	0	-65	

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Table 4 (Continued)

Groundwater Monitoring & Analytical Data – Deep Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
August 17, 2009 through December 14, 2016

		Gauging Data					Analytical Data									
Well ID	**Date**	**Top of Casing Elevation (feet)**	**Depth to Water (feet)**	**Depth to Hydro-carbon (feet)**	**Hydro-carbon Thickness (feet)**	**Corrected GW Elevation (feet)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethyl-benzene (µg/L)**	**Total Xylenes (µg/L)**	**MTBE (µg/L)**	**TBA (µg/L)**	**DIPE (µg/L)**	**ETBE (µg/L)**	**TAME (µg/L)**	**Comments**
RW-1	3/24/2014	328.31	30.91	ND	ND	297.40	NS	NS	NS	NS	NS	NS	NS	NS	NS	Screened from 21-91'
	6/19/2014	328.31	28.14	ND	ND	300.17	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	8/20/2014	328.31	30.26	ND	ND	298.05	ND(20)	ND(20)	ND(20)	ND(20)	19000	3800	420	ND(20)	220	
	12/11/2014	328.31	58.61	ND	ND	269.70	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/12/2015	328.31	44.47	ND	ND	283.84	ND(20)	ND(20)	ND(20)	ND(20)	7200	1800	200	ND(20)	100	
	6/1/2015	328.31	NM	NM	NM	NM	ND(10)	ND(10)	ND(10)	ND(10)	4700	550	140	ND(10)	71	
	8/17/2015	328.31	NM	NM	NM	NM	ND(5)	ND(5)	ND(5)	ND(5)	4500	NA	NA	NA	NA	
	8/31/2015	328.31	54.69	ND	ND	273.62	ND(10)	ND(10)	ND(10)	ND(10)	4400	810	120	ND(10)	63	
	12/1/2015	328.31	NM	NM	NM	NM	2	ND(1)	ND(1)	ND(1)	3900	740	100	ND(1)	66	
	2/12/2016	328.31	34.18	ND	ND	294.13	ND(10)	ND(10)	ND(10)	ND(10)	2600	440	56	ND(10)	33	
	3/17/2016	328.31	NM	NM	NM	NM	1	ND(1)	ND(1)	ND(1)	2400	260	66	ND(1)	38	
	5/6/2016	328.31	NM	NM	NM	NM	ND(5)	ND(5)	ND(5)	5	5800	860	150	ND(5)	88	
	8/16/2016	328.31	34.77	ND	ND	293.54	ND(5)	ND(5)	ND(5)	ND(5)	1900	270	56	ND(5)	24	
	12/13/2016	328.31	34.77	ND	ND	293.54	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Mann-Kendall Statistic							4	0	0	0	-21	-6	-10	0	-8	

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Table 4 (Continued)

Groundwater Monitoring & Analytical Data – Deep Wells

Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia
August 17, 2009 through December 14, 2016

Notes:

µg/L - micrograms per liter (µg/L)
CMT - Continuous Multichannel Tubing
DIPE - Isopropyl ether
ETBE - Ethyl tert-butyl ether
GW - Groundwater
J - Indicates an estimated value
MTBE - Methyl Tertiary Butyl Ether
NA - Not analyzed
ND - Not detected
ND(5.0) - Not detected at or above the laboratory reporting limit, laboratory reporting limit included.
NM - Not monitored
NS - Not sampled
NSVD - Not surveyed to vertical datum
TAME - Tert-Amyl methyl ether
TBA - Tert-Butyl alcohol

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Table 5

Monitored Natural Attenuation Field Parameters Summary
Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia

March 24, 2014 through December 15, 2016

		Monitored Natural Attenuation Field Parameters				
Well ID	**Date**	**Dissolved Oxygen (mg/L)**	**ORP (mV)**	**pH (su)**	**Specific Conductance (mS/cm)**	**Comments**
MW-1	3/25/2014	0.91	-123.2	11.56	0.425	
	6/20/2014	0.56	219.8	4.59	0.692	
	5/3/2016	2.82	258	5.15	0.246	
MW-2	3/25/2014	2.98	-114.3	12.78	0.278	
	6/20/2014	5.38	210.7	4.67	0.414	
	9/10/2014	3.87	41.0	6.05	0.602	
	5/3/2016	4.91	251	4.73	0.223	
MW-5	9/2/2014	0.68	107.2	6.12	0.431	
	9/3/2015	5.36	193.0	4.66	2.126	
	8/17/2016	2.96	177.1	4.90	2.542	
MW-6S	9/3/2014	2.37	121.3	6.68	0.627	
	9/2/2015	0.93	-91.6	6.80	0.431	
	8/18/2016	0.26	81.7	5.52	0.464	
MW-6D (65)	6/18/2014	0.79	-64.6	6.34	0.686	
MW-6D (85)	6/18/2014	0.44	-118.9	6.79	0.727	
	9/2/2015	1.07	-39.6	6.91	0.537	
	8/18/2016	0.09	-260.0	8.49	0.222	
MW-6D (105)	6/18/2014	0.39	-147.9	6.63	0.839	
MW-7	3/28/2014	0.67	-159.8	11.84	0.216	
	6/20/2014	4.19	204.1	4.95	0.403	
	5/2/2016	6.29	257.0	5.15	0.323	
	12/14/2016	3.93	170.0	5.59	0.171	
SVE-2	3/25/2014	1.92	-144.5	12.04	0.664	
	9/10/2014	1.13	28.7	6.26	1.007	
	9/3/2015	0.56	138.6	5.53	0.794	
	8/17/2016	4.77	132.8	5.68	0.460	
MW-9	3/24/2014	3.60	-36.4	8.26	0.538	
	8/17/2016	5.01	107.9	5.48	0.411	
MW-10	6/18/2014	3.66	153.9	5.97	0.743	
	9/3/2014	6.03	-126.1	5.08	0.310	
	9/2/2015	0.76	-56.5	6.92	0.406	
	8/17/2016	3.84	124.1	4.83	0.434	
MW-11	3/24/2014	2.09	-117.6	10.09	0.806	
	6/20/2014	2.71	-86.4	10.62	0.729	
	9/10/2014	0.66	85.2	6.80	0.304	
	8/17/2016	5.40	13.5	5.84	0.425	
MW-12D (110)	6/18/2014	2.63	-97.2	6.57	0.713	
	9/2/2015	0.71	-18.1	6.92	0.552	
	8/17/2016	0.11	-300.8	7.48	0.295	
MW-12D (153)	6/18/2014	2.25	-101.4	5.82	0.849	
MW-13	3/24/2014	0.75	-118.5	10.40	0.245	
	6/19/2014	1.52	-131.8	10.06	0.296	
	9/10/2014	1.61	-89.9	5.19	0.451	
	9/3/2015	2.83	137.1	5.66	0.895	
	8/16/2016	3.53	103.6	5.43	0.568	
MW-14	3/24/2014	3.59	-106.4	9.75	0.809	
	6/19/2014	3.81	-114.8	8.47	0.832	
	9/10/2014	7.08	-84.2	6.12	0.340	
MW-15	3/25/2014	2.08	-119.8	12.24	1.137	
	6/20/2014	2.54	-173.4	12.14	1.071	
	9/10/2014	2.15	42.5	6.17	0.629	
	12/10/2014	2.93	95.7	6.70	0.702	
	3/11/2015	5.68	105.2	5.52	0.696	
	6/3/2015	3.78	123.1	5.94	0.631	
	3/17/2016	4.99	86.5	5.42	0.399	
	5/2/2016	6.74	NA	NA	NA	
	8/16/2016	6.13	121.3	5.46	0.396	
	12/15/2016	4.40	113.6	6.03	0.310	

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Table 5

Monitored Natural Attenuation Field Parameters Summary
Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia

March 24, 2014 through December 15, 2016

		Monitored Natural Attenuation Field Parameters				
Well ID	**Date**	**Dissolved Oxygen (mg/L)**	**ORP (mV)**	**pH (su)**	**Specific Conductance (mS/cm)**	**Comments**
MW-16D(95)	3/25/2014	0.26	-112.3	11.56	0.858	
	6/19/2014	0.37	-71.7	6.38	0.894	
MW-18D	6/18/2014	2.65	-138.2	6.87	0.638	
	9/3/2014	0.73	-196.0	8.87	0.286	
	9/2/2015	1.05	21.7	6.94	0.309	
	8/17/2016	0.13	4.1	8.86	0.249	
MW-19D	3/28/2014	3.17	-78.5	6.26	0.805	
	6/20/2014	0.69	-178.2	8.00	0.904	
	9/4/2014	6.23	-184.0	5.63	0.540	
	9/2/2015	1.46	-107.9	6.79	0.209	
	8/19/2016	4.47	101.5	5.81	0.521	
MW-20D(73-83)	8/26/2014	2.68	54.8	6.23	0.302	
	9/2/2014	0.85	50.2	6.60	0.503	
	3/12/2015	2.71	-57.4	6.42	0.506	
MW-20D(90-100)	8/26/2014	4.55	45.1	6.12	0.370	
	9/2/2014	2.36	63.1	6.17	0.489	
	3/12/2015	2.58	-16.2	6.74	0.304	
MW-20D(132-142)	8/26/2014	3.64	79.2	6.39	0.257	
	9/2/2014	3.59	88.2	7.13	0.551	
	3/12/2015	2.46	-55.6	6.32	0.423	
MW-21S	4/11/2014	3.51	173.9	5.72	0.879	
	6/18/2014	1.76	158.5	6.09	0.855	
	12/10/2014	1.25	150.8	5.43	0.860	
	3/11/2015	0.90	89.6	5.66	0.652	
	6/3/2015	0.78	60.1	5.87	0.642	
	9/4/2015	2.05	210.8	5.12	0.709	
	12/1/2015	0.18	177.4	5.39	0.833	
	3/17/2016	3.29	143.2	5.37	0.747	
	5/4/2016	1.68	174.0	5.44	0.815	
	8/19/2016	3.05	134.9	4.97	0.775	
	12/15/2016	1.68	177.2	5.49	0.759	
MW-21I	4/11/2014	1.89	196.6	5.58	0.737	
	6/18/2014	1.18	213.2	5.89	0.702	
	12/10/2014	0.50	92.3	5.42	0.861	
	3/11/2015	0.37	97.0	5.56	0.605	
	6/3/2015	0.66	116.1	5.70	0.629	
	9/4/2015	0.62	197.4	5.39	0.747	
	12/2/2015	0.06	165.7	5.50	0.884	
	3/17/2016	0.14	114.6	5.48	0.906	
	5/4/2016	0.39	145.0	5.56	0.794	
	8/19/2016	0.74	119.2	5.09	0.941	
	12/15/2016	0.21	156.0	5.52	0.867	
MW-22	4/11/2014	5.86	184.8	5.79	0.539	
	6/18/2014	5.50	185.8	5.89	0.574	
	9/2/2014	1.69	-215.2	4.95	0.355	
	9/2/2015	0.96	-45.0	6.87	0.273	
	8/18/2016	0.74	191.7	5.52	0.446	

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Table 5

Monitored Natural Attenuation Field Parameters Summary
Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia

March 24, 2014 through December 15, 2016

		Monitored Natural Attenuation Field Parameters				
Well ID	**Date**	**Dissolved Oxygen (mg/L)**	**ORP (mV)**	**pH (su)**	**Specific Conductance (mS/cm)**	**Comments**
MW-23D	6/19/2014	1.48	-95.1	8.91	0.694	
	8/20/2014	2.27	272.3	3.19	0.718	
	9/3/2014	0.72	-195.0	5.77	0.799	
	10/21/2014	0.50	77.2	5.80	0.809	
	12/10/2014	0.80	121.2	6.36	0.827	
	3/11/2015	1.27	70.9	6.04	0.392	
	6/3/2015	0.96	113.8	6.38	0.428	
	9/4/2015	0.55	125.5	6.04	0.578	
	12/2/2015	0.22	112.6	6.07	0.575	
	3/16/2016	0.64	27.5	6.04	0.579	
	5/2/2016	1.20	111.0	6.15	0.561	
	8/18/2016	0.21	80.3	5.76	0.684	
	12/14/2016	0.23	102.4	6.37	0.699	
MW-24	4/11/2014	6.28	212.6	5.71	0.639	
	6/18/2014	6.61	215.2	5.88	0.589	
	9/3/2014	5.70	-127.6	4.83	0.553	
	3/12/2018	0.98	108.9	6.58	0.468	
	6/3/2015	0.71	118.2	6.80	0.569	
	9/4/2015	6.46	176.1	5.07	0.636	
	12/2/2015	1.15	199.0	5.21	0.635	
	3/16/2016	7.01	117.2	5.13	0.655	
	5/2/2016	5.38	233.0	5.17	0.662	
	8/18/2016	4.93	136.0	5.09	0.685	
	12/14/2016	3.97	172.3	5.09	0.694	
MW-25D (76)	8/20/2014	NA	1.9	6.10	0.547	
	9/2/2014	0.48	-189.6	6.16	0.663	
MW-25D (90)	8/20/2014	NA	-19.1	6.17	0.543	
	9/2/2014	0.49	-244.4	6.17	0.649	
	12/9/2014	0.73	-205.0	6.23	0.661	
	3/10/2015	0.67	-63.2	6.64	0.637	
	6/2/2015	0.68	-56.8	6.77	0.597	
	9/2/2015	1.00	-58.5	6.82	0.605	
	12/1/2015	0.74	-78.7	6.67	0.681	
	3/16/2016	7.70	-188.0	7.05	0.731	
	8/17/2016	0.13	-158.1	6.78	0.778	
	12/14/2016	0.15	-140.2	6.97	0.754	
MW-25D (98)	8/20/2014	NA	-32.6	6.16	0.541	
	9/2/2014	0.85	-231.9	6.20	0.658	
	5/2/2016	0.99	141.0	7.07	0.668	
MW-26D (67)	8/26/2014	1.71	81.2	7.08	0.305	
	9/2/2014	1.03	-223.5	5.95	0.467	
MW-26D (78)	8/26/2014	2.36	79.8	7.09	0.402	
	9/2/2014	1.11	-263.3	6.16	0.540	
	12/9/2014	0.68	-184.4	6.45	0.676	
	3/10/2015	1.41	-85.3	7.36	0.294	
	9/2/2015	0.88	-66.1	6.88	0.530	
	8/18/2016	0.14	-89.3	6.57	0.582	
MW-26D (89)	8/26/2014	1.41	81.2	6.95	0.346	
	9/2/2014	1.20	-250.3	6.07	0.554	

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Table 5

Monitored Natural Attenuation Field Parameters Summary
Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia

March 24, 2014 through December 15, 2016

		Monitored Natural Attenuation Field Parameters				
Well ID	**Date**	**Dissolved Oxygen (mg/L)**	**ORP (mV)**	**pH (su)**	**Specific Conductance (mS/cm)**	**Comments**
MW-27S	8/26/2014	1.77	34.1	6.80	0.453	
	9/2/2014	0.38	-251.3	5.78	0.420	
	12/9/2014	1.04	14.2	5.41	0.339	
	3/11/2015	1.27	44.7	5.95	0.250	
	6/3/2015	0.97	66.2	6.08	0.321	
	9/2/2015	3.90	136.9	5.54	0.500	
	12/1/2015	1.01	126.0	5.48	0.348	
	3/16/2016	1.02	16.0	5.48	0.340	
	5/2/2016	0.38	128.0	5.56	0.379	
	8/18/2016	1.10	192.5	5.15	0.391	
	12/14/2016	1.16	162.7	5.42	0.391	
MW-27I	8/26/2014	1.95	75.7	6.65	0.509	
	9/2/2014	1.12	-234.5	5.70	0.785	
	12/9/2014	1.60	199.3	5.41	0.786	
	3/11/2015	2.00	74.2	5.72	0.560	
	6/3/2015	1.89	45.6	5.93	0.597	
	9/3/2015	2.55	127.0	5.54	0.800	
	12/1/2015	1.74	133.0	5.62	0.844	
	3/16/2016	2.08	28.5	5.74	0.663	
	5/2/2016	4.66	135.0	5.70	0.817	
	8/18/2016	2.77	198.2	5.49	0.861	
	12/14/2016	1.82	147.0	5.72	0.880	
PW-1(65)	3/25/2014	0.37	-137.8	12.61	0.772	
	6/19/2014	0.49	-168.2	11.13	0.827	
	9/10/2014	0.97	69.5	6.22	0.871	
	12/10/2014	1.16	105.3	6.94	0.710	
	3/12/2015	0.97	18.9	6.27	0.413	
	6/3/2015	0.58	33.7	6.84	0.387	
	9/4/2015	1.58	94.5	5.54	0.610	
	12/1/2015	1.01	117.7	5.45	0.718	
	3/17/2016	0.14	52.4	5.66	0.723	
	5/3/2016	0.00	25.0	5.96	0.669	
	8/17/2016	7.00	72.9	5.67	0.764	
	12/14/2016	0.32	-40.5	6.40	0.679	
W-1	3/25/2014	0.72	197.3	5.35	1.011	
	6/19/2014	0.72	219.6	5.12	0.932	
	9/3/2014	0.84	-64.1	5.18	1.261	
	12/10/2014	0.23	157.8	5.16	1.187	
	3/12/2015	0.75	126.9	4.87	0.422	
	6/4/2015	0.92	142.1	5.56	0.480	
	9/4/2015	0.88	142.7	5.24	1.112	
	12/2/2015	0.08	179.0	5.32	1.167	
	3/17/2016	0.11	79.5	5.26	1.358	
	5/4/2016	0.00	170.0	5.32	1.520	
	8/19/2016	0.16	110.9	4.91	1.335	
	12/15/2016	0.22	178.3	5.38	1.155	
W-2	3/25/2014	2.98	144.8	5.75	0.473	
	6/19/2014	2.85	197.8	6.13		
	9/3/2014	1.34	-85.7	5.46	1.042	
	12/10/2014	0.95	68.0	4.66	0.579	
	3/11/2015	1.14	130.9	4.78	0.390	
	6/3/2015	1.92	187.2	5.30	0.438	
	3/17/2016	5.10	109.7	4.75	0.509	
	5/3/2016	3.39	267.0	4.93	0.540	
	8/18/2016	1.89	114.7	4.83	0.519	
	12/15/2016	1.88	186.9	5.28	0.387	
W-3	9/3/2014	5.32	-107.9	4.42	0.639	
	9/4/2015	4.96	184.3	4.83	0.501	
	8/18/2016	5.14	133.7	4.74	0.711	

Kleinfelder
1340 Charwood Road, Suite I, Hanover, MD 21076

Table 5

Monitored Natural Attenuation Field Parameters Summary
Inactive Fairfax Facility #26140
9901 Georgetown Pike
Great Falls, Virginia

March 24, 2014 through December 15, 2016

		Monitored Natural Attenuation Field Parameters				
Well ID	**Date**	**Dissolved Oxygen (mg/L)**	**ORP (mV)**	**pH (su)**	**Specific Conductance (mS/cm)**	**Comments**
W-4	9/2/2015	0.69	-73.5	6.64	0.482	
	8/18/2016	4.65	235.8	5.13	2.932	
W-5	9/3/2015	1.50	-30.1	6.49	0.793	
	8/17/2016	0.26	-142.4	6.07	0.998	
W-6	3/25/2014	5.87	179.6	5.21	0.124	
	6/18/2014	5.68	122.6	5.65	0.169	
	9/3/2014	4.70	-123.8	4.90	0.146	
	12/9/2014	4.87	68.6	5.87	0.160	
	3/11/2015	6.31	76.8	6.45	1.489	
	6/2/2015	6.06	78.2	6.51	1.327	
	9/3/2015	5.09	107.9	5.31	0.199	
	12/1/2015	0.75	91.9	5.69	0.254	
	3/16/2016	4.98	109.7	5.08	0.638	
	5/2/2016	5.22	195.0	5.77	0.686	
	8/17/2016	5.62	243.0	4.81	0.224	
	12/14/2016	3.86	170.3	5.01	0.302	
W-7	3/24/2014	0.99	77.3	6.03	0.392	
	6/18/2014	1.43	60.2	6.08	0.384	
	9/3/2014	0.59	-167.1	5.69	0.431	
	12/9/2014	0.93	32.9	6.07	0.383	
	3/10/2015	0.97	-19.3	6.87	0.344	
	6/2/2015	0.77	-28.2	6.88	0.364	
	9/3/2015	0.15	68.1	6.36	0.435	
	12/1/2015	0.11	30.9	6.26	0.438	
	3/16/2016	1.47	1.0	6.02	0.332	
	5/2/2016	5.81	165.0	5.96	0.530	
	8/17/2016	0.92	177.0	5.82	0.350	
	12/14/2016	0.24	96.0	6.01	0.736	
RW-1	8/20/2014	5.71	278.1	5.72	0.363	
GFSCMW-2	3/24/2014	1.32	67.5	6.15	0.425	
GFSCMW-3	3/24/2014	1.45	80.1	6.06	0.409	
GFSTMW-1	6/20/2014	5.19	181.2	5.26	0.599	

Notes:
mg/L - miligrams per liter
mV - milivolt
su - standard units
mS/cm - milisiemens per centimeter
NA - not available

Kleinfelder
1340 Charwood Road, Suite I, Hanover, MD 21076

APPENDIX A
DEQ Correspondence

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
NORTHERN REGIONAL OFFICE
13901 Crown Court, Woodbridge, Virginia 22193
(703) 583-3800 Fax (703) 583-3821
www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

Thomas A. Faha
Regional Director

August 25, 2016

By email only
Mr. Marshall Yacoe
Fairfax Petroleum Realty LLC
6820-B Commercial Drive
Springfield, VA 22151

RE: **PC#2010-3028**; Former Great Falls Exxon
9901 Georgetown Pike, Great Falls, Fairfax County 22066
Trial Rebound Assessment Results Letter dated August 17, 2016

Dear Mr. Yacoe:

The Northern Virginia Regional Office of the Virginia Department of Environmental Quality (DEQ) has completed review of the Trial Rebound Assessment Results letter prepared for Fairfax Petroleum Realty, LLC (Fairfax Petroleum) by Kleinfelder. DEQ understands that to allow the construction of the TD Bank on the former Great Exxon property the remediation system has been shut down and above ground system temporarily removed. DEQ understands that the system is expected to be returned to the site and be operational in November 2016.

Monitoring and Soil Vapor Extraction Well closure

In their letter, Kleinfelder requested closure of MW13 and overburden soil vapor extraction wells SVE-1, SVE-3, SVE-4 and SVE-5 as they are either located within the footprint of the proposed TD Bank or no longer serve any function as no further SVE operation is anticipated. DEQ agrees that the closure of these wells is appropriate at this time.

Ongoing System Operation

In their letter, Kleinfelder concludes: "..the average endpoint concentrations and mass flux objectives have been met for more than the required two consecutive quarters and it is appropriate and recommended to continue the post-remediation monitoring program as directed in the CAPA approval."

While DEQ agrees that the results of the correction action, and the trial rebound assessment, are encouraging and moving toward achieving the approved CAP objectives, DEQ does not consider the remedial objectives have been achieved. Specifically, MTBE concentrations in bedrock monitoring well 17D increased after shut down, and the treatment system continued, at the time of shut down, to recover MTBE at a rate of approximately 80 pounds per year. Furthermore, concentrations of MTBE in groundwater beneath the new Exxon (the former Shell) in wells W1 and 21S have continued to be stable or even show signs of slight increase, indicating that natural attenuation of MTBE is not occurring at this location at the predicted rates.

DEQ understands that the remedial system has been shut down while the area of the former Exxon is redeveloped as a retail Bank. DEQ understands that groundwater monitoring was completed in August and a further round of monitoring will take place in November, around the time the remediation system is due to be operational again.

If the results of those monitoring events are consistent with those from the May and June 2016 groundwater monitoring, DEQ expects the remediation system to be put back into operation. Furthermore, if concentrations of MTBE in W1 and 21S do not show signs of significant natural attenuation, DEQ expects a plan for actively addressing this small area of remaining shallow MTBE groundwater contamination.

I look forward to receiving the results of the further corrective action activities.

Please feel free to contact me via e-mail at alexander.wardle@deq.virginia.gov or by telephone at (703) 583-3822 if you have any questions concerning this matter.

Sincerely,

Alexander Wardle
Environmental Geologist

cc: File
Kleinfelder: MCsteele@kleinfelder.com
GFCA: m.eric.knudsen@gmail.com; gsjoblom@cox.net; what00now@yahoo.com

Mark Steele

From: Wardle, Alexander (DEQ) <Alexander.Wardle@deq.virginia.gov>
Sent: Wednesday, January 11, 2017 9:43 AM
To: Mark Steele
Cc: Paxton Wertz; Nathan Stevens
Subject: RE: PC # 2010-3028: Monitoring Well MW-14

Thanks – I agree that as MW2 and MW14 provide comparable data from the same part of the aquifer, there is no need to reinstall MW14.

Regards

Alex Wardle, Environmental Geologist

Virginia Department of Environmental Quality

Northern Regional Office: Petroleum Remediation

13901 Crown Court, Woodbridge, VA 22193

Phone. 703-583-3822

e-mail: Alexander.Wardle@deq.virginia.gov

From: Mark Steele [mailto:MCSteele@kleinfelder.com]
Sent: Wednesday, January 11, 2017 9:33 AM
To: Wardle, Alexander (DEQ)
Cc: Paxton Wertz; Nathan Stevens
Subject: PC # 2010-3028: Monitoring Well MW-14

Alex. As a follow up to the email below regarding monitoring well MW-14, which was destroyed during site redevelopment in the fall of 2016, please find attached Well Construction Table, Groundwater Analytical Table, and trend analysis of wells MW-2 and MW-14.

The monitoring well construction table includes the top of casing elevations and screen intervals for monitoring wells MW-2 and MW-14. Both wells are completed in the overburden aquifer with similar elevations (difference in top of casing elevations is 0.24 feet) and well screen intervals. Monitoring well MW-2 is screened from 25 to 40 feet below grade while MW-14 is screened from 25 to 45 feet below grade.

The groundwater analytical data indicates that both monitoring wells have had reported concentrations of MTBE that are below the overburden goal of 5,000 µg/L since prior to remedial operations. Monitoring well MW-2 was last sampled during the rebound analysis conducted in May 2016 and the MTBE concentration was 5 µg/L. Monitoring well MW-14 is sampled annually per the CAPA Approval letter, due to its proximal location near MW-2, and was last sampled in September 2014 and MTBE was 190 µg/L. The well was dry during the September 2015 annual sampling event as a result of groundwater recovery system operations at the time. Both wells have similar decreasing trends in MTBE concentrations as depicted on the attached chart.

As presented, both MW-2 and MW-14 are screened in the same groundwater bearing unit with comparable MTBE concentrations and decreasing trends. Kleinfelder, on behalf of Fairfax Petroleum, requests DEQ approval to not re-install monitoring well MW-14.

Please let us know if there are questions or if additional information is required regarding this request.

Regards,

Mark C. Steele
Senior Program Manager
1340 Charwood Drive, Suite I
Hanover, MD 21076
t| 866.862.9760
o| 410-850-0404 x 0789
m| 443-745-4101
f| 410-850-0049

From: Wardle, Alexander (DEQ) [mailto:Alexander.Wardle@deq.virginia.gov]
Sent: Tuesday, December 27, 2016 9:34 AM
To: Mark Steele <MCSteele@kleinfelder.com>
Cc: Paxton Wertz <PWertz@kleinfelder.com>
Subject: RE: 2010-3028 Remediation System Schedule Update

Thanks –

In order to allow me to confirm that MW-14 can be abandoned, please document that MW-14 samples a similar groundwater bearing unit at comparable depth to MW-2 and that the concentrations recorded in the two wells are similar and follow similar trends.

Regards

Alex

From: Mark Steele [mailto:MCSteele@kleinfelder.com]
Sent: Monday, December 26, 2016 4:22 PM
To: Wardle, Alexander (DEQ)
Cc: Paxton Wertz
Subject: 2010-3028 Remediation System Schedule Update

Alex. As a follow up to schedule below, the groundwater sampling event was completed and manholes for the wells were reset on 22nd. According to TD Bank contractor, Dominion is still working on the solution for the transformer on the Village Centre and there is no definitive timeframe their work will be completed. The Dominion work impacts the remediation system electrical service (meter has not been re-installed and service restored) and connection of the discharge line to the storm water inlet adjacent to the property.

During the sampling event, it was determined that monitoring wells MW-1, MW-14, and MW-5 were destroyed during construction and MW-2 requires rehabilitation to remove debris in the bottom of the well. We propose to re-install MW-1 and MW-5 and not re-install MW-14. The basis for the request not to re-install MW-14 is due to its proximity to MW-2 as a data point.

We'll be in touch in the new year when we have more information on the completion of the system installation.

Mark

From: glen sjoblom [mailto:gsjoblom@cox.net]
Sent: Wednesday, November 23, 2016 4:47 PM
To: Mark Steele <MCSteele@kleinfelder.com>
Cc: Wardle, Alexander (DEQ) <Alexander.Wardle@deq.virginia.gov>
Subject: Re: Cleanup timing

Thanks Mark, I appreciate the quick response. Glen

On Nov 23, 2016, at 12:36 PM, Mark Steele <MCSteele@kleinfelder.com> wrote:

The remediation equipment is going back on the site end of next week. The dates for completion of the remainder of the installation and restart are dependent on work to be completed by Dominion to a transformer on the Village Centre. The window Dominion has provided TD to complete their work is 11/23 - 12/22.

TD Bank contractor is telling us the site should be accessible for groundwater sampling after December 12th.

-----Original Message-----
From: glen sjoblom [mailto:gsjoblom@cox.net]
Sent: Wednesday, November 23, 2016 11:54 AM
To: Mark Steele <MCSteele@kleinfelder.com>
Cc: Wardle, Alexander (DEQ) <Alexander.Wardle@deq.virginia.gov>
Subject: Cleanup timing

Mark- When are you putting the pumping system back on site and taking the next set of samples? People are asking. Glen Sjoblom

APPENDIX B

Lancaster Laboratories Analysis Reports – Groundwater

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Kleinfelder
550 West C Street, Suite 1200
San Diego CA 92101

Report Date: December 30, 2016

Project: Fairfax 26140

Submittal Date: 12/16/2016
Group Number: 1745942
PO Number: 51141-318064
State of Sample Origin: VA

Client Sample Description	Lancaster Labs (LL) #
MW-17D (75) Grab Water	8751335
MW-17D (81) Grab Water	8751336
MW-17D (87.75) Grab Water	8751337
MW-17D (92) Grab Water	8751338
MW-17D (117) Grab Water	8751339
MW-17D (129.75) Grab Water	8751340
MW-17D (147) Grab Water	8751341
MW-20D (73-83) Grab Water	8751342
MW-20D (90-100) Grab Water	8751343
MW-20D (132-142) Grab Water	8751344
PW-1 Grab Water	8751345
W-1 Grab Water	8751346
W-2 Grab Water	8751347
W-6 Grab Water	8751348
W-7 Grab Water	8751349
MW-7 Grab Water	8751350
MW-15 Grab Water	8751351
MW-21S Grab Water	8751352
MW-21I Grab Water	8751353
MW-23D Grab Water	8751354
MW-24 Grab Water	8751355
MW-25D (90) Grab Water	8751356
MW-27S Grab Water	8751357
MW-27I Grab Water	8751358

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Kleinfelder	Attn: Jennifer Kozak
Electronic Copy To	Kleinfelder	Attn: Nathan Stevens
Electronic Copy To	Kleinfelder	Attn: Paxton Wertz
Electronic Copy To	Kleinfelder	Attn: Venelda Williams
Electronic Copy To	Kleinfelder	Attn: Mark Steele

Respectfully Submitted,

Amek Carter
Specialist

(717) 556-7252

eurofins
Lancaster Laboratories Environmental
2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: MW-17D (75) Grab Water
Fairfax Petroleum 26140

LL Sample # WW 8751335
LL Group # 1745942
Account # 12152

Project Name: Fairfax 26140

Collected: 12/13/2016 08:40 by EM

Submitted: 12/16/2016 19:45
Reported: 12/30/2016 18:51

Kleinfelder
550 West C Street, Suite 1200
San Diego CA 92101

17D75

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	**t-Amyl methyl ether**	994-05-8	**420**	50	50
10335	Benzene	71-43-2	< 50	50	50
10335	**t-Butyl alcohol**	75-65-0	**6,100**	1,000	50
10335	Ethyl t-butyl ether	637-92-3	< 50	50	50
10335	Ethylbenzene	100-41-4	< 50	50	50
10335	**di-Isopropyl ether**	108-20-3	**560**	50	50
10335	**Methyl Tertiary Butyl Ether**	1634-04-4	**32,000**	500	500
10335	Toluene	108-88-3	< 50	50	50
10335	Xylene (Total)	1330-20-7	< 50	50	50

Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	BTEX + 5 Oxys	SW-846 8260B	1	W163581AA	12/23/2016 14:53	Linda C Pape	50
10335	BTEX + 5 Oxys	SW-846 8260B	1	W163581AA	12/23/2016 15:17	Linda C Pape	500
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W163581AA	12/23/2016 14:53	Linda C Pape	50
01163	GC/MS VOA Water Prep	SW-846 5030B	2	W163581AA	12/23/2016 15:17	Linda C Pape	500

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Analysis Report

Sample Description: MW-17D (81) Grab Water
Fairfax Petroleum 26140

LL Sample # WW 8751336
LL Group # 1745942
Account # 12152

Project Name: Fairfax 26140

Collected: 12/13/2016 09:30 by EM

Submitted: 12/16/2016 19:45
Reported: 12/30/2016 18:51

Kleinfelder
550 West C Street, Suite 1200
San Diego CA 92101

17D81

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	**t-Amyl methyl ether**	994-05-8	**240**	20	20
10335	Benzene	71-43-2	< 20	20	20
10335	**t-Butyl alcohol**	75-65-0	**3,000**	400	20
10335	Ethyl t-butyl ether	637-92-3	< 20	20	20
10335	Ethylbenzene	100-41-4	< 20	20	20
10335	**di-Isopropyl ether**	108-20-3	**300**	20	20
10335	**Methyl Tertiary Butyl Ether**	1634-04-4	**17,000**	200	200
10335	Toluene	108-88-3	< 20	20	20
10335	Xylene (Total)	1330-20-7	< 20	20	20

Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	BTEX + 5 Oxys	SW-846 8260B	1	W163581AA	12/23/2016 15:40	Linda C Pape	20
10335	BTEX + 5 Oxys	SW-846 8260B	1	W163581AA	12/23/2016 16:03	Linda C Pape	200
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W163581AA	12/23/2016 15:40	Linda C Pape	20
01163	GC/MS VOA Water Prep	SW-846 5030B	2	W163581AA	12/23/2016 16:03	Linda C Pape	200

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Analysis Report

Sample Description: MW-17D (87.75) Grab Water
Fairfax Petroleum 26140

LL Sample # WW 8751337
LL Group # 1745942
Account # 12152

Project Name: Fairfax 26140

Collected: 12/13/2016 10:30 by EM

Submitted: 12/16/2016 19:45
Reported: 12/30/2016 18:51

Kleinfelder
550 West C Street, Suite 1200
San Diego CA 92101

17D87

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	**t-Amyl methyl ether**	994-05-8	**2**	1	1
10335	Benzene	71-43-2	< 1	1	1
10335	t-Butyl alcohol	75-65-0	< 20	20	1
10335	Ethyl t-butyl ether	637-92-3	< 1	1	1
10335	Ethylbenzene	100-41-4	< 1	1	1
10335	**di-Isopropyl ether**	108-20-3	**6**	1	1
10335	**Methyl Tertiary Butyl Ether**	1634-04-4	**180**	1	1
10335	Toluene	108-88-3	< 1	1	1
10335	Xylene (Total)	1330-20-7	< 1	1	1

Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	BTEX + 5 Oxys	SW-846 8260B	1	W163581AA	12/23/2016 12:33	Linda C Pape	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W163581AA	12/23/2016 12:33	Linda C Pape	1

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Analysis Report

Sample Description: MW-17D (92) Grab Water
Fairfax Petroleum 26140

LL Sample # WW 8751338
LL Group # 1745942
Account # 12152

Project Name: Fairfax 26140

Collected: 12/13/2016 11:30 by EM

Submitted: 12/16/2016 19:45
Reported: 12/30/2016 18:51

Kleinfelder
550 West C Street, Suite 1200
San Diego CA 92101

17D92

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	t-Amyl methyl ether	994-05-8	< 1	1	1
10335	Benzene	71-43-2	< 1	1	1
10335	t-Butyl alcohol	75-65-0	< 20	20	1
10335	Ethyl t-butyl ether	637-92-3	< 1	1	1
10335	Ethylbenzene	100-41-4	< 1	1	1
10335	di-Isopropyl ether	108-20-3	< 1	1	1
10335	**Methyl Tertiary Butyl Ether**	1634-04-4	**28**	1	1
10335	Toluene	108-88-3	< 1	1	1
10335	Xylene (Total)	1330-20-7	< 1	1	1

Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	BTEX + 5 Oxys	SW-846 8260B	1	W163581AA	12/23/2016 12:56	Linda C Pape	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W163581AA	12/23/2016 12:56	Linda C Pape	1

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Analysis Report

Sample Description: MW-17D (117) Grab Water
Fairfax Petroleum 26140

LL Sample # WW 8751339
LL Group # 1745942
Account # 12152

Project Name: Fairfax 26140

Collected: 12/13/2016 12:45 by EM

Submitted: 12/16/2016 19:45
Reported: 12/30/2016 18:51

Kleinfelder
550 West C Street, Suite 1200
San Diego CA 92101

17117

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	**t-Amyl methyl ether**	994-05-8	**14**	2	2
10335	Benzene	71-43-2	< 2	2	2
10335	**t-Butyl alcohol**	75-65-0	**150**	40	2
10335	Ethyl t-butyl ether	637-92-3	< 2	2	2
10335	Ethylbenzene	100-41-4	< 2	2	2
10335	**di-Isopropyl ether**	108-20-3	**17**	2	2
10335	**Methyl Tertiary Butyl Ether**	1634-04-4	**1,000**	20	20
10335	Toluene	108-88-3	< 2	2	2
10335	Xylene (Total)	1330-20-7	< 2	2	2

Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	BTEX + 5 Oxys	SW-846 8260B	1	W163581AA	12/23/2016 16:27	Linda C Pape	2
10335	BTEX + 5 Oxys	SW-846 8260B	1	W163581AA	12/23/2016 16:50	Linda C Pape	20
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W163581AA	12/23/2016 16:27	Linda C Pape	2
01163	GC/MS VOA Water Prep	SW-846 5030B	2	W163581AA	12/23/2016 16:50	Linda C Pape	20

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Analysis Report

Sample Description: MW-17D (129.75) Grab Water
Fairfax Petroleum 26140

LL Sample # WW 8751340
LL Group # 1745942
Account # 12152

Project Name: Fairfax 26140

Collected: 12/13/2016 13:55 by EM

Submitted: 12/16/2016 19:45
Reported: 12/30/2016 18:51

Kleinfelder
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17129

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	**t-Amyl methyl ether**	994-05-8	**35**	2	2
10335	Benzene	71-43-2	< 2	2	2
10335	**t-Butyl alcohol**	75-65-0	**480**	40	2
10335	Ethyl t-butyl ether	637-92-3	< 2	2	2
10335	Ethylbenzene	100-41-4	< 2	2	2
10335	**di-Isopropyl ether**	108-20-3	**37**	2	2
10335	**Methyl Tertiary Butyl Ether**	1634-04-4	**2,000**	20	20
10335	Toluene	108-88-3	< 2	2	2
10335	Xylene (Total)	1330-20-7	< 2	2	2

Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	BTEX + 5 Oxys	SW-846 8260B	1	W163581AA	12/23/2016 17:14	Linda C Pape	2
10335	BTEX + 5 Oxys	SW-846 8260B	1	W163591AA	12/24/2016 20:43	Kevin D Kelly	20
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W163581AA	12/23/2016 17:14	Linda C Pape	2
01163	GC/MS VOA Water Prep	SW-846 5030B	2	W163591AA	12/24/2016 20:43	Kevin D Kelly	20

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Analysis Report

Sample Description: MW-17D (147) Grab Water
Fairfax Petroleum 26140

LL Sample # WW 8751341
LL Group # 1745942
Account # 12152

Project Name: Fairfax 26140

Collected: 12/13/2016 15:00 by EM

Submitted: 12/16/2016 19:45
Reported: 12/30/2016 18:51

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17147

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	
10335	**t-Amyl methyl ether**	994-05-8	**64**	2	2
10335	Benzene	71-43-2	< 2	2	2
10335	**t-Butyl alcohol**	75-65-0	**2,000**	40	2
10335	Ethyl t-butyl ether	637-92-3	< 2	2	2
10335	Ethylbenzene	100-41-4	< 2	2	2
10335	**di-Isopropyl ether**	108-20-3	**49**	2	2
10335	**Methyl Tertiary Butyl Ether**	1634-04-4	**3,900**	20	20
10335	Toluene	108-88-3	< 2	2	2
10335	Xylene (Total)	1330-20-7	< 2	2	2

Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	BTEX + 5 Oxys	SW-846 8260B	1	W163591AA	12/24/2016 17:36	Kevin D Kelly	2
10335	BTEX + 5 Oxys	SW-846 8260B	1	W163591AA	12/24/2016 17:59	Kevin D Kelly	20
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W163591AA	12/24/2016 17:36	Kevin D Kelly	2
01163	GC/MS VOA Water Prep	SW-846 5030B	2	W163591AA	12/24/2016 17:59	Kevin D Kelly	20

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Analysis Report

Sample Description: MW-20D (73-83) Grab Water
Fairfax Petroleum 26140

LL Sample # WW 8751342
LL Group # 1745942
Account # 12152

Project Name: Fairfax 26140

Collected: 12/13/2016 14:40 by EM

Submitted: 12/16/2016 19:45
Reported: 12/30/2016 18:51

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20D73

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	
10335	**t-Amyl methyl ether**	994-05-8	**5**	1	1
10335	Benzene	71-43-2	< 1	1	1
10335	**t-Butyl alcohol**	75-65-0	**180**	20	1
10335	Ethyl t-butyl ether	637-92-3	< 1	1	1
10335	Ethylbenzene	100-41-4	< 1	1	1
10335	**di-Isopropyl ether**	108-20-3	**8**	1	1
10335	**Methyl Tertiary Butyl Ether**	1634-04-4	**570**	10	10
10335	Toluene	108-88-3	< 1	1	1
10335	Xylene (Total)	1330-20-7	< 1	1	1

Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	BTEX + 5 Oxys	SW-846 8260B	1	W163591AA	12/24/2016 16:03	Kevin D Kelly	1
10335	BTEX + 5 Oxys	SW-846 8260B	1	W163591AA	12/24/2016 16:26	Kevin D Kelly	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W163591AA	12/24/2016 16:03	Kevin D Kelly	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	W163591AA	12/24/2016 16:26	Kevin D Kelly	10

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Analysis Report

Sample Description: MW-20D (90-100) Grab Water
Fairfax Petroleum 26140

LL Sample # WW 8751343
LL Group # 1745942
Account # 12152

Project Name: Fairfax 26140

Collected: 12/13/2016 13:30 by EM

Submitted: 12/16/2016 19:45
Reported: 12/30/2016 18:51

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20D90

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	t-Amyl methyl ether	994-05-8	< 1	1	1
10335	Benzene	71-43-2	< 1	1	1
10335	t-Butyl alcohol	75-65-0	< 20	20	1
10335	Ethyl t-butyl ether	637-92-3	< 1	1	1
10335	Ethylbenzene	100-41-4	< 1	1	1
10335	di-Isopropyl ether	108-20-3	< 1	1	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	< 1	1	1
10335	Toluene	108-88-3	< 1	1	1
10335	Xylene (Total)	1330-20-7	< 1	1	1

Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	BTEX + 5 Oxys	SW-846 8260B	1	W163581AA	12/23/2016 13:20	Linda C Pape	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W163581AA	12/23/2016 13:20	Linda C Pape	1

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Analysis Report

Sample Description: MW-20D (132-142) Grab Water
Fairfax Petroleum 26140

LL Sample # WW 8751344
LL Group # 1745942
Account # 12152

Project Name: Fairfax 26140

Collected: 12/13/2016 12:30 by EM

Submitted: 12/16/2016 19:45
Reported: 12/30/2016 18:51

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20132

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	t-Amyl methyl ether	994-05-8	< 1	1	1
10335	Benzene	71-43-2	< 1	1	1
10335	t-Butyl alcohol	75-65-0	< 20	20	1
10335	Ethyl t-butyl ether	637-92-3	< 1	1	1
10335	Ethylbenzene	100-41-4	< 1	1	1
10335	di-Isopropyl ether	108-20-3	< 1	1	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	< 1	1	1
10335	Toluene	108-88-3	< 1	1	1
10335	Xylene (Total)	1330-20-7	< 1	1	1

Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	BTEX + 5 Oxys	SW-846 8260B	1	W163581AA	12/23/2016 13:43	Linda C Pape	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W163581AA	12/23/2016 13:43	Linda C Pape	1

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Analysis Report

Sample Description: PW-1 Grab Water
Fairfax Petroleum 26140

LL Sample # WW 8751345
LL Group # 1745942
Account # 12152

Project Name: Fairfax 26140

Collected: 12/14/2016 14:15 by EM

Submitted: 12/16/2016 19:45
Reported: 12/30/2016 18:51

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FAXP1

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	**t-Amyl methyl ether**	994-05-8	**1**	1	1
10335	Benzene	71-43-2	< 1	1	1
10335	t-Butyl alcohol	75-65-0	< 20	20	1
10335	Ethyl t-butyl ether	637-92-3	< 1	1	1
10335	Ethylbenzene	100-41-4	< 1	1	1
10335	**di-Isopropyl ether**	108-20-3	**4**	1	1
10335	**Methyl Tertiary Butyl Ether**	1634-04-4	**42**	1	1
10335	Toluene	108-88-3	< 1	1	1
10335	Xylene (Total)	1330-20-7	< 1	1	1

Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	BTEX + 5 Oxys	SW-846 8260B	1	W163581AA	12/23/2016 14:07	Linda C Pape	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W163581AA	12/23/2016 14:07	Linda C Pape	1

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Analysis Report

Sample Description: W-1 Grab Water
Fairfax Petroleum 26140

LL Sample # WW 8751346
LL Group # 1745942
Account # 12152

Project Name: Fairfax 26140

Collected: 12/15/2016 11:30 by EM

Submitted: 12/16/2016 19:45
Reported: 12/30/2016 18:51

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FAXW1

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	**t-Amyl methyl ether**	994-05-8	**77**	20	20
10335	Benzene	71-43-2	< 20	20	20
10335	**t-Butyl alcohol**	75-65-0	**9,000**	400	20
10335	Ethanol	64-17-5	< 5,000	5,000	20
10335	Ethyl t-butyl ether	637-92-3	< 20	20	20
10335	Ethylbenzene	100-41-4	< 20	20	20
10335	**di-Isopropyl ether**	108-20-3	**88**	20	20
10335	**Methyl Tertiary Butyl Ether**	1634-04-4	**9,900**	200	200
10335	Toluene	108-88-3	< 20	20	20
10335	Xylene (Total)	1330-20-7	< 20	20	20

Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	BTEX + 5 Oxys + EtOH	SW-846 8260B	1	4163641AA	12/29/2016 16:31	Linda C Pape	20
10335	BTEX + 5 Oxys + EtOH	SW-846 8260B	1	4163642AA	12/29/2016 21:23	Matthew S Krause	200
01163	GC/MS VOA Water Prep	SW-846 5030B	1	4163641AA	12/29/2016 16:31	Linda C Pape	20
01163	GC/MS VOA Water Prep	SW-846 5030B	2	4163642AA	12/29/2016 21:23	Matthew S Krause	200

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Analysis Report

Sample Description: W-2 Grab Water
Fairfax Petroleum 26140

LL Sample # WW 8751347
LL Group # 1745942
Account # 12152

Project Name: Fairfax 26140

Collected: 12/15/2016 09:05 by EM

Submitted: 12/16/2016 19:45
Reported: 12/30/2016 18:51

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FAXW2

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	**t-Amyl methyl ether**	994-05-8	**1**	1	1
10335	Benzene	71-43-2	< 1	1	1
10335	**t-Butyl alcohol**	75-65-0	**36**	20	1
10335	Ethanol	64-17-5	< 250	250	1
10335	Ethyl t-butyl ether	637-92-3	< 1	1	1
10335	Ethylbenzene	100-41-4	< 1	1	1
10335	**di-Isopropyl ether**	108-20-3	**12**	1	1
10335	**Methyl Tertiary Butyl Ether**	1634-04-4	**170**	1	1
10335	Toluene	108-88-3	< 1	1	1
10335	Xylene (Total)	1330-20-7	< 1	1	1

Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	BTEX + 5 Oxys + EtOH	SW-846 8260B	1	4163641AA	12/29/2016 17:16	Linda C Pape	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	4163641AA	12/29/2016 17:16	Linda C Pape	1

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Analysis Report

Sample Description: W-6 Grab Water
Fairfax Petroleum 26140

LL Sample # WW 8751348
LL Group # 1745942
Account # 12152

Project Name: Fairfax 26140

Collected: 12/14/2016 11:40 by EM

Submitted: 12/16/2016 19:45
Reported: 12/30/2016 18:51

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FAXW6

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	t-Amyl methyl ether	994-05-8	< 1	1	1
10335	Benzene	71-43-2	< 1	1	1
10335	t-Butyl alcohol	75-65-0	< 20	20	1
10335	Ethanol	64-17-5	< 250	250	1
10335	Ethyl t-butyl ether	637-92-3	< 1	1	1
10335	Ethylbenzene	100-41-4	< 1	1	1
10335	di-Isopropyl ether	108-20-3	< 1	1	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	< 1	1	1
10335	Toluene	108-88-3	< 1	1	1
10335	Xylene (Total)	1330-20-7	< 1	1	1

Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	BTEX + 5 Oxys + EtOH	SW-846 8260B	1	N163581AA	12/23/2016 14:25	Linda C Pape	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N163581AA	12/23/2016 14:25	Linda C Pape	1

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Analysis Report

Sample Description: W-7 Grab Water
Fairfax Petroleum 26140

LL Sample # WW 8751349
LL Group # 1745942
Account # 12152

Project Name: Fairfax 26140

Collected: 12/14/2016 10:58 by EM

Submitted: 12/16/2016 19:45
Reported: 12/30/2016 18:51

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San Diego CA 92101

FAXW7

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	t-Amyl methyl ether	994-05-8	< 1	1	1
10335	Benzene	71-43-2	< 1	1	1
10335	t-Butyl alcohol	75-65-0	< 20	20	1
10335	Ethanol	64-17-5	< 250	250	1
10335	Ethyl t-butyl ether	637-92-3	< 1	1	1
10335	Ethylbenzene	100-41-4	< 1	1	1
10335	di-Isopropyl ether	108-20-3	< 1	1	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	< 1	1	1
10335	Toluene	108-88-3	< 1	1	1
10335	Xylene (Total)	1330-20-7	< 1	1	1

Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	BTEX + 5 Oxys + EtOH	SW-846 8260B	1	N163591AA	12/24/2016 18:24	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N163591AA	12/24/2016 18:24	Daniel H Heller	1

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Analysis Report

Sample Description: MW-7 Grab Water
Fairfax Petroleum 26140

LL Sample # WW 8751350
LL Group # 1745942
Account # 12152

Project Name: Fairfax 26140

Collected: 12/14/2016 13:25 by EM

Submitted: 12/16/2016 19:45
Reported: 12/30/2016 18:51

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San Diego CA 92101

FAX07

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	t-Amyl methyl ether	994-05-8	< 1	1	1
10335	Benzene	71-43-2	< 1	1	1
10335	t-Butyl alcohol	75-65-0	< 20	20	1
10335	Ethyl t-butyl ether	637-92-3	< 1	1	1
10335	Ethylbenzene	100-41-4	< 1	1	1
10335	di-Isopropyl ether	108-20-3	< 1	1	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	< 1	1	1
10335	Toluene	108-88-3	< 1	1	1
10335	Xylene (Total)	1330-20-7	< 1	1	1

Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	BTEX + 5 Oxys	SW-846 8260B	1	N163591AA	12/24/2016 18:01	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N163591AA	12/24/2016 18:01	Daniel H Heller	1

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Analysis Report

Sample Description: MW-15 Grab Water
Fairfax Petroleum 26140

LL Sample # WW 8751351
LL Group # 1745942
Account # 12152

Project Name: Fairfax 26140

Collected: 12/15/2016 08:12 by EM

Submitted: 12/16/2016 19:45
Reported: 12/30/2016 18:51

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FAX15

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	t-Amyl methyl ether	994-05-8	< 1	1	1
10335	Benzene	71-43-2	< 1	1	1
10335	t-Butyl alcohol	75-65-0	< 20	20	1
10335	Ethyl t-butyl ether	637-92-3	< 1	1	1
10335	Ethylbenzene	100-41-4	< 1	1	1
10335	di-Isopropyl ether	108-20-3	< 1	1	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	< 1	1	1
10335	Toluene	108-88-3	< 1	1	1
10335	Xylene (Total)	1330-20-7	< 1	1	1

Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	BTEX + 5 Oxys	SW-846 8260B	1	W163631AA	12/28/2016 11:20	Nicole S Lamoreaux	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W163631AA	12/28/2016 11:20	Nicole S Lamoreaux	1

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Analysis Report

Sample Description: MW-21S Grab Water
Fairfax Petroleum 26140

LL Sample # WW 8751352
LL Group # 1745942
Account # 12152

Project Name: Fairfax 26140

Collected: 12/15/2016 10:10 by EM

Submitted: 12/16/2016 19:45
Reported: 12/30/2016 18:51

Kleinfelder
550 West C Street, Suite 1200
San Diego CA 92101

FA21S

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	**t-Amyl methyl ether**	994-05-8	**12**	2	2
10335	Benzene	71-43-2	< 2	2	2
10335	**t-Butyl alcohol**	75-65-0	**710**	40	2
10335	Ethanol	64-17-5	< 500	500	2
10335	Ethyl t-butyl ether	637-92-3	< 2	2	2
10335	Ethylbenzene	100-41-4	< 2	2	2
10335	**di-Isopropyl ether**	108-20-3	**17**	2	2
10335	**Methyl Tertiary Butyl Ether**	1634-04-4	**1,400**	5	5
10335	Toluene	108-88-3	< 2	2	2
10335	Xylene (Total)	1330-20-7	< 2	2	2

Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	BTEX + 5 Oxys + EtOH	SW-846 8260B	1	4163641AA	12/29/2016 18:01	Linda C Pape	5
10335	BTEX + 5 Oxys + EtOH	SW-846 8260B	1	4163642AA	12/29/2016 21:01	Matthew S Krause	2
01163	GC/MS VOA Water Prep	SW-846 5030B	1	4163641AA	12/29/2016 18:01	Linda C Pape	5
01163	GC/MS VOA Water Prep	SW-846 5030B	2	4163642AA	12/29/2016 21:01	Matthew S Krause	2

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Analysis Report

Sample Description: MW-21I Grab Water
Fairfax Petroleum 26140

LL Sample # WW 8751353
LL Group # 1745942
Account # 12152

Project Name: Fairfax 26140

Collected: 12/15/2016 10:48 by EM

Submitted: 12/16/2016 19:45
Reported: 12/30/2016 18:51

Kleinfelder
550 West C Street, Suite 1200
San Diego CA 92101

FA21I

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	**t-Amyl methyl ether**	994-05-8	**2**	1	1
10335	Benzene	71-43-2	< 1	1	1
10335	**t-Butyl alcohol**	75-65-0	**33**	20	1
10335	Ethanol	64-17-5	< 250	250	1
10335	Ethyl t-butyl ether	637-92-3	< 1	1	1
10335	Ethylbenzene	100-41-4	< 1	1	1
10335	**di-Isopropyl ether**	108-20-3	**8**	1	1
10335	**Methyl Tertiary Butyl Ether**	1634-04-4	**220**	1	1
10335	Toluene	108-88-3	< 1	1	1
10335	Xylene (Total)	1330-20-7	< 1	1	1

Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	BTEX + 5 Oxys + EtOH	SW-846 8260B	1	4163641AA	12/29/2016 18:46	Linda C Pape	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	4163641AA	12/29/2016 18:46	Linda C Pape	1

Sample Description: MW-23D Grab Water
Fairfax Petroleum 26140

LL Sample # WW 8751354
LL Group # 1745942
Account # 12152

Project Name: Fairfax 26140

Collected: 12/14/2016 07:45 by EM

Submitted: 12/16/2016 19:45
Reported: 12/30/2016 18:51

Kleinfelder
550 West C Street, Suite 1200
San Diego CA 92101

FA23D

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Acetone	67-64-1	< 20	20	1
10335	Acrolein	107-02-8	< 100	100	1
10335	Acrylonitrile	107-13-1	< 20	20	1
10335	t-Amyl methyl ether	994-05-8	< 1	1	1
10335	Benzene	71-43-2	< 1	1	1
10335	Bromodichloromethane	75-27-4	< 1	1	1
10335	Bromoform	75-25-2	< 4	4	1
10335	Bromomethane	74-83-9	< 1	1	1
10335	2-Butanone	78-93-3	< 10	10	1
10335	t-Butyl alcohol	75-65-0	< 20	20	1
10335	n-Butylbenzene	104-51-8	< 5	5	1
10335	sec-Butylbenzene	135-98-8	< 5	5	1
10335	Carbon Tetrachloride	56-23-5	< 1	1	1
10335	Chlorobenzene	108-90-7	< 1	1	1
10335	Chloroethane	75-00-3	< 1	1	1
10335	2-Chloroethyl Vinyl Ether	110-75-8	< 10	10	1
	2-Chloroethyl vinyl ether may not be recovered if acid was used to preserve this sample.				
10335	**Chloroform**	67-66-3	**1**	1	1
10335	Chloromethane	74-87-3	< 1	1	1
10335	Dibromochloromethane	124-48-1	< 1	1	1
10335	1,2-Dichlorobenzene	95-50-1	< 5	5	1
10335	1,3-Dichlorobenzene	541-73-1	< 5	5	1
10335	1,4-Dichlorobenzene	106-46-7	< 5	5	1
10335	1,1-Dichloroethane	75-34-3	< 1	1	1
10335	1,2-Dichloroethane	107-06-2	< 1	1	1
10335	1,1-Dichloroethene	75-35-4	< 1	1	1
10335	**cis-1,2-Dichloroethene**	156-59-2	**40**	1	1
10335	trans-1,2-Dichloroethene	156-60-5	< 1	1	1
10335	1,2-Dichloropropane	78-87-5	< 1	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	< 1	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	< 1	1	1
10335	Ethyl t-butyl ether	637-92-3	< 1	1	1
10335	Ethylbenzene	100-41-4	< 1	1	1
10335	di-Isopropyl ether	108-20-3	< 1	1	1
10335	Isopropylbenzene	98-82-8	< 5	5	1
10335	p-Isopropyltoluene	99-87-6	< 5	5	1
10335	**Methyl Tertiary Butyl Ether**	1634-04-4	**67**	1	1
10335	Methylene Chloride	75-09-2	< 4	4	1
10335	Naphthalene	91-20-3	< 5	5	1
10335	n-Propylbenzene	103-65-1	< 5	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	< 1	1	1
10335	**Tetrachloroethene**	127-18-4	**13**	1	1
10335	Toluene	108-88-3	< 1	1	1
10335	1,1,1-Trichloroethane	71-55-6	< 1	1	1
10335	1,1,2-Trichloroethane	79-00-5	< 1	1	1
10335	**Trichloroethene**	79-01-6	**1**	1	1
10335	Trichlorofluoromethane	75-69-4	< 1	1	1

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Analysis Report

Sample Description: MW-23D Grab Water
Fairfax Petroleum 26140

LL Sample # WW 8751354
LL Group # 1745942
Account # 12152

Project Name: Fairfax 26140

Collected: 12/14/2016 07:45 by EM

Submitted: 12/16/2016 19:45
Reported: 12/30/2016 18:51

Kleinfelder
550 West C Street, Suite 1200
San Diego CA 92101

FA23D

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	1,2,4-Trimethylbenzene	95-63-6	< 5	5	1
10335	1,3,5-Trimethylbenzene	108-67-8	< 5	5	1
10335	Vinyl Chloride	75-01-4	< 1	1	1
10335	Xylene (Total)	1330-20-7	< 1	1	1

Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs 8260 Kleinfelder Full	SW-846 8260B	1	L163581AA	12/23/2016 13:31	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	L163581AA	12/23/2016 13:31	Kevin A Sposito	1

Sample Description: MW-24 Grab Water
Fairfax Petroleum 26140

LL Sample # WW 8751355
LL Group # 1745942
Account # 12152

Project Name: Fairfax 26140

Collected: 12/14/2016 07:12 by EM

Submitted: 12/16/2016 19:45
Reported: 12/30/2016 18:51

Kleinfelder
550 West C Street, Suite 1200
San Diego CA 92101

FAX24

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Acetone	67-64-1	< 20	20	1
10335	Acrolein	107-02-8	< 100	100	1
10335	Acrylonitrile	107-13-1	< 20	20	1
10335	t-Amyl methyl ether	994-05-8	< 1	1	1
10335	Benzene	71-43-2	< 1	1	1
10335	Bromodichloromethane	75-27-4	< 1	1	1
10335	Bromoform	75-25-2	< 4	4	1
10335	Bromomethane	74-83-9	< 1	1	1
10335	2-Butanone	78-93-3	< 10	10	1
10335	t-Butyl alcohol	75-65-0	< 20	20	1
10335	n-Butylbenzene	104-51-8	< 5	5	1
10335	sec-Butylbenzene	135-98-8	< 5	5	1
10335	Carbon Tetrachloride	56-23-5	< 1	1	1
10335	Chlorobenzene	108-90-7	< 1	1	1
10335	Chloroethane	75-00-3	< 1	1	1
10335	2-Chloroethyl Vinyl Ether	110-75-8	< 10	10	1
	2-Chloroethyl vinyl ether may not be recovered if acid was used to preserve this sample.				
10335	Chloroform	67-66-3	< 1	1	1
10335	Chloromethane	74-87-3	< 1	1	1
10335	Dibromochloromethane	124-48-1	< 1	1	1
10335	1,2-Dichlorobenzene	95-50-1	< 5	5	1
10335	1,3-Dichlorobenzene	541-73-1	< 5	5	1
10335	1,4-Dichlorobenzene	106-46-7	< 5	5	1
10335	1,1-Dichloroethane	75-34-3	< 1	1	1
10335	1,2-Dichloroethane	107-06-2	< 1	1	1
10335	1,1-Dichloroethene	75-35-4	< 1	1	1
10335	**cis-1,2-Dichloroethene**	156-59-2	**93**	1	1
10335	**trans-1,2-Dichloroethene**	156-60-5	**1**	1	1
10335	1,2-Dichloropropane	78-87-5	< 1	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	< 1	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	< 1	1	1
10335	Ethyl t-butyl ether	637-92-3	< 1	1	1
10335	Ethylbenzene	100-41-4	< 1	1	1
10335	di-Isopropyl ether	108-20-3	< 1	1	1
10335	Isopropylbenzene	98-82-8	< 5	5	1
10335	p-Isopropyltoluene	99-87-6	< 5	5	1
10335	**Methyl Tertiary Butyl Ether**	1634-04-4	**1**	1	1
10335	Methylene Chloride	75-09-2	< 4	4	1
10335	Naphthalene	91-20-3	< 5	5	1
10335	n-Propylbenzene	103-65-1	< 5	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	< 1	1	1
10335	**Tetrachloroethene**	127-18-4	**4**	1	1
10335	Toluene	108-88-3	< 1	1	1
10335	1,1,1-Trichloroethane	71-55-6	< 1	1	1
10335	1,1,2-Trichloroethane	79-00-5	< 1	1	1
10335	**Trichloroethene**	79-01-6	**2**	1	1
10335	Trichlorofluoromethane	75-69-4	< 1	1	1

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Analysis Report

Sample Description: MW-24 Grab Water
Fairfax Petroleum 26140

LL Sample # WW 8751355
LL Group # 1745942
Account # 12152

Project Name: Fairfax 26140

Collected: 12/14/2016 07:12 by EM

Submitted: 12/16/2016 19:45
Reported: 12/30/2016 18:51

Kleinfelder
550 West C Street, Suite 1200
San Diego CA 92101

FAX24

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	1,2,4-Trimethylbenzene	95-63-6	< 5	5	1
10335	1,3,5-Trimethylbenzene	108-67-8	< 5	5	1
10335	Vinyl Chloride	75-01-4	< 1	1	1
10335	Xylene (Total)	1330-20-7	< 1	1	1

Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs 8260 Kleinfelder Full	SW-846 8260B	1	L163581AA	12/23/2016 13:53	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	L163581AA	12/23/2016 13:53	Kevin A Sposito	1

Sample Description: MW-25D (90) Grab Water
Fairfax Petroleum 26140

LL Sample # WW 8751356
LL Group # 1745942
Account # 12152

Project Name: Fairfax 26140

Collected: 12/14/2016 08:50 by EM

Submitted: 12/16/2016 19:45
Reported: 12/30/2016 18:51

Kleinfelder
550 West C Street, Suite 1200
San Diego CA 92101

25D90

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Acetone	67-64-1	< 20	20	1
10335	Acrolein	107-02-8	< 100	100	1
10335	Acrylonitrile	107-13-1	< 20	20	1
10335	t-Amyl methyl ether	994-05-8	< 1	1	1
10335	Benzene	71-43-2	< 1	1	1
10335	Bromodichloromethane	75-27-4	< 1	1	1
10335	Bromoform	75-25-2	< 4	4	1
10335	Bromomethane	74-83-9	< 1	1	1
10335	2-Butanone	78-93-3	< 10	10	1
10335	t-Butyl alcohol	75-65-0	< 20	20	1
10335	n-Butylbenzene	104-51-8	< 5	5	1
10335	sec-Butylbenzene	135-98-8	< 5	5	1
10335	Carbon Tetrachloride	56-23-5	< 1	1	1
10335	Chlorobenzene	108-90-7	< 1	1	1
10335	Chloroethane	75-00-3	< 1	1	1
10335	2-Chloroethyl Vinyl Ether	110-75-8	< 10	10	1
	2-Chloroethyl vinyl ether may not be recovered if acid was used to preserve this sample.				
10335	Chloroform	67-66-3	< 1	1	1
10335	Chloromethane	74-87-3	< 1	1	1
10335	Dibromochloromethane	124-48-1	< 1	1	1
10335	1,2-Dichlorobenzene	95-50-1	< 5	5	1
10335	1,3-Dichlorobenzene	541-73-1	< 5	5	1
10335	1,4-Dichlorobenzene	106-46-7	< 5	5	1
10335	1,1-Dichloroethane	75-34-3	< 1	1	1
10335	1,2-Dichloroethane	107-06-2	< 1	1	1
10335	1,1-Dichloroethene	75-35-4	< 1	1	1
10335	cis-1,2-Dichloroethene	156-59-2	< 1	1	1
10335	trans-1,2-Dichloroethene	156-60-5	< 1	1	1
10335	1,2-Dichloropropane	78-87-5	< 1	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	< 1	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	< 1	1	1
10335	Ethyl t-butyl ether	637-92-3	< 1	1	1
10335	Ethylbenzene	100-41-4	< 1	1	1
10335	di-Isopropyl ether	108-20-3	< 1	1	1
10335	Isopropylbenzene	98-82-8	< 5	5	1
10335	p-Isopropyltoluene	99-87-6	< 5	5	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	< 1	1	1
10335	Methylene Chloride	75-09-2	< 4	4	1
10335	Naphthalene	91-20-3	< 5	5	1
10335	n-Propylbenzene	103-65-1	< 5	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	< 1	1	1
10335	Tetrachloroethene	127-18-4	< 1	1	1
10335	Toluene	108-88-3	< 1	1	1
10335	1,1,1-Trichloroethane	71-55-6	< 1	1	1
10335	1,1,2-Trichloroethane	79-00-5	< 1	1	1
10335	Trichloroethene	79-01-6	< 1	1	1
10335	Trichlorofluoromethane	75-69-4	< 1	1	1
10335	1,2,4-Trimethylbenzene	95-63-6	< 5	5	1
10335	1,3,5-Trimethylbenzene	108-67-8	< 5	5	1

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Analysis Report

Sample Description: MW-25D (90) Grab Water
Fairfax Petroleum 26140

LL Sample # WW 8751356
LL Group # 1745942
Account # 12152

Project Name: Fairfax 26140

Collected: 12/14/2016 08:50 by EM

Submitted: 12/16/2016 19:45
Reported: 12/30/2016 18:51

Kleinfelder
550 West C Street, Suite 1200
San Diego CA 92101

25D90

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Vinyl Chloride	75-01-4	< 1	1	1
10335	Xylene (Total)	1330-20-7	< 1	1	1

Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs 8260 Kleinfelder Full	SW-846 8260B	1	L163581AA	12/23/2016 14:15	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	L163581AA	12/23/2016 14:15	Kevin A Sposito	1

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Analysis Report

Sample Description: MW-27S Grab Water
Fairfax Petroleum 26140

LL Sample # WW 8751357
LL Group # 1745942
Account # 12152

Project Name: Fairfax 26140

Collected: 12/14/2016 10:15 by EM

Submitted: 12/16/2016 19:45
Reported: 12/30/2016 18:51

Kleinfelder
550 West C Street, Suite 1200
San Diego CA 92101

FA27S

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	t-Amyl methyl ether	994-05-8	< 1	1	1
10335	Benzene	71-43-2	< 1	1	1
10335	t-Butyl alcohol	75-65-0	< 20	20	1
10335	Ethyl t-butyl ether	637-92-3	< 1	1	1
10335	Ethylbenzene	100-41-4	< 1	1	1
10335	di-Isopropyl ether	108-20-3	< 1	1	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	< 1	1	1
10335	Toluene	108-88-3	< 1	1	1
10335	Xylene (Total)	1330-20-7	< 1	1	1

Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	BTEX + 5 Oxys	SW-846 8260B	1	W163581AA	12/23/2016 11:23	Linda C Pape	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W163581AA	12/23/2016 11:23	Linda C Pape	1

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Analysis Report

Sample Description: MW-27I Grab Water
Fairfax Petroleum 26140

LL Sample # WW 8751358
LL Group # 1745942
Account # 12152

Project Name: Fairfax 26140

Collected: 12/14/2016 09:40 by EM

Submitted: 12/16/2016 19:45
Reported: 12/30/2016 18:51

Kleinfelder
550 West C Street, Suite 1200
San Diego CA 92101

FA27I

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	t-Amyl methyl ether	994-05-8	< 1	1	1
10335	Benzene	71-43-2	< 1	1	1
10335	t-Butyl alcohol	75-65-0	< 20	20	1
10335	Ethyl t-butyl ether	637-92-3	< 1	1	1
10335	Ethylbenzene	100-41-4	< 1	1	1
10335	di-Isopropyl ether	108-20-3	< 1	1	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	< 1	1	1
10335	Toluene	108-88-3	< 1	1	1
10335	Xylene (Total)	1330-20-7	< 1	1	1

Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	BTEX + 5 Oxys	SW-846 8260B	1	W163581AA	12/23/2016 14:30	Linda C Pape	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W163581AA	12/23/2016 14:30	Linda C Pape	1

Quality Control Summary

Client Name: Kleinfelder
Reported: 12/30/2016 18:51

Group Number: 1745942

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	LOQ
	ug/l	ug/l
Batch number: 4163641AA	Sample number(s): 8751346-8751347,8751352-8751353	
t-Amyl methyl ether	< 1	1
Benzene	< 1	1
t-Butyl alcohol	< 20	20
Ethanol	< 250	250
Ethyl t-butyl ether	< 1	1
Ethylbenzene	< 1	1
di-Isopropyl ether	< 1	1
Methyl Tertiary Butyl Ether	< 1	1
Toluene	< 1	1
Xylene (Total)	< 1	1
Batch number: 4163642AA	Sample number(s): 8751346,8751352	
t-Amyl methyl ether	< 1	1
Benzene	< 1	1
t-Butyl alcohol	< 20	20
Ethanol	< 250	250
Ethyl t-butyl ether	< 1	1
Ethylbenzene	< 1	1
di-Isopropyl ether	< 1	1
Methyl Tertiary Butyl Ether	< 1	1
Toluene	< 1	1
Xylene (Total)	< 1	1
Batch number: L163581AA	Sample number(s): 8751354-8751356	
Acetone	< 20	20
Acrolein	< 100	100
Acrylonitrile	< 20	20
t-Amyl methyl ether	< 1	1
Benzene	< 1	1
Bromodichloromethane	< 1	1
Bromoform	< 4	4
Bromomethane	< 1	1
2-Butanone	< 10	10
t-Butyl alcohol	< 20	20
n-Butylbenzene	< 5	5
sec-Butylbenzene	< 5	5
Carbon Tetrachloride	< 1	1
Chlorobenzene	< 1	1
Chloroethane	< 1	1
2-Chloroethyl Vinyl Ether	< 10	10
Chloroform	< 1	1

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Kleinfelder
Reported: 12/30/2016 18:51

Group Number: 1745942

Method Blank (continued)

Analysis Name	Result ug/l	LOQ ug/l
Chloromethane	< 1	1
Dibromochloromethane	< 1	1
1,2-Dichlorobenzene	< 5	5
1,3-Dichlorobenzene	< 5	5
1,4-Dichlorobenzene	< 5	5
1,1-Dichloroethane	< 1	1
1,2-Dichloroethane	< 1	1
1,1-Dichloroethene	< 1	1
cis-1,2-Dichloroethene	< 1	1
trans-1,2-Dichloroethene	< 1	1
1,2-Dichloropropane	< 1	1
cis-1,3-Dichloropropene	< 1	1
trans-1,3-Dichloropropene	< 1	1
Ethyl t-butyl ether	< 1	1
Ethylbenzene	< 1	1
di-Isopropyl ether	< 1	1
Isopropylbenzene	< 5	5
p-Isopropyltoluene	< 5	5
Methyl Tertiary Butyl Ether	< 1	1
Methylene Chloride	< 4	4
Naphthalene	< 5	5
n-Propylbenzene	< 5	5
1,1,2,2-Tetrachloroethane	< 1	1
Tetrachloroethene	< 1	1
Toluene	< 1	1
1,1,1-Trichloroethane	< 1	1
1,1,2-Trichloroethane	< 1	1
Trichloroethene	< 1	1
Trichlorofluoromethane	< 1	1
1,2,4-Trimethylbenzene	< 5	5
1,3,5-Trimethylbenzene	< 5	5
Vinyl Chloride	< 1	1
Xylene (Total)	< 1	1
Batch number: N163581AA	Sample number(s): 8751348	
t-Amyl methyl ether	< 1	1
Benzene	< 1	1
t-Butyl alcohol	< 20	20
Ethanol	< 250	250
Ethyl t-butyl ether	< 1	1
Ethylbenzene	< 1	1
di-Isopropyl ether	< 1	1
Methyl Tertiary Butyl Ether	< 1	1
Toluene	< 1	1
Xylene (Total)	< 1	1
Batch number: N163591AA	Sample number(s): 8751349-8751350	
t-Amyl methyl ether	< 1	1
Benzene	< 1	1
t-Butyl alcohol	< 20	20

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Quality Control Summary

Client Name: Kleinfelder
Reported: 12/30/2016 18:51

Group Number: 1745942

Method Blank (continued)

Analysis Name	Result ug/l	LOQ ug/l
Ethanol	< 250	250
Ethyl t-butyl ether	< 1	1
Ethylbenzene	< 1	1
di-Isopropyl ether	< 1	1
Methyl Tertiary Butyl Ether	< 1	1
Toluene	< 1	1
Xylene (Total)	< 1	1
Batch number: W163581AA	Sample number(s): 8751335-8751340,8751343-8751345,8751357-8751358	
t-Amyl methyl ether	< 1	1
Benzene	< 1	1
t-Butyl alcohol	< 20	20
Ethyl t-butyl ether	< 1	1
Ethylbenzene	< 1	1
di-Isopropyl ether	< 1	1
Methyl Tertiary Butyl Ether	< 1	1
Toluene	< 1	1
Xylene (Total)	< 1	1
Batch number: W163591AA	Sample number(s): 8751340-8751342	
t-Amyl methyl ether	< 1	1
Benzene	< 1	1
t-Butyl alcohol	< 20	20
Ethyl t-butyl ether	< 1	1
Ethylbenzene	< 1	1
di-Isopropyl ether	< 1	1
Methyl Tertiary Butyl Ether	< 1	1
Toluene	< 1	1
Xylene (Total)	< 1	1
Batch number: W163631AA	Sample number(s): 8751351	
t-Amyl methyl ether	< 1	1
Benzene	< 1	1
t-Butyl alcohol	< 20	20
Ethyl t-butyl ether	< 1	1
Ethylbenzene	< 1	1
di-Isopropyl ether	< 1	1
Methyl Tertiary Butyl Ether	< 1	1
Toluene	< 1	1
Xylene (Total)	< 1	1

LCS/LCSD

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
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Quality Control Summary

Client Name: Kleinfelder
Reported: 12/30/2016 18:51

Group Number: 1745942

LCS/LCSD

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 4163641AA	Sample number(s): 8751346-8751347,8751352-8751353								
t-Amyl methyl ether	20	18.23	20	18.01	91	90	67-120	1	30
Benzene	20	20.38	20	19.52	102	98	78-120	4	30
t-Butyl alcohol	200	213.81	200	196.45	107	98	70-128	8	30
Ethanol	500	476.51	500	502.38	95	100	47-155	5	30
Ethyl t-butyl ether	20	18.21	20	17.96	91	90	69-120	1	30
Ethylbenzene	20	20.84	20	19.83	104	99	78-120	5	30
di-Isopropyl ether	20	19.01	20	18.58	95	93	70-124	2	30
Methyl Tertiary Butyl Ether	20	19.16	20	18.99	96	95	75-120	1	30
Toluene	20	20.5	20	19.26	103	96	80-120	6	30
Xylene (Total)	60	62.08	60	58.94	103	98	80-120	5	30
Batch number: 4163642AA	Sample number(s): 8751346,8751352								
t-Amyl methyl ether	20	17.8			89		67-120		
Benzene	20	19.18			96		78-120		
t-Butyl alcohol	200	206.46			103		70-128		
Ethanol	500	464.78			93		47-155		
Ethyl t-butyl ether	20	17.97			90		69-120		
Ethylbenzene	20	19.73			99		78-120		
di-Isopropyl ether	20	18.55			93		70-124		
Methyl Tertiary Butyl Ether	20	18.45			92		75-120		
Toluene	20	19.13			96		80-120		
Xylene (Total)	60	58.8			98		80-120		
Batch number: L163581AA	Sample number(s): 8751354-8751356								
Acetone	150	136.52			91		50-168		
Acrolein	150	104.9			70		47-134		
Acrylonitrile	100	95.27			95		62-130		
t-Amyl methyl ether	20	18.92			95		67-120		
Benzene	20	20.68			103		78-120		
Bromodichloromethane	20	19.75			99		80-120		
Bromoform	20	15.25			76		59-120		
Bromomethane	20	20.49			102		55-123		
2-Butanone	150	141.72			94		57-145		
t-Butyl alcohol	200	185.92			93		70-128		
n-Butylbenzene	20	18.29			91		68-120		
sec-Butylbenzene	20	18.73			94		77-120		
Carbon Tetrachloride	20	21.81			109		74-130		
Chlorobenzene	20	19.46			97		80-120		
Chloroethane	20	19.95			100		56-120		
2-Chloroethyl Vinyl Ether	20	16.74			84		65-120		
Chloroform	20	21.16			106		80-120		
Chloromethane	20	20.81			104		59-127		
Dibromochloromethane	20	18			90		78-120		
1,2-Dichlorobenzene	20	19.08			95		80-120		
1,3-Dichlorobenzene	20	18.61			93		80-120		
1,4-Dichlorobenzene	20	18.88			94		80-120		
1,1-Dichloroethane	20	20.79			104		80-120		

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Quality Control Summary

Client Name: Kleinfelder
Reported: 12/30/2016 18:51

Group Number: 1745942

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
1,2-Dichloroethane	20	20.26			101		66-128		
1,1-Dichloroethene	20	20.36			102		76-124		
cis-1,2-Dichloroethene	20	20.97			105		80-120		
trans-1,2-Dichloroethene	20	21.44			107		80-120		
1,2-Dichloropropane	20	20.35			102		80-120		
cis-1,3-Dichloropropene	20	18.41			92		80-120		
trans-1,3-Dichloropropene	20	18.48			92		76-120		
Ethyl t-butyl ether	20	19.09			95		69-120		
Ethylbenzene	20	19.74			99		78-120		
di-Isopropyl ether	20	20.09			100		70-124		
Isopropylbenzene	20	19.96			100		80-120		
p-Isopropyltoluene	20	18.34			92		76-120		
Methyl Tertiary Butyl Ether	20	19.93			100		75-120		
Methylene Chloride	20	20.87			104		80-120		
Naphthalene	20	18.15			91		59-120		
n-Propylbenzene	20	19.62			98		79-121		
1,1,2,2-Tetrachloroethane	20	18.74			94		72-120		
Tetrachloroethene	20	20			100		80-129		
Toluene	20	19.98			100		80-120		
1,1,1-Trichloroethane	20	18.7			93		66-126		
1,1,2-Trichloroethane	20	19.04			95		80-120		
Trichloroethene	20	20.74			104		80-120		
Trichlorofluoromethane	20	20.81			104		67-129		
1,2,4-Trimethylbenzene	20	19.4			97		75-120		
1,3,5-Trimethylbenzene	20	19.37			97		75-120		
Vinyl Chloride	20	20.9			105		63-121		
Xylene (Total)	60	59.75			100		80-120		
Batch number: N163581AA	Sample number(s): 8751348								
t-Amyl methyl ether	20	18.89	20	19.29	94	96	67-120	2	30
Benzene	20	20.11	20	20.39	101	102	78-120	1	30
t-Butyl alcohol	200	206.61	200	210.71	103	105	70-128	2	30
Ethanol	500	536.13	500	498.89	107	100	47-155	7	30
Ethyl t-butyl ether	20	19.08	20	19.29	95	96	69-120	1	30
Ethylbenzene	20	20.41	20	20.71	102	104	78-120	1	30
di-Isopropyl ether	20	19.56	20	19.75	98	99	70-124	1	30
Methyl Tertiary Butyl Ether	20	19.18	20	19.59	96	98	75-120	2	30
Toluene	20	20.2	20	20.45	101	102	80-120	1	30
Xylene (Total)	60	60.64	60	61.78	101	103	80-120	2	30
Batch number: N163591AA	Sample number(s): 8751349-8751350								
t-Amyl methyl ether	20	18.9			94		67-120		
Benzene	20	21.45			107		78-120		
t-Butyl alcohol	200	195.16			98		70-128		
Ethanol	500	508.26			102		47-155		
Ethyl t-butyl ether	20	19.52			98		69-120		
Ethylbenzene	20	20.92			105		78-120		
di-Isopropyl ether	20	20.5			102		70-124		

*- Outside of specification
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Quality Control Summary

Client Name: Kleinfelder
Reported: 12/30/2016 18:51

Group Number: 1745942

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Methyl Tertiary Butyl Ether	20	19.88			99		75-120		
Toluene	20	20.87			104		80-120		
Xylene (Total)	60	61.39			102		80-120		
Batch number: W163581AA	Sample number(s): 8751335-8751340,8751343-8751345,8751357-8751358								
t-Amyl methyl ether	20	17.32			87		67-120		
Benzene	20	20.6			103		78-120		
t-Butyl alcohol	200	199.73			100		70-128		
Ethyl t-butyl ether	20	16.17			81		69-120		
Ethylbenzene	20	20.33			102		78-120		
di-Isopropyl ether	20	14.27			71		70-124		
Methyl Tertiary Butyl Ether	20	18.92			95		75-120		
Toluene	20	21.15			106		80-120		
Xylene (Total)	60	62.84			105		80-120		
Batch number: W163591AA	Sample number(s): 8751340-8751342								
t-Amyl methyl ether	20	17.42			87		67-120		
Benzene	20	20.59			103		78-120		
t-Butyl alcohol	200	198.27			99		70-128		
Ethyl t-butyl ether	20	16.01			80		69-120		
Ethylbenzene	20	20.49			102		78-120		
di-Isopropyl ether	20	13.95			70		70-124		
Methyl Tertiary Butyl Ether	20	18.55			93		75-120		
Toluene	20	20.82			104		80-120		
Xylene (Total)	60	63.3			105		80-120		
Batch number: W163631AA	Sample number(s): 8751351								
t-Amyl methyl ether	20	19.52	20	19.16	98	96	67-120	2	30
Benzene	20	21.21	20	20.85	106	104	78-120	2	30
t-Butyl alcohol	200	187.35	200	199.84	94	100	70-128	6	30
Ethyl t-butyl ether	20	20.27	20	19.33	101	97	69-120	5	30
Ethylbenzene	20	21.24	20	21.66	106	108	78-120	2	30
di-Isopropyl ether	20	18.56	20	18.03	93	90	70-124	3	30
Methyl Tertiary Butyl Ether	20	21.25	20	21.07	106	105	75-120	1	30
Toluene	20	21.66	20	21.63	108	108	80-120	0	30
Xylene (Total)	60	63.27	60	63.92	105	107	80-120	1	30

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 4163642AA	Sample number(s): 8751346,8751352 UNSPK: P757976									

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(2) The unspiked result was more than four times the spike added.
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Quality Control Summary

Client Name: Kleinfelder
Reported: 12/30/2016 18:51

Group Number: 1745942

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
t-Amyl methyl ether	< 1	20	17.33	20	18.3	87	92	67-120	5	30
Benzene	< 1	20	20.51	20	20.87	103	104	78-120	2	30
t-Butyl alcohol	< 20	200	207.79	200	199.55	104	100	70-128	4	30
Ethanol	141.28	500	517.88	500	507.24	75	73	47-155	2	30
Ethyl t-butyl ether	< 1	20	17.5	20	17.94	87	90	69-120	3	30
Ethylbenzene	< 1	20	20.67	20	20.85	103	104	78-120	1	30
di-Isopropyl ether	< 1	20	18.24	20	18.96	91	95	70-124	4	30
Methyl Tertiary Butyl Ether	< 1	20	18.77	20	19.29	94	96	75-120	3	30
Toluene	< 1	20	20.3	20	20.64	101	103	80-120	2	30
Xylene (Total)	< 1	60	61.46	60	62.41	102	104	80-120	2	30
Batch number: L163581AA	Sample number(s): 8751354-8751356 UNSPK: P757526									
Acetone	< 20	150	156.3	150	137.78	104	92	50-168	13	30
Acrolein	< 100	150	112.13	150	122.5	75	82	47-134	9	30
Acrylonitrile	< 20	100	97.01	100	95.61	97	96	62-130	1	30
t-Amyl methyl ether	< 1	20	19.37	20	19.25	97	96	67-120	1	30
Benzene	< 1	20	22.71	20	22.04	114	110	78-120	3	30
Bromodichloromethane	< 1	20	21.28	20	20.46	106	102	80-120	4	30
Bromoform	< 4	20	15.35	20	15.24	77	76	59-120	1	30
Bromomethane	< 1	20	22.64	20	21.89	113	109	55-123	3	30
2-Butanone	< 10	150	144.41	150	142.27	96	95	57-145	1	30
t-Butyl alcohol	< 20	200	190.75	200	183.74	95	92	70-128	4	30
n-Butylbenzene	< 5	20	20.59	20	20.27	103	101	68-120	2	30
sec-Butylbenzene	< 5	20	20.4	20	20.32	102	102	77-120	0	30
Carbon Tetrachloride	43.94	20	69.43	20	67.78	127	119	74-130	2	30
Chlorobenzene	< 1	20	20.95	20	20.99	105	105	80-120	0	30
Chloroethane	< 1	20	22.18	20	21.59	111	108	56-120	3	30
2-Chloroethyl Vinyl Ether	< 10	20	< 10	20	< 10	0*	0*	65-120	0	30
Chloroform	32.64	20	56.34	20	55.09	119	112	80-120	2	30
Chloromethane	< 1	20	22.95	20	23.25	115	116	59-127	1	30
Dibromochloromethane	< 1	20	18.45	20	18.47	92	92	78-120	0	30
1,2-Dichlorobenzene	< 5	20	20.2	20	20.24	101	101	80-120	0	30
1,3-Dichlorobenzene	< 5	20	19.6	20	19.64	98	98	80-120	0	30
1,4-Dichlorobenzene	< 5	20	19.91	20	20.13	100	101	80-120	1	30
1,1-Dichloroethane	4.34	20	27.23	20	26.63	114	111	80-120	2	30
1,2-Dichloroethane	< 1	20	22.12	20	21.04	111	105	66-128	5	30
1,1-Dichloroethene	6.85	20	31.36	20	30.55	123	118	76-124	3	30
cis-1,2-Dichloroethene	4.53	20	27.38	20	26.99	114	112	80-120	1	30
trans-1,2-Dichloroethene	< 1	20	23.74	20	23.13	119	116	80-120	3	30
1,2-Dichloropropane	< 1	20	21.8	20	21.35	109	107	80-120	2	30
cis-1,3-Dichloropropene	< 1	20	18.88	20	18.69	94	93	80-120	1	30
trans-1,3-Dichloropropene	< 1	20	18.92	20	19.18	95	96	76-120	1	30
Ethyl t-butyl ether	< 1	20	19.51	20	19.58	98	98	69-120	0	30
Ethylbenzene	< 1	20	21.46	20	21.61	107	108	78-120	1	30
di-Isopropyl ether	< 1	20	20.86	20	20.88	104	104	70-124	0	30
Isopropylbenzene	< 5	20	21.38	20	21.46	107	107	80-120	0	30

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Quality Control Summary

Client Name: Kleinfelder
Reported: 12/30/2016 18:51

Group Number: 1745942

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
p-Isopropyltoluene	< 5	20	19.68	20	19.91	98	100	76-120	1	30
Methyl Tertiary Butyl Ether	< 1	20	20.02	20	20.06	100	100	75-120	0	30
Methylene Chloride	< 4	20	22.47	20	21.71	112	109	80-120	3	30
Naphthalene	< 5	20	18.55	20	18.91	93	95	59-120	2	30
n-Propylbenzene	< 5	20	21.17	20	21.56	106	108	79-121	2	30
1,1,2,2-Tetrachloroethane	< 1	20	19.38	20	19.34	97	97	72-120	0	30
Tetrachloroethene	15.24	20	37.74	20	37.81	113	113	80-129	0	30
Toluene	< 1	20	21.82	20	21.76	109	109	80-120	0	30
1,1,1-Trichloroethane	< 1	20	20.98	20	20.12	105	101	66-126	4	30
1,1,2-Trichloroethane	< 1	20	19.98	20	19.62	100	98	80-120	2	30
Trichloroethene	14.03	20	37.74	20	37.41	119	117	80-120	1	30
Trichlorofluoromethane	< 1	20	25.14	20	23.71	126	119	67-129	6	30
1,2,4-Trimethylbenzene	< 5	20	20.77	20	20.64	104	103	75-120	1	30
1,3,5-Trimethylbenzene	< 5	20	20.83	20	20.89	104	104	75-120	0	30
Vinyl Chloride	< 1	20	23.66	20	23.79	118	119	63-121	1	30
Xylene (Total)	< 1	60	63.75	60	64.07	106	107	80-120	1	30
Batch number: N163591AA	Sample number(s): 8751349-8751350 UNSPK: P750449									
t-Amyl methyl ether	< 1	20	18.99	20	19.94	95	100	67-120	5	30
Benzene	1.52	20	23.24	20	23.97	109	112	78-120	3	30
t-Butyl alcohol	< 20	200	191.5	200	203.79	96	102	70-128	6	30
Ethanol	< 250	500	526.21	500	542.07	105	108	47-155	3	30
Ethyl t-butyl ether	< 1	20	19.68	20	20.61	98	103	69-120	5	30
Ethylbenzene	1.31	20	22.82	20	23.81	108	112	78-120	4	30
di-Isopropyl ether	< 1	20	20.47	20	21.25	102	106	70-124	4	30
Methyl Tertiary Butyl Ether	< 1	20	19.68	20	20.55	98	103	75-120	4	30
Toluene	< 1	20	20.95	20	22.01	105	110	80-120	5	30
Xylene (Total)	< 1	60	62.73	60	65.55	105	109	80-120	4	30
Batch number: W163581AA	Sample number(s): 8751335-8751340,8751343-8751345,8751357-8751358 UNSPK: 8751357									
t-Amyl methyl ether	< 1	20	18.01	20	17.63	90	88	67-120	2	30
Benzene	< 1	20	22.36	20	22.1	112	110	78-120	1	30
t-Butyl alcohol	< 20	200	192.27	200	176.9	96	88	70-128	8	30
Ethyl t-butyl ether	< 1	20	16.67	20	17.1	83	86	69-120	3	30
Ethylbenzene	< 1	20	21.54	20	21.29	108	106	78-120	1	30
di-Isopropyl ether	< 1	20	14.86	20	14.83	74	74	70-124	0	30
Methyl Tertiary Butyl Ether	0.608	20	20.23	20	19.82	98	96	75-120	2	30
Toluene	< 1	20	22.17	20	21.98	111	110	80-120	1	30
Xylene (Total)	< 1	60	66.07	60	64.37	110	107	80-120	3	30
Batch number: W163591AA	Sample number(s): 8751340-8751342 UNSPK: P752238									
t-Amyl methyl ether	< 1	20	17.76	20	18.52	89	93	67-120	4	30
Benzene	1.39	20	23.05	20	23.86	108	112	78-120	3	30
t-Butyl alcohol	5.58	200	199.68	200	203.1	97	99	70-128	2	30
Ethyl t-butyl ether	< 1	20	16.53	20	17.43	83	87	69-120	5	30
Ethylbenzene	< 1	20	21.97	20	22.39	110	112	78-120	2	30
di-Isopropyl ether	< 1	20	14.37	20	15.17	72	76	70-124	5	30

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Kleinfelder
Reported: 12/30/2016 18:51

Group Number: 1745942

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Methyl Tertiary Butyl Ether	< 1	20	19.14	20	20.11	96	101	75-120	5	30
Toluene	< 1	20	22.21	20	23.03	111	115	80-120	4	30
Xylene (Total)	0.548	60	68.18	60	69.41	113	115	80-120	2	30

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: BTEX + 5 Oxys + EtOH
Batch number: 4163641AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8751346	100	101	100	98
8751347	103	101	100	98
8751353	104	103	99	98
Blank	106	100	101	97
LCS	102	101	101	103
LCSD	102	101	99	104
Limits:	80-116	77-113	80-113	78-113

Analysis Name: BTEX + 5 Oxys + EtOH
Batch number: 4163642AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8751352	103	101	100	98
Blank	104	102	101	97
LCS	102	102	101	101
MS	104	102	100	101
MSD	103	101	100	100
Limits:	80-116	77-113	80-113	78-113

Analysis Name: VOCs 8260 Kleinfelder Full
Batch number: L163581AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8751354	103	98	98	98
8751355	104	102	96	97
8751356	105	104	97	97
Blank	103	101	99	99
LCS	103	103	100	102
MS	104	101	99	101
MSD	101	100	100	100

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Kleinfelder
Reported: 12/30/2016 18:51

Group Number: 1745942

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: VOCs 8260 Kleinfelder Full
Batch number: L163581AA

Limits:	80-116	77-113	80-113	78-113

Analysis Name: BTEX + 5 Oxys + EtOH
Batch number: N163581AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8751348	102	102	99	97
Blank	102	101	99	97
LCS	101	103	100	100
LCSD	101	100	100	98
Limits:	80-116	77-113	80-113	78-113

Analysis Name: BTEX + 5 Oxys + EtOH
Batch number: N163591AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8751349	102	100	98	98
8751350	102	101	98	98
Blank	104	104	99	96
LCS	103	101	101	101
MS	102	105	100	100
MSD	102	101	100	100
Limits:	80-116	77-113	80-113	78-113

Analysis Name: BTEX + 5 Oxys
Batch number: W163581AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8751335	98	101	94	79
8751336	100	99	93	79
8751337	96	102	95	82
8751338	97	103	93	80
8751339	100	101	93	81
8751340	100	104	94	79
8751343	99	104	94	80
8751344	100	104	95	79
8751345	98	101	95	82
8751357	96	103	95	81
8751358	99	102	94	81
Blank	98	101	95	83
LCS	97	102	97	93
MS	99	105	96	92
MSD	99	103	96	91
Limits:	80-116	77-113	80-113	78-113

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Kleinfelder
Reported: 12/30/2016 18:51

Group Number: 1745942

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: BTEX + 5 Oxys
Batch number: W163591AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8751341	96	99	96	79
8751342	98	100	95	79
Blank	100	100	95	80
LCS	99	108	98	90
MS	99	100	98	91
MSD	99	101	98	91
Limits:	80-116	77-113	80-113	78-113

Analysis Name: BTEX + 5 Oxys
Batch number: W163631AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8751351	100	94	101	88
Blank	98	100	101	87
LCS	105	100	100	95
LCSD	102	98	102	97
Limits:	80-116	77-113	80-113	78-113

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Lancaster Laboratories

Analysis Request/Environmental Services Chain of Custody

For Lancaster Laboratories use only Acct. #: 12152
Group #: _____ Sample #: 6751335-58
1745942

1-3

Client:	Fairfax Petroleum	Acct. #:	
Project Name/#:	26140	PWSID #:	
Project Manager:	Mark C. Steele	P.O. #:	51141-318064
Sampler:	Evan McMullen	Quote #:	
Name of State where samples were collected:	Virginia		

For Lab Use Only
FSC:
SCR#:

Preservation Codes
H=HCl T=Thiosulfate
N=HNO3 B=NaOH
S=H2SO4 O=Other

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Water (Potable / NPDES)	Matrix: Other	Total # of Containers	Analyses Requested / Preservation Codes: BTEX + Oxygenates (TBA, TAME, DIPE, MTBE) H									Remarks	Temperature of samples upon receipt (if requested)
MW-17D (75)	12/13/16	0840	X			X		3	X										
MW-17D (81)		0930	X			X		3	X										
MW-17D (87.75)		1030	X			X		3	X										
MW-17D (92)		1130	X			X		3	X										
MW-17D (117)		1245	X			X		3	X										
MW-17D (129.75)		1355	X			X		3	X										
MW-17D (147)		1500	X			X		3	X										
MW-20D (73-83)		14:40	X			X		3	X										
MW-20D (90-100)		13:30	X			X		3	X										
MW-20D (132-142)		12:30	X			X		3	X										

Turnaround Time Requested (TAT) (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed: _____
Rush results requested by (please circle): Phone Fax E-mail
Phone #: _____ Fax #: _____
E-mail address:

Data Package Options (please circle if required)
Type I (validation/NJ reg) TX-TRRP-13
Type II (Tier II) MA MCP CT RCP
Type III (Reduced NJ)
Type IV (CLP SOW)
Type VI (Raw Data Only)

SDG Complete? Yes No

State-specific QC (MS/MSD/Dup)? Yes No
(If yes, indicated QC sample and submit triplicate volume)
Internal COC required? Yes No

Relinquished by:	Date	Time	Received by:	Date	Time
[illegible]	12/15/16	1340	cooler room	12/15	1340
[illegible]	12/16/16	14:32	[illegible]	12/16/16	14:32
[illegible]	12/16/16	19:45			
			[illegible]	12/16/16	19:45

Lancaster Laboratories, Inc. 2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 717-656-2300
Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client

Lancaster Laboratories

Analysis Request/Environmental Services Chain of Custody

For Lancaster Laboratories use only Acct. #: 12152
Group #: 1745942 Sample #: 875135-58

13

Client:	Fairfax Petroleum	Acct. #:	
Project Name/#:	26140	PWSID #:	
Project Manager:	Mark C. Steele	P.O. #:	51141-318064
Sampler:	Evan McMullen	Quote #:	
Name of State where samples were collected:	Virginia		

For Lab Use Only
FSC:
SCR#:

Preservation Codes
H=HCl T=Thiosulfate
N=HNO3 B=NaOH
S=H2SO4 O=Other

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Water (Potable / NPDES)	Matrix: Other	Total # of Containers	BTEX + Oxygenates (TBA, TAME, DIPE, MTBE) H	BTEX + Oxygenates (TBA, TAME, DIPE, MTBE), EtOH H								Remarks	Temperature of samples upon receipt (if requested)
PW-1	12/14/16	14:15	X			X		3	X										
W-1	12/15/16	1130	X			X		3		X									
W-2	12/15/16	0905	X			X		3		X									
W-6	12/14/16	1140	X			X		3		X									
W-7	12/14/16	1058	X			X		3		X									

Turnaround Time Requested (TAT) (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed:
Rush results requested by (please circle): Phone Fax E-mail
Phone #: Fax #:
E-mail address:

Data Package Options (please circle if required)
Type I (validation/NJ reg) TX-TRRP-13
Type II (Tier II) MA MCP CT RCP
Type III (Reduced NJ)
Type IV (CLP SOW)
Type VI (Raw Data Only)

SDG Complete? Yes No

State-specific QC (MS/MSD/Dup)? Yes No
(If yes, indicated QC sample and submit triplicate volume)
Internal COC required? Yes No

Relinquished by:	Date	Time	Received by:	Date	Time
E.M.M.	12/15/16	1340	cooler room	12/15	1340
[illegible]	12/16/16	1432	[illegible]	12/16/16	14:32
[illegible]	12/16/16	19:45			
			[illegible]	12/16	19:45

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Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client

16

Lancaster Laboratories

Analysis Request/Environmental Services Chain of Custody

For Lancaster Laboratories use only Acct. #: 12152
Group #: _____ Sample #: 675133 5-58
1745942

1 → 3

Client:	Fairfax Petroleum	Acct. #:	
Project Name/#:	26140	PWSID #:	
Project Manager:	Mark C. Steele	P.O. #:	51141-318064
Sampler:	Evan McMullen	Quote #:	
Name of State where samples were collected:	Virginia		

For Lab Use Only
FSC:
SCR#:

Preservation Codes: H=HCl T=Thiosulfate N=HNO3 B=NaOH S=H2SO4 O=Other

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Water (Potable / NPDES)	Matrix: Other	Total # of Containers	BTEX + Oxygenates (TBA, TAME, DIPE, MTBE) H	BTEX + Oxygenates (TBA, TAME, DIPE, MTBE), EtOH	Full List VOCs	Remarks	Temperature of samples upon receipt (if requested)
MW-7	12/14/16	1325	X			X		3	X				
MW-15	12/15/16	0812	X			X		3	X				
MW-21S	12/15/16	1010	X			X		3		X			
MW-21I	12/15/16	1048	X			X		3		X			
MW-23D	12/14/16	0745	X			X		3			X		
MW-24	12/14/16	0712	X			X		3			X		
MW-25D (90)	12/14/16	0850	X			X		3			X		
MW-27S	12/14/16	1015	X			X		3	X				
MW-27I	12/14/16	0940	X			X		3	X				

Turnaround Time Requested (TAT) (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed: _____
Rush results requested by (please circle): Phone Fax E-mail
Phone #: _____ Fax #: _____
E-mail address:

Data Package Options (please circle if required)
Type I (validation/NJ reg) TX-TRRP-13
Type II (Tier II) MA MCP CT RCP
Type III (Reduced NJ)
Type IV (CLP SOW)
Type VI (Raw Data Only)

SDG Complete? Yes No

State-specific QC (MS/MSD/Dup)? Yes No
(If yes, indicated QC sample and submit triplicate volume)
Internal COC required? Yes No

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	12/15/16	1340	cooler room	12/15	1340
[signature]	12/16/16	14:32	[signature]	12/16/16	14:32
[signature]	12/16/16	19:45			
			[signature]	12/16/16	19:45

Lancaster Laboratories, Inc. 2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 717-656-2300
Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client

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Sample Administration Receipt Documentation Log

Doc Log ID: 171131

Group Number(s): 1745942

Client: Kleinfelder

Fairfax Petroleum

Delivery and Receipt Information

Delivery Method:	ELLE Courier	Arrival Timestamp:	12/16/2016 19:45
Number of Packages:	1	Number of Projects:	1
State/Province of Origin:	VA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	0
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by William Richardson (12178) at 21:43 on 12/16/2016

Samples Chilled Details: Fairfax Petroleum

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT146	1.9	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425
T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	none detected
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

< less than

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…
W - The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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APPENDIX C

Final Certification Report for Sub-Slab Venting and Barrier System

LAND STRATEGIES, INC.

October 17, 2016

Weatherseal Construction, Inc.
1589 Sulphur Spring Rd, #110
Halethorpe, MD 21227

Attention: Mr. Richard Stone, Project Manager

Subject: **Final Certification Report for Sub-Slab Venting and Barrier System**, TD Bank, 9901 Georgetown Pike, Great Falls, Virginia

Reference: LSI Project No. 15-WCI.002

Dear Mr. Stone:

Based upon observations made by Land Strategies, Inc. (LSI) during construction, I hereby certify that the foundation vapor venting and barrier system has been successfully installed in conjunction with construction of the TD Bank located at 9901 Georgetown Pike in Great Falls, Virginia. The system was installed under contract by Weatherseal Construction, Inc. (WCI) in accordance with the design specifications developed by LSI and product manufacturer specifications (EPRO Services, Inc. [EPRO]). It should be noted that this report only addresses the vapor barrier and sub-slab venting portions of the system. The above-slab portion of the system (i.e., vertical vent stack to the roof and wind-powered turbine fan connected to the stacks) will be installed by the General Contractor (GC). LSI and GC design specifications relied upon during installation of the vapor venting system and barrier included the following:

- Sub-Slab Venting and Barrier System Design, Proposed TD Bank, 9901 Georgetown Pike, Great Falls, Virginia, prepared by LSI, dated September 16, 2016.
- EPRO System III MB Moisture/Gas Barrier, EPRO ECOVENT vent piping, and wind-driven turbine exhaust fan manufacturer product specifications.

Copies of the referenced LSI design and EPRO product specifications are included as Appendix A.

The vapor venting and barrier system was installed between October 13 and 14, 2016 by WCI, a certified EPRO applicator. The vapor venting and barrier system was installed according to LSI design specifications. It should be noted that the venting system design was modified slightly to avoid conflicts with sub-slab utilities. None of the modifications are expected to impact the effectiveness of the system. An as-built drawing of the final system is included as Appendix B. All of the installation procedures complied with EPRO specifications.

Proper installation of the vapor venting and barrier system were confirmed through visual observations, measurement of spray-on barrier layer thickness, and smoke testing witnessed by LSI staff certified by EPRO to perform inspections and to certify proper installation.

26037 SPRINGDALE DRIVE ▪ SOUTH RIDING, VA 20152 ▪ OFFICE (703) 542-2491 ▪ FAX (703) 542-2492

Photographs taken during installation of the vapor venting and barrier system are included as Appendix C.

Operation and maintenance recommendations for the system are provided as Appendix D.

It was a pleasure working with WCI on this project. If you have any questions, please do not hesitate to contact me at (703) 608-5969.

Sincerely,

Michael A. Bruzzesi, CPG
Project Manager

Enclosures

Appendix A. LSI Design and EPRO Product Specifications
Appendix B. As-Built Sub-Slab Vapor Venting and Barrier System
Appendix C. Photographs
Appendix D. Operation and Maintenance Recommendations

APPENDIX A

LSI DESIGN AND EPRO PRODUCT SPECIFICATIONS

LAND STRATEGIES, INC.

16 September 2016

Weatherseal Construction, Inc.
1589 Sulphur Spring Rd, #110
Halethorpe, MD 21227

Attention: Mr. Richard Stone, Project Manager

Subject: **Sub-Slab Venting and Barrier System Design**, Proposed TD Bank, 9901 Georgetown Pike, Great Falls, Virginia

Reference: LSI Project No. 15-WCI.002

Dear Mr. Stone:

Land Strategies, Inc. (LSI) is pleased to provide this sub-slab venting and barrier system design for the Proposed TD Bank to be constructed at 9901 Georgetown Pike in Great Falls, Virginia. The system was designed by a Certified Professional Geologist (CPG) with extensive experience designing and installing similar-type systems. The system was designed based on project information provided by Weatherseal Construction, Inc. (WCI). Project information included the following:

- Geotechnical Engineering and Exploration Analysis Report, prepared by Giles Engineering Consultants, Inc. (GEC), dated 26 March 2012.
- Limited Phase II Environmental Site Assessment Report (Phase II), prepared by GEC, dated 10 April 2012.
- Design Drawings, prepared by Bergmann Associates, dated 27 October 2014.

At the request of WCI, the type of barrier specified for the project is manufactured by EPRO Services, Inc. (EPRO). It is LSI's understanding that a vapor venting and barrier system was required for the proposed TD Bank building because the property was formerly occupied by a Exxon gasoline station and service center (Exxon Station) and past operations associated with the Exxon station have resulted in impact to soil and groundwater underlying the property. The project background and proposed design are discussed below.

BACKGROUND

Based on information provided in the Phase II, the property was developed into an Exxon gasoline filling station in 1969 and was operating as a filling station and service center at the time of the Phase II. The station utilized several gasoline underground storage tanks (USTs) and two pump islands for the distribution of gasoline. The USTs and/or associated distribution piping and dispensers were removed sometime after the Phase II was completed. The UST system and associated piping were reportedly upgraded in 1995. Samples of soil collected for laboratory analysis during the upgrading process did not contain petroleum constituents. In August 2009, petroleum-impacted groundwater was identified in the property's potable well and

the impacts were reported to the Commonwealth of Virginia Department of Environmental Quality. Alternate water supplies were provided to the property and several surrounding properties also affected by the release of petroleum. It should be noted that chlorinated solvents were also detected in some of the wells and have been detected across a wide area near Georgetown Pike and Walker Road.

Numerous assessments conducted to evaluate soil and groundwater quality following discovery of the release identified impacted media across much of the property. GEA conducted a Phase II at the property in March 2012 in conjunction with a geotechnical assessment. The Phase II was conducted to assess soil quality within the footprint of the proposed TD Bank building. During the Phase II, GEA noted impacted soil underlying the proposed building footprint. Soil underlying the property was comprised of silts and clays with little sand. Shallow groundwater was not encountered during the assessment, and based on the findings of past studies, is present at depths greater than 20 feet below ground surface. Based on the findings of Phase II, GEA recommended the following:

- A vapor mitigation system be considered for the proposed TD Bank building to reduce the potential of exposure to petroleum vapors in soil underlying the property.
- Impacted soil encountered during site development be properly managed and disposed.

Based on the recommendations provided in the Phase II, LSI was contracted to design and document the installation of a vapor mitigation system. Proper management and disposal of soil and UST system will be conducted by others. LSI understands that all tanks and associated fuel piping will be removed from the property in advance of development. We also understand that grossly-impacted soil underlying the proposed footprint of the TD Bank building will also be removed in conjunction with removal of the tanks and fuel piping.

TD BANK BUILDING

The TD Bank building will be an approximately 2,800 square feet, 1-story, slab-on-grade, steel, brick, glass, and concrete structure, with associated slab-on-grade asphalt parking lot and landscaped areas. The building will be constructed on a concrete-poured foundation, resting on poured concrete footers. Based on groundwater measurement data obtained at the property, the building slab and footings will be installed at depths well above the soil/groundwater interface (water table, situated at depths greater than 20 feet).

SUB-SLAB VENTING AND BARRIER SYSTEM DESIGN

To minimize the potential for petroleum vapors to migrate into the proposed TD Bank building, LSI recommends that a passive, sub-slab depressurization system and vapor barrier durable and resistant to petroleum and chlorinated solvent constituents be incorporated into the building design.

The sub-slab depressurization system should consist of a series of horizontal vent piping (1-inch tall by 12-inch wide recommended) placed within the gravel sub-base (minimum of 4-inch thickness) underlying the building slab. The proposed vent piping layout is included as Attachment 1. The vent piping should be connected to a single 4-inch diameter vertical vent stack leading to the roof of the building. The vent stack should extend to a minimum height 3 feet above the roof surface and be fitted with a 10-inch diameter, galvanized or stainless steel, wind-powered turbine fan. The stack should be located at least 15 feet away from any fresh air intake and potential obstructions (e.g., parapet walls). The stack can be comprised of Schedule 40 polyvinyl chloride (PVC) assuming it will be located within a wall or be protected from potential damage. If the stack will be located within an open area where it could get easily damaged, it should be constructed of cast iron or steel. The vent stack piping should be clearly labelled as follows "Vapor Mitigation Piping – Do Not Disturb or Damage" to indicate it is vapor piping. All connections between the vent stack and exhaust fan should be hard-piped. Material specifications recommended are detailed below:

- **Vent Piping** – ECOVENT, 1-inch by 12-inch or comparable (see specifications included as Attachment 2).
- **Vent Stack to Roof** – Schedule 40 PVC or cast iron or steel if warranted.
- **10-Inch Wind-Driven Turbine Exhaust Fan** – McMaster-Carr, Item No. 199247, Type 304, stainless steel, 305 cubic feet per minute (CFM) or comparable (see specifications included as Attachment 3).

It should be noted that the recommended system design can easily and readily be converted into an active system should it be warranted. Conversion into an active system would entail the addition of an electric-powered, explosion-proof, continuously operating exhaust fan.

As specified by WCI, the vapor barrier will consist of an EPRO System III MB Moisture/Gas Barrier. This barrier is comprised of a water-based polymer modified asphalt (PMA) membrane sandwiched between two high density polyethylene (HDPE) and polypropylene fabric laminate sheets. The PMA is spray-applied. The system components include:

- **Ecoshield-P** – base layer comprised of HDPE film laminated with a nonwoven polypropylene fabric geo-membrane.
- **Ecoshield-S** – spray-applied PMA measuring a minimum of 60 mil in thickness.
- **Ecoshield-PP** – top layer same as Ecoshield-P with the addition of micro-perforations.

The barrier has excellent strength and durability, has exceptional chemical resistance, is seamless with all penetrations and overlaps sealed (by the PMA), and is fully bonded to the overlying slab (geotextile surface of barrier mechanically interlocks with concrete slab). EPRO product information, specifications, and installation details are included as Attachment 4.

It should be noted that field adjustments to the vent piping configuration are often required to accommodate sub-slab utility lines and foundation features. All adjustments should be approved by the designing CPG.

CERTIFICATION

Proper installation of the vapor venting and barrier system should be confirmed through visual observations, measurement of spray-on barrier layer thickness, and smoke testing witnessed by the LSI CPG that designed the system, and who is also a qualified environmental professional certified by EPRO to perform inspections and to certify proper installation.

REPORTING

Upon successful installation of the vapor venting and barrier system, a Close-Out Report should be prepared by the designing CPG that verifies successful installation and provides operation and maintenance recommendations for the system.

It was a pleasure assisting WCI on this project. If you have any questions, please do not hesitate to contact me at (703) 608-5969.

Sincerely,

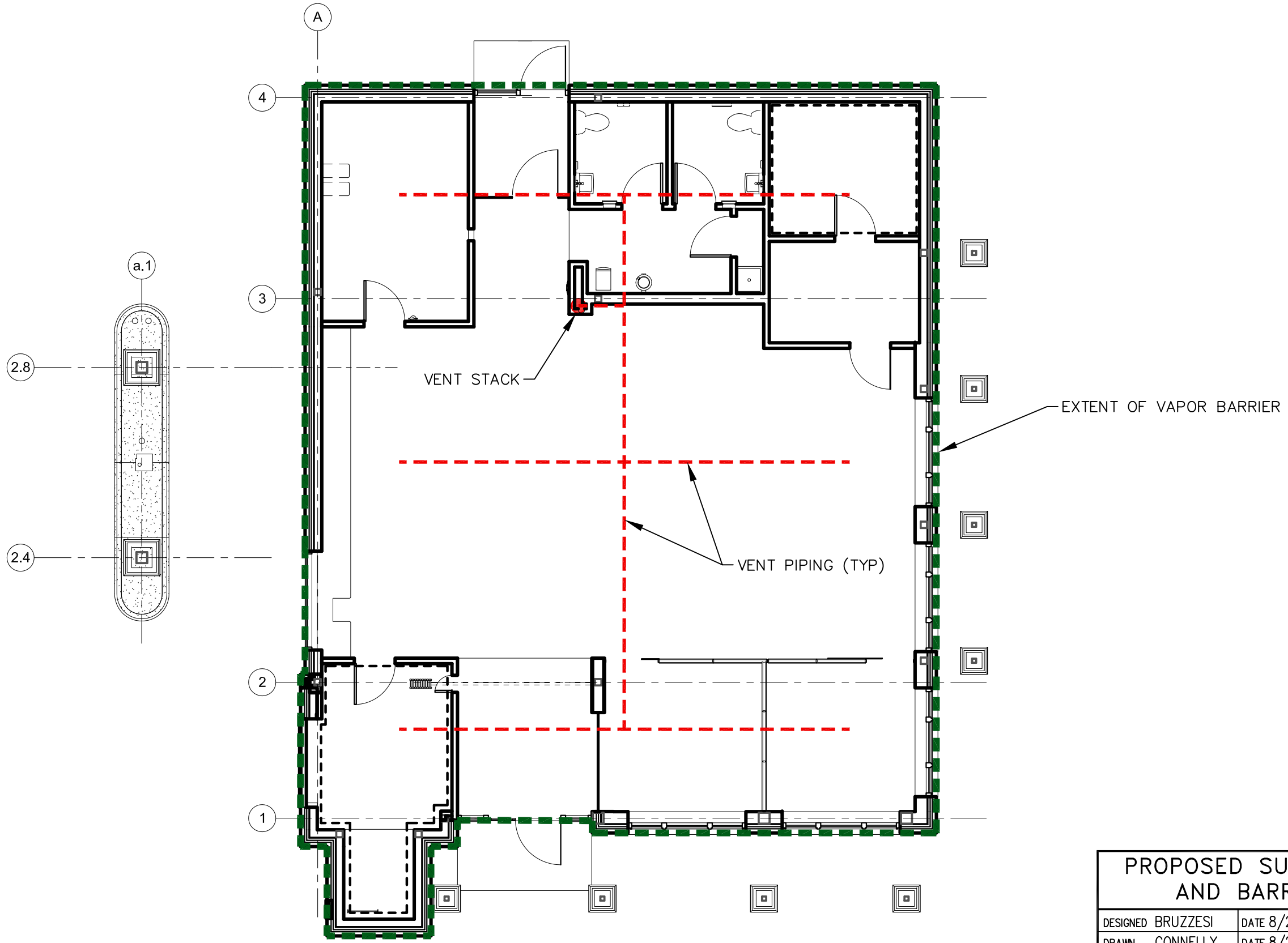
Michael A. Bruzzesi, CPG
Project Manager

Enclosures

Attachment 1. Proposed Sub-Slab Vapor Venting and Barrier System Design
Attachment 2. ECOVENT Specifications
Attachment 3. Wind-Driven Turbine Exhaust Fan Specifications
Attachment 4. EPRO Product Information, Specifications, and Installation Details

ATTACHMENT 1

PROPOSED SUB-SLAB VAPOR VENTING AND BARRIER SYSTEM DESIGN



0 4 8 16
SCALE IN FEET

PROPOSED SUB-SLAB VAPOR VENTING AND BARRIER SYSTEM DESIGN

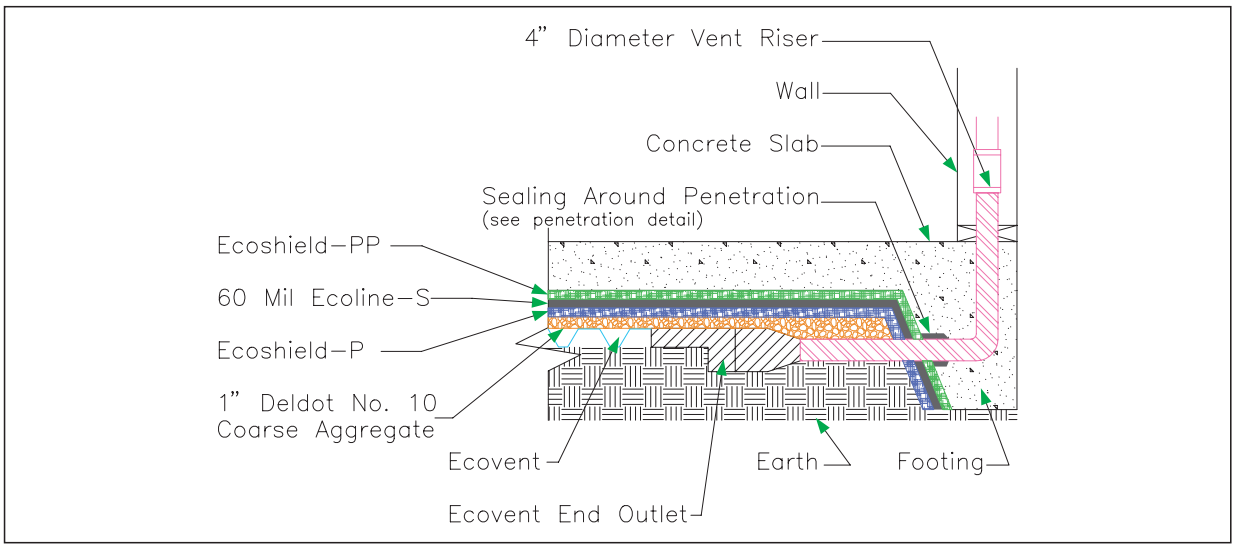
DESIGNED BRUZZESI	DATE 8/24/16	PROPOSED TD BANK GREAT FALLS STORE 9901 GEORGETOWN PIKE GREAT FALLS, VA
DRAWN CONNELLY	DATE 8/24/16	
LAND STRADEGIES, INC. 26037 SPRINGDALE DRIVE SOUTH RIDING, VA 20152		PROJECT NO. 15-WCI.002 / SCALE: AS SHOWN
		DRAWING NO. / FIGURE 1

ATTACHMENT 2

ECOVENT SPECIFICATIONS

ECOVENT - Vent Strip

Economical and Effective Gas Venting System



Economical and Effective Gas Venting System

- Higher flow rate provides better performance.
- Economically priced.
- No pipe or gravel necessary.
- Installation is not hindered by weather conditions.
- Increases overall construction productivity.

DRAIN PROPERTIES	TEST METHOD	ECOVENT - PS	ECOVENT - HE
Compressive Strength	ATSM D-1621	6,000-9,000 lbs/sq. ft.	9,200 lbs/sq. ft.
Shear Strength	ATSM D-1621	6,000-9,500 lbs/sq. ft.	N/A
Peel Strength	ATSM D-1876	38 lbs./ft.	35 lbs./ft.
Fungus Resistance (core)	ATSM G-21	No Growth	No Growth
In-plane flow (Hydraulic gradient-0.1, loading-10 psi)	ATSM D-4716	21 gpm/ft. of width	21 gpm/ft. of width
Unobstructed inflow area Pavement side		85%	85%

FABRIC PROPERTIES	TEST METHOD	ECOVENT- 4.0 oz.	ECOVENT- 4.5 oz.	ECOVENT - HE
Material		Polystyrene	Polystyrene	HDPE
Weight	ATSM D-3776	4.0 oz.	4.5 oz.	4.5 oz.
Grab Tensile Strength	ATSM D-4632	115 lbs.	120 lbs.	120 lbs.
Puncture Strength	ATSM D-3787	70 psi	80 psi	65 psi
Trapezoidal Tear	ATSM D-4533	50 lbs.	60 lbs.	30 lbs.
Mullen Burst Strength	ATSM D-3786	240 psi	270 psi	50 psi
Elongation	ATSM D-4632	50%	50%	50%
EOS (AOS)	ATSM D-4751	80	80	70
Permeability	ATSM D-4491	.20 cm/sec.	.20 cm/sec.	.21 cm/sec.
Flow Rate	ATSM D-4491	170 gpm/ft^2	105 gpm/ft^2	135 gpm/ft^2
UV Stability (500 hours)	ATSM D-4355	85% Retained	85% Retained	70% Retained
Fungus Resistance	ATSM D-G21	No Growth	No Growth	No Growth
Chemical Resistance		N/A	N/A	Excellent

DIMENSIONAL DATA

Thickness	1"
Standard Widths	6", 12", 18", 24", 36"
Roll Length	150 ft. for 6" and 12" widths, 100 ft. for 18", 24" and 36" widths
Roll Diameter	7 ft.
Roll Weight	30, 60, 90, 120 & 180 lbs.

**Q@518 psf & Hydraulic Gradient = 1.0

APPROVALS: NES ... NER569

EPRO SERVICES, INC.
P.O. Box 347
Derby, KS 67037 USA

A World of Difference
epro™
Waterproofing Systems

Phone: 800-882-1896
Fax: 316-262-2529
Web: www.eproserv.com

rev.: ecov.09.19.07

ECOVENT Specifications

1. PRODUCT NAME

ECOVENT

2. MANUFACTURER

EPRO SERVICES, INC.
P.O. Box 347
Derby, KS 67037
PHONE: 800-882-1896
FAX: 316-262-2529

3. PRODUCT DESCRIPTION

Basic Use:
ECOVENT is intended to be installed under the slab and gas barrier of a Brownfield structure to provide for the collection and removal of any gases generated from the chemicals in the soil.

The ECOVENT composite effectively provides a passage either in a passive or active gas collection directing the gases to above-grade monitoring and discharge system.

Composition:
ECOVENT features a lightweight three-dimensional / high flow drainage core either made of HDPE or Polystyrene wrapped with a non-woven filter fabric. The filter fabric allows gases to pass freely into the molded core, while preventing soil particles from entering and clogging the core structure. This allows the gases to move through the flow channels significantly increasing the effectiveness of the Brownfield mitigation system.

Benefits:
Can be installed in almost any weather condition.
Resistant to chemical attack.
Excellent compressive strength prevents collapsing of flow channel.
Fabric ensures uninterrupted flow.

Limitations:
Should not be exposed to long duration of UV.

4. TECHNICAL DATA

Properties: See Chart
Coverage's: See Chart

Specification Writer:
Contact EPRO Services before writing specifications on this project. Test information available upon request.

5. INSTALLATION

Preparation: See specific application guide specifications.

Application: Should be applied in accordance with specific application guide specifications.

Tools: No special tools required for installation.

6. AVAILABILITY AND COST

Contact the local distributor and/or Authorized Applicator for availability and cost.

7. WARRANTY

EPRO warrants this product to be free from defects. EPRO makes no other warranties with respect to this product, express or implied, including without limitation the implies warranties of MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE. EPRO's liability shall be limited in all events to supplying sufficient product to retreat the specific areas to which defective product ahs been applied. EPRO shall have no other liability, including liability for incidental or resultant damages, whether due to breach of warranty or negligence. This warranty may not be modified or extended by representatives of EPRO or its distributors.

8. MAINTENANCE

No maintenance required.

9. TECHNICAL SERVICES AND INFORMATION

Complete technical services and information are available from EPRO Services.

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Waterproofing Systems

ATTACHMENT 3

WIND-DRIVEN TURBINE EXHAUST FAN SPECIFICATIONS

Remove stale air and humidity. All fans have a single-phase, permanently lubricated motor, operate on 120 volts AC, and have leads for hardwiring. They are UL listed. All have a whit damper prevents backdrafts, except 10" dia. duct fan does not have a damper. Fans mount in the ceiling. Styles A & D can also mount in the wall. Mounting fasteners are not included. Styl galvanized steel housing. Styles C & D have a black-painted steel housing.

Style B have a light that can operate alone or share a switch with the fan. Use a screw-in medium base incandescent bulb up to 100 watts (sold separately).

Duct Size	Airflow, cfm	Volume, dB	Grille Size Lg.	Grille Size Wd.	Mounting Size Lg.	Mounting Size Wd.	Dp.	Mounting Hole Dia.		Each
(A) Fans for Round Duct										
3" Dia.	50	48	9 1/4"	9"	7 1/2"	7 1/4"	3 5/8"	1/8"	2213K31	$17.40
3" Dia.	70	54	9 1/4"	9"	7 1/2"	7 1/4"	3 5/8"	1/8"	2213K32	35.45
4" Dia.	80	38	11 1/8"	11 3/8"	8 1/4"	8"	5 3/4"	7/32"	2213K33	65.45
4" Dia.	110	48	11 1/8"	10 5/8"	8 1/4"	8"	5 3/4"	3/16"	2213K1	90.91
(B) Fans for Round Duct with Light										
4" Dia.	50	41	11 1/8"	10 5/8"	8 1/4"	8"	5 3/4"	3/16"	2213K48	46.55
4" Dia.	70	46	11 1/8"	10 5/8"	8 1/4"	8"	5 3/4"	3/16"	2213K56	62.48
4" Dia.	110	48	10"	10"	8 1/2"	8 1/2"	5 3/8"	3/8"	2213K57	91.25
(C) Fans for Round Duct										
8" Dia.	180	55	11 1/2"	11 1/2"	—	8 1/4" Dia.	7"	3/16"	2213K17	65.36
10" Dia.	350	55	13 1/2"	13 1/2"	—	10 1/4" Dia.	7"	3/16"	2213K36	131.15
(D) Fans for Rectangular Duct										
3 1/4" Ht.×10" Wd.	160	51	11 1/2"	11 1/2"	14"	12"	3 1/4"	3/16"	2213K46	119.75
3 1/4" Ht.×10" Wd.	270	58	13 1/2"	13 1/2"	16 3/4"	13 7/8"	3 1/4"	3/16"	2213K54	166.48

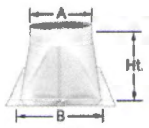
Wind-Driven Turbine Exhaust Fans

Designed to spin freely with the slightest breeze, these fans create a vacuum that draws air out from buildings and ventilation systems. No electricity is required. Mount fans on your roof obstructions. Optional mounting bases are sold separately. Maximum temperature is 150° F.

Steel exhaust fans have a galvanized finish for added corrosion resistance.

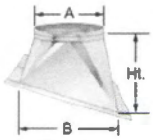
Dia.	Max. Ht.	Airflow, cfm @ 4 mph	Thick.	Steel	Each	Type 304 Stainless Steel	Each
6"	14 1/2"	110	0.018"	1992K12	$53.83	1992K43	$159.62
8"	15 1/2"	195	0.018"	1992K14	57.77	1992K45	165.47
10"	16 3/4"	305	0.018"	1992K16	66.28	1992K47	181.08
12"	17 1/4"	440	0.024"	1992K17	68.55	1992K48	210.58
14"	20"	600	0.024"	1992K18	84.45	1992K49	255.37
16"	22 1/2"	790	0.024"	1992K21	131.24	1992K52	307.40
18"	24"	1,000	0.024"	1992K22	149.18	1992K53	376.80
20"	24 1/2"	1,200	0.024"	1992K23	167.32	1992K54	406.90
24"	29 1/2"	1,700	0.024"	1992K24	209.94	1992K55	535.38
30"	32"	2,700	0.030"	1992K25	493.59	1992K56	1,292.73
36"	38"	4,000	0.030"	1992K27	672.56	—	—

Optional Mounting Bases



Flat Base

Straight Base



Slope Base

Made of corrosion-resistant galvanized steel, these bases have a square bottom and round top. All have 4" wide flashing to simplify installation.

To Order: For slope bases, please specify pitch: 1/12-11/12 in increments of 1/12. To determine pitch, use an angle indicator or divide rise by run (see illustration). For instance, if your roof rises 5" in 12" of horizontal space, your pitch is 5/12.

(A)	(B)	Ht.	Flat Bases	Each	Straight Bases	Each	Slope Bases	Each
8"	10"	10"	2003K91	$47.25	2003K51	$47.25	2003K31	$73.50
10"	12"	10"	2003K92	49.00	2003K52	49.00	2003K32	77.00
12"	14"	10"	2003K93	50.75	2003K53	50.75	2003K33	80.52
14"	16"	10"	2003K94	80.52	2003K54	80.52	2003K34	115.52
16"	18"	10"	2003K95	108.52	2003K55	108.52	2003K35	164.53
18"	22"	10"	2003K96	110.02	2003K56	110.02	2003K36	134.63
20"	24"	10"	2003K97	120.02	2003K57	120.02	2003K37	186.69
24"	30"	12"	2003K98	143.13	2003K58	143.13	2003K38	211.58

Through-the-Wall Room Exhaust Fans

ATTACHMENT 4

EPRO PRODUCT INFORMATION, SPECIFICATIONS, AND INSTALLATION DETAIL

epro · System III MB Moisture / Gas Barrier

Patent Pending

Excellent Strength and Durability • Exceptional Chemical Resistance • Seamless System • Fully Bonded to Slab • Redundant Protection

System Description

System III MB is a field installed composite waterproofing and gas vapor barrier that is comprised of a water-based polymer modified asphalt (PMA) membrane sandwiched between two HDPE and polypropylene fabric laminate sheets which provides the durability and chemical resistance of HDPE with the constructability and installation efficiencies of a PMA. (See below for special designs for water table conditions.)

System Components

Ecoshield-P (Base Course) – An HDPE film laminated with a nonwoven polypropylene fabric geo-membrane.
Ecoline-S (Middle Course) – A spray or fluid applied, water based polymer modified asphalt membrane.
Ecoshield-PP (Top Course) – Same as Ecoshield-P except with micro-perforations.

System Components (Water Table Design)
Ecoshield-PB -(Replaces Ecoshield-PP) - A geocomposite membrane comprised of polypropylene fabric and bentonite granules laminated to an HDPE sheet to provide self sealing characteristics and puncture resistance.

Additional Information

Specifications – Reference "Specification Beneath Slab Moisture Barrier"
Detail Drawings – Reference all "MB" labeled Details
Installation Guidelines – Reference "Moisture Barrier Installation" and "Repair Procedures – Moisture Barrier"
Product Information –Reference "Ecoline-S", "Ecoline-R", "Ecoshield-P", "Beneath Slab Gas Vapor Barrier" product brochures

Excellent Strength and Durability – The result of the unique field installed composite design.

Exceptional Chemical Resistance – The HDPE films are very resistant to most contaminates including VOCs.

Seamless System – The fluid applied component makes the transition details and field barrier a monolithic installation.

Fully Bonded to Slab – The geo-textile surface of the barrier mechanically interlocks with the concrete slab to form a permanent bond between the barrier and slab.

Redundant Protection – Multiple waterproofing and gas vapor barriers as well as protection courses.

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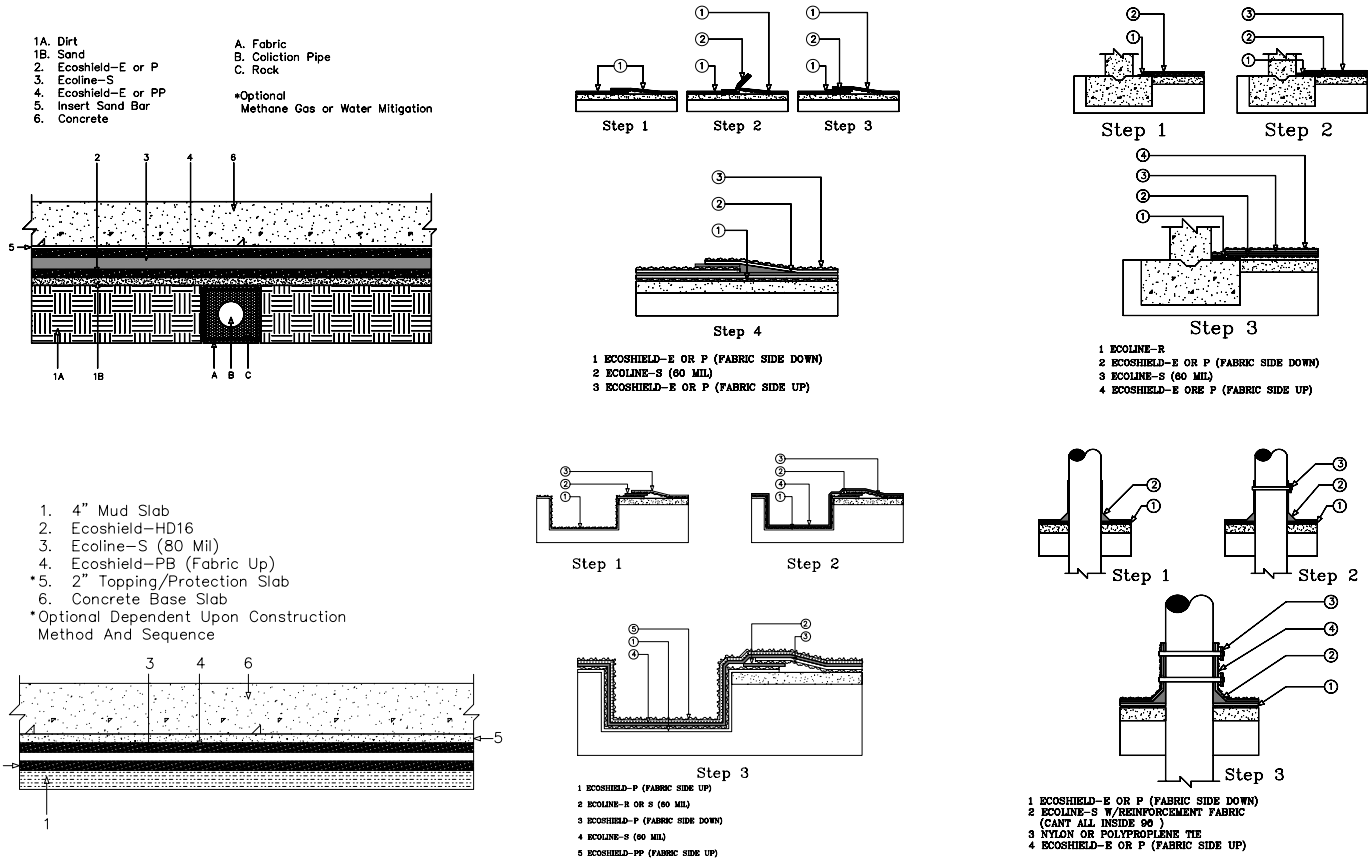

epro · System III MB - Moisture / Gas Barrier

Epro Below Slab Water / Gas Barrier Composite System Testing

Composition HDPE film and polypropylene fabric laminate and polymer modified asphalt and HDPE film and polypropylene fabric laminate. (Ecoshield-P / Ecoline-S / Ecoshield-PP)

Tensile Strength*	ASTM D-412	662 psi	
Elongation*	ASTM D-412	45%	
Adhesion to Concrete***	ASTM C-836	27 lbf/in	
Puncture Resistance	ASTM D-1709	310.9 lbs	
Hydrostatic Pressure	ASTM D-5385	369.5 ft.	
Soil Burial*	ASTM D-4068		
Weight change	See Note 1	1.2%	passed
Tensile Strength	See Note 1	9.89%	passed
Elongation	See Note 1	2.2%	passed
Heat Aging*	ASTM D-4068		
Tensile Strength	See Note 1	8.6%	passed
Elongation	See Note 1	8.9%	passed
Environmental Stress Cracking*	ASTM D-1693		
Failure	See Note 2	620 hrs.	passed
Oil Resistance*	ASTM D-543 & ASTM D-412		
Weight change	See Note 1	7.6%	passed
Tensile Strength	See Note 1	1.1%	passed
Elongation	See Note 1	4.4%	passed
Methane Transmission*	ASTM D-1434		
	See Note 3	3.70xE-15	passed

Chemical Permeation** ASTM F-739	Perm Rate Ug/cm2	Perm Rate ml/day
Chlorinated Solvent		
Perchloroethylene	69.4	0.0008
Trichloroethylene	89.8	0.0012
Aromatic Hydrocarbon		
Benzene	59.3	0.0013

Chemical Resistance** ASTM D-543	Net change
Chlorinated Solvents .. ASTM D-882 Mod.	(Less 10% pass)
Perchloroethylene	
Weight	4.1%
Tensile Strength	6.5%
Tricholorethylene	
Weight	5.4%
Tensile Strength	6.0%
Aromatic Hydrocarbon	
Benzene	
Weight	4.1%
Tensile Strength	4.4%
Gases	
Hydrogen Sulfide	
Weight	0.6%
Tensile Strength	0.8%

* Tests performed by SGS / US Testing
** Tests performed by TRI Environmental
*** Tests performed by Momentum Technologies

Note 1: LA requires less than 10%
Note 2: LA requires over 500 hrs.
Note 3: LA requires less than 3 ml per day

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ECOSHIELD - P

Does A Lot More Than Provide Protection

High Strength Laminated Polypropylene Geomembrane

- High puncture resistance (Class A rating)…provides maximum protection and durability.
- Impermeable to water and gases (methane).
- Provides an excellent substrate for grouts, mortar and concrete to adhere to.
- Large roll sizes (12’ x 150’) minimize seams.
- Reinforces the spray or fluid applied membrane.

Ecoshield-P Physical Properties	Test Method	
Film		Grey HDPE Film Polyproplene Non-Woven
Grab Tensile Strength	ATSM D-882	24 lb/in
Grab Tensile Elongation	ATSM D-882	500%
PP Tear	ATSM D-2582	17.6 lbs
Puncture	ASTM D-1709	1.1 lbs
UV Resistance	ASTM D-4355	70% (after 150 hrs. exposure)
Light Reflectance	ASTM E-97	70%

Packaging Size: 12’ x 150’, **Weight:** 108 lbs.

EPRO SERVICES, INC.
P.O. Box 347
Derby, KS 67037 USA

A World of Difference
epro™
Waterproofing Systems

Phone: 800-882-1896
Fax: 316-262-2529
Web: www.eproserv.com

rev.: ecosh-p 11.20.11

ECOSHIELD-P Specifications

1. PRODUCT NAME

ECOSHIELD-P

2. MANUFACTURER

EPRO SERVICES, INC.
P.O. Box 347
Derby, KS 67037
PHONE: 800-882-1896
FAX: 316-262-2529

3. PRODUCT DESCRIPTION

Basic Use:
ECOSHIELD-P has been specifically designed to provide cost effective and high performance protection for the waterproofing membrane on horizontal waterproofing applications. The fabric also provides an excellent substrate for thin set grouts, mortar and concrete to bond to. When used in detailing of specific water penetration points (i.e. cold joints, footings, and pipes), it enhances the tensile strength of the other detailing products. It is also to be used as a superior performing vapor and gas barrier underslab.

Composition:
ECOSHIELD-P is an extremely tough, high strength geomembrane made from the lamination of HDPE film and unwoven polypropylene fabric.

Benefits:
• Impermeable to water…offers additional relief from hydrostatic water pressure and resistance to earth contaminates.
• Provides better cured grout, mortar & concrete by retaining a water line.
• Minimal seams with 12'x 150' rolls.
• High puncture resistance protects waterproofing from subsequent construction damage.
• Excellent substrate for grout, mortar and concrete to adhere to.

Limitations:
• Should be stored out of weather.
• Should not be used in lieu of high-flow drainage mat if it is required.

4. TECHNICAL DATA

Properties: See chart
Coverages: See chart

Specification Writer:
Contact EPRO Services before writing specifications on this product. Test information available upon request.

5. INSTALLATION

Preparation & Application: Should be applied in accordance with specific application guide specifications.

Tools: No special tools required for installation.

6. AVAILABILITY AND COST

Contact the local distributor or Authorized Applicator for availability and cost.

7. WARRANTY

Limited Warranty: EPRO warrants this product to be free from defects. EPRO makes no other warranties with respect to this product, express or implied, including without limitation the implied warranties of MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE. EPRO's liability shall be limited in all events to supplying sufficient product to retreat the specific areas to which defective product has been applied. EPRO shall have no other liability, including liability for incidental or resultant damages, whether due to breach of warranty or negligence. This warranty may not be modified or extended by representatives of EPRO or its distributors.

8. MAINTENANCE

No maintenance required.

9. TECHNICAL SERVICES AND INFORMATION

Complete technical services and information are available from EPRO Services.

A World of Difference
epro™
Waterproofing Systems

ECOLINE-S Spray Applied Membrane

Seamless Waterproofng For The Most Demanding Applications

The Answer To Seam and Adhesive Failures

- Water based ... may be applied to green or uncured concrete, damp surfaces, and lightweight forms.
- Excellent elongation and recovery ... can handle expansion and contraction as well as minor cracking.
- Exceptional bonding ... won't delaminate from surface, even with ponded water.
- Spray applied ... creates a seamless and resilient membrane.
- Instant build ... allows applications in inclement weather and eliminates shrinkage.

COVERAGES	TEST METHOD	UNITS
Walls		60 mils (19 sq. ft./gal.)
Decks		60 mils (19 sq. ft./gal.)
Typical Uncured Properties		
Specific Gravity	ASTM D 244	1.00
Viscosity	ASTM D 1200	>25 centipoise
PH		12.3
Flammability	ASTM D 3143	500° F
Color		Brown to Black
Non-Toxic		No Solvents
Shelf Life		6 months
Typical Cured Properties		
Tensile Strength	ASTM 412	32 psi
Elongation	ASTM 412	4,140%
Resistance to Decay	ASTM E 154 Section 13	4% Perm Loss
Accelerated Aging	ASTM G 23	No Effect
Moisture Vapor Transmission	ASTM E 96	0.088 g/sq. ft./ hr.
Hydrostatic Water Pressure	ASTM D 751	26 psi
Perm rating	ASTM E 96 (US Perms)	0.21
Methane transmission rate	ASTM D 1434	0
Adhesion to Concrete & Masonry	ASTM C 836 & ASTM C 704	11 lbf/inch
Hardness	ASTM C 836	80
Crack Bridging	ASTM C 836	No Cracking
Low Temp. Flexibility	ASTM C 836-00	No Cracking at -20°C
Resistance to Acids:		
Acetic		30%
Sulfuric and Hydrochloric		13%

Packaging: Available in bulk, 275 gal. totes, or 55 gal. drums. **Approvals:** City of Los Angeles Report #RR 25478, NSF

EPRO SERVICES
P.O. Box 347
Derby, KS 67037 USA

epro™ Waterproofing Systems

A WORLD OF DIFFERENCE FOR REAL WORLD CONDITIONS

Phone: 800-882-1896
316-262-2513
Fax: 316-262-2529

rev. ELS.01.11.11

ECOLINE-S Specifications

1. PRODUCT NAME

ECOLINE-S

2. MANUFACTURER

EPRO SERVICES
P.O. Box 347
Derby, KS 67037
PHONE: 800-882-1896
FAX: 316-262-2529

3. PRODUCT DESCRIPTION

Basic Use: ECOLINE-S is designed to be a waterproof and methane barrier membrane for a variety of surfaces including concrete (uncured), block, wood, and metal and for a variety of applications including decks, walls (both negative and positive side) and water retainment structures. ECOLINE-S is to be applied with a unique self-contained sprayer to produce instantaneous, monolithic high-build membranes at accelerated rates. It may be used as a waterproofing adhesive for protection/insulation board or tile and as a base coat for other water-based products.

Composition: ECOLINE-S is a low-viscosity, water-based, anionic bituminous/asphalt emulsion modified with a blend of synthetic polymerized rubbers and special additives, which is highly reactive and exhibits exceptional bonding, elongation, waterproofing and build characteristics.

Benefits:
- Performs as a gas and water barrier.
- Non hazardous, non-toxic, and non-flammable (VOC compliant).
- Excellent elongation and recovery.
- Good tensile strength.
- Exceptional bonding.
- Not affected by ponded water.
- Instantaneous build.

Limitations:
- Should be applied to clean surfaces.
- Adjacent areas and surfaces should be protected from contact with the product.
- Exposure to UV.
- Should be stored above 40°F.
- A test area should always be done to verify compatibility of substrate with product.
- Solvent-based products should not be applied over this product.

4. TECHNICAL DATA

Properties: See chart.

Coverages: See chart.

• Specification Writer:
Contact EPRO Services before writing specifications on this product. Test information available upon request.

5. INSTALLATION

Preparation: Must include but not limited to:
- All surfaces should be free of loose materials, and other contaminants. These should be removed prior to application by suitable methods.
- Repairs: Any cracks, spall or metal protrusion areas should be repaired by brush or trowel application of ECOLINE-T insuring penetration of material into damaged or cracked area. Large cracks may also require a layer of polyester fabric being spanned over crack and ECOLINE-T applied over this to provide additional strength.
- A test should always be done prior to application using the same cleaning preparation and application procedures to be used on the project.

Application:
- Should be applied in accordance with specific application specifications.
- ECOLINE-S is to be spray applied with catalyst water by appropriate equipment fitted with specific nozzles which forms a monolithic water protection coating.

Spray application produces an approximate 20 mil build on each pass of spray gun.

Cleaning: Clean all tools with kerosene and/or equivalent.

6. AVAILABILITY AND COST:

Contact the local distributor and/or Authorized Applicator for availability and cost.

7. WARRANTY

Limited Warranty: EPRO warrants this product to be free from defects. EPRO makes no other warranties with respect to this product, express or implied, including without limitation the implied warranties of MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE. EPRO's liability shall be limited in all events to supplying sufficient product to retreat the specific areas to which defective product has been applied. EPRO shall have no other liability, including liability for incidental or resultant damages, whether due to breach of warranty or negligence. This warranty may not be modified or extended by representatives of EPRO or its distributors.

8. MAINTENANCE:

No maintenance required.

9. TECHNICAL SERVICES AND INFORMATION:

Complete technical services and information are available from EPRO Services.

epro™ Waterproofing Systems
A WORLD OF DIFFERENCE FOR REAL WORLD CONDITIONS

ECOSHIELD - PP

Does A Lot More Than Provide Protection

High Strength Laminated Polypropylene Geomembrane

- High puncture resistance (Class A rating)…provides maximum protection and durability.
- Permeable to water vapor (micro-peforated).
- Provides an excellent substrate for grouts, mortar and concrete to adhere to.
- Large roll sizes (12’ x 150’) minimize seams.
- Reinforces the spray or fluid applied membrane.

Ecoshield-PP Physical Properties	Test Method	
Film		White HDPE Film Polyproplene Non-Woven
Grab Tensile Strength	ATSM D-882	24 lb/in
Grab Tensile Elongation	ATSM D-882	500%
PP Tear	ATSM D-2582	17.6 lbs
Puncture	ASTM D-1709	1.1 lbs
UV Resistance	ASTM D-4355	70% (after 150 hrs. exposure)
Light Reflectance	ASTM E-97	70%

Packaging Size: 12’ x 150’, **Weight:** 108 lbs.

EPRO SERVICES, INC.
P.O. Box 347
Derby, KS 67037 USA

A World of Difference
epro™
Waterproofing Systems

Phone: 800-882-1896
Fax: 316-262-2529
Web: www.eproserv.com

rev.: ecosh-p 11.20.11

ECOSHIELD-PP Specifications

1. PRODUCT NAME

ECOSHIELD-PP

2. MANUFACTURER

EPRO SERVICES, INC.
P.O. Box 347
Derby, KS 67037
PHONE: 800-882-1896
FAX: 316-262-2529

3. PRODUCT DESCRIPTION

Basic Use:
ECOSHIELD-PP has been specifically designed to provide cost effective and high performance protection for the waterproofing membrane on horizontal waterproofing applications. The fabric also provides an excellent substrate for thin set grouts, mortar and concrete to bond to. When used in detailing of specific water penetration points (i.e. cold joints, footings, and pipes), it enhances the tensile strength of the other detailing products.

Composition:
ECOSHIELD-PP is an extremely tough, high strength geomembrane made from the lamination of HDPE film and unwoven polypropylene fabric.

Benefits:
• Permeable to water…offers additional relief from hydrostatic water pressure and resistance to earth contaminates.
• Provides better cured grout, mortar & concrete by retaining a water line.
• Minimal seams with 12'x 150' rolls.
• High puncture resistance protects waterproofing from subsequent construction damage.
• Excellent substrate for grout, mortar and concrete to adhere to.

Limitations:
• Should be stored out of weather.
• Should not be used in lieu of high-flow drainage mat if it is required.

4. TECHNICAL DATA

Properties: See chart
Coverages: See chart

Specification Writer:
Contact EPRO Services before writing specifications on this product. Test information available upon request.

5. INSTALLATION

Preparation & Application: Should be applied in accordance with specific application guide specifications.

Tools: No special tools required for installation.

6. AVAILABILITY AND COST

Contact the local distributor or Authorized Applicator for availability and cost.

7. WARRANTY

Limited Warranty: EPRO warrants this product to be free from defects. EPRO makes no other warranties with respect to this product, express or implied, including without limitation the implied warranties of MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE. EPRO's liability shall be limited in all events to supplying sufficient product to retreat the specific areas to which defective product has been applied. EPRO shall have no other liability, including liability for incidental or resultant damages, whether due to breach of warranty or negligence. This warranty may not be modified or extended by representatives of EPRO or its distributors.

8. MAINTENANCE

No maintenance required.

9. TECHNICAL SERVICES AND INFORMATION

Complete technical services and information are available from EPRO Services.

A World of Difference
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Waterproofing Systems

SPECIFICATION
BENEATH SLAB GAS VAPOR BARRIER

SECTION 02220 – RESIDENTIAL AND LIGHT USE BROWNFIELD/METHANE BARRIER

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Substrate preparation.
2. Fluid applied methane barrier.
3. Seam Sealer and accessories.
4. Protection courses and methane barriers.

B. Related Sections: The following Sections contain requirements that relate to this Section:

1. Division 2 Section "Earthwork", "Pipe Materials", "Sub-drainage systems", "Gas Control System".
2. Division 3 Section "Cast-in-Place Concrete" for concrete placement, curing, and finishing.
3. Division 5 Section "Expansion Joint Cover Assemblies", for expansion-joint covers assemblies and installation.

1.3 PERFORMANCE REQUIREMENTS

A. General: Provide a methane barrier system that prevents the passage of methane gas and a waterproofing system that prevents the passage of liquid water under hydrostatic pressure and complies with physical requirements as demonstrated by testing performed by an independent testing agency of manufacturer's current waterproofing formulations and system design.

1.4 SUBMITTALS

A. Submit Product Data for each type of methane barrier and waterproofing specified, including manufacturer's printed instructions for evaluating and preparing the substrate, technical data, and tested physical and performance properties.

B. Project Data - Submit Shop Drawings showing locations and extent of methane barrier and waterproofing, including details for overlaps, sheet flashing, penetrations, and other termination conditions.

C. Samples – Submit representative samples of the following for approval:

1. Methane barrier and waterproof membrane material.
2. Methane barrier and protection Course Material.

D. Installer Certificates – Submit certificates signed by manufacturer certifying that Installers comply with requirements under the "Quality Assurance" Article.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Engage an experienced Installer who is certified in writing and approved by gas barrier/waterproofing manufacturer EPRO Services, Inc. for the installation of the SYSTEM III Plus Gas Barrier and Waterproofing Systems.

B. Manufacturer Qualification: Obtain methane barrier and waterproofing materials and system components from a single manufacturer EPRO Services, Inc.

C. Field Sample: Apply methane barrier and waterproofing system field sample to 100 sq./ft. (9.3 sq./m.) of field area demonstrate application, detailing, thickness, texture, and standard of workmanship.

1. Notify Architect one week in advance of the dates and times when field sample will be prepared.
2. If Architect determines that field sample, does not meet requirements, reapply field sample until field sample is approved.
3. Retain and maintain approved field sample during construction in an undisturbed condition as a standard for judging the completed methane barrier and waterproofing. An undamaged field sample may become part of the completed Work.

D. Pre-installation Conference: A pre-installation conference shall be held prior to application of the methane barrier and waterproofing system to assure proper site and installation conditions, to include contractor, applicator, architect/engineer and special inspector (if any).

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to Project site as specified by manufacturer labeled with manufacturer's name, product brand name and type, date of manufacture, shelf life, and directions for storing and mixing with other components.

B. Store materials as specified by the manufacturer in a clean, dry, protected location and within the temperature range required by manufacturer. Protect stored materials from direct sunlight.

C. Remove and replace material that cannot be applied within its stated shelf life.

1.7 PROJECT CONDITIONS

A. Protect all adjacent areas not to be installed on. Where necessary, apply masking to prevent staining of surfaces to remain exposed wherever membrane abuts to other finish surfaces.

B. Perform work only when existing and for-cast weather conditions are within manufacturer's recommendations for the material and application method used.

C. Minimum clearance of 24 inches is required for application of product. For areas with less than 24-inch clearance, the membrane may be applied by hand using ECOLINE-R.

D. Ambient temperature shall be within manufacturer's specifications. (Greater than +19ºF/-7ºC.)

E. All plumbing, electrical, mechanical and structural items to be under or passing through the waterproof membrane shall be positively secured in their proper positions and appropriately protected prior to membrane application.

F. Methane barrier and waterproof system shall be installed before placement of fill material and reinforcing steel. When not possible, all exposed reinforcing steel shall be masked by General Contractor prior to membrane application.

1.8 WARRANTY

A. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents, and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.

B. Special Warranty: Submit a written warranty signed by methane barrier/waterproofing manufacturer and Installer agreeing to repair or replace methane barrier/waterproofing that does not meet requirements or that does not remain methane free or watertight within the specified warranty period.

1. Warranty Period: 5 years after date of completion.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. SYSTEM III Plus; EPRO Services, Inc., Wichita, KS, 800-882-1896

1. Spray-Applied ECOLINE-S.
2. Protection ECOSHIELD-P.

2.2 FLUID APPLIED MATERIALS

A. Fluid applied methane barrier – ECOLINE-S; a single course, high build, polymer modified, asphalt emulsion. Waterborne and spray applied at ambient temperatures. Apply to a thickness of 60 dry mils, unless specified otherwise. Non-toxic and odorless. ECOLINE-R has similar properties with greater viscosity and is roller or brush applied. Manufactured by EPRO Services, Inc.

B. Fluid applied methane barrier.

ECOLINE-S – TYPICAL PROPERTIES (MEMBRANE ONLY)

TYPICAL UNCURED PROPERTIES		
Specific Gravity	ASTM D 244	1
Viscosity	ASTM D 1200	> 25 centipoise
PH		12.3
Flammability	ASTM D 3143	500° F
Color		Brown to Black
Non-Toxic		No Solvents
Shelf Life		6 months
TYPICAL CURED PROPERTIES		
Initial Cure		
Final Cure *		
Tensile Strength	ASTM 412	32 psi
Elongation	ASTM 412	4140%
Resistance To Decay	ASTM E 154 Section 13	4% Perm Loss
Accelerated Aging	ASTM G 23	No Effect
Moisture Vapor Transmission	ASTM E 96	0.026 g/sq. ft. /hr.
Hydrostatic Water Pressure	ASTM D 751	26 psi
Perm Rating (US PERMS)	ASTM E 96 (US Persm)	0.21
Methane Transmission Rate	ASTM D 1434	0
Adhesion To Concrete & Masonry	ASTM C 836 & ASTM C 704	11 lbf./inch
Hardness	ASTM C 836	80
Crack Bridging	ASTM C 836	No Cracking
Low Temp. Flexibility	ASTM C 836-00	No Cracking @ -20° C
Resistance To Acids:		
Acetic		30%
Sulfuric and Hydrochloric		13%
*See curings, protection and cleaning sections for further explanation.		

ECOLINE-R – TYPICAL PROPERTIES

TYPICAL UNCURED PROPERTIES		
Specific Gravity	ASTM D 244	1.034
Viscosity	ASTM D 1200	9m-13m centipoise
PH		11.5
Flammability	ASTM D 3143	270° F
Color		Brown to Black
Non-Toxic		No Solvents
Shelf Life		6 months
TYPICAL CURED PROPERTIES		
Initial Cure		10 minutes
Final Cure*		24 -48 hours
Tensile Strength	ASTM 412	32 psi
Elongation	ASTM 412	3860%
Resistance to Decay	ASTM E 154 Section 13	9% Perm Loss
Accelerated Aging	ASTM G 23	No Effect
Moisture Vapor Transmission	ASTM E 96	.026 g/sq. ft. /hr.
Hydrostatic Water Pressure	ASTM D 751	28 psi
Perm rating (US Perms)	ASTM E 96	0.17
Methane transmission rate	ASTM D 1434	0
Adhesion to Concrete & Masonry	ASTM C 836	7 lbf./inch
Hardness	ASTM C 836	85
Crack Bridging	ASTM C 836	No Cracking
Low Temp. Flexibility	ASTM C 836-00	No Cracking at –20ºC
Resistance to Acids:		
Acetic		30%
Sulfuric and Hydrochloric		13%
*See curings, protection and cleaning sections for further explanation.		

2.3 AUXILIARY MATERIALS

A. Sheet Flashing: 60-mil reinforced modified asphalt sheet good with double-sided adhesive.

B. Reinforcing Strip: Manufacturer's recommended polyester fabric.

C. Seam Detailing Sealant Mastic: ECOLINE-R, a high or medium viscosity polymer modified water based asphalt material.

2.4 BASE LAYER AND PROTECTION COURSE

1. ECOSHIELD-P (No fabric).

A. ECOSHIELD-P physical properties.

ECOSHIELD-P Physical Properties		
Grab Tensile Strength	ASTM D 882	24 lb/in
Grab Tensile Elongation	ASTM D 882	500%
PP Tear	ASTM D 2582	17.6 lbs
Puncture	ASTM D 1709	1.1 lbs
UV Resistance	ASTM D 4355	70% (after 150 hrs. exposure)
Light Reflectance	ASTM E 97	70%

B. Gas barrier chemical resistance chart.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions under which waterproofing systems will be applied, with Installer present, for compliance with requirements. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 SURFACE PREPARATION

A. Verify substrate is prepared according to manufacturer's recommendations.

B. Mask off adjoining surfaces not receiving methane barrier/waterproofing to prevent spillage or over spray affecting other construction.

3.3 PREPARATIONS AND TREATMENT AT TERMINATIONS AND PENETRATIONS

A. Prepare vertical and horizontal surfaces at terminations, at penetrations through methane barrier/waterproofing materials to ASTM C 898 and manufacturer's recommendations.

B. Apply 60-mil coats of ECOLINE-S to terminating surface, embed ECOSHIELD-P (without fabric) into coat insuring terminating edge is completely sealed..

1. Terminations should be treated 3 inches up vertical and 3 inches on horizontal.
2. Penetrations should be treated in a 3-inch radius around penetration and 3 inches onto penetrating object.

3.4 BASE COURSE INSTALLATION

A. Install ECOSHIELD-P (no fabric)over substrate material in one direction with six-inch overlaps

B. Secure the ECOSHIELD-P seams by applying ECOLINE-S between the overlapped sheets.

3.5 FLUID APPLIED GAS BARRIER APPLICATION

A. Set up spray equipment according to manufacturer's instructions and place spray-markers in field of bottom protection course.

B. Mix materials according to manufacturer's instructions.

C. Start installing fluid applied gas barrier in presence of manufacturer's technical representative.

D. Apply methane barrier/waterproofing, according to manufacturer's recommendations, by spray (ECOLINE-S) or roller (ECOLINE-R).

E. Apply one spray coat of ECOLINE-S or four roller coats of ECOLINE-R waterproofing to obtain a seamless membrane free of entrapped gases, with an minimum dry film thickness of 60 mils.

F. Install fluid applied gas barrier to prepared wall terminations and to the horizontal surface of the bottom protection course to a thickness indicated by the placed spray-markers and according to manufacturer's recommendations and details.

G. Verify film thickness of waterproofing every 100 sq./ft. (9.3 sq./m).

3.6 PROTECTION COURSE INSTALLATION

A. Install ECOSHIELD-PP protection course perpendicular to the direction of the bottom course with overlapped seams over nominally cured membrane no later than recommended by manufacturer and before starting subsequent construction operations.

B. Secure ECOSHIELD-PP protection course seams by applying ECOLINE-S the overlapped sheets as recommended by the manufacturer.

3.8 FIELD QUALITY CONTROL

A. Membrane may be checked for coverage with a lightly oiled, needle nose depth gauge, taking four (4) readings over a one square inch area, every 500 square feet. Record the minimum reading. Mark the test area for repair.

B. Test areas are to be patched over with ECOLINE-S to an 80 mil minimum dry thickness, extending a minimum of one inch (1”) beyond the test perimeter.

3.9 CURING, PROTECTING, AND CLEANING

A. Cure waterproofing according to manufacturer’s recommendations. It should be noted normal curing time is 24 to 48 hours to achieve a permanent water barrier. However, in some conditions such as a saturated substrate, extremely cold conditions and/or high humidity, the full adhesion of the membrane may be delayed. The length of delay may be subject the membrane thickness and severity of conditions.

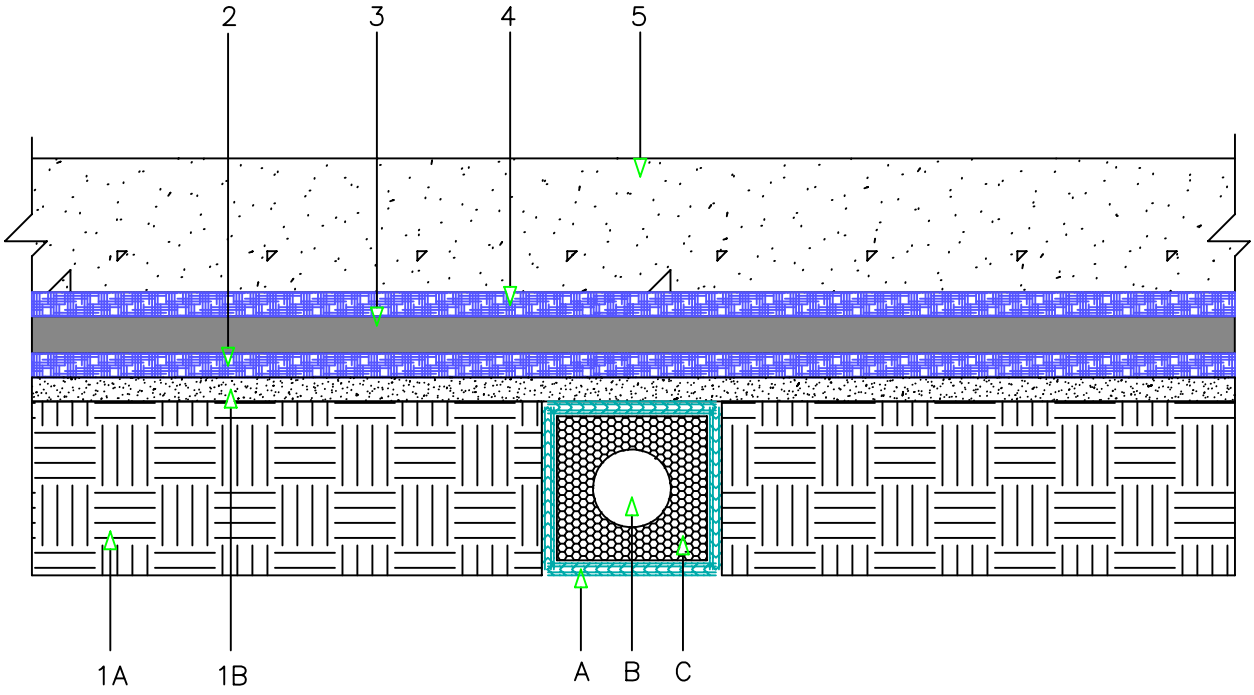
B. Take care to prevent contamination and damage during application stages and curing.

C. Clean spillage and soiling from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

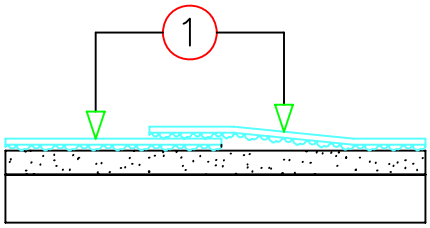
1A. Dirt
1B. Sand
2. Ecoshield–P
3. Ecoline–S
4. Ecoshield–PP
5. Concrete

A. Fabric
B. Collection Pipe
C. Rock

*Optional
Methane Gas or Water Mitigation



SLAB ON GRADE METHANE BARRIER WATERPROOFING UNDERSLAB	epro™ Waterproofing Systems A WORLD OF DIFFERENCE FOR REAL WORLD CONDITIONS	K–1



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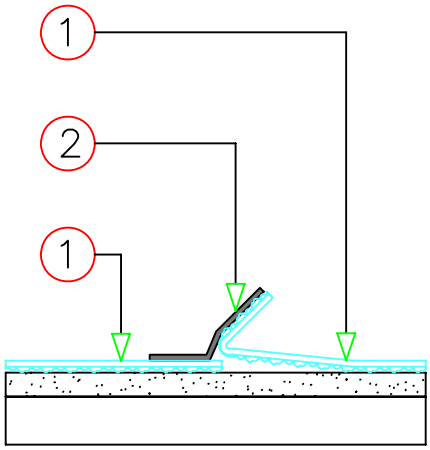

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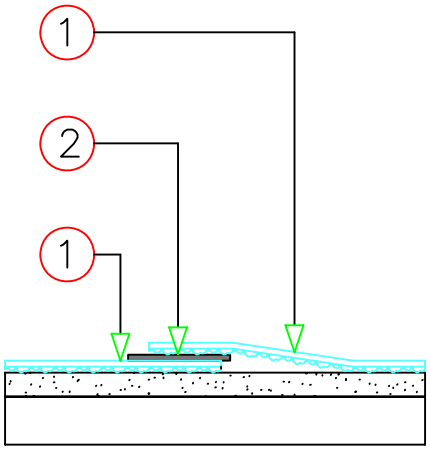

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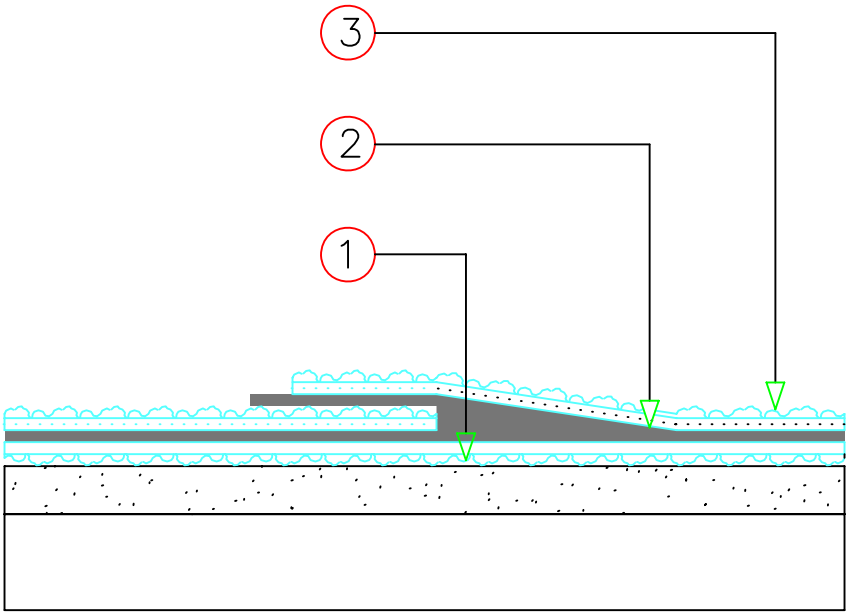
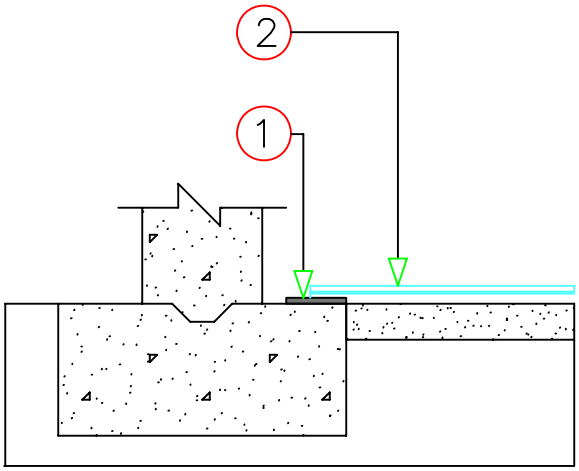


Step 4

1 ECOSHIELD-P (FABRIC SIDE DOWN)
2 ECOLINE-S (60 MIL)
3 ECOSHIELD-PP (FABRIC SIDE UP)

METHANE/MOISTURE BARRIER OVERLAP DETAIL	epro™ Waterproofing Systems — A WORLD OF DIFFERENCE FOR REAL WORLD CONDITIONS	MB-1



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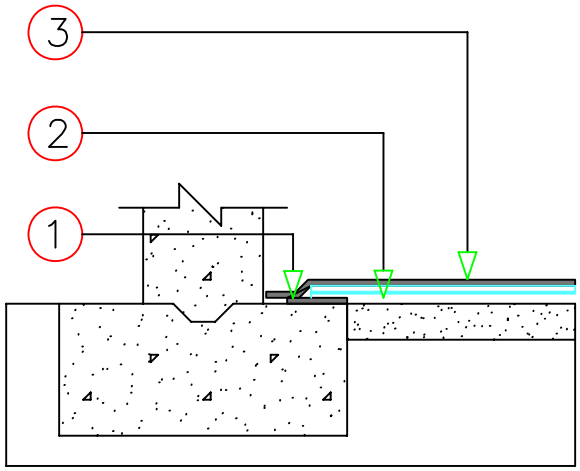

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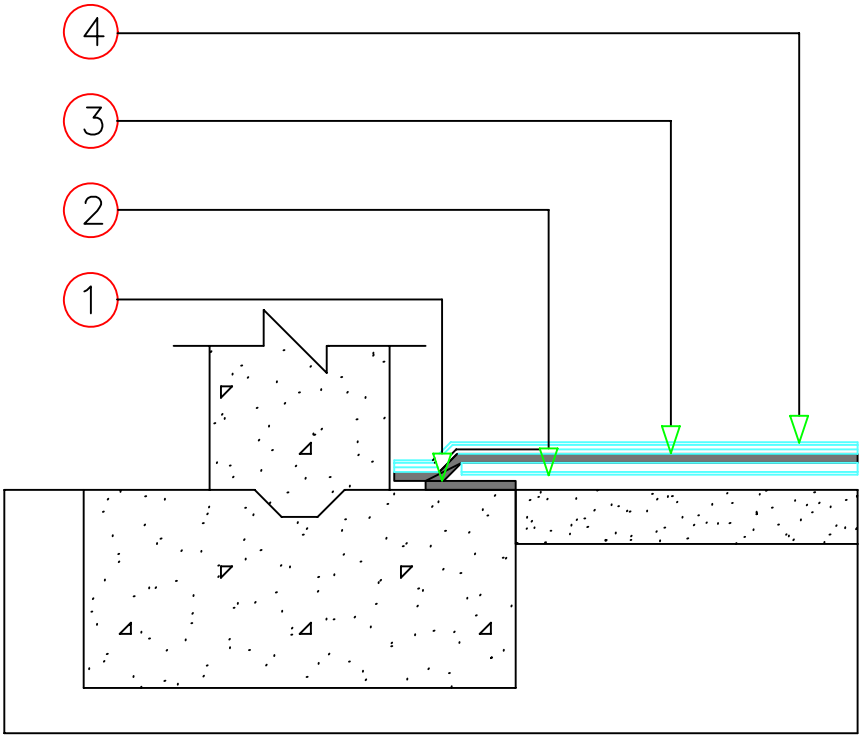
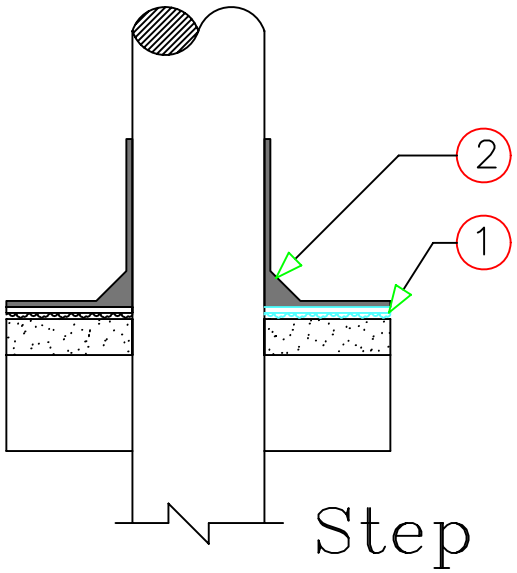
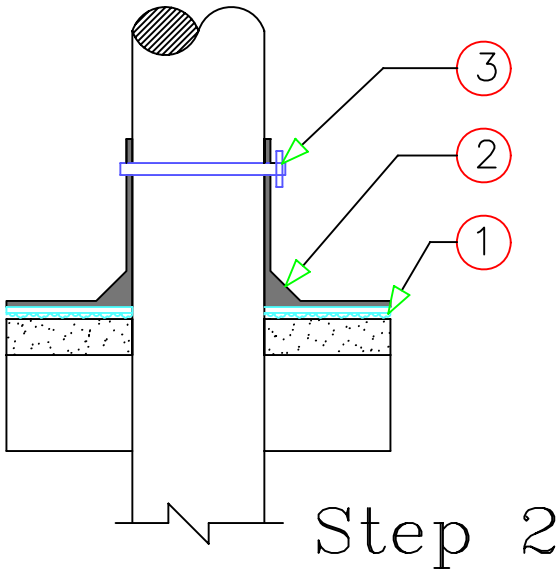


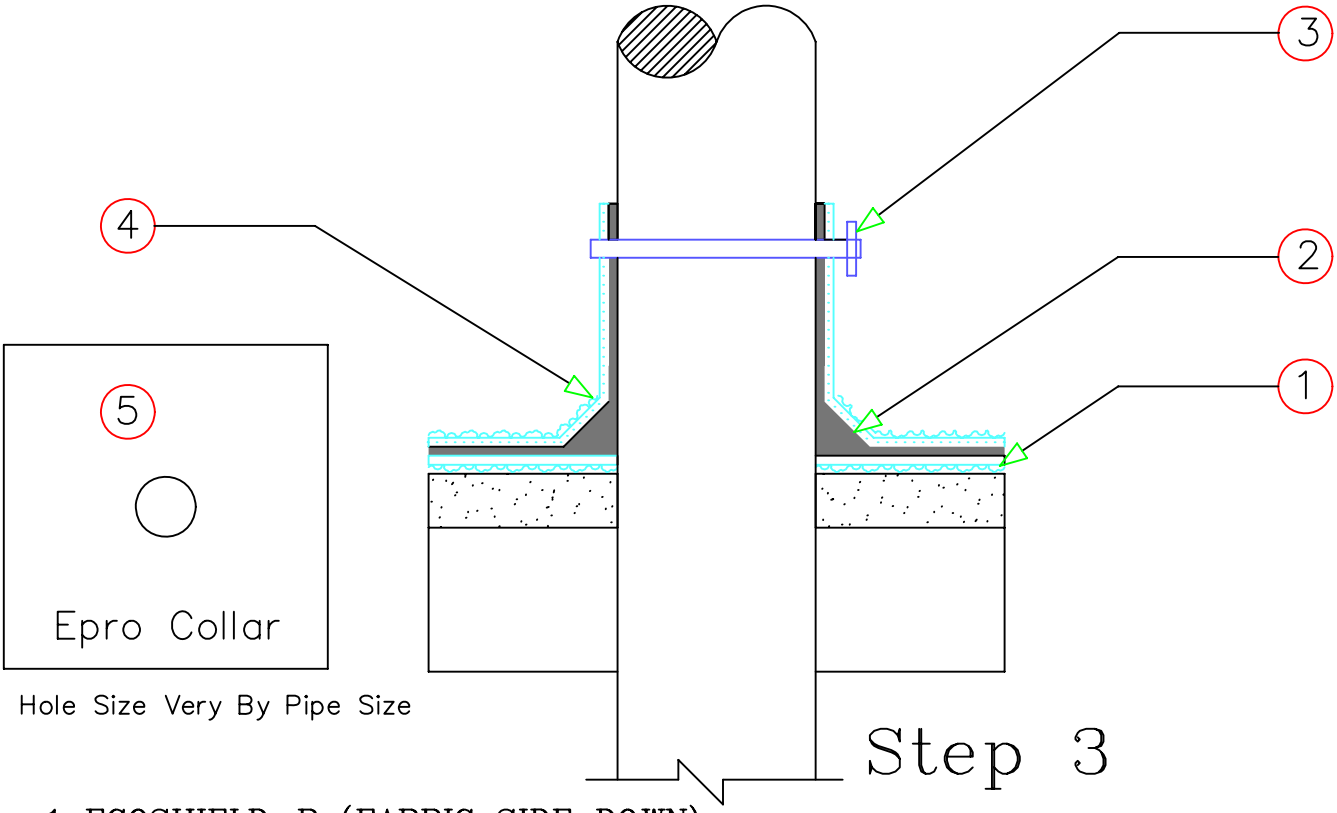
Step 3

1 ECOLINE-R
2 ECOSHIELD-P (FABRIC SIDE DOWN)
3 ECOLINE-S (60 MIL)
4 ECOSHIELD-PP (FABRIC SIDE UP)

METHANE/MOISTURE BARRIER EXTERIOR FOOTER DETAIL	epro™ Waterproofing Systems — A WORLD OF DIFFERENCE FOR REAL WORLD CONDITIONS	MB-2







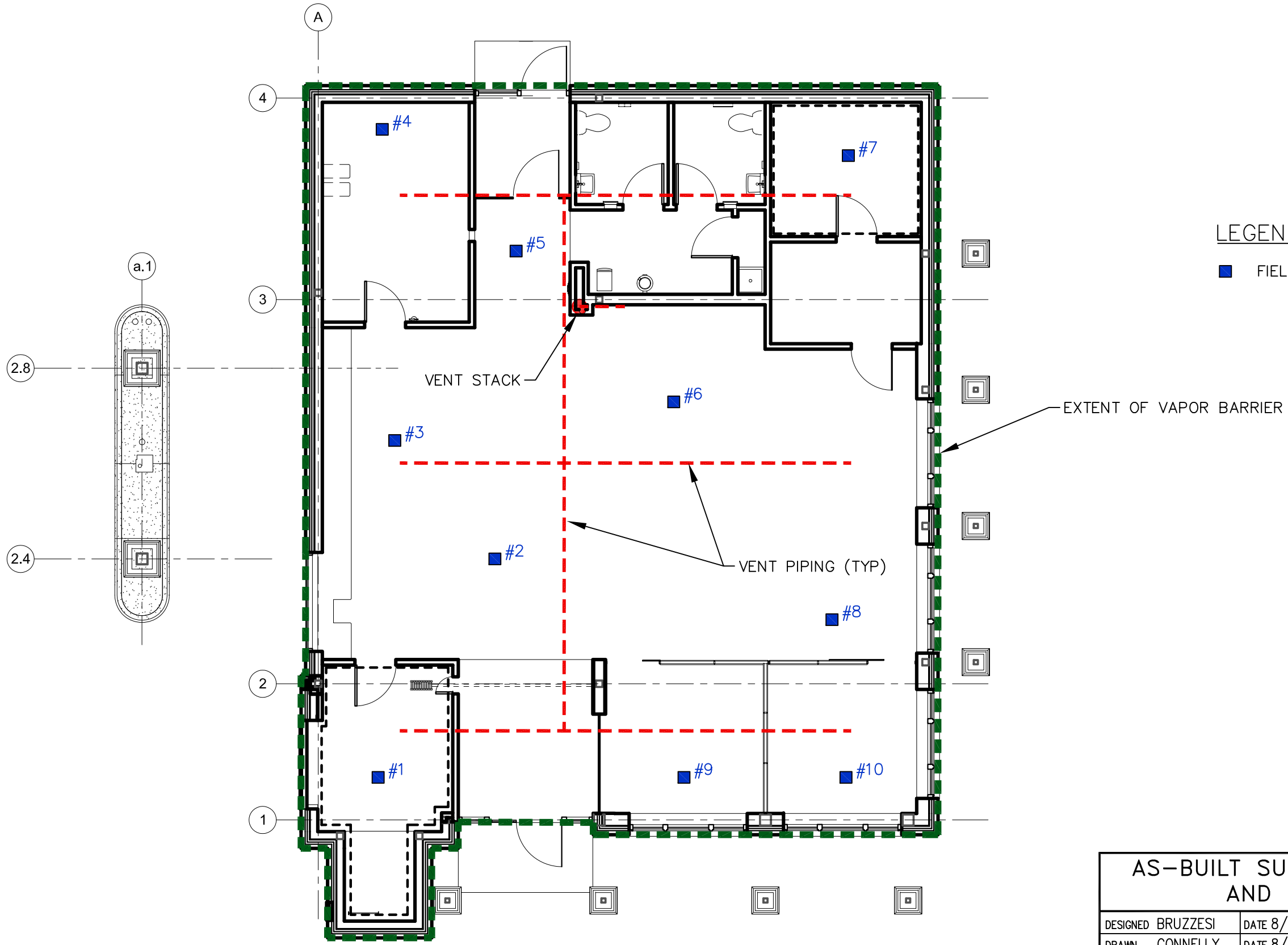
Hole Size Very By Pipe Size

1 ECOSHIELD-P (FABRIC SIDE DOWN)
2 ECOLINE-S W/REINFORCEMENT FABRIC
(CANT ALL INSIDE 90)
3 NYLON OR POLYPROPYLENE TIE
4 ECOSHIELD-PP (FABRIC SIDE UP)
5 EPRO COLLAR MAY BE USED IN LIEU OF
THE REINFORCEMENT FABRIC AND NYLON TIE

METHANE/MOISTURE BARRIER PENETRATION DETAIL	epro™ Waterproofing Systems — A WORLD OF DIFFERENCE FOR REAL WORLD CONDITIONS	MB-5

APPENDIX B

AS-BUILT SUB-SLAB VAPOR VENTING AND BARRIER SYSTEM



LEGEND:

■ FIELD SAMPLE LOCATION

AS-BUILT SUB-SLAB VAPOR VENTING AND BARRIER SYSTEM

DESIGNED BRUZZESI	DATE 8/24/16	PROPOSED TD BANK GREAT FALLS STORE 9901 GEORGETOWN PIKE GREAT FALLS, VA
DRAWN CONNELLY	DATE 8/24/16	
LAND STRADEGIES, INC. 26037 SPRINGDALE DRIVE SOUTH RIDING, VA 20152		PROJECT NO. 15-WCI.002 / SCALE: AS SHOWN
		DRAWING NO. / FIGURE 1

APPENDIX C

PHOTOGRAPHS

View of venting system piping being installed in gravel sub-base before installing vapor barrier.

View of spray-on layer being applied to base layer.

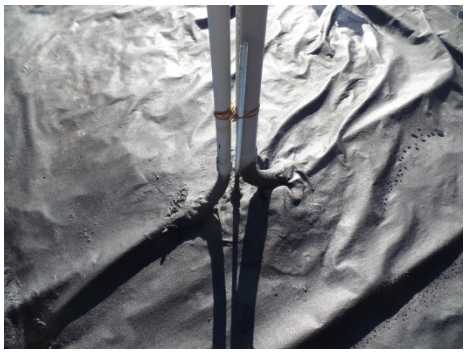
View of venting system piping being installed in gravel sub-base before installing vapor barrier.

View of base layer overlap being sealed.

View of venting system vent stack being installed in gravel sub-base before installing vapor barrier.

View of penetration (electrical/communication) being prepped for sealing.

View of vapor barrier base layer being installed on top of gravel sub-base.



View of sealed electrical/communication conduit.

View of sealed column footer.

View of sealed building corner, column footer, and piping penetration.

View of sealed column footer.

View of sealed clean-out penetration.

View of base layer being installed under electrical/communication boxes.

View of sealed plumbing penetration.

View of sealed electrical/communication boxes.

View of nested conduits being surrounded with concrete before installation of vapor barrier.

View of nested conduits after sealing.

View of nested conduits after sealing.

View of nested conduits being surrounded with concrete before installation of vapor barrier.

View of base layer being sealed to perimeter footer.

View of nested conduits after sealing.

View of base layer being sealed to perimeter footer.

View of base layer being installed over and around nested conduits and plumbing.

View of coupon sample collected to measure spray-on layer thickness.

View of spray-on layer thickness being measured from coupon sample.

View of spray-on layer after complete application.

View of coupon sampling location being sealed.

View of spray-on layer after complete application.

View of smoke testing machine.

View of padding installed over spray-on layer.

View of smoke emanating from field testing (coupon sampling) location during smoke testing.

View of padding installed over spray-on layer.

APPENDIX D

SYSTEM OPERATION AND MAINTENANCE RECOMMENDATIONS

SYSTEM OPERATION AND MAINTENANCE RECOMMENDATIONS
VAPOR VENTING AND BARRIER SYSTEM

TD BANK
9901 GEORGETOWN PIKE
GREAT FALLS, VIRGINIA

WIND-POWERED TURBINE FAN (VENTILATOR)

Proper operation of the wind-powered turbine fan (ventilator) is critical to the system operation and effectiveness; thus, proper operation shall be maintained at all times. The ventilator specified is a 10-inch stainless steel wind-driven turbine exhaust fan McMaster-Carr Part No. 1992K47 (www.mcmaster.com) or equivalent.

Installation
To the extent practicable, the ventilator shall be located a minimum of 1 foot above the highest portion of the roof for it to effectively make use of the wind or breeze.

Inspection
The ventilator should be inspected at minimum semi-annually and after violent storms to ensure it is working properly and to perform routine maintenance. The ventilator unit should rotate freely and noiselessly even in light wind. During inspection, ensure that the ventilator and associated coupling are properly secured to the vent pipe by inspecting the clamps, rivets, bolts, or screws that hold it. Also inspect for rust and other damage. Should the unit be found to not rotate freely and noiselessly, clamps, rivets, bolts, and/or screws be found unsecure, or units be found rusted or damaged, repairs or maintenance should be performed immediately. If the ventilator cannot be repaired, it should be replaced immediately.

Maintenance

Surrounding Area
The presence of wind where the ventilator is installed makes it rotate. Any trees near the building that could restrict natural air flow to the ventilators should be cut or trimmed on a regular basis and any other obstructions should be removed.

Ventilator Unit
The ventilator should be cleared of any objects (e.g., leaves, twigs, birds, animals, etc.) that prevent the unit from rotating. The unit should be cleaned during each inspection event by wiping out dust and dirt to eliminate material build-up in the device that may cause it to spin abnormally or to not to rotate at all. When the rotation is not smooth or if noises are heard when the ventilator rotates, check the lubrication of bearings and add lubricant if needed. During each inspection event, clamps, rivets, bolts, and screws should be tighten or replaced as necessary.

After a heavy snowfall or ice buildup, snow and ice should be removed from the ventilator to eliminate pressure on the ventilator, minimize deformation of the ventilator blades, allow proper rotation, and eliminate long exposure to moist and wetness that may creep inside the blades.

VERTICAL VENT STACK TO ROOF

Maintaining the integrity of the vertical vent stack to the roof is critical to the system operation and effectiveness; thus, the integrity of the stack shall be maintained at all times. Jeopardizing or damaging the integrity of the vent stack would only be expected during building renovation or if the stack is cut or drilled through. Should building renovation or cutting/drilling become necessary in conduits or through walls protecting the stack, special care should be taken as to not damage, cut, or drill through the stack or arrangements should be made with a certified and qualified contractor to reroute the stack piping. Should damage or cutting/drilling of the stack occur inadvertently, arrangements should be made with a certified and qualified contractor to reroute or repair the damaged stack.

VAPOR BARRIER

Maintaining the integrity of the vapor barrier is critical to the system operation and effectiveness; thus, the integrity of the barrier shall be maintained at all times. Jeopardizing or damaging the integrity of the barrier would only be expected if the building foundation slab or other features of the building underlain by the barrier are cut or drilled through. Should cutting or drilling of the slab become necessary, the cut or drill hole location should be inspected by a certified and qualified contractor before the hole is cut or drilled and arrangements should be made with a certified and qualified contractor to repair the barrier should it be damaged during cutting or drilling. Should cutting or drilling of the slab occur inadvertently, the cut or drill hole location should be inspected immediately by a certified and qualified contractor and any damage to the barrier should be repaired by a certified and qualified contractor.