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**Subject: 2018 Second Quarter Monitoring Report
Plantation Pipe Line Company
Lewis Drive Remediation Site
Belton, South Carolina
Site ID #18693, "Kinder Morgan Belton Pipeline Release"**

Dear Ms. Coleman,

On behalf of Plantation Pipe Line Company (Plantation), CH2M HILL Engineers, Inc. (CH2M is now a wholly owned subsidiary of Jacobs) is submitting the attached 2018 Second Quarter Monitoring Report for the Lewis Drive Remediation Site in Belton, South Carolina. This report summarizes the work performed at the site between April 1, 2018, and June 30, 2018. If you have any questions or concerns, please call me at 919-760-1777 or Mr. Jerry Aycock/Plantation at 770-751-4165.

Regards,

Jacobs Engineering Group Inc.



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**Plantation Pipe Line Company
Lewis Drive Remediation Site
Belton, South Carolina
Site ID Number 18693
“Kinder Morgan Belton Pipeline Release”**

2018 Second Quarter Monitoring Report

Final

September 26, 2018

Plantation Pipe Line Company



Lewis Drive Remediation Site, Belton, South Carolina

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The material and data presented in this report were prepared consistent with current and generally accepted consulting principles and practices. This work was supervised by the following Jacobs licensed professional.



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September 26, 2018
Date

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Acronyms and Abbreviations

µg/L	microgram(s) per liter
1,2-DCA	1,2-dichloroethane
BCPZ	Brown's Creek Protection Zone
BTEX	benzene, toluene, ethylbenzene, and xylenes
CAP	Corrective Action Plan
CCPZ	Cupboard Creek Protection Zone
CH2M	CH2M HILL Engineers, Inc.
COC	chain-of-custody
CSA	Comprehensive Site Assessment
DO	dissolved oxygen
EPA	U.S. Environmental Protection Agency
ID	identification
Jacobs	Jacobs Engineering Group Inc.
LNAPL	light non-aqueous phase liquid
mg/L	milligram(s) per liter
MTBE	methyl tertiary butyl ether
O&M	operation and maintenance
PID	photoionization detector
Plantation	Plantation Pipe Line Company
QAPP	Quality Assurance Project Plan
SCDHEC	South Carolina Department of Health and Environmental Control
scfm	standard cubic feet per minute
scfm/ft	standard cubic feet per minute per foot
UST	underground storage tank

1. Introduction

On behalf of Plantation Pipe Line Company (Plantation), CH2M HILL Engineers, Inc. (CH2M is now a wholly owned subsidiary of Jacobs Engineering Group Inc. [Jacobs]), is submitting this 2018 Second Quarter Monitoring Report for the Lewis Drive Remediation Site in Belton, South Carolina. This report summarizes the work performed at the site between April 1, 2018, and June 30, 2018.

On December 8, 2014, a release of an estimated 8,800 barrels (369,600 gallons) of gasoline and a small amount of diesel fuel (Plantation, 2015) was discovered on Plantation's 26-inch product pipeline near Lewis Drive, Belton, South Carolina (Figure 1). The site is located on the pipeline right-of-way between Lewis Drive, a rural two-lane undivided asphalt road, to the east and a hayfield to the west. The release location and site features (including the location of monitoring wells, recovery sumps, temporary wells [piezometers], recovery trenches, recovery wells, and vertical and horizontal air sparging wells) are shown on Figure 1.

This site has been designated by the South Carolina Department of Health and Environmental Control (SCDHEC) as Site Number 18693 "Kinder Morgan Belton Pipeline Release." This Second Quarter Monitoring Report was prepared in accordance with the Corrective Action Plan (CAP) (CH2M, 2016b), CAP Addendum, Revision 1 (CH2M, 2017a), CAP Addendum, Revision 2 (CH2M, 2017d), Comprehensive Site Assessment (CSA) Report (CH2M, 2016a), and project Quality Assurance Project Plan (QAPP), Revision 4 (CH2M, 2018b). Correspondence between Plantation and SCDHEC during this reporting period is summarized below:

- Monthly status reports March 2018 through May 2018 (CH2M, 2018e, 2018i, 2018k).
- April 27, 2018 – *Request to Pump Select Monitoring Wells* (CH2M, 2018f).
- May 4, 2018 – *Request for Well Permit to Install Additional Vertical Sparging Wells for Biosparging System Expansion* (CH2M, 2018g).
- May 16, 2018 – *Submittal of UIC Permit Revision for Expansion of Biosparging Remediation System* (CH2M, 2018h).
- June 6, 2018 – *Response to Comments in SCDHEC Letter titled "Reviews of Misc. Reports, Response to Comments Document, Free Product Recovery Plan, Product Recovery Skimmer Results and Request for Well Permit" dated May 8, 2018* (CH2M, 2018j).
- June 27, 2018 – *2018 Annual Monitoring Report, Lewis Drive Remediation Site, Plantation Pipe Line Company, Belton, South Carolina. Site ID Number 18693, "Kinder Morgan Belton Pipeline Release."* (CH2M, 2018l).

2. Work Activities

The following remedial activities were performed during the second quarter 2018 in accordance with the CAP (CH2M, 2016b), CAP Addendum, Revision 1 (CH2M, 2017a), CAP Addendum, Revision 2 (CH2M, 2017d), and project QAPP, Revision 4 (CH2M, 2018b):

- Conducted three monthly groundwater sampling events and three monthly surface water sampling events.
- Operated vertical air sparging wells in the areas of Brown's Creek and Cupboard Creek (Figure 1).
- Operated stream aerators in Brown's Creek.
- Operated three horizontal air sparging wells in the Hayfield Zone (Figure 1).
- Performed routine operation and maintenance (O&M) on the air sparging system.
- Recorded changes in groundwater levels and barometric pressures in eight monitor wells using In Situ Rugged Troll 100 data loggers. Six monitoring well locations contained water level data loggers and two monitoring well locations contained barometric pressure loggers.
- Performed continuous free-product recovery (canisters and adsorbent socks) in 22 wells monthly in the Brown's Creek Protection Zone (BCPZ) and Cupboard Creek Protection Zone (CCPZ).
- Relocated a product skimmer from RW-08 to RW-10.
- Removed product skimmers from monitoring wells MW-08, MW-11, MW-15, and MW-20 per SCDHEC's request on May 8, 2018 (SCDHEC, 2018).
- Performed monthly inspections of surface water features at Brown's Creek and Cupboard Creek.

3. Work Procedures

3.1 Gauging Events

Monitoring wells, surface water locations, piezometers, and product recovery features (recovery sumps, trenches, and wells) were gauged monthly. During gauging events, DO measurements were recorded for select wells using a YSI ProODO meter. Field forms for gauging during this reporting period can be found in Appendix A. Observations made during this reporting period are summarized in Table 1 and discussed in Section 3.2. Field notes for this reporting period can be found in Appendix A.

3.2 Product Recovery

As agreed upon with the SCDHEC (CH2M, 2017c), free-product recovery was focused on the BCPZ and CCPZ during this reporting period. Product recovery was performed continuously in these two zones in recovery wells, sumps, and trenches, and monitoring wells (Table 7). In February 2018, in accordance with the Free-Product Recovery Plan – Revision 4 (CH2M, 2018a), skimmers and absorbent socks were placed in wells containing product to allow for improved product recovery and quantification on a well-by-well basis. During each monthly monitoring event, the field team recorded the product recovered from each recovery feature or monitoring well (Table 7). The quantity of recovered product was tracked by measuring these fluid levels from the skimmers in a stainless-steel measuring cup and placed in a metal 5-gallon bucket and weighing the absorbent socks before and after deployment into the well or recovery feature. The recovered fluids from the skimmers were then placed into the onsite poly tanks for temporary storage, separation, and eventual offsite disposal. Used absorbent socks were placed in a drum for offsite disposal.

3.3 Surface Water

Inspections of surface water features were performed monthly. The inspection route used is illustrated on Figures 1, 2A, and 2B.

Surface water samples were collected in accordance with the CAP Addendum, Revision 2 (CH2M, 2017d). Surface water samples were collected monthly during this reporting period.

Surface water samples were scheduled to be collected from 17 locations. During this reporting period, location SW-06 in Cupboard Creek was not sampled due to insufficient surface water, and location SW-05 in Cupboard Creek was not sampled two of the three times it was scheduled to be sampled due to insufficient surface water.

Samples were collected in accordance with the project QAPP, Revision 4 (CH2M, 2018b), and were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) and naphthalene using U.S. Environmental Protection Agency (EPA) Method 8260B (see Table 2). Methyl tertiary butyl ether (MTBE) was added to the analyte list in February 2018 using EPA Method 8260B. The samples were packed in wet ice and transported by FedEx under standard chain-of-custody (COC) procedures to ESC Lab Sciences in Mount Juliet, Tennessee. Laboratory reports for surface water samples and COC records for April through June 2018 are included in Appendix B. Laboratory results are summarized in Table 2. Field notes for this reporting period can be found in Appendix A.

3.4 Groundwater Sampling Events

Three groundwater sampling events were performed during the reporting period on April 6, 2018 (Event 1), May 3, 2018 (Event 2), and June 4 through 7, 2018 (Event 3). Prior to each sampling event, a comprehensive round of groundwater gauging was conducted using an oil-water interface probe to measure the depth to water and test for the presence and thickness (if present) of product. The oil-water interface probe was decontaminated before each measurement. Decontamination was performed in accordance with the SCDHEC *Programmatic Quality Assurance Program Plan, Revision 3.1*

(Programmatic QAPP) or project QAPP, Revision 4 (CH2M, 2018b) as applicable. Groundwater elevation and product thickness data are summarized in Table 3. Gauging sheets and field notes for this reporting period can be found in Appendix A. Figures 2A and 2B show groundwater elevations in the residuum and bedrock aquifers, respectively. Figure 3 presents product thickness data for the site.

Groundwater wells without free product were sampled using either HydraSleeves or a peristaltic pump using low-flow purge and sampling methods. The height of the water column determined if a well was sampled using a HydraSleeve or peristaltic pump according to the following:

- Water column greater than 3 feet — A HydraSleeve was used to sample the well.
- Water column less than 3 feet but greater than 0.5 foot — A peristaltic pump was used to purge the well, and field parameters, including DO concentrations, were measured using a YSI 6920 V2-2 Multi-Parameter Water Quality Sonde meter to confirm stabilization of field parameters, in accordance with the SCDHEC *Programmatic Quality Assurance Program Plan, Revision 3.1* (Programmatic QAPP) (South Carolina Underground Storage Tank [UST] Management Division, 2016). After the water quality parameters stabilized, a sample was collected from the well using the straw method in accordance with the Programmatic QAPP. Upon stabilization, the field parameters were recorded on a separate purge log. DO measurements are summarized in Table 4.
- Water column less than 0.5 foot — The well was reported and documented in the field logbook as dry, not sampled, and DO measurements were not collected.

Samples were labeled, packed with wet ice, and transported by FedEx under standard COC procedures to ESC Lab Sciences in Mount Juliet, Tennessee. Samples were analyzed for BTEX, 1,2-dichloroethane (1,2-DCA), MTBE, and naphthalene using EPA Method 8260B. Laboratory data sheets for groundwater samples and COC records for April through June 2018 are included in Appendix C. Laboratory results are summarized in Table 5. Field notes and purge logs for this reporting period can be found in Appendix A.

3.5 Air Sparging System Operation and Maintenance

Air sparging was initiated on March 6, 2017, according to Appendix B of the Corrective Action Plan Addendum, Revision 2 (CH2M, 2017d), with routine O&M activities performed during this reporting period. O&M logs for April through June 2018 are provided in Appendix D. Air sparging activities are summarized by remediation area below. When air sparging rates were increased in any of the wells, air monitoring was performed with a photoionization detector (PID) and visual observations were made near the air sparging wells.

- BCPZ: Air sparging in the BCPZ was performed using a curtain of 26 vertical air sparging wells screened from 13 to 71.5 feet below ground surface (bgs). The flow rates in these wells averaged 8.3 standard cubic feet per minute (scfm) each during the reporting period. Additionally, air was injected into two submersible diffusion aerators installed in Brown's Creek. The flow rates in these aerators averaged 14.7 scfm each during this reporting period.
- CCPZ: Air sparging in the CCPZ was performed using a curtain of 19 vertical air sparging wells screened from 9.5 to 31.20 feet bgs. The flow rates in these wells averaged 8.1 scfm each during this reporting period.
- Shallow Bedrock Zone: No air sparging has been performed in the Shallow Bedrock Zone to date. A pilot plan for air sparging in the Shallow Bedrock Zone was approved on December 14, 2017. However, based on a meeting with SCDHEC on March 7, 2018, Plantation is deferring the bedrock sparging pilot study and installation of these wells at this time. Plantation is planning to expand the existing BCPZ and the CCPZ air sparging systems in the fourth quarter of 2018, which should address key areas of impact within the Shallow Bedrock Zone.
- Hayfield Zone: Air sparging in the Hayfield Zone was performed using three horizontal wells, HAS-01, HAS-02, and HAS-03, screened approximately 752, 715, and 377 feet, respectively. The flow rates in each of the three horizontal wells (HAS-1, HAS-2, and HAS-3) were maintained at approximately 0.70 scfm per foot of screen (scfm/ft) during this reporting period.

Water levels were measured in the BCPZ, CCPZ, and Hayfield Zone to document the influence of the air sparging system on the residuum aquifer. During this reporting period, water level data loggers (In Situ Rugged Troll 100) have measured groundwater elevations continuously at various locations around the site. Data loggers were positioned in MW-02, MW-12, MW-25, MW-29, MW-39, and MW-40, and two barometric pressure loggers in MW-01 and MW-10.

3.6 Additional Activities

Additional activities for April 2018 through June 2018 include the product skimmer in RW-08 being relocated to RW-10 since no product has been recovered from RW-08 in the four months since it was installed in February 13, 2018 and no product thickness greater than 0.01 foot has been gauged in the recovery well since January 2018. Also, the product skimmers were removed from monitoring wells MW-08, MW-11, MW-15, and MW-20 in accordance with SCDHEC's request in their letter date-stamped May 8, 2018 (SCDHEC, 2018).

4. Discussion of Results

4.1 Product Recovery

Since the beginning of free-product recovery through June 30, 2018, approximately 222,983 gallons (5,309 barrels) of product have been recovered. During this reporting period, 2.98 gallons of product were recovered at the site using skimmers and socks.

Table 6 shows the dates and quantities of product that were shipped offsite for disposal. Table 7 shows the dates and quantities of product that were recovered while using skimmers and socks. Field notes for this reporting period are located in Appendix A.

4.2 Surface Water

Observations made during this reporting period are summarized in Table 1. Field notes for this reporting period are located in Appendix A. No new signs of distressed vegetation, hydrocarbon sheens, or odors were observed during the inspections for this reporting period.

During this reporting period, dissolved hydrocarbons were detected in surface water at SW-01, SW-02, SW-04, SW-12, SW-13, and SW-14 (Table 2). Benzene was the only constituent that exceeded the surface water standard for protection of human health for consumption of water and organisms of 2.2 micrograms per liter ($\mu\text{g/L}$) (SCDHEC, 2014) as summarized below.

- On April 6, 2018:
 - 2.23 $\mu\text{g/L}$ benzene at SW-02
- On June 7, 2018:
 - 2.99 $\mu\text{g/L}$ benzene at SW-13

The only exceedance of benzene at SW-02 occurred during the April event and was subsequently non-detect at 1 $\mu\text{g/L}$ in May and June 2018 at SW-02. Surface water samples collected from SW-02 exceeded benzene screening criteria between December 2017 and March 2018. Plantation contracted Environmental Standards, Inc. to perform a forensic review of the detections at SW-02 (Environmental Standards, Inc., 2018). SW-12 is upgradient of SW-02 and located where product associated with the 2014 release was observed in Brown's Creek. The chemical profile of SW-02 was compared to the chemical profile of SW-12 and these data differed significantly, and therefore the impacts at SW-02 cannot be attributed to the release at the site. A summary of this data review was transmitted on March 13, 2018 to SCDHEC under a separate cover.

The isolated benzene exceedance at SW-13 of 2.99 $\mu\text{g/L}$ appears to be anomalous and will continue to be monitored.

Construction details for the stream gauges are presented in Table 8. Surface water sample results are summarized in Table 2. Field notes for this reporting period are located in Appendix A. Trends for surface water sampling locations SW-01, SW-02, SW-04, SW-12, and SW-13 are presented in Appendix E. Analytical data sheets and COC records are included in Appendix B.

4.3 Groundwater Flow and Product Distribution

Water levels from the June 2018 gauging event were used to create potentiometric surface maps for the site (Figures 2A and 2B). Groundwater in both the residuum (Figure 2A) and bedrock (Figure 2B) aquifers mimics the topography of the site and generally flows from topographic highs to topographic lows. Cupboard Creek flows intermittently, indicating the primary direction of groundwater flow is northeast toward Brown's Creek. The June 2018 water table configurations and direction of groundwater flow are consistent with previous findings.

Product thicknesses decreased across the site from April 2018 through June 2018 and are presented alongside well gauging data in Table 3. This decrease in product thickness is directly attributable to the continued operation of the air sparging system. Gauging sheets for this reporting period are located in Appendix A. Hydrographs for nonrecovery (monitoring wells and piezometers) and recovery (recovery sumps, recovery trenches, and recovery wells) features representative of general product thickness trends are presented in Appendix F. Results are summarized as follows:

- Nonrecovery Features:
 - Decreasing product thickness trends were noted in groundwater monitoring wells MW-09, MW-16, and MW-18.
 - Stable product thickness trends are noted in groundwater monitoring wells MW-08 and MW-20.
 - Measurable product thickness has not been detected in a year in monitoring well MW-12 and in four months in monitoring well MW-11.
- Recovery Features:
 - Decreasing product thickness trends were noted in recovery sump RS-01, and in recovery wells RW-02, RW-04, RW-05, RW-10, and RW-15.
 - Increasing product thickness trends were noted in temporary well TW-42 from May to June and recovery sump RS-05 in May and then decreasing in June.
 - Stable product thickness trends are noted in recovery sumps RS-02, RS-07, RS-10, and RS-14.
 - Measurable product thickness has not been detected in over a year in recovery sump RS-11 and recovery well RW-13, ten months in recovery sumps RS-12 and RS-18 and recovery well RW-11, nine months in recovery sumps RS-09 and RS-15 and recovery well RW-12, eight months in recovery sumps RS-06, recovery well RW-09, four months in recovery sump RS-17 and recovery wells RW-03, RW-06, and RW-07, and at least four months in all recovery trenches

The product extent in June 2016 is compared to that in June 2018 on Figure 3, demonstrating the decrease of product thickness and extent over the last 24 months. The extent of product has decreased since product is no longer measurable in MW-09, MW-11, MW-12, MW-16, MW-19, RS-02, RS-05, RS-06, RS-07, RS-08, RS-09, RS-11, RS-12, RS-13, RS-18, RT-1A, RT-1B, RT-1C, RT-2K, RT-2L, RW-02, RW-03, RW-05, RW-06, RW-07, RW-08, RW-10, RW-11, RW-13, RW-14, TW-28, TW-84, and TW-94.

Stream elevations are tabulated in Table 3 and are presented with groundwater elevations on Figure 2A. Construction details for recovery and nonrecovery features are presented in Table 9.

4.4 Dissolved Oxygen Distribution

DO measurements in groundwater are provided in Table 4. Field notes for this reporting period can be found in Appendix A. The average DO concentration has stabilized in the residuum wells and increased in the bedrock wells. In residuum wells, the average DO concentration ranged from 7.12 milligrams per liter (mg/L) in April 2018 to 7.93 mg/L in June 2018. In bedrock wells, the average DO concentration increased from 1.66 mg/L in April 2018 to 3.28 mg/L in June 2018.

4.4.1 Brown’s Creek Protection Zone

The average DO concentrations in the BCPZ increased from 3.10 mg/L in April 2018 to 5.88 mg/L in June 2018.

4.4.2 Cupboard Creek Protection Zone

The average DO concentrations in the CCPZ decreased from 5.04 mg/L in April 2018 to 2.90 mg/L in June 2018.

4.4.3 Hayfield Zone

The average DO concentration in the Hayfield Zone have increased from 8.38 mg/L in April 2018 to 9.41 mg/L in June 2018.

4.4.4 Shallow Bedrock Zone

DO levels in this zone were stable with 1.58 mg/L in April 2018 and 1.21 mg/L in June 2018.

4.5 Groundwater Monitoring Results

Groundwater monitoring results for this reporting period indicate that there are significant decreases in dissolved concentrations of hydrocarbons in the BCPZ, CCPZ, and Hayfield Zone, and stable trends in the Shallow Bedrock Zone, in bedrock wells, and in other locations outside the influence of the air sparging systems. Table 5 presents analytical results for all groundwater samples that have been collected at the site since July 2015. Field notes and purge logs for this reporting period are located in Appendix A. The laboratory analytical reports for the sampling events for this reporting period are provided in Appendix C. Groundwater analytical results are screened against the risk-based screening levels listed in the South Carolina Programmatic QAPP, Table D1 (South Carolina UST Management Division, 2016), which are provided at the top of Table 5. The June 2018 results are shown on Figures 4A and 4B, and summarized in the following sections. Trends for select groundwater monitoring wells are shown in Appendix G. If the monitoring well is influenced by the air sparging system, there will be a gray shaded area on the trend charts. Trends were not created for monitoring wells that have been nondetect since sampling began.

4.5.1 Brown's Creek Protection Zone

Dissolved concentrations show an overall decreasing trend in the residuum aquifer of the BCPZ. For example, in monitoring wells MW-28, MW-34, MW-40, and MW-42, benzene concentrations have decreased by one to three orders of magnitude. Concentrations of BTEX constituents were stable in MW-12 between September 2017 and March 2018, but have shown a decrease in June 2018. Concentrations of BTEX constituents in MW-15, MW-38, and MW-39, remain stable; MW-41 being non-detect since February 2018.

Benzene concentrations appear to be stable in bedrock wells (968 µg/L in MW-15B in June 2018, and nondetect in all other bedrock monitoring wells). MW-12B is the only exception, showing a decreasing trend in benzene concentration (126 µg/L in September 2017 to 3.06 µg/L in March 2018); however, the benzene at this well showed an increase of 275 µg/L in June 2018.

Benzene was detected above its screening level in five of fifteen residuum monitoring wells in the BCPZ (MW-12, MW-15, MW-34, MW-38, and MW-40), ranging from 16.3 µg/L (MW-12) to 472 µg/L (MW-40). MTBE was detected above its screening level in MW-15, MW-34, MW-38, MW-39, and MW-40, ranging from 63.8 µg/L (MW-15) to 322 µg/L (MW-39). Constituents in cross-gradient monitoring wells MW-37 (to the north) and MW-35 (to the south) have been below screening levels since system startup. Constituent concentrations in monitoring well MW-24 were below screening levels since September 2017. MW-25 were below screening levels since March 2018, and MW-43 and MW-49 were below screening levels since the fourth quarter 2017.

Benzene was detected above its screening level in two of five bedrock monitoring wells within the BCPZ, at the concentration of 275 µg/L in MW-12B and 968 µg/L in MW-15B. Toluene and MTBE were also detected above their screening levels in MW-15B at 1,990 µg/L and 109 µg/L, respectively. Constituents have been nondetect in MW-25B since March 2017, in MW-24B since September 2017, and in MW-43B since December 2017.

4.5.2 Cupboard Creek Protection Zone

Dissolved concentrations in the CCPZ were increasing but have stabilized since initiating air sparging. Benzene concentrations in MW-23 have remained nondetect since March 2018. MW-19 has not been able

to be sampled on a regular frequency due to insufficient water however it was sampled during the June event. MW-20 has not been able to be sampled due to the presence of free product. Since MW-46 was installed in September 2017, BTEX concentrations have been increasing and will continue to be evaluated.

Benzene and MTBE were detected above their screening levels in one residuum monitoring well in the CCPZ (294 µg/L and 184 µg/L, respectively, in MW-46). Benzene was also detected above its screening level in residuum monitoring well MW-19 at a concentration of 8.15 µg/L. MW-20 was not sampled because it contained free product. Downgradient monitoring wells MW-26 and MW-29 were nondetect for all constituents.

No constituents were detected above screening levels in bedrock monitoring wells in the CCPZ.

4.5.3 Hayfield Zone

A decreasing trend is very evident in the residuum aquifer in the Hayfield Zone, with the reductions in concentrations in constituents detected and the constituents exceeding the screening criteria. For example, in MW-02, MW-09, and MW-30, benzene concentrations have decreased by one to three orders of magnitude and all other constituents are below screening levels for these locations. Concentrations at locations outside the influence of the air sparging system remain stable, notably near residuum well northwest of MW-07 and bedrock wells north of MW-13B and southeast of MW-17B. However, concentrations have increased for MW-13B with BTEX, increasing by an order of magnitude. Constituents analyzed in monitoring wells MW-04, MW-05, MW-06, MW-08, MW-10, MW-14, MW-21, MW-31, MW-32, MW-33T, and MW-47 were nondetect.

Constituent concentrations in MW-09B, MW-14B, and MW-17B have remained stable. Constituents in monitoring wells MW-02B, MW-06B, MW-36B, MW-45B, MW-48B, and MW-50B were below screening levels. All bedrock monitoring wells in the Hayfield Zone were sampled.

Benzene was detected above its screening level in 2 of 22 residuum monitoring wells in the Hayfield Zone ranging from 44.2 µg/L (MW-13) to 184 µg/L (MW-36). All other constituents were not detected above their respective screening levels. Four residuum monitoring wells in the Hayfield Zone were not sampled because of insufficient water (MW-17) and presence of product (MW-07, MW-16, and MW-18).

Benzene was detected above its screening level in four of ten bedrock monitoring wells ranging in concentrations from 8.63 µg/L in MW-14B to 8,910 µg/L in MW-17B. Concentrations of ethylbenzene, toluene, MTBE, and naphthalene exceeded their screen levels at MW-17B. MTBE also exceeded its screening level in MW-13B.

4.5.4 Shallow Bedrock Zone

In the residuum of the Shallow Bedrock Zone, one well contained product (MW-11). Benzene was the only constituent detected above its screening level in groundwater (MW-27) at a concentration of 5.74 µg/L.

Benzene was detected above its screening level in one of three bedrock monitoring wells in the Shallow Bedrock Zone, at the concentration of 8.96 µg/L in MW-01B.

4.6 Air Sparging System Operating Efficiency and Performance Data

Between April 1, 2018, and June 30, 2018, the air sparging system operated a total of approximately 4,159 hours, with an operating uptime of 97.7 percent. Since two compressors were operating during this timeframe, system maintenance activities could be conducted with minimal system downtime. During this reporting period, the only downtime was due to power grid fluctuations caused by local area storms and Subtropical Storm Alberto. The air sparging system was not operating for a total of 22 hours in May and 11 hours in June. In June 2018, air sparging flow rates in the stream aerators, horizontal wells, and vertical wells were at 98 percent, 91 percent, and 55 percent of design flow capacity, respectively.

5. Conclusions

The following conclusions are based upon data analysis from the site work performed between April 1, 2018, and June 30, 2018:

- Since starting the site air sparging system on March 6th, 2017 for the vertical sparging systems in the BCPZ and CCPZ areas and in May 2017 for the horizontal sparging system in the hayfield zone, product thickness values have declined in both recovery and nonrecovery features across the site. The number of locations with product thicknesses greater than 0.5 foot has decreased from seven locations in March 2018, three locations in April, two locations in May, and one location in June 2018. The locations that have measurable product thickness are not adjacent to any surface water bodies at the site.
- The volume of product recovered between April 2018 and June 2018 was 2.98 gallons which is less than what was collected in March 2018 alone (3.43 gallons).
- Three surface water sampling events were performed during this quarter. Based on a review of historical detections at SW-02 that determined that they were not related to the release, it is unlikely that the exceedance of benzene at SW-02 during this period of record can be attributed to the release at the site. Benzene has not been detected at SW-02 since April 2018. The benzene exceedance at SW-13 appears to be anomalous and will continue to be monitored.
- The average DO concentration in residuum and bedrock wells has remained stable for this reporting period. This shows the effectiveness of the air sparging system at introducing oxygen into the subsurface. Air sparging will continue to be increased at the vertical wells to design flow rates during the next quarter to meet the increasing biomass oxygen demand. The design flow rates have been met and sustained at the horizontal and stream aerators locations.
- Groundwater monitoring results for this reporting period indicate that due to operation of the air sparging system there are continued decreases in dissolved concentrations of hydrocarbons in the BCPZ, CCPZ, and Hayfield Zone, and stable trends in the Shallow Bedrock Zone, in bedrock wells, and in other locations outside the influence of the air sparging system. Concentrations in MW-40 dropped significantly during the June 2018 event.
- During this reporting period, the air sparging system had an operating uptime of 97.7 percent. Operating flows in the stream aerators, horizontal wells, and vertical wells were at 98 percent, 91 percent, and 55 percent of design flow capacity, respectively.

6. Future Activities

This section describes future activities planned for the site.

6.1 Groundwater and Surface Water Monitoring

- Continue gauging of monitoring wells and surface water sampling locations in accordance with the CAP Addendum, Revision 2 (CH2M, 2017d) submitted to SCDHEC on October 12, 2017.
- Sample monitoring wells and surface water sampling locations on a quarterly basis starting in July 2018 per Section 3 and Table 2 of the CAP Addendum, Revision 2 (CH2M, 2017d).
- Collect DO concentration measurements on a quarterly basis, starting in July 2018 per Section 3 and Table 2 of the CAP Addendum, Revision 2 (CH2M, 2017d).
- Submit quarterly reports starting in July 2018 per Section 3 and Table 2 of the CAP Addendum, Revision 2 (CH2M, 2017d).
- Continue routine visual inspection of Brown's Creek and Cupboard Creek as outlined in the CAP Addendum, Revision 2 (CH2M, 2017d).
- Install additional monitoring wells to expand the monitoring network north of MW-30, west of MW-30, and upgradient of MW-38 in accordance with the Request for Well Permit to Install Additional Monitoring Wells (CH2M, 2018d).
- Abandon 1-inch-diameter wells (piezometers) because their narrow diameter exaggerates product thickness measurements and because the existing 2-inch monitoring well network is now sufficient for groundwater elevation and product thickness measurements.
- Abandon monitoring wells MW-17 and MW-19 without replacement. These wells have consistently experienced insufficient water for sampling, and additional downgradient and cross-gradient wells have since been installed in their vicinity that have had sufficient water to sample.
- Analyze concentration trends in the monitoring well network to identify areas for additional remediation, if necessary, and to optimize the monitoring well network.

6.2 Product Recovery

Continue monthly product recovery evaluations using skimmers and socks in accordance with the Product Recovery Skimmer Results report (CH2M, 2018c). This will allow more accurate tracking of free product recovered at each feature.

6.3 System Operation and Maintenance

- Continue routine O&M activities for the air sparging system as described in the CAP Addendum, Revision 2 (CH2M, 2017d).
- Continue air sparging in the BCPZ and CCPZ. Persistent free product in MW-20 will be addressed by maximizing air flow in the vertical air sparging wells in the vicinity of this feature up to the maximum design flow rate of 15 scfm per well.
- Continue air sparging in the horizontal wells in the Hayfield Zone up to the maximum design flow rate of 0.75 scfm/ft.
- Continue operating the stream diffusion aerators at the design flow rate of 15 scfm in each, according to the Sparging Operating Limits letter (CH2M, 2017b).

6.4 Remediation System Expansion

In order to address persistent concentrations in the vicinity of MW-11 and MW-17, Plantation proposed expanding the existing air sparging system in correspondence dated May 4, 2018 (CH2M, 2018g). The

plan proposed installing 13 new vertical air sparging wells to the top of bedrock. Five of these wells would be installed to extend the remedial zone of influence of the CCPZ air sparging curtain to the northwest across Lewis Drive beyond monitoring well MW-17 (Figure 1). The remaining eight wells would be installed to extend the remedial zone of influence of the BCPZ air sparging curtain southwest toward monitoring well MW-11 (Figure 1).

7. References

CH2M HILL Engineers, Inc. (CH2M). 2016a. *Comprehensive Site Assessment Report, Lewis Drive Release Site, Belton, South Carolina. Site ID Number 18693 ("Kinder Morgan Belton Pipeline Release")*. July.

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Tables

Table 1. Field Observation Log

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Date	Inspect Wetlands South of Calhoun Road (Any odor, sheen or distressed vegetation? Describe.)	Inspect Brown's Creek Upstream and Downstream of the Culvert Under Lewis Drive (Any odor, sheen or distressed vegetation? Describe.)
4/6/2018	No odors, sheens, or distressed vegetation observed in wetlands South of Calhoun Road.	No odors, sheens or distressed vegetation observed in wetlands either upstream or downstream of Culvert under Lewis Drive.
5/3/2018	No odors, sheens, or distressed vegetation observed in wetlands South of Calhoun Road.	No odors, sheens or distressed vegetation observed in wetlands either upstream or downstream of Culvert under Lewis Drive.
6/7/2018	No odors, sheens, or distressed vegetation observed in wetlands South of Calhoun Road.	No odors, sheens or distressed vegetation observed in wetlands either upstream or downstream of Culvert under Lewis Drive.

Notes:

ID = identification

Table 2. Analytical Results for Surface Water

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Date Collected	Units	Analyte							
				Benzene	Ethylbenzene	Toluene	m&p-Xylene	o-Xylene	Naphthalene	MTBE	
Screening Value (µg/L):			2.2 ^a	530 ^a	1,000 ^a	NA ^b	NA ^b	NA ^b	NA ^b	5.7 ^J	
SW-RELEASE	SW-RELEASE	1/20/2015	µg/L	330	490	2,400	2,100	940	140	5.7 J	
SW-01	SW01-121114	12/11/2014	µg/L	0.5 U	1 U	1 U	2 U	1 U	1 U	1 U	
	SW01-022515	2/25/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA	
	SW01-030215	3/2/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA	
	SW01-031115	3/11/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA	
	SW01-031815	3/18/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA	
	SW01-033115	3/31/2015	µg/L	5 U ^c	5 U	17.6	10 U	5 U	5 U	NA	
	SW01-042215	4/22/2015	µg/L	5 U ^c	5 U	14.9	10 U	5 U	5 U	NA	
	SW01-050715	5/7/2015	µg/L	5 U ^c	5 U	7.00	10 U	5 U	5 U	NA	
	SW01-051915	5/19/2015	µg/L	5 U ^c	5 U	8.80	10.6	6.40	5 U	NA	
	SW01-060315	6/3/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA	
	SW01-061815	6/18/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA	
	SW01-071515	7/15/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA	
	SW01-081315	8/13/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA	
	SW01-092415	9/24/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA	
	SW01-102215	10/22/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	SW01-112415	11/24/2015	µg/L	7.80	1.50	13.0	9.30	4.60	1 U	NA	
	SW01-122215	12/22/2015	µg/L	4.60	1 U	8.80	5.50	3.10	1 U	NA	
	SW01-012516	1/25/2016	µg/L	17.6	2.30	36.0	11.3	6.30	1 U	NA	
	SW01-021816	2/18/2016	µg/L	23.4	3.00	55.6	15.0	9.10	1 U	NA	
	SW01-031616	3/16/2016	µg/L	20.1	2.40	42.3	13.3	7.60	1 U	NA	
	SW01-042716	4/27/2016	µg/L	20.8	1 U	30.6	2.90	2.00	1 U	NA	
	SW01-050916	5/9/2016	µg/L	16.5	1.400	16.3	7.00	4.80	1 U	NA	
	SW01-062716	6/27/2016	µg/L	9.00	1 U	3.30	2 U	1 U	1 U	NA	
	SW01-072816	7/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	SW01-081916	8/19/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	SW01-092916	9/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	SW01-103116	10/31/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	SW01-112816	11/28/2016	µg/L	5.00	1 U	10.4	4.900	8.30	1 U	NA	
	SW01-122916	12/29/2016	µg/L	12.6	1 U	22.1	11.2	13.5	1 U	NA	
	SW01-012017	1/20/2017	µg/L	1.00	1 U	2.300	2 U	3.50	1 U	NA	
	SW01-022817	2/28/2017	µg/L	18.5	1.93	37.0	13.8	10.2	5 U	NA	
	SW01-031517	3/15/2017	µg/L	3.02	1 U	5.13	2.16	1.74	5 U	NA	
	SW01-032117	3/21/2017	µg/L	1 U	1 U	1.57	2 U	1 U	5 U	NA	
	SW01-033017	3/30/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW01-040517	4/5/2017	µg/L	1 U	1 U	2.25	2 U	1 U	5 U	NA	
	SW01-050417	5/4/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW01-061317	6/13/2017	µg/L	1 U	1 U	1.90	2 U	1 U	5 U	NA	
	SW01-071817	7/18/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW01-080217	8/2/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	

Table 2. Analytical Results for Surface Water

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Date Collected	Units	Analyte						
				Benzene	Ethylbenzene	Toluene	m&p-Xylene	o-Xylene	Naphthalene	MTBE
				Screening Value (µg/L):	530 ^a	1,000 ^a	NA ^b	NA ^b	NA ^b	NA ^b
SW-01	SW01-090517	9/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW01-120517	12/5/2017	µg/L	1.50	1 U	1.15	2 U	2.14	5 U	NA
	SW01-121417	12/14/2017	µg/L	4.52	1 U	4.52	3.48	3.20	5 U	NA
	SW01-010918	1/9/2018	µg/L	1 U	1 U	1 U	2 U	1.15	5 U	NA
	SW01-020618	2/6/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U
	SW01-030918	3/9/2018	µg/L	1.15	1 U	1 U	2 U	1 U	5 U	1 U
	SW01-040618	4/6/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1.10
	SW01-050318	5/3/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U
SW01-060718	6/7/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1.43	
SW-02	SW02-121114	12/11/2014	µg/L	0.5 U	1 U	1 U	2 U	1 U	1 U	1 U
	SW02-022515	2/25/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW02-030215	3/2/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW02-031115	3/11/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW02-031815	3/18/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW02-033115	3/31/2015	µg/L	5 U ^c	5 U	6.00	10 U	5 U	5 U	NA
	SW02-042215	4/22/2015	µg/L	5 U ^c	5 U	13.0	10 U	5 U	5 U	NA
	SW02-050715	5/7/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW02-051915	5/19/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW02-060315	6/3/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW02-061815	6/18/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW02-071515	7/15/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW02-081315	8/13/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW02-092415	9/24/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW02-102215	10/22/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW02-112415	11/24/2015	µg/L	6.00	1.30	10.0	7.80	4.00	1 U	NA
	SW02-122215	12/22/2015	µg/L	4.10	1 U	7.60	5.10	3.10	1 U	NA
	SW02-012516	1/25/2016	µg/L	12.0	1.50	25.0	8.400	4.60	1 U	NA
	SW02-021816	2/18/2016	µg/L	15.5	1.80	35.3	10.1	5.90	1 U	NA
	SW02-031616	3/16/2016	µg/L	8.00	1.00	17.5	5.80	3.90	1 U	NA
	SW02-042716	4/27/2016	µg/L	5.60	1 U	7.10	2 U	1 U	1 U	NA
	SW02-050916	5/9/2016	µg/L	7.10	1 U	4.50	2.20	1.60	1 U	NA
	SW02-062716	6/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW02-072816	7/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW02-081916	8/19/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW02-092916	9/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW02-103116	10/31/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW02-112816	11/28/2016	µg/L	5.40	1 U	1.60	2.60	4.80	1 U	NA
SW02-122916	12/29/2016	µg/L	1 U	1 U	1 U	2 U	1.40	1 U	NA	
SW02-012017	1/20/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
SW02-022817	2/28/2017	µg/L	10.7	1 U	11.0	4.14	4.23	5 U	NA	

Table 2. Analytical Results for Surface Water

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Date Collected	Units	Analyte							
				Benzene	Ethylbenzene	Toluene	m&p-Xylene	o-Xylene	Naphthalene	MTBE	
				Screening Value (µg/L):	530 ^a	1,000 ^a	NA ^b	NA ^b	NA ^b	NA ^b	
SW-02	SW02-031517	3/15/2017	µg/L	11.4	1 U	8.60	4.45	3.6	5 U	NA	
	SW02-032117	3/21/2017	µg/L	8.42	1 U	2.45	2.48	2.68	5 U	NA	
	SW02-033017	3/30/2017	µg/L	2.18	1 U	1 U	2 U	1 U	5 U	NA	
	SW02-040517	4/5/2017	µg/L	2.87	1 U	1.12	2 U	1.14	5 U	NA	
	SW02-050417	5/4/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW02-061317	6/13/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW02-071817	7/18/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW02-080217	8/2/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW02-090517	9/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW02-120517	12/5/2017	µg/L	26.6	1.80	8.39	10.2	7.17	5 U	NA	
	SW02-121417	12/14/2017	µg/L	21.1	1.53	9.40	9.74	7.32	5 U	NA	
	SW02-010918	1/9/2018	µg/L	25.0	1.56	12.4	11.0	8.24	5 U	NA	
	SW02-020618	2/6/2018	µg/L	6.69	1 U	2.65	2.75	1.87	5 U	1 U	
	SW02-030918	3/9/2018	µg/L	3.19	1 U	1.39	2 U	1.11	5 U	1 U	
	SW02-040618	4/6/2018	µg/L	2.23	1 U	1 U	2 U	1 U	5 U	2.13	
	SW02-050318	5/3/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	2.25	
	SW02-060718	6/7/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1.92	
SW-03	SW-UPGRADIENT	1/20/2015	µg/L	0.5 U	1 U	0.23 J	2 U	1 U	1 U	1 U	
	SW03-022515	2/25/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA	
	SW03-030215	3/2/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA	
	SW03-031115	3/11/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA	
	SW03-031815	3/18/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA	
	SW03-033115	3/31/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA	
	SW03-042215	4/22/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA	
	SW03-050715	5/7/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA	
	SW03-051915	5/19/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA	
	SW03-060315	6/3/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA	
	SW03-061815	6/18/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA	
	SW03-071515	7/15/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA	
	SW03-081315	8/13/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA	
	--	9/24/2015	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	
	SW03-102215	10/22/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	SW03-112415	11/24/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	SW03-122215	12/22/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	SW03-012516	1/25/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	SW03-021816	2/18/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	SW03-031616	3/16/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
SW03-042716	4/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA		
SW03-050916	5/9/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA		
SW03-062716	6/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA		

Table 2. Analytical Results for Surface Water

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Date Collected	Units	Analyte						
				Benzene	Ethylbenzene	Toluene	m&p-Xylene	o-Xylene	Naphthalene	MTBE
				Screening Value (µg/L): 2.2 ^a	530 ^a	1,000 ^a	NA ^b	NA ^b	NA ^b	NA ^b
SW-03	SW03-072816	7/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	--	8/19/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	SW03-092916	9/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW03-103116	10/31/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW03-112816	11/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW03-122916	12/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW03-012017	1/20/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW03-022817	2/28/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW03-031517	3/15/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW03-032117	3/21/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW03-033017	3/30/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW03-040517	4/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW03-050417	5/4/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW03-061317	6/13/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW03-071817	7/18/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW03-080217	8/2/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW03-090517	9/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW03-120517	12/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW03-121417	12/14/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	--	1/9/2018	--	NS-HS	NS-HS	NS-HS	NS-HS	NS-HS	NS-HS	NS-HS
	SW03-020618	2/6/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U
	SW03-030918	3/9/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U
	SW03-040618	4/6/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U
SW03-050318	5/3/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U	
SW03-060718	6/7/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U	
SW-04	SW-DOWNGRADIENT	1/20/2015	µg/L	95.0	27.0	310	110	63.0	94.0	2.70
	SW04-022515	2/25/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW04-030215	3/2/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW04-031115	3/11/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW04-031815	3/18/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW04-033115	3/31/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW04-042215	4/22/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW04-050715	5/7/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW04-051915	5/19/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW04-060315	6/3/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW04-061815	6/18/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW04-071515	7/15/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW04-081315	8/13/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW04-092415	9/24/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW04-102215	10/22/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA

Table 2. Analytical Results for Surface Water

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Date Collected	Units	Analyte						
				Benzene	Ethylbenzene	Toluene	m&p-Xylene	o-Xylene	Naphthalene	MTBE
				Screening Value (µg/L):	530 ^a	1,000 ^a	NA ^b	NA ^b	NA ^b	NA ^b
SW-04	SW04-112415	11/24/2015	µg/L	1.70	1 U	2.70	2.90	1.60	1 U	NA
	SW04-122215	12/22/2015	µg/L	3.30	1 U	7.30	5.20	2.70	1 U	NA
	SW04-012516	1/25/2016	µg/L	6.90	1 U	14.0	4.90	2.80	1 U	NA
	SW04-021816	2/18/2016	µg/L	10.9	1.10	25.4	7.00	4.30	1 U	NA
	SW04-031616	3/16/2016	µg/L	1 U	1 U	2.00	2 U	1.80	1 U	NA
	SW04-042716	4/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW04-050916	5/9/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW04-062716	6/27/2016	µg/L	1 U	1 U	1.10	2 U	1 U	1 U	NA
	SW04-072816	7/28/2016	µg/L	1 U	1 U	23.5	2 U	1 U	1 U	NA
	SW04-081916	8/19/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW04-092916	9/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW04-103116	10/31/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW04-112816	11/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW04-122916	12/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW04-012017	1/20/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW04-022817	2/28/2017	µg/L	1 U	1 U	1.13	2 U	1 U	5 U	NA
	SW04-031517	3/15/2017	µg/L	1 U	1 U	2.90	2 U	1 U	5 U	NA
	SW04-032117	3/21/2017	µg/L	1 U	1 U	3.28	2 U	1 U	5 U	NA
	SW04-033017	3/30/2017	µg/L	1 U	1 U	6.15	2 U	1 U	5 U	NA
	SW04-040517	4/5/2017	µg/L	1 U	1 U	9.47	2 U	1 U	5 U	NA
	SW04-050417	5/4/2017	µg/L	1 U	1 U	13.8	2 U	1 U	5 U	NA
	SW04-061317	6/13/2017	µg/L	1 U	1 U	1.37	2 U	1 U	5 U	NA
	SW04-071817	7/18/2017	µg/L	1 U	1 U	1.92	2 U	1 U	5 U	NA
	SW04-080217	8/2/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW04-090517	9/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW04-120517	12/5/2017	µg/L	1 U	1 U	5.53	2 U	1 U	5 U	NA
	SW04-121417	12/14/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW04-010918	1/9/2018	µg/L	1 U	1 U	4.09	2 U	1 U	5 U	NA
	SW04-020618	2/6/2018	µg/L	3.04	1 U	1.73	2 U	1.12	5 U	1 U
	SW04-030918	3/9/2018	µg/L	1 U	1 U	1.37	2 U	1 U	5 U	1 U
SW04-040618	4/6/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U	
SW04-050318	5/3/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1.20	
SW04-060718	6/7/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1.31	
SW-05	SW05-022515	2/25/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW05-030215	3/2/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW05-031115	3/11/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW05-031815	3/18/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW05-033115	3/31/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW05-042215	4/22/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW05-050715	5/7/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA

Table 2. Analytical Results for Surface Water

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Date Collected	Units	Analyte						
				Benzene	Ethylbenzene	Toluene	m&p-Xylene	o-Xylene	Naphthalene	MTBE
				2.2 ^a	530 ^a	1,000 ^a	NA ^b	NA ^b	NA ^b	NA ^b
			Screening Value (µg/L):							
SW-05	--	5/19/2015	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	6/3/2015	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	6/18/2015	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	7/15/2015	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	8/13/2015	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	9/24/2015	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	10/22/2015	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	SW05-112415	11/24/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW05-122215	12/22/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW05-012516	1/25/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW05-021816	2/18/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW05-031616	3/16/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	--	4/27/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	5/9/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	6/27/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	7/28/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	8/19/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	9/29/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	10/31/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	11/28/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	12/29/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	1/20/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	2/28/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	3/15/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	3/21/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	3/30/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	4/5/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	5/4/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	6/13/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	7/18/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	8/2/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	9/5/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	12/5/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	12/14/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	1/9/2018	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	SW05-020618	2/6/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U
	SW05-030918	3/9/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U
	--	4/6/2018	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	SW05-050318	5/3/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U
	--	6/7/2018	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW

Table 2. Analytical Results for Surface Water

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Date Collected	Units	Analyte						
				Benzene	Ethylbenzene	Toluene	m&p-Xylene	o-Xylene	Naphthalene	MTBE
				Screening Value (µg/L):	2.2 ^a	530 ^a	1,000 ^a	NA ^b	NA ^b	NA ^b
SW-06	SW06-022515	2/25/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW06-030215	3/2/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW06-031115	3/11/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW06-031815	3/18/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	--	3/31/2015	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	SW06-042215	4/22/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	--	5/7/2015	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	5/19/2015	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	6/3/2015	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	6/18/2015	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	7/15/2015	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	8/13/2015	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	9/24/2015	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	10/22/2015	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	11/24/2015	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	SW06-122215	12/22/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW06-012516	1/25/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW06-021816	2/18/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	--	3/16/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	4/27/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	5/9/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	6/27/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	7/28/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	8/19/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	9/29/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	10/31/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	11/28/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	12/29/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	1/20/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	2/28/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	3/15/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	3/21/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	3/30/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	4/5/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	5/4/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	6/13/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	7/18/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	8/2/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	9/5/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	12/5/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW

Table 2. Analytical Results for Surface Water

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Date Collected	Units	Analyte						
				Benzene	Ethylbenzene	Toluene	m&p-Xylene	o-Xylene	Naphthalene	MTBE
				Screening Value (µg/L): 2.2 ^a	530 ^a	1,000 ^a	NA ^b	NA ^b	NA ^b	NA ^b
SW-06	--	12/14/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	1/9/2018	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	2/6/2018	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	3/9/2018	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	4/6/2018	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	5/3/2018	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	6/7/2018	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
SW-07	SW07-022515	2/25/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW07-030215	3/2/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW07-031115	3/11/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW07-031815	3/18/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW07-033115	3/31/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW07-042215	4/22/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW07-050715	5/7/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW07-051915	5/19/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW07-060315	6/3/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW07-061815	6/18/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW07-071515	7/15/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	--	8/13/2015	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	9/24/2015	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	SW07-102215	10/22/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW07-112415	11/24/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW07-122215	12/22/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW07-012516	1/25/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW07-021816	2/18/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW07-031616	3/16/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW07-042716	4/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW07-050916	5/9/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	--	6/27/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	7/28/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	8/19/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	9/29/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	10/31/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	11/28/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	12/29/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	1/20/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	2/28/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	SW07-031517	3/15/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW07-032117	3/21/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW07-033017	3/30/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA

Table 2. Analytical Results for Surface Water

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Date Collected	Units	Analyte						
				Benzene	Ethylbenzene	Toluene	m&p-Xylene	o-Xylene	Naphthalene	MTBE
				Screening Value (µg/L):	2.2 ^a	530 ^a	1,000 ^a	NA ^b	NA ^b	NA ^b
SW-07	SW07-040517	4/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW07-050417	5/4/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW07-061317	6/13/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW07-071817	7/18/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	--	8/2/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	9/5/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	SW07-120517	12/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW07-121417	12/14/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW07-010918	1/9/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW07-020618	2/6/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U
	SW07-030918	3/9/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U
	SW07-040618	4/6/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U
	SW07-050318	5/3/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U
	SW07-060718	6/7/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U
SW-08	SW08-022515	2/25/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW08-030215	3/2/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW08-031115	3/11/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW08-031815	3/18/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW08-033115	3/31/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW08-042215	4/22/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW08-050715	5/7/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW08-051915	5/19/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW08-060315	6/3/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW08-061815	6/18/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW08-071515	7/15/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW08-081315	8/13/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW08-092415	9/24/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW08-102215	10/22/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW08-112415	11/24/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW08-122215	12/22/2015	µg/L	1.60	1 U	3.80	2.50	1.60	1 U	NA
	SW08-012516	1/25/2016	µg/L	2.40	1 U	5.60	2.00	1.30	1 U	NA
	SW08-021816	2/18/2016	µg/L	2.90	1 U	7.60	2.30	1.50	1 U	NA
	SW08-031616	3/16/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW08-042716	4/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
SW08-050916	5/9/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
SW08-062716	6/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
SW08-072816	7/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
SW08-081916	8/19/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
SW08-092916	9/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
SW08-103116	10/31/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	

Table 2. Analytical Results for Surface Water

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Date Collected	Units	Analyte						
				Benzene	Ethylbenzene	Toluene	m&p-Xylene	o-Xylene	Naphthalene	MTBE
				Screening Value (µg/L):	2.2 ^a	530 ^a	1,000 ^a	NA ^b	NA ^b	NA ^b
SW-08	SW08-112816	11/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW08-122916	12/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW08-012017	1/20/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW08-022817	2/28/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW08-031517	3/15/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW08-032117	3/21/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW08-033017	3/30/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW08-040517	4/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW08-050417	5/4/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW08-061317	6/13/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW08-071817	7/18/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW08-080217	8/2/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW08-090517	9/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW08-120517	12/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW08-121417	12/14/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW08-010918	1/9/2018	µg/L	1.16	1 U	1 U	2 U	1.87	5 U	NA
	SW08-020618	2/6/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U
	SW08-030918	3/9/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U
	SW08-040618	4/6/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U
	SW08-050318	5/3/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U
SW08-060718	6/7/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U	
SW-09	SW09-022515	2/25/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW09-030215	3/2/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW09-031115	3/11/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW09-031815	3/18/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW09-033115	3/31/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW09-042215	4/22/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW09-050715	5/7/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW09-051915	5/19/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW09-060315	6/3/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW09-061815	6/18/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW09-071515	7/15/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW09-081315	8/13/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW09-092415	9/24/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW09-102215	10/22/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW09-112415	11/24/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW09-122215	12/22/2015	µg/L	2.10	1 U	4.80	3.30	2.10	1 U	NA
	SW09-012516	1/25/2016	µg/L	3.30	1 U	7.10	2.40	1.50	1 U	NA
	SW09-021816	2/18/2016	µg/L	2.20	1 U	5.90	2 U	1.20	1 U	NA
	SW09-031616	3/16/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA

Table 2. Analytical Results for Surface Water

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Date Collected	Units	Analyte						
				Benzene	Ethylbenzene	Toluene	m&p-Xylene	o-Xylene	Naphthalene	MTBE
				Screening Value (µg/L): 2.2 ^a	530 ^a	1,000 ^a	NA ^b	NA ^b	NA ^b	NA ^b
SW-09	SW09-042716	4/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW09-050916	5/9/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW09-062716	6/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW09-072816	7/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW09-081916	8/19/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW09-092916	9/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW09-103116	10/31/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW09-112816	11/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW09-122916	12/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW09-012017	1/20/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW09-022817	2/28/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW09-031517	3/15/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW09-032117	3/21/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW09-033017	3/30/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW09-040517	4/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW09-050417	5/4/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW09-061317	6/13/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW09-071817	7/18/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW09-080217	8/2/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW09-090517	9/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
SW09-120517	12/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
SW09-121417	12/14/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
SW09-010918	1/9/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
SW09-020618	2/6/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U	
SW09-030918	3/9/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U	
SW09-040618	4/6/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U	
SW09-050318	5/3/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U	
SW09-060718	6/7/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U	
SW-10	SW10-022515	2/25/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW10-030215	3/2/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW10-031115	3/11/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW10-031815	3/18/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW10-033115	3/31/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW10-042215	4/22/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW10-050715	5/7/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW10-051915	5/19/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW10-060315	6/3/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW10-061815	6/18/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
SW10-071515	7/15/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA	
SW10-081315	8/13/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA	

Table 2. Analytical Results for Surface Water

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Date Collected	Units	Analyte							
				Benzene	Ethylbenzene	Toluene	m&p-Xylene	o-Xylene	Naphthalene	MTBE	
				Screening Value (µg/L): 2.2 ^a	530 ^a	1,000 ^a	NA ^b	NA ^b	NA ^b	NA ^b	
SW-10	SW10-092415	9/24/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA	
	SW10-102215	10/22/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	SW10-112415	11/24/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	SW10-122215	12/22/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	SW10-012516	1/25/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	SW10-021816	2/18/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	SW10-031616	3/16/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	SW10-042716	4/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	SW10-050916	5/9/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	SW10-062716	6/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	SW10-072816	7/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	SW10-081916	8/19/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	SW10-092916	9/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	SW10-103116	10/31/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	SW10-112816	11/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	SW10-122916	12/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	SW10-012017	1/20/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	SW10-022817	2/28/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW10-031517	3/15/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW-10-032117	3/21/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW-10-033017	3/30/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW-10-040517	4/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW10-050417	5/4/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW10-061317	6/13/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW10-071817	7/18/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW10-080217	8/2/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW10-090517	9/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW10-120517	12/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW10-121417	12/14/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW10-010918	1/9/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW10-020618	2/6/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U	
	SW10-030918	3/9/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U	
	SW10-040618	4/6/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U	
	SW10-050318	5/3/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U	
	SW10-060718	6/7/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U	
SW-11	SW11-022515	2/25/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA	
	SW11-030215	3/2/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA	
	SW11-031115	3/11/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA	
	SW11-031815	3/18/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA	
	SW11-033115	3/31/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA	

Table 2. Analytical Results for Surface Water

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Date Collected	Units	Analyte						
				Benzene	Ethylbenzene	Toluene	m&p-Xylene	o-Xylene	Naphthalene	MTBE
				Screening Value (µg/L):	2.2 ^a	530 ^a	1,000 ^a	NA ^b	NA ^b	NA ^b
SW-11	SW11-042215	4/22/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW11-050715	5/7/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW11-051915	5/19/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW11-060315	6/3/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW11-061815	6/18/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW11-071515	7/15/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW11-081315	8/13/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW11-092415	9/24/2015	µg/L	5 U ^c	5 U	5 U	10 U	5 U	5 U	NA
	SW11-102215	10/22/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW11-112415	11/24/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW11-122215	12/22/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW11-012516	1/25/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW11-021816	2/18/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW11-031616	3/16/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW11-042716	4/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW11-050916	5/9/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW11-062716	6/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW11-072816	7/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW11-081916	8/19/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW11-092916	9/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW11-103116	10/31/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW11-112816	11/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW11-122916	12/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW11-012017	1/20/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA
	SW11-022817	2/28/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW11-031517	3/15/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW-11-032117	3/21/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW-11-033017	3/30/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW-11-040517	4/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW11-050417	5/4/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW11-061317	6/13/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW11-071817	7/18/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW11-080217	8/2/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW11-090517	9/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW11-120517	12/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW11-121417	12/14/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW11-010918	1/9/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA
	SW11-020618	2/6/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U
	SW11-030918	3/9/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U
	SW11-040618	4/6/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U

Table 2. Analytical Results for Surface Water

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Date Collected	Units	Analyte							
				Benzene	Ethylbenzene	Toluene	m&p-Xylene	o-Xylene	Naphthalene	MTBE	
				Screening Value (µg/L): 2.2 ^a	530 ^a	1,000 ^a	NA ^b	NA ^b	NA ^b	NA ^b	
SW-11	SW11-050318	5/3/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U	
	SW11-060718	6/7/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U	
SW-12	SW12-081916	8/19/2016	µg/L	6,430	764	15,400	3,360	1,730	128	NA	
	SW12-092916	9/29/2016	µg/L	7,850	1,030	19,000	3,910	1,940	143	NA	
	SW12-103116	10/31/2016	µg/L	165	17.7	302	103	58.2	4.70	NA	
	SW12-112816	11/28/2016	µg/L	486	59.6	976	351	181	14.2	NA	
	SW12-122916	12/29/2016	µg/L	707	97.3	1,790	408	213	16.8	NA	
	SW12-012017	1/20/2017	µg/L	212	19.8	396	104	58.0	3.80	NA	
	SW12-022817	2/28/2017	µg/L	26.1	4.04	62.3	18.0	9.73	5 U	NA	
	SW12-031517	3/15/2017	µg/L	125	15.3	185	67.9	35.5	5 U	NA	
	SW12-032117	3/21/2017	µg/L	134	12.1	45.0	60.8	33.6	5 U	NA	
	SW12-033017	3/30/2017	µg/L	48.5	5.69	86.3	27.7	15.8	5 U	NA	
	SW12-040517	4/5/2017	µg/L	67.1	9.24	127.0	43.6	23.7	5 U	NA	
	SW12-050417	5/4/2017	µg/L	52.8	7.96	91.7	42.0	23.2	5 U	NA	
	SW12-061317	6/13/2017	µg/L	102	16.6	166	85.1	46.2	5 U	NA	
	SW12-071817	7/18/2017	µg/L	65.1	5.78	116	43.3	24.8	5 U	NA	
	SW12-080217	8/2/2017	µg/L	125	14.7	204	102	67.0	5 U	NA	
	SW12-090517	9/5/2017	µg/L	46.7	4.72	72.0	39.0	26.2	5 U	NA	
	SW12-120517	12/5/2017	µg/L	16.6	2.91	12.6	20.1	13.3	5 U	NA	
	SW12-121417	12/14/2017	µg/L	9.19	2.66	8.26	18.0	12.1	5 U	NA	
	SW12-010918	1/9/2018	µg/L	12.3	2.16	5.65	14.6	11.1	5 U	NA	
	SW12-020618	2/6/2018	µg/L	2.53	1 U	1.20	4.04	2.44	5 U	1 U	
	SW12-030918	3/9/2018	µg/L	3.24	1.79	12.2	9.75	4.28	5 U	1 U	
	SW12-040618	4/6/2018	µg/L	1.88	1 U	1 U	5.05	2.82	5 U	1 U	
	SW12-050318	5/3/2018	µg/L	1 U	1 U	1 U	4.18	2.72	5 U	1 U	
	SW12-060718	6/7/2018	µg/L	1.85	1 U	1 U	3.24	1.64	5 U	1 U	
SW-13	SW13-081916	8/19/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	SW13-092916	9/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	SW13-103116	10/31/2016	µg/L	1 U	1 U	2.00	2 U	1 U	1 U	NA	
	SW13-112816	11/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	SW13-122916	12/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	SW13-012017	1/20/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	SW13-022817	2/28/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW13-031517	3/15/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW13-032117	3/21/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW13-033017	3/30/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW13-040517	4/5/2017	µg/L	1 U	1 U	1.21	2 U	1 U	5 U	NA	
	SW13-050417	5/4/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW13-061317	6/13/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW13-071817	7/18/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	

Table 2. Analytical Results for Surface Water

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Date Collected	Units	Analyte							
				Benzene	Ethylbenzene	Toluene	m&p-Xylene	o-Xylene	Naphthalene	MTBE	
				Screening Value (µg/L):	2.2 ^a	530 ^a	1,000 ^a	NA ^b	NA ^b	NA ^b	NA ^b
SW-13	SW13-080217	8/2/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW13-090517	9/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW13-120517	12/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW13-121417	12/14/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW13-010918	1/9/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW13-020618	2/6/2018	µg/L	1.78	1 U	1 U	2 U	1 U	5 U	4.26	
	SW13-030918	3/9/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	2.07	
	SW13-040618	4/6/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1.40	
	SW13-050318	5/3/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	3.67	
SW13-060718	6/7/2018	µg/L	2.99	1 U	2.48	2 U	1 U	5 U	8.08		
SW-14	SW14-071817	7/18/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW14-080217	8/2/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW14-090517	9/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW14-120517	12/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	--	12/14/2017	--	NS-DW	NS-DW	NS-DW	NS-DW	NS-DW	NS-DW	NS-DW	
	SW14-010918	1/9/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	SW14-020618	2/6/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U	
	SW14-030918	3/9/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U	
	SW14-040618	4/6/2018	µg/L	1 U	1 U	1.43	2 U	1 U	5 U	1 U	
	SW14-050318	5/3/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U	
SW14-060718	6/7/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1.18		
FP-01	FP01-031616	3/16/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	FP01-042716	4/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	FP01-050916	5/9/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	FP01-062716	6/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	FP01-072816	7/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	FP01-081916	8/19/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	FP01-092916	9/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	FP01-103116	10/31/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	FP01-112816	11/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	FP01-122916	12/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	FP01-012017	1/20/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	FP01-022817	2/28/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP01-031517	3/15/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP-01-032117	3/21/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP-01-033017	3/30/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP-01-040517	4/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP-01-050417	5/4/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP-01-061317	6/13/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP-01-071817	7/18/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	

Table 2. Analytical Results for Surface Water

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Date Collected	Units	Analyte							
				Benzene	Ethylbenzene	Toluene	m&p-Xylene	o-Xylene	Naphthalene	MTBE	
				Screening Value (µg/L): 2.2 ^a	530 ^a	1,000 ^a	NA ^b	NA ^b	NA ^b	NA ^b	
FP-01	FP-01-080217	8/2/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP-01-090517	9/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP-01-120517	12/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP-01-121417	12/14/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP01-010918	1/9/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP01-020618	2/6/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U	
	FP01-030918	3/9/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U	
	FP01-040618	4/6/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U	
	FP01-050318	5/3/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U	
FP01-060718	6/7/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U		
FP-02	FP02-031616	3/16/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	FP02-042716	4/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	FP02-050916	5/9/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	FP02-062716	6/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	FP02-072816	7/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	FP02-081916	8/19/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	FP02-092916	9/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	FP02-103116	10/31/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	FP02-112816	11/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	FP02-122916	12/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	FP02-012017	1/20/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	FP02-022817	2/28/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP02-031517	3/15/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP-02-032117	3/21/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP-02-033017	3/30/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP-02-040517	4/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP-02-050417	5/4/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP-02-061317	6/13/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP-02-071817	7/18/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP-02-080217	8/2/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP-02-090517	9/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP-02-120517	12/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP-02-121417	12/14/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP02-010918	1/9/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP02-020618	2/6/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U	
	FP02-030918	3/9/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U	
	FP02-040618	4/6/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U	
	FP02-050318	5/3/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U	
FP02-060718	6/7/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U		

Table 2. Analytical Results for Surface Water

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Date Collected	Units	Analyte							
				Benzene	Ethylbenzene	Toluene	m&p-Xylene	o-Xylene	Naphthalene	MTBE	
				2.2 ^a	530 ^a	1,000 ^a	NA ^b	NA ^b	NA ^b	NA ^b	
			Screening Value (µg/L):								
FP-03	FP03-031616	3/16/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	FP03-042716	4/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	FP03-050916	5/9/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	FP03-062716	6/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	FP03-072816	7/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	--	8/19/2016	--	NS-HS	NS-HS	NS-HS	NS-HS	NS-HS	NS-HS	NS-HS	
	FP03-092916	9/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	FP03-103116	10/31/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	FP03-112816	11/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	FP03-122916	12/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	FP03-012017	1/20/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	NA	
	FP03-022817	2/28/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP03-031517	3/15/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP-03-032117	3/21/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP-03-033017	3/30/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	--	4/5/2017	--	NS-HS	NS-HS	NS-HS	NS-HS	NS-HS	NS-HS	NS-HS	
	FP-03-050417	5/4/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP-03-061317	6/13/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP-03-071817	7/18/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP-03-080217	8/2/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP-03-090517	9/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP-03-120517	12/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP-03-121417	12/14/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP03-010918	1/9/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	NA	
	FP03-020618	2/6/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U	
	FP03-030918	3/9/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U	
	FP03-040618	4/6/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U	
	FP03-050318	5/3/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U	
	FP03-060718	6/7/2018	µg/L	1 U	1 U	1 U	2 U	1 U	5 U	1 U	

Notes:

^a South Carolina Department of Health and Environmental Control (SC DHEC) R.61-68, Water Classifications and Standards, Human Health for consumption of water and organism, June 27, 2014.

^b Screening levels for these analytes are not specified in SC DHEC R. 61-68.

^c The analyte was analyzed for, but was not detected above the laboratory reporting/quantitation limit. However, the laboratory reporting/quantitation limit is above the screening criteria.

The actual absence or presence of this analyte between the screening criteria and the laboratory reporting/quantitation limit can not be determined.

Samples analyzed by EPA Methods SW 8260B

Bold indicates the analyte was detected above the method detection limit.

Gray shading indicates the analyte exceeded its screening value.

J = estimated

U = analyte was not detected above the reported sample quantitation limit

µg/L = microgram(s) per liter

MTBE = methyl tertiary butyl ether

NS-HS = sample not collected due to health and safety concerns

FP = fishing pond

NA = not applicable

NS-IW = sample not collected due to insufficient volume of water in well

ID = identification

NS-DW = sample not collected due to location being in a different watershed

SW = surface water

Table 3. Groundwater Elevation and Product Thickness Data

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location ID	Date	Depth to Product (ft BTOC)	Depth to Water (ft BTOC)	Product Thickness (ft)	Top of Casing Elevation ^{a,b} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ^c Groundwater Elevation (ft amsl)
MW-01					853.07		
	6/4/2018	-	3.83	-		849.24	-
	5/2/2018	-	5.20	-		847.87	-
	4/5/2018	-	5.83	-		847.24	-
MW-01B					852.99		
	6/4/2018	-	6.47	-		846.52	-
	5/2/2018	-	6.72	-		846.27	-
	4/5/2018	-	6.63	-		846.36	-
MW-02					841.04		
	6/4/2018	-	-	-		841.04	-
	5/2/2018	-	10.85	-		830.19	-
	4/5/2018	-	4.79	-		836.25	-
MW-02B					841.19		
	6/4/2018	-	4.23	-		836.96	-
	5/2/2018	-	7.16	-		834.03	-
	4/5/2018	-	-	-		841.19	-
MW-03					838.36		
	6/4/2018	-	16.50	-		821.86	-
	5/2/2018	-	NM	-		-	-
	4/5/2018	-	15.40	-		822.96	-
MW-04					844.42		
	6/4/2018	-	6.23	-		838.19	-
	5/2/2018	-	6.94	-		837.48	-
	4/5/2018	-	7.75	-		836.67	-
MW-05					851.11		
	6/4/2018	-	10.47	-		840.64	-
	5/2/2018	-	11.13	-		839.98	-
	4/5/2018	-	11.80	-		839.31	-
MW-06					852.92		
	6/4/2018	-	10.32	-		842.60	-
	5/2/2018	-	11.17	-		841.75	-
	4/5/2018	-	12.13	-		840.79	-
MW-06B					852.57		
	6/4/2018	-	10.15	-		842.42	-
	5/2/2018	-	10.90	-		841.67	-
	4/5/2018	-	11.70	-		840.87	-
MW-07					853.02		
	6/4/2018	-	9.44	-		843.58	-
	5/2/2018	-	10.35	-		842.67	-
	4/5/2018	-	11.39	-		841.63	-
MW-08					844.72		
	6/5/2018	-	6.22	-		838.50	-
	5/2/2018	-	6.40	-		838.32	-
	4/5/2018	8.92	8.93	0.01		835.79	835.80
MW-09					843.63		
	6/4/2018	-	-	-		843.63	-
	5/2/2018	-	-	-		843.63	-
	4/5/2018	2.20	2.23	0.03		841.40	841.42

Table 3. Groundwater Elevation and Product Thickness Data

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location ID	Date	Depth to Product (ft BTOC)	Depth to Water (ft BTOC)	Product Thickness (ft)	Top of Casing Elevation ^{a,b} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ^c Groundwater Elevation (ft amsl)
MW-09B					843.92		
	6/4/2018	-	5.70	-		838.22	-
	5/2/2018	-	7.18	-		836.74	-
	4/5/2018	-	1.82	-		842.10	-
MW-10					845.41		
	6/4/2018	-	6.43	-		838.98	-
	5/2/2018	-	6.97	-		838.44	-
	4/5/2018	-	8.21	-		837.20	-
MW-11					855.63		
	6/5/2018	-	26.29	-		829.34	-
	5/2/2018	-	26.74	-		828.89	-
	4/5/2018	-	27.73	-		827.90	-
MW-12					834.53		
	6/4/2018	-	9.20	-		825.33	-
	5/2/2018	-	10.91	-		823.62	-
	4/5/2018	-	11.46	-		823.07	-
MW-12B					834.98		
	6/4/2018	-	9.83	-		825.15	-
	5/2/2018	-	10.03	-		824.95	-
	4/5/2018	-	12.28	-		822.70	-
MW-13					848.84		
	6/4/2018	-	18.80	-		830.04	-
	5/2/2018	-	19.21	-		829.63	-
	4/5/2018	-	20.35	-		828.49	-
MW-13B					849.82		
	6/4/2018	-	19.56	-		830.26	-
	5/2/2018	-	20.20	-		829.62	-
	4/5/2018	-	20.80	-		829.02	-
MW-14					838.70		
	6/4/2018	-	13.48	-		825.22	-
	5/2/2018	-	14.27	-		824.43	-
	4/5/2018	-	14.97	-		823.73	-
MW-14B					840.20		
	6/4/2018	-	15.09	-		825.11	-
	5/2/2018	-	15.66	-		824.54	-
	4/5/2018	-	16.17	-		824.03	-
MW-15					831.03		
	6/5/2018	-	10.56	-		820.47	-
	5/2/2018	-	10.48	-		820.55	-
	4/5/2018	-	10.88	-		820.15	-
MW-15B					831.29		
	6/4/2018	-	13.84	-		817.45	-
	5/2/2018	-	14.31	-		816.98	-
	4/5/2018	-	14.62	-		816.67	-
MW-16					847.67		
	6/4/2018	-	NM	-		-	-
	5/2/2018	-	0.10	-		847.57	-
	4/5/2018	-	0.10	-		847.57	-

Table 3. Groundwater Elevation and Product Thickness Data

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location ID	Date	Depth to Product (ft BTOC)	Depth to Water (ft BTOC)	Product Thickness (ft)	Top of Casing Elevation ^{a,b} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ^c Groundwater Elevation (ft amsl)
MW-17					855.35		
	6/4/2018	-	10.80	-		844.55	-
	5/2/2018	-	10.89	-		844.46	-
	4/5/2018	-	10.86	-		844.49	-
MW-17B					855.37		
	6/4/2018	-	12.05	-		843.32	-
	5/2/2018	-	12.85	-		842.52	-
	4/5/2018	-	13.71	-		841.66	-
MW-18					846.89		
	6/4/2018	11.70	12.12	0.42		834.77	835.07
	5/2/2018	15.97	18.01	2.04		828.88	830.36
	4/5/2018	12.45	16.85	4.40		830.04	833.25
MW-19					853.94		
	6/4/2018	-	7.81	-		846.13	-
	5/2/2018	-	10.98	-		842.96	-
	4/5/2018	-	10.16	-		843.78	-
MW-20					852.89		
	6/5/2018	8.49	8.50	0.01		844.39	844.39
	5/2/2018	-	9.70	-		843.19	-
	4/5/2018	9.37	9.38	0.01		843.51	843.51
MW-21					855.77		
	6/4/2018	-	12.43	-		843.34	-
	5/2/2018	-	13.25	-		842.52	-
	4/5/2018	-	13.84	-		841.93	-
MW-22					854.60		
	6/4/2018	-	5.72	-		848.88	-
	5/2/2018	-	7.19	-		847.41	-
	4/5/2018	-	7.27	-		847.33	-
MW-23					849.57		
	6/4/2018	-	6.33	-		843.24	-
	5/2/2018	-	7.12	-		842.45	-
	4/5/2018	-	7.52	-		842.05	-
MW-23B					849.69		
	6/4/2018	-	6.06	-		843.63	-
	5/2/2018	-	9.68	-		840.01	-
	4/5/2018	-	11.26	-		838.43	-
MW-24					817.92		
	6/4/2018	-	4.45	-		813.47	-
	5/2/2018	-	4.39	-		813.53	-
	4/5/2018	-	4.31	-		813.61	-
MW-24B					818.72		
	6/4/2018	-	5.12	-		813.60	-
	5/2/2018	-	5.10	-		813.62	-
	4/5/2018	-	5.16	-		813.56	-
MW-25					826.18		
	6/4/2018	-	6.73	-		819.45	-
	5/2/2018	-	7.02	-		819.16	-
	4/5/2018	-	7.46	-		818.72	-

Table 3. Groundwater Elevation and Product Thickness Data

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location ID	Date	Depth to Product (ft BTOC)	Depth to Water (ft BTOC)	Product Thickness (ft)	Top of Casing Elevation ^{a,b} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ^c Groundwater Elevation (ft amsl)
MW-25B					823.81		
	6/4/2018	-	3.41	-		820.40	-
	5/2/2018	-	3.92	-		819.89	-
	4/5/2018	-	4.06	-		819.75	-
MW-26					847.56		
	6/4/2018	-	2.01	-		845.55	-
	5/2/2018	-	2.71	-		844.85	-
	4/5/2018	-	2.88	-		844.68	-
MW-26B					847.81		
	6/4/2018	-	3.66	-		844.15	-
	5/2/2018	-	4.68	-		843.13	-
	4/5/2018	-	5.03	-		842.78	-
MW-27					854.11		
	6/4/2018	-	22.55	-		831.56	-
	5/2/2018	-	23.00	-		831.11	-
	4/5/2018	-	23.64	-		830.47	-
MW-27B					857.14		
	6/4/2018	-	28.42	-		828.72	-
	5/2/2018	-	29.04	-		828.10	-
	4/5/2018	-	30.66	-		826.48	-
MW-28					844.31		
	6/4/2018	-	19.52	-		824.79	-
	5/2/2018	-	20.81	-		823.50	-
	4/5/2018	-	20.68	-		823.63	-
MW-29					852.20		
	6/4/2018	-	3.23	-		848.97	-
	5/2/2018	-	4.72	-		847.48	-
	4/5/2018	-	5.28	-		846.92	-
MW-30					841.28		
	6/4/2018	-	10.47	-		830.81	-
	5/2/2018	-	11.49	-		829.79	-
	4/5/2018	-	11.92	-		829.36	-
MW-31					845.04		
	6/4/2018	-	17.25	-		827.79	-
	5/2/2018	-	17.35	-		827.69	-
	4/5/2018	-	18.59	-		826.45	-
MW-31B					844.94		
	6/4/2018	-	17.72	-		827.22	-
	5/2/2018	-	17.72	-		827.22	-
	4/5/2018	-	20.60	-		824.34	-
MW-32					842.93		
	6/4/2018	-	7.16	-		835.77	-
	5/2/2018	-	8.60	-		834.33	-
	4/5/2018	-	9.73	-		833.20	-
MW-33					849.20		
	6/4/2018	-	22.35	-		826.85	-
	5/2/2018	-	22.70	-		826.50	-
	4/5/2018	-	23.68	-		825.52	-

Table 3. Groundwater Elevation and Product Thickness Data*Plantation Pipe Line Company**Lewis Drive Remediation Site, Belton, South Carolina**Site ID #18693 "Kinder Morgan Belton Pipeline Release"*

Location ID	Date	Depth to Product (ft BTOC)	Depth to Water (ft BTOC)	Product Thickness (ft)	Top of Casing Elevation ^{a,b} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ^c Groundwater Elevation (ft amsl)
MW-33T					849.11		
	6/4/2018	-	23.56	-		825.55	-
	5/2/2018	-	24.07	-		825.04	-
	4/5/2018	-	24.73	-		824.38	-
MW-34					816.35		
	6/4/2018	-	2.34	-		814.01	-
	5/2/2018	-	2.31	-		814.04	-
	4/5/2018	-	2.25	-		814.10	-
MW-35					829.40		
	6/4/2018	-	8.15	-		821.25	-
	5/2/2018	-	8.37	-		821.03	-
	4/5/2018	-	8.39	-		821.01	-
MW-36					858.47		
	6/4/2018	-	15.21	-		843.26	-
	5/2/2018	-	15.95	-		842.52	-
	4/5/2018	-	16.68	-		841.79	-
MW-36B					858.15		
	6/4/2018	-	14.94	-		843.21	-
	5/2/2018	-	15.69	-		842.46	-
	4/5/2018	-	16.38	-		841.77	-
MW-37					813.92		
	6/4/2018	-	3.26	-		810.66	-
	5/2/2018	-	16.47	-		797.45	-
	4/5/2018	-	3.33	-		810.59	-
MW-38					813.28		
	6/4/2018	-	1.20	-		812.08	-
	5/2/2018	-	1.70	-		811.58	-
	4/5/2018	-	1.50	-		811.78	-
MW-39					819.90		
	6/4/2018	-	4.34	-		815.56	-
	5/2/2018	-	4.48	-		815.42	-
	4/5/2018	-	4.54	-		815.36	-
MW-40					817.79		
	6/4/2018	-	1.98	-		815.81	-
	5/2/2018	-	2.23	-		815.56	-
	4/5/2018	-	2.32	-		815.47	-
MW-41					819.68		
	6/4/2018	-	3.69	-		815.99	-
	5/2/2018	-	3.80	-		815.88	-
	4/5/2018	-	4.00	-		815.68	-
MW-42					820.33		
	6/4/2018	-	5.37	-		814.96	-
	5/2/2018	-	4.29	-		816.04	-
	4/5/2018	-	4.98	-		815.35	-
MW-43					818.12		
	6/4/2018	-	4.28	-		813.84	-
	5/2/2018	-	4.26	-		813.86	-
	4/5/2018	-	4.18	-		813.94	-

Table 3. Groundwater Elevation and Product Thickness Data

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location ID	Date	Depth to Product (ft BTOC)	Depth to Water (ft BTOC)	Product Thickness (ft)	Top of Casing Elevation ^{a,b} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ^c Groundwater Elevation (ft amsl)
MW-43B					818.80		
	6/4/2018	-	0.90	-		817.90	-
	5/2/2018	-	0.45	-		818.35	-
	4/5/2018	-	0.80	-		818.00	-
MW-44					853.67		
	6/4/2018	-	3.16	-		850.51	-
	5/2/2018	-	4.79	-		848.88	-
	4/5/2018	-	5.63	-		848.04	-
MW-44B					853.38		
	6/4/2018	-	9.50	-		843.88	-
	5/2/2018	-	10.21	-		843.17	-
	4/5/2018	-	10.50	-		842.88	-
MW-45					852.47		
	6/4/2018	-	NM	-		-	-
	5/2/2018	-	10.74	-		841.73	-
	4/5/2018	-	11.30	-		841.17	-
MW-45B					852.85		
	6/4/2018	-	25.13	-		827.72	-
	5/2/2018	-	12.83	-		840.02	-
	4/5/2018	-	13.53	-		839.32	-
MW-46					845.47		
	6/4/2018	-	5.20	-		840.27	-
	5/2/2018	-	5.88	-		839.59	-
	4/5/2018	-	6.36	-		839.11	-
MW-47					842.98		
	6/4/2018	-	13.92	-		829.06	-
	5/2/2018	-	14.48	-		828.50	-
	4/5/2018	-	15.54	-		827.44	-
MW-48B					832.34		
	6/4/2018	-	15.91	-		816.43	-
	5/2/2018	-	18.04	-		814.30	-
	4/5/2018	-	16.50	-		815.84	-
MW-49					846.78		
	6/4/2018	-	14.95	-		831.83	-
	5/2/2018	-	15.65	-		831.13	-
	4/5/2018	-	16.18	-		830.60	-
MW-50B					850.34		
	6/4/2018	-	18.36	-		831.98	-
	5/2/2018	-	19.95	-		830.39	-
	4/5/2018	-	18.43	-		831.91	-
RS-01					849.13		
	6/7/2018	-	NM	-		-	-
	5/2/2018	7.60	7.62	0.02		841.51	841.52
	4/5/2018	-	8.92	-		840.21	-
RS-02					849.52		
	6/7/2018	-	4.65	-		844.87	-
	5/2/2018	-	6.18	-		843.34	-
	4/5/2018	-	8.01	-		841.51	-

Table 3. Groundwater Elevation and Product Thickness Data

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location ID	Date	Depth to Product (ft BTOC)	Depth to Water (ft BTOC)	Product Thickness (ft)	Top of Casing Elevation ^{a,b} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ^c Groundwater Elevation (ft amsl)
RS-04					851.47		
	6/4/2018	-	5.98	-		845.49	-
	5/2/2018	-	8.67	-		842.80	-
	4/5/2018	-	9.74	-		841.73	-
RS-05					848.31		
	6/7/2018	-	6.64	-		841.67	-
	5/2/2018	8.00	8.50	0.50		839.81	840.18
	4/5/2018	-	NM	-		-	-
RS-06					849.47		
	6/4/2018	-	7.12	-		842.35	-
	5/2/2018	-	8.44	-		841.03	-
	4/5/2018	-	9.43	-		840.04	-
RS-07					855.08		
	6/4/2018	-	9.16	-		845.92	-
	5/2/2018	-	10.40	-		844.68	-
	4/5/2018	-	10.40	-		844.68	-
RS-08					854.00		
	6/7/2018	-	10.19	-		843.81	-
	5/2/2018	-	10.53	-		843.47	-
	4/5/2018	-	10.90	-		843.10	-
RS-09					847.60		
	6/4/2018	-	6.34	-		841.26	-
	5/2/2018	-	6.23	-		841.37	-
	4/5/2018	-	9.73	-		837.87	-
RS-10					847.42		
	6/7/2018	-	5.69	-		841.73	-
	5/2/2018	6.96	6.98	0.02		840.44	840.45
	4/5/2018	7.76	7.77	0.01		839.65	839.66
RS-11					847.44		
	6/4/2018	-	6.25	-		841.19	-
	5/2/2018	-	7.36	-		840.08	-
	4/5/2018	-	7.68	-		839.76	-
RS-12					847.74		
	6/4/2018	-	6.59	-		841.15	-
	5/2/2018	-	7.67	-		840.07	-
	4/5/2018	-	8.03	-		839.71	-
RS-13					845.98		
	6/4/2018	-	3.14	-		842.84	-
	5/2/2018	-	4.75	-		841.23	-
	4/5/2018	-	7.96	-		838.02	-
RS-14					845.97		
	6/7/2018	-	3.85	-		842.12	-
	5/2/2018	4.25	4.27	0.02		841.70	841.71
	4/5/2018	6.24	6.26	0.02		839.71	839.72
RS-15					846.41		
	6/4/2018	-	2.91	-		843.50	-
	5/2/2018	-	4.47	-		841.94	-
	4/5/2018	-	6.29	-		840.12	-

Table 3. Groundwater Elevation and Product Thickness Data

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location ID	Date	Depth to Product (ft BTOC)	Depth to Water (ft BTOC)	Product Thickness (ft)	Top of Casing Elevation ^{a,b} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ^c Groundwater Elevation (ft amsl)
RS-16					845.44		
	6/4/2018	-	3.18	-		842.26	-
	5/2/2018	-	3.64	-		841.80	-
	4/5/2018	-	5.49	-		839.95	-
RS-17					844.22		
	6/7/2018	-	3.02	-		841.20	-
	5/2/2018	-	3.24	-		840.98	-
	4/5/2018	-	5.40	-		838.82	-
RS-18					847.89		
	6/4/2018	-	6.36	-		841.53	-
	5/2/2018	-	6.31	-		841.58	-
	4/5/2018	-	8.90	-		838.99	-
RS-20					842.69		
	6/4/2018	-	3.80	-		838.89	-
	5/2/2018	-	4.30	-		838.39	-
	4/5/2018	-	5.71	-		836.98	-
RT-1A					854.06		
	6/7/2018	-	9.91	-		844.15	-
	5/2/2018	-	11.06	-		843.00	-
	4/5/2018	-	11.31	-		842.75	-
RT-1B					854.15		
	6/7/2018	-	9.91	-		844.24	-
	5/2/2018	-	10.48	-		843.67	-
	4/5/2018	-	10.92	-		843.23	-
RT-1C					854.55		
	6/7/2018	-	10.50	-		844.05	-
	5/2/2018	-	10.50	-		844.05	-
	4/5/2018	-	10.74	-		843.81	-
RT-2A					817.48		
	6/4/2018	-	NM	-		-	-
	5/2/2018	-	0.50	-		816.98	-
	4/5/2018	-	0.70	-		816.78	-
RT-2B					817.61		
	6/4/2018	-	0.68	-		816.93	-
	5/2/2018	-	0.74	-		816.87	-
	4/5/2018	-	1.23	-		816.38	-
RT-2C					818.06		
	6/4/2018	-	0.95	-		817.11	-
	5/2/2018	-	1.20	-		816.86	-
	4/5/2018	-	1.33	-		816.73	-
RT-2D					818.12		
	6/4/2018	-	1.20	-		816.92	-
	5/2/2018	-	1.30	-		816.82	-
	4/5/2018	-	1.43	-		816.69	-
RT-2E					818.25		
	6/4/2018	-	1.34	-		816.91	-
	5/2/2018	-	1.42	-		816.83	-
	4/5/2018	-	1.71	-		816.54	-

Table 3. Groundwater Elevation and Product Thickness Data

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location ID	Date	Depth to Product (ft BTOC)	Depth to Water (ft BTOC)	Product Thickness (ft)	Top of Casing Elevation ^{a,b} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ^c Groundwater Elevation (ft amsl)
RT-2F					818.57		
	6/4/2018	-	1.66	-		816.91	-
	5/2/2018	-	1.72	-		816.85	-
	4/5/2018	-	1.03	-		817.54	-
RT-2G					820.07		
	6/4/2018	-	1.08	-		818.99	-
	5/2/2018	-	0.95	-		819.12	-
	4/5/2018	-	1.04	-		819.03	-
RT-2I					819.51		
	6/4/2018	-	1.02	-		818.49	-
	5/2/2018	-	1.04	-		818.47	-
	4/5/2018	-	1.04	-		818.47	-
RT-2J					817.63		
	6/4/2018	-	-	-		817.63	-
	5/2/2018	-	0.04	-		817.59	-
	4/5/2018	-	0.03	-		817.60	-
RT-2K					817.40		
	6/7/2018	-	1.20	-		816.20	-
	5/2/2018	-	0.82	-		816.58	-
	4/5/2018	-	0.60	-		816.80	-
RT-2L					819.54		
	6/4/2018	-	1.03	-		818.51	-
	5/2/2018	-	1.16	-		818.38	-
	4/5/2018	-	1.23	-		818.31	-
RW-01					851.92		
	6/4/2018	-	11.05	-		840.87	-
	5/2/2018	-	12.18	-		839.74	-
	4/5/2018	-	12.84	-		839.08	-
RW-02					852.69		
	6/7/2018	-	20.17	-		832.52	-
	5/2/2018	20.98	20.99	0.01		831.70	831.71
	4/5/2018	-	21.69	-		831.00	-
RW-03					852.34		
	6/7/2018	-	21.30	-		831.04	-
	5/2/2018	-	22.00	-		830.34	-
	4/5/2018	-	23.00	-		829.34	-
RW-04					853.93		
	6/7/2018	-	26.12	-		827.81	-
	5/2/2018	26.84	27.04	0.20		826.89	827.04
	4/5/2018	27.95	28.53	0.58		825.40	825.83
RW-05					853.53		
	6/7/2018	-	29.99	-		823.54	-
	5/2/2018	31.14	31.19	0.05		822.34	822.38
	4/5/2018	31.70	31.78	0.08		821.75	821.81
RW-06					846.21		
	6/4/2018	-	23.38	-		822.83	-
	5/2/2018	-	24.16	-		822.05	-
	4/5/2018	-	24.71	-		821.50	-

Table 3. Groundwater Elevation and Product Thickness Data

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location ID	Date	Depth to Product (ft BTOC)	Depth to Water (ft BTOC)	Product Thickness (ft)	Top of Casing Elevation ^{a,b} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ^c Groundwater Elevation (ft amsl)
RW-07					843.19		
	6/7/2018	-	20.40	-		822.79	-
	5/2/2018	-	20.65	-		822.54	-
	4/5/2018	-	21.26	-		821.93	-
RW-08					835.48		
	6/7/2018	-	NM	-		-	-
	5/2/2018	-	13.34	-		822.14	-
	4/5/2018	-	13.41	-		822.07	-
RW-09					835.12		
	6/4/2018	-	8.95	-		826.17	-
	5/2/2018	-	10.78	-		824.34	-
	4/5/2018	-	9.89	-		825.23	-
RW-10					848.53		
	6/4/2018	-	8.95	-		839.58	-
	5/2/2018	10.83	10.84	0.01		837.69	837.70
	4/5/2018	-	9.56	-		838.97	-
RW-11					852.97		
	6/4/2018	-	11.55	-		841.42	-
	5/2/2018	-	10.45	-		842.52	-
	4/5/2018	-	11.80	-		841.17	-
RW-12					854.49		
	6/4/2018	-	11.95	-		842.54	-
	5/2/2018	-	NM	-		-	-
	4/5/2018	-	13.47	-		841.02	-
RW-13					847.97		
	6/4/2018	-	NM	-		-	-
	5/2/2018	-	NM	-		-	-
	4/5/2018	-	NM	-		-	-
RW-14					827.54		
	6/4/2018	-	9.97	-		817.57	-
	5/2/2018	-	10.05	-		817.49	-
	4/5/2018	-	6.72	-		820.82	-
RW-15					851.64		
	6/7/2018	-	10.34	-		841.30	-
	5/2/2018	-	11.98	-		839.66	-
	4/5/2018	-	12.91	-		838.73	-
SW-01					812.82		
	6/4/2018	-	(0.90)	-		813.72	-
	5/2/2018	-	(1.66)	-		814.48	-
	4/5/2018	-	(1.67)	-		814.49	-
SW-02					808.65		
	6/4/2018	-	(1.74)	-		810.39	-
	5/2/2018	-	(1.76)	-		810.41	-
	4/5/2018	-	(1.09)	-		809.74	-
SW-03					815.09		
	6/4/2018	-	NM	-		-	-
	5/2/2018	-	(1.78)	-		816.87	-
	4/5/2018	-	(1.76)	-		816.85	-

Table 3. Groundwater Elevation and Product Thickness Data

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location ID	Date	Depth to Product (ft BTOC)	Depth to Water (ft BTOC)	Product Thickness (ft)	Top of Casing Elevation ^{a,b} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ^c Groundwater Elevation (ft amsl)
SW-05					838.75		
	6/4/2018	-	NM	-		-	-
	5/2/2018	-	(0.36)	-		839.11	-
	4/5/2018	-	NM	-		-	-
SW-08					802.04		
	6/4/2018	-	(0.86)	-		802.90	-
	5/2/2018	-	(1.05)	-		803.09	-
	4/5/2018	-	(1.04)	-		803.08	-
SW-10					778.09		
	6/4/2018	-	(0.44)	-		778.53	-
	5/2/2018	-	(0.70)	-		778.79	-
	4/5/2018	-	(0.90)	-		778.99	-
TW-04R					852.64		
	6/4/2018	-	1.64	-		851.00	-
	5/2/2018	-	3.39	-		849.25	-
	4/5/2018	-	3.99	-		848.65	-
TW-05R					849.93		
	6/4/2018	-	1.40	-		848.53	-
	5/2/2018	-	NM	-		-	-
	4/5/2018	-	NM	-		-	-
TW-14R					853.37		
	6/4/2018	-	2.85	-		850.52	-
	5/2/2018	-	4.21	-		849.16	-
	4/5/2018	-	4.71	-		848.66	-
TW-15R					850.62		
	6/4/2018	-	1.02	-		849.60	-
	5/2/2018	-	NM	-		-	-
	4/5/2018	-	NM	-		-	-
TW-21					849.70		
	6/4/2018	-	0.25	-		849.45	-
	5/2/2018	-	1.87	-		847.83	-
	4/5/2018	-	2.43	-		847.27	-
TW-28					851.42		
	6/4/2018	-	20.09	-		831.33	-
	5/2/2018	-	20.60	-		830.82	-
	4/5/2018	21.65	21.67	0.02		829.75	829.77
TW-30					851.81		
	6/4/2018	-	18.95	-		832.86	-
	5/2/2018	-	19.55	-		832.26	-
	4/5/2018	-	20.43	-		831.38	-
TW-34					854.79		
	6/4/2018	-	22.14	-		832.65	-
	5/2/2018	-	22.14	-		832.65	-
	4/5/2018	-	22.15	-		832.64	-
TW-35					854.10		
	6/4/2018	-	22.67	-		831.43	-
	5/2/2018	-	22.67	-		831.43	-
	4/5/2018	-	22.73	-		831.37	-

Table 3. Groundwater Elevation and Product Thickness Data

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location ID	Date	Depth to Product (ft BTOC)	Depth to Water (ft BTOC)	Product Thickness (ft)	Top of Casing Elevation ^{a,b} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ^c Groundwater Elevation (ft amsl)
TW-40					853.35		
	6/4/2018	-	25.83	-		827.52	-
	5/2/2018	-	26.49	-		826.86	-
	4/5/2018	-	27.26	-		826.09	-
TW-41					849.38		
	6/4/2018	-	23.46	-		825.92	-
	5/2/2018	-	24.56	-		824.82	-
	4/5/2018	-	25.13	-		824.25	-
TW-42					846.84		
	6/4/2018	22.14	22.79	0.65		824.05	824.52
	5/2/2018	23.35	23.81	0.46		823.03	823.36
	4/5/2018	23.82	24.31	0.49		822.53	822.89
TW-45					848.31		
	6/4/2018	-	24.15	-		824.16	-
	5/2/2018	24.88	25.05	0.17		823.26	823.38
	4/5/2018	25.45	25.57	0.12		822.74	822.83
TW-55					845.93		
	6/4/2018	-	-	-		845.93	-
	5/2/2018	-	3.89	-		842.04	-
	4/5/2018	-	3.00	-		842.93	-
TW-59					834.78		
	6/4/2018	-	-	-		834.78	-
	5/2/2018	-	13.17	-		821.61	-
	4/5/2018	-	12.27	-		822.51	-
TW-60					828.03		
	6/4/2018	-	-	-		828.03	-
	5/2/2018	-	8.75	-		819.28	-
	4/5/2018	-	2.59	-		825.44	-
TW-64					845.88		
	6/4/2018	-	14.44	-		831.44	-
	5/2/2018	-	15.27	-		830.61	-
	4/5/2018	-	15.11	-		830.77	-
TW-65					845.62		
	6/4/2018	-	18.54	-		827.08	-
	5/2/2018	-	18.94	-		826.68	-
	4/5/2018	-	19.90	-		825.72	-
TW-66					820.31		
	6/4/2018	-	-	-		820.31	-
	5/2/2018	-	1.15	-		819.16	-
	4/5/2018	-	0.42	-		819.89	-
TW-67					852.71		
	6/4/2018	-	8.14	-		844.57	-
	5/2/2018	-	8.29	-		844.42	-
	4/5/2018	-	5.75	-		846.96	-
TW-68					846.45		
	6/4/2018	-	20.70	-		825.75	-
	5/2/2018	-	21.13	-		825.32	-
	4/5/2018	-	22.26	-		824.19	-

Table 3. Groundwater Elevation and Product Thickness Data

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location ID	Date	Depth to Product (ft BTOC)	Depth to Water (ft BTOC)	Product Thickness (ft)	Top of Casing Elevation ^{a,b} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ^c Groundwater Elevation (ft amsl)
TW-69					840.27		
	6/4/2018	-	11.38	-		828.89	-
	5/2/2018	-	NM	-		-	-
	4/5/2018	-	12.51	-		827.76	-
TW-70					841.95		
	6/4/2018	-	15.39	-		826.56	-
	5/2/2018	-	16.08	-		825.87	-
	4/5/2018	-	16.90	-		825.05	-
TW-73					850.53		
	6/4/2018	-	13.09	-		837.44	-
	5/2/2018	-	5.25	-		845.28	-
	4/5/2018	-	3.55	-		846.98	-
TW-76					852.44		
	6/4/2018	-	10.32	-		842.12	-
	5/2/2018	-	10.79	-		841.65	-
	4/5/2018	-	11.92	-		840.52	-
TW-81					849.43		
	6/4/2018	-	0.03	-		849.40	-
	5/2/2018	-	1.94	-		847.49	-
	4/5/2018	-	2.55	-		846.88	-
TW-82					849.64		
	6/4/2018	-	0.60	-		849.04	-
	5/2/2018	-	1.73	-		847.91	-
	4/5/2018	-	2.42	-		847.22	-
TW-83					850.44		
	6/4/2018	-	0.67	-		849.77	-
	5/2/2018	-	NM	-		-	-
	4/5/2018	-	3.06	-		847.38	-
TW-84					851.22		
	6/4/2018	-	1.99	-		849.23	-
	5/2/2018	-	3.39	-		847.83	-
	4/5/2018	-	3.93	-		847.29	-
TW-85					843.49		
	6/4/2018	-	-	-		843.49	-
	5/2/2018	-	NM	-		-	-
	4/5/2018	-	NM	-		-	-
TW-86					853.10		
	6/4/2018	-	3.10	-		850.00	-
	5/2/2018	-	4.55	-		848.55	-
	4/5/2018	-	5.10	-		848.00	-
TW-87					852.25		
	6/4/2018	-	3.30	-		848.95	-
	5/2/2018	-	3.98	-		848.27	-
	4/5/2018	-	4.68	-		847.57	-
TW-90					845.43		
	6/4/2018	-	-	-		845.43	-
	5/2/2018	-	NM	-		-	-
	4/5/2018	-	-	-		845.43	-

Table 3. Groundwater Elevation and Product Thickness Data

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location ID	Date	Depth to Product (ft BTOC)	Depth to Water (ft BTOC)	Product Thickness (ft)	Top of Casing Elevation ^{a,b} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ^c Groundwater Elevation (ft amsl)
TW-94					840.58		
	6/4/2018	-	-	-		840.58	-
	5/2/2018	-	-	-		840.58	-
	4/5/2018	-	-	-		840.58	-
TW-96					840.40		
	6/4/2018	-	-	-		840.40	-
	5/2/2018	-	NM	-		-	-
	4/5/2018	-	3.00	-		837.40	-

Notes:

^a. Elevation of zero mark (ft amsl) for surface water staff gauges.

^b. "RS-" and "RT-" features were trimmed to less than 12 inches above ground surface on 3/14/2017. Only the

^c. Calculated based on an oil:water density ratio of 0.73.

Bold indicates the gauged product thickness was greater than 0.5 foot.

- = not applicable

amsl = above mean sea level

BTOC = below top of casing

DRY = well contained no measurable water or product

ft = feet

ID = identification

NM = not measured

The following features are no longer reliable for calculating groundwater elevation:

- RW-13 is no longer accessible due to health and safety issues.

Table 4. Dissolved Oxygen Results for Groundwater

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Site Area	Nearest Sparge Well (ft)	Distance to Nearest Sparge Well (ft)	DO (mg/L) 4/5/2018	DO (mg/L) 5/2/2018	DO (mg/L) 6/4/2018
MW-02	Hayfield	HAS-02	33	1.17	9.80	11.90
MW-02B	Hayfield	HAS-02	24	2.23	8.08	4.60
MW-03	Hayfield	HAS-02	12	11.15	10.82	12.34
MW-04	Hayfield	HAS-01	82	8.38	8.71	8.64
MW-08	Hayfield	HAS-03	12	FP	10.39	FP
MW-09	Hayfield	HAS-01	37	FP	9.26	NM
MW-10	Hayfield	HAS-03	27	9.46	9.65	7.68
MW-16	Hayfield	HAS-01	24	FP	FP	NM
MW-18	Hayfield	HAS-03	2	FP	FP	FP
MW-30	Hayfield	HAS-01	15	5.21	4.04	4.43
TW-55	Hayfield	HAS-01	40	8.96	10.30	12.02
TW-59 ^a	Hayfield	VAS-38	6	10.85	10.05	9.34
TW-60	Hayfield	VAS-25	10	9.85	9.85	NM
TW-64	Hayfield	HAS-03	132	8.80	7.10	7.96
TW-66	Hayfield	VAS-28	49	9.10	9.15	10.33
TW-67	Hayfield	VAS-11	14	10.50	10.05	11.69
TW-73	Hayfield	VAS-19	11	11.18	10.22	10.80
TW-96	Hayfield	HAS-03	78	10.45	9.24	10.62
<i>Average Hayfield Zone Values</i>				8.38	9.17	9.41
MW-12	Brown's Creek	VAS-37	18	7.93	6.70	10.53
MW-12B	Brown's Creek	VAS-37	9	1.94	0.78	1.24
MW-15	Brown's Creek	VAS-21	14	FP	9.07	FP
MW-15B	Brown's Creek	VAS-22	13	1.17	0.93	3.88
MW-25	Brown's Creek	VAS-29	54	5.07	5.90	9.20
MW-25B	Brown's Creek	VAS-29	56	1.60	0.57	5.55
MW-28	Brown's Creek	VAS-46	26	0.90	1.41	4.85
<i>Average Brown's Creek Protection Zone Values</i>				3.10	3.62	5.88
MW-19	Cupboard Creek	VAS-08	17	5.60	1.55	4.20
MW-20	Cupboard Creek	VAS-03	23	FP	3.90	FP
MW-29	Cupboard Creek	VAS-19	111	4.47	3.10	1.59
<i>Average Cupboard Creek Protection Zone Values</i>				5.04	2.85	2.90
MW-01	Shallow Bedrock	VBS-01	147	1.67	1.44	1.24
MW-01B	Shallow Bedrock	VBS-01	152	1.38	0.59	1.15
MW-11	Shallow Bedrock	VBS-01	368	FP	6.15	FP
MW-22	Shallow Bedrock	VBS-03	115	1.70	1.42	1.23
<i>Average Shallow Bedrock Zone Values</i>				1.58	2.40	1.21
<i>Average Residuum</i>				7.12	7.17	7.93
<i>Average Bedrock Values</i>				1.66	2.19	3.28

DO = dissolved oxygen

ft = feet

HAS = hayfield air sparging well

ID = identification

MW = monitoring well

VAS = vertical air sparging well

NM = not measured

TW = temporary well

VBS = vertical bedrock sparging well

mg/L = milligrams per liter

FP = measurement not collected due to the presence of free product in the well

Table 5. Analytical Results for Groundwater

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Gauging Date	Depth to Water	Sample Date	Analyte:	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
					Units	µg/L	5.0	700	1,000	10,000	5.0	40	25
RBSL ^a :					µg/L	5.0	700	1,000	10,000	5.0	40	25	0.05
MW-01	MW-01-072715			7/27/2015	µg/L	5 U ^b	5 U	5 U	10 U	5 U ^b	5 U	5 U	0.02 U
	MW-01-012716			1/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U	0.02 U
	--			11/28/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	MW-01-062817			6/28/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-01-090717			9/7/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-01-120517	12/4/2017	9.85	12/5/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-01-030818	3/5/2018	3.80	3/8/2018	µg/L	1.85	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-01-060518	6/4/2018	3.83	6/5/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
MW-01B	MW-01B-080415			8/4/2015	µg/L	5 U ^b	5 U	5 U	10 U	5 U ^b	5 U	5 U	0.02 U
	MW-01B-012716			1/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U	0.019 U
	MW-01B-120116			12/1/2016	µg/L	1 U	1 U	1.40	5.60	1 U	1 U	1.30	--
	MW-01B-062817			6/28/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-01B-090717			9/7/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-01B-120517	12/4/2017	10.24	12/5/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-01B-030818	3/5/2018	7.40	3/8/2018	µg/L	3.51	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-01B-060518	6/4/2018	6.47	6/5/2018	µg/L	8.96	1 U	1 U	3 U	1 U	1 U	5 U	--
MW-02	MW-02-072715			7/27/2015	µg/L	4,320	625 U	9,670	2,460	5 U ^b	171	74.7	0.02 U
	MW-02-012616			1/26/2016	µg/L	9,500	1,160	25,000	6,310	50 U ^b	285	139	0.019 U
	--			11/28/2016	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	MW-02-062917			6/29/2017	µg/L	8,040	833	27,100	9,890	250 U ^b	250 U ^b	1,250 U ^b	--
	MW-02-090817			9/8/2017	µg/L	2,340	181	7,120	8,510	50 U ^b	50 U ^b	389	--
	MW-02-100417	10/3/2017	16.03	10/4/2017	µg/L	3,510	306	11,900	11,200	50 U ^b	53.9	250 U ^b	--
	MW-02-110817	11/7/2017	4.20	11/8/2017	µg/L	850	100 U	1,370	3,520	100 U ^b	100 U ^b	500 U ^b	--
	MW-02-120717	12/4/2017	2.54	12/7/2017	µg/L	153	15.1	313	441	1 U	70.9	12.8	--
	MW-02-010918	1/8/2018	14.26	1/9/2018	µg/L	307	10 U	878	1,300	10 U ^b	61.8	63.7	--
	MW-02-020618	2/5/2018	0.00	2/6/2018	µg/L	30.5	1.09	29.6	88.3	1 U	32.0	5 U	--
	MW-02-030718	3/5/2018	3.00	3/7/2018	µg/L	131	34.1	594	442	1 U	27.6	34.5	--
	MW-02-040618	4/5/2018	4.79	4/6/2018	µg/L	72.5	8.96	94.7	501	1 U	18.4	5 U	--
	MW-02-050318	5/2/2018	10.85	5/3/2018	µg/L	35.4	7.50	14.9	163	1 U	7.95	5 U	--
	MW-02-060618	6/4/2018	0.00	6/6/2018	µg/L	1 U	1 U	3.19	3.70	1 U	1.25	5 U	--

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Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Gauging Date	Depth to Water	Sample Date	Analyte:	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
					Units	5.0	700	1,000	10,000	5.0	40	25	0.05
RBSL ^a :					µg/L	5.0	700	1,000	10,000	5.0	40	25	0.05
MW-02B	MW-02B-080415			8/4/2015	µg/L	5 U ^b	5 U	5 U	10 U	5 U ^b	5 U	5 U	0.02 U
	--			1/19/2016	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	MW-02B-030116			3/1/2016	µg/L	1 U	1 U	4.80	4.60	1 U	1 U	1 U	0.019 U
	--			11/28/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	MW-02B-033117			3/31/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-02B-062917			6/29/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-02B-090817			9/8/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-02B-120717	12/4/2017	24.56	12/7/2017	µg/L	1 U	1 U	1.11	3 U	1 U	1 U	5 U	--
	MW-02B-030718	3/5/2018	1.50	3/7/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-02B-060618	6/4/2018	4.23	6/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
MW-03	MW-03-072715			7/27/2015	µg/L	5 U ^b	5 U	5 U	10 U	5 U ^b	5 U	5 U	0.02 U
	MW-03-012516			1/25/2016	µg/L	108	20.1	958	598	1 U	1 U	11.1	0.02 U
	MW-03-120616			12/6/2016	µg/L	61.1	25.1	229	330	2 U	2 U	3.60	--
	MW-03-062917			6/29/2017	µg/L	10.9	1 U	24.6	6.98	1 U	2.34	5 U	--
	--			9/5/2017	--	NS-HS	NS-HS	NS-HS	NS-HS	NS-HS	NS-HS	NS-HS	NS-HS
	--	10/3/2017	19.87	10/3/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	MW-03-110817	11/7/2017	--*	11/8/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-03-120517	12/4/2017	18.00	12/5/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	--	1/8/2018	19.98	1/8/2018	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	MW-03-020618	2/5/2018	--*	2/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-03-030718	3/5/2018	4.12	3/7/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-03-040618	4/5/2018	15.40	4/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-03-050318	5/2/2018	0	5/3/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-03-060618	6/4/2018	16.5	6/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--

Table 5. Analytical Results for Groundwater

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Gauging Date	Depth to Water	Sample Date	Analyte:	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
					Units	5.0	700	1,000	10,000	5.0	40	25	0.05
RBSL ^a :					µg/L	5.0	700	1,000	10,000	5.0	40	25	0.05
MW-04	MW-04-072815			7/28/2015	µg/L	5 U ^b	5 U	5 U	10 U	5 U ^b	5 U	5 U	0.019 U
	MW-04-012516			1/25/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U	0.02 U
	MW-04-120616			12/6/2016	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--
	MW-04-062917			6/29/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-04-090817			9/8/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-04-120717	12/4/2017	10.07	12/7/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-04-030718	3/5/2018	10.70	3/7/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
MW-04-060618	6/4/2018	6.23	6/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--	
MW-05	MW-05-072815			7/28/2015	µg/L	5 U ^b	5 U	5 U	10 U	5 U ^b	5 U	5 U	0.019 U
	MW-05-012516			1/25/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U	0.02 U
	--			11/28/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	MW-05-050317			5/3/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-05-062917			6/29/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-05-071717			7/17/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-05-080117			8/1/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-05-090817			9/8/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-05-100417	10/3/2017	17.03	10/4/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-05-110817	11/7/2017	17.18	11/8/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-05-120717	12/4/2017	16.55	12/7/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-05-010918	1/8/2018	16.57	1/9/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-05-020618	2/5/2018	15.87	2/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-05-030718	3/5/2018	13.06	3/7/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-05-040618	4/5/2018	11.80	4/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
MW-05-050318	5/2/2018	11.13	5/3/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--	
MW-05-060718	6/4/2018	10.47	6/7/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--	
MW-06	MW-06-072815			7/28/2015	µg/L	5 U ^b	5 U	5 U	10 U	5 U ^b	5 U	5 U	0.02 U
	MW-06-012116			1/21/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U	0.02 U
	MW-06-120216			12/2/2016	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--
	MW-06-062917			6/29/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--

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Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Gauging Date	Depth to Water	Sample Date	Analyte:	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
					Units	µg/L	700	1,000	10,000	5.0	40	25	0.05
RBSL ^a :					µg/L	5.0	700	1,000	10,000	5.0	40	25	0.05
MW-06	MW-06-090817			9/8/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-06-120717	12/4/2017	15.45	12/7/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-06-030718	3/5/2018	13.25	3/7/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-06-060718	6/4/2018	10.32	6/7/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
MW-06B	MW-06B-120717	12/4/2017	16.14	12/7/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-06B-030718	3/5/2018	4.12	3/7/2018	µg/L	1 U	1 U	3.63	3 U	1 U	1 U	5 U	--
	MW-06B-060718	6/4/2018	10.15	6/7/2018	µg/L	1 U	1 U	4.69	3 U	1 U	1 U	5 U	--
MW-07	--			7/27/2015	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	MW-07-012116			1/21/2016	µg/L	1,060	389	5,210	2,620	40 U ^b	40 U ^b	40 U ^b	0.02 U
	--			11/28/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	MW-07-062917			6/29/2017	µg/L	4,290	629	17,700	4,990	250 U ^b	250 U ^b	1,250 U ^b	--
	--			9/5/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	10/3/2017	13.20	10/3/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	11/7/2017	13.20	11/7/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	12/4/2017	13.21	12/4/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	1/8/2018	13.21	1/8/2018	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	2/5/2018	13.19	2/6/2018	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	MW-07-030818	3/5/2018	11.77	3/8/2018	µg/L	4,550	802	14,100	7,520	50 U ^b	50 U ^b	250 U ^b	--
	--	4/5/2018	11.39	4/6/2018	µg/L	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	MW-07-050318	5/2/2018	10.35	5/3/2018	µg/L	6,330	662	16,500	9,060	250 U ^b	250 U ^b	1,250 U ^b	--
	--	6/4/2018	9.44	6/4/2018	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
MW-08	MW-08-072815			7/28/2015	µg/L	5 U ^b	5 U	5 U	10 U	5 U ^b	5 U	5 U	0.02 U
	MW-08-012616			1/26/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U	0.02 U
	MW-08-120616			12/6/2016	µg/L	1 U	1 U	14.4	7.10	1 U	1 U	1 U	--
	MW-08-062917			6/29/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-08-090817			9/8/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-08-120717	12/4/2017	10.47	12/7/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-08-030718	3/5/2018	7.50	3/7/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-08-060618	6/4/2018	5.63	6/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--

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Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Gauging Date	Depth to Water	Sample Date	Analyte:	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
					Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
RBSL ^a :					µg/L	5.0	700	1,000	10,000	5.0	40	25	0.05
MW-09	--			7/27/2015	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--			1/19/2016	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--			11/28/2016	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	MW-09-062917			6/29/2017	µg/L	3,860	517	13,000	8,680	200 U ^b	200 U ^b	1,000 U ^b	--
	--			9/5/2017	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	MW-09-120717	12/4/2017	3.05	12/7/2017	µg/L	54.3	3.44	19.6	64.8	1 U	27.5	5 U	--
	MW-09-030718	3/5/2018	0.50	3/7/2018	µg/L	3.3	1 U	11.0	3.92	1 U	8.74	5 U	--
	MW-09-060618	6/4/2018	ould not open	6/6/2018	µg/L	2.25	1 U	6.06	4.75	1 U	3.65	5 U	--
MW-09B	MW-09B-120717	12/4/2017	9.15	12/7/2017	µg/L	21.8	24.7	82.1	179	1 U	4.72	11.9	--
	MW-09B-030718	3/5/2018	0.00	3/7/2018	µg/L	4.36	4.50	18.1	33.3	1 U	1.37	5 U	--
	MW-09B-060618	6/4/2018	5.7	6/6/2018	µg/L	17.1	16.5	66.5	139	1 U	3.61	8.09	--
MW-10	MW-10-072815			7/28/2015	µg/L	5 U ^b	5 U	5 U	10 U	5 U ^b	5 U	5 U	0.019 U
	MW-10-012616			1/26/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U	0.019 U
	MW-10-120616			12/6/2016	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--
	MW-10-050317			5/3/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-10-062917			6/29/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-10-071717			7/17/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-10-080117			8/1/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-10-090817			9/8/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-10-100417	10/3/2017	17.33	10/4/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-10-110817	11/7/2017	12.64	11/8/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-10-120717	12/4/2017	10.85	12/7/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-10-010918	1/8/2018	15.08	1/9/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-10-020618	2/5/2018	6.81	2/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-10-030718	3/5/2018	5.11	3/7/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-10-040618	4/5/2018	8.21	4/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-10-050318	5/2/2018	6.97	5/3/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-10-060618	6/4/2018	6.43	6/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--

Table 5. Analytical Results for Groundwater

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Gauging Date	Depth to Water	Sample Date	Analyte:	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
					Units	µg/L	5.0	700	1,000	10,000	5.0	40	25
MW-11	--			7/27/2015	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	MW-11-012616			1/26/2016	µg/L	10,600	948	24,400	4,700	10 U ^b	432	123	0.019 U
	--			11/28/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	MW-11-062817			6/28/2017	µg/L	10,900	2,140	29,600	11,700	100 U ^b	147	500 U ^b	--
	--			9/5/2017	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--	12/4/2017	29.86	12/4/2017	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--	3/5/2018	28.10	3/5/2018	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--	6/4/2018	26.29	6/4/2018	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
MW-12	MW-12-072815			7/28/2015	µg/L	51.3	5 U	22.9	39.2	5 U ^b	5 U	5 U	0.02 U
	--			1/19/2016	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--			11/28/2016	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--			3/13/2017	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--			3/20/2017	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--			3/31/2017	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--			4/6/2017	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	MW-12-062817			6/28/2017	µg/L	1,190	467	7,910	5,100	50 U ^b	50 U ^b	250 U ^b	--
	MW-12-090817			9/8/2017	µg/L	648	436	3,470	4,440	100 U ^b	100 U ^b	500 U ^b	--
	MW-12-120617	12/4/2017	15.55	12/6/2017	µg/L	367	137	1,540	4,660	10 U ^b	10 U	54.4	--
	MW-12-030818	3/5/2018	12.83	3/8/2018	µg/L	486	25.2	1,880	1,980	10 U ^b	10 U	50 U ^b	--
	MW-12-060518	6/4/2018	9.2	6/5/2018	µg/L	16.3	2.51	181	249	1 U	1 U	5 U	--
MW-12B	MW-12B-012616			1/26/2016	µg/L	228	31.4	193	532	1 U	5.40	14.6	0.019 U
	MW-12B-113016			11/30/2016	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--
	MW-12B-031417			3/14/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-12B-032017			3/20/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-12B-033117			3/31/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-12B-040617			4/6/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-12B-062817			6/28/2017	µg/L	30.1	1 U	7.28	14.3	1 U	11.8	5 U	--
	MW-12B-090817			9/8/2017	µg/L	126	3.81	16.8	256	1 U	1 U	12.0	--
	MW-12B-120617	12/4/2017	16.12	12/6/2017	µg/L	1.01	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-12B-030818	3/5/2018	12.92	3/8/2018	µg/L	3.06	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-12B-060518	6/4/2018	9.83	6/5/2018	µg/L	275	58.7	20.9	171	1 U	1 U	22.5	--
MW-13	--			7/27/2015	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	MW-13-012816			1/28/2016	µg/L	2.00	1 U	12.5	6.90	1 U	1 U	1 U	0.02 U
	--			11/28/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	MW-13-062917			6/29/2017	µg/L	1.18	1 U	3.39	3 U	1 U	1 U	5 U	--
	--			9/5/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	12/4/2017	21.87	12/4/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW

Table 5. Analytical Results for Groundwater

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Gauging Date	Depth to Water	Sample Date	Analyte:	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
					Units								
RBSL ^a :					µg/L	5.0	700	1,000	10,000	5.0	40	25	0.05
MW-13	MW-13-030618	3/5/2018	20.40	3/6/2018	µg/L	6.98	1.14	15.3	4.55	1 U	1 U	5 U	--
	MW-13-060618	6/4/2018	18.8	6/6/2018	µg/L	44.2	4.25	86.2	19.9	1 U	1 U	5 U	--
MW-13B	MW-13B-012816			1/28/2016	µg/L	367	1 U	5.60	59.5	1 U	119	1 U	0.02 U
	MW-13B-113016			11/30/2016	µg/L	550	5.10	21.2	140	5 U ^b	158	7.90	--
	MW-13B-062817			6/28/2017	µg/L	308	3.09	10.3	103	1 U	121	5.13	--
	MW-13B-090817			9/8/2017	--	NS-SL	NS-SL	NS-SL	NS-SL	NS-SL	NS-SL	NS-SL	NS-SL
	MW-13B-110817	11/7/2017	23.08	11/8/2017	µg/L	325	3.42	19.0	91.6	1 U	173	5.55	--
	MW-13B-120617	12/4/2017	22.66	12/6/2017	µg/L	269	3.97	24.4	100	1 U	140	8.83	--
	MW-13B-030718	3/5/2018	21.00	3/7/2018	µg/L	252	3.13	12.1	60.2	1 U	175	6.44	--
	MW-13B-060618	6/4/2018	19.56	6/6/2018	µg/L	498	47.7	469	282	1 U	148	8.47	--
MW-14	MW-14-072815			7/28/2015	µg/L	5 U ^b	5 U	5 U	10 U	5 U ^b	5 U	5 U	0.02 U
	MW-14-012816			1/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U	0.019 U
	MW-14-113016			11/30/2016	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--
	MW-14-062817			6/28/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-14-090817			9/8/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-14-120617	12/4/2017	17.62	12/6/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-14-030718	3/5/2018	15.11	3/7/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-14-060618	6/4/2018	17.48	6/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
MW-14B	MW-14B-052516			5/25/2016	µg/L	5.00	1 U	1 U	4.40	1 U	17.2	1 U	0.02 U
	MW-14B-113016			11/30/2016	µg/L	10.5	1 U	1.10	5.50	1 U	19.7	1 U	--
	MW-14B-062817			6/28/2017	µg/L	38.1	1.34	2.56	19.1	1 U	36.2	5 U	--
	MW-14B-090817			9/8/2017	µg/L	6.81	1 U	1 U	6.67	1 U	18.7	5 U	--
	MW-14B-120617	12/4/2017	19.22	12/6/2017	µg/L	8.82	1 U	1 U	6.91	1 U	24.4	5 U	--
	MW-14B-030718	3/5/2018	16.95	3/7/2018	µg/L	3.57	1 U	1 U	5.60	1 U	9.28	5 U	--
	MW-14B-0604B18	6/4/2018	15.09	6/6/2018	µg/L	8.63	1 U	1 U	5.77	1 U	22.1	5 U	--

Table 5. Analytical Results for Groundwater

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Gauging Date	Depth to Water	Sample Date	Analyte:	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
					Units	µg/L	5.0	700	1,000	10,000	5.0	40	25
RBSL ^a :					µg/L	5.0	700	1,000	10,000	5.0	40	25	0.05
MW-15	MW-15-080415			8/4/2015	µg/L	5 U ^b	5 U	5 U	10 U	5 U ^b	5 U	5 U	0.019 U
	MW-15-012816			1/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U	0.02 U
	MW-15-120716			12/7/2016	µg/L	3,680	139	422	2,280	25 U ^b	188	43.8	--
	MW-15-031417			3/14/2017	µg/L	1,960	72.1	324	1,320	25 U ^b	161	125 U ^b	--
	MW-15-032017			3/20/2017	µg/L	3,390	103	505	2,460	50 U ^b	194	250 U ^b	--
	MW-15-033117			3/31/2017	µg/L	2,850	65.4	444	1,860	20 U ^b	221	100 U ^b	--
	MW-15-040617			4/6/2017	µg/L	1,790	60.6	465	886	25 U ^b	181	125 U ^b	--
	MW-15-062817			6/28/2017	µg/L	72.7	25 U	28.8	110	25 U ^b	91.8	125 U ^b	--
	MW-15-090817			9/8/2017	µg/L	454	24.0	567	338	5 U ^b	193	25 U ^b	--
	MW-15-120617	12/4/2017	13.66	12/6/2017	µg/L	1 U	1 U	1.60	4.64	1 U	140	5 U	--
	MW-15-030818	3/5/2018	10.04	3/8/2018	µg/L	53.1	2.75	89.9	53.1	1 U	85.0	5 U	--
	MW-15-060618	6/4/2018	Skimmer	6/6/2018	µg/L	52.2	4.11	81.4	46.5	1 U	63.8	5 U	--
MW-15B	MW-15B-080415			8/4/2015	µg/L	5 U ^b	5 U	5 U	10 U	5 U ^b	5 U	5 U	0.019 U
	MW-15B-012816			1/28/2016	µg/L	4.80	1 U	2.00	3.90	1 U	1 U	1 U	0.02 U
	MW-15B-113016			11/30/2016	µg/L	337	34.0	565	194	5 U ^b	26.7	5.00	--
	MW-15B-031417			3/14/2017	µg/L	2,160	248	4,580	1,500	100 U ^b	118	500 U ^b	--
	MW-15B-032017			3/20/2017	µg/L	615	88.6	1,270	555	25 U ^b	67.5	125 U ^b	--
	MW-15B-033117			3/31/2017	µg/L	1,630	205	3,240	1,180	50 U ^b	115	250 U ^b	--
	MW-15B-040617			4/6/2017	µg/L	1,020	132	2,020	789	25 U ^b	84.7	125 U ^b	--
	MW-15B-062817			6/28/2017	µg/L	1,510	145	3,520	1,280	100 U ^b	100 U ^b	500 U ^b	--
	MW-15B-090817			9/8/2017	µg/L	1,820	164	3,560	1,210	50 U ^b	133	250 U ^b	--
	MW-15B-120617	12/4/2017	16.25	12/6/2017	µg/L	1,760	239	3,630	1,380	1 U	135	37.6	--
	MW-15B-030818	3/5/2018	14.66	3/8/2018	µg/L	1,290	151	3,140	1,070	25 U ^b	93.2	125 U ^b	--
	MW-15B-060618	6/4/2018	13.84	6/6/2018	µg/L	968	82.8	1,990	791	1 U	109	12.8	--
MW-16	--			7/27/2015	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--			1/19/2016	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--			11/28/2016	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	MW-16-062917			6/29/2017	µg/L	12,900	1,770	36,400	12,500	500 U ^b	1,740	2,500 U ^b	--
	--			9/5/2017	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--	12/4/2017	7.00	12/7/2017	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	MW-16-030718	3/5/2018	3.00	3/7/2018	µg/L	130	295	1,370	2,470	10 U ^b	132	618	--
	--	6/4/2018	--	6/4/2018	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP

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Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Gauging Date	Depth to Water	Sample Date	Analyte:	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
					Units	µg/L	5.0	700	1,000	10,000	5.0	40	25
RBSL ^a :													
MW-17	--			7/27/2015	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--			1/19/2016	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--			11/28/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--			3/13/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--			3/20/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--			3/31/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--			4/6/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--			6/26/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--			9/5/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	12/4/2017	10.85	12/4/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	3/5/2018	10.85	3/5/2018	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	6/4/2018	10.80	6/4/2018	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
MW-17B	MW-17B-030116			3/1/2016	µg/L	6,480	488	11,900	2,870	5	742	104	0.019 U
	MW-17B-120116			12/1/2016	µg/L	9,370	761	16,900	4,500	100 U ^b	954	112	--
	MW-17B-031317			3/13/2017	µg/L	7,350	770	14,100	4,510	200 U ^b	944	1,000 U ^b	--
	MW-17B-032017			3/20/2017	µg/L	10,700	1,360	21,400	7,910	323	1,210	1,000 U ^b	--
	MW-17B-033117			3/31/2017	µg/L	9,190	900	17,500	5,910	100 U ^b	1,200	500 U ^b	--
	MW-17B-040617			4/6/2017	µg/L	7,780	833	14,900	5,330	200 U ^b	991	1,000 U ^b	--
	MW-17B-062817			6/28/2017	µg/L	11,200	704	21,600	5,650	200 U ^b	1,150	1,000 U ^b	--
	MW-17B-090817			9/8/2017	µg/L	11,400	1,240	23,900	8,460	20 U ^b	1,330	201	--
	MW-17B-120717	12/4/2017	17.05	12/7/2017	µg/L	10,600	1,060	14,900	9,210	10 U ^b	1,140	178	--
	MW-17B-030718	3/5/2018	14.80	3/7/2018	µg/L	8,830	1,110	20,200	8,220	50 U ^b	960	250 U ^b	--
	MW-17B-060718	6/4/2018	12.05	6/7/2018	µg/L	8,910	1,250	20,200	9,130	20 U ^b	1,230	206	--
MW-18	--			7/27/2015	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--			1/19/2016	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--			11/28/2016	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--			6/26/2017	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--			9/5/2017	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--	12/4/2017	11.64	12/4/2017	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--	3/5/2018	18.25	3/5/2018	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--	6/4/2018	12.12	6/4/2018	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP

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Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Gauging Date	Depth to Water	Sample Date	Analyte:	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
					Units								
RBSL ^a :					µg/L	5.0	700	1,000	10,000	5.0	40	25	0.05
MW-19	--			7/27/2015	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	MW-19-012116			1/21/2016	µg/L	22.8	18.5	256	437	1 U	1 U	10.7	0.02 U
	--			11/28/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--			3/13/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--			3/20/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--			3/31/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	MW-19-040617			4/6/2017	µg/L	9,810	1,030	25,000	10,300	250 U ^b	250 U ^b	1,250 U ^b	--
	MW-19-062917			6/29/2017	µg/L	9,410	683	27,200	9,580	200 U ^b	320	1,000 U ^b	--
	--			9/5/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	12/4/2017	11.77	12/4/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	3/5/2018	11.75	3/5/2018	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	MW-19-060618	6/4/2018	7.81	6/6/2018	µg/L	8.15	149	385	1260	1.53	1 U	250 U ^b	--
MW-20	--			7/27/2015	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--			1/19/2016	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--			11/28/2016	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--			3/13/2017	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--			3/20/2017	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--			3/31/2017	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--			4/6/2017	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--			5/4/2017	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--			6/26/2017	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--			7/17/2017	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--			8/1/2017	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--			9/5/2017	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--	10/3/2017	13.79	10/4/2017	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--	11/7/2017	13.61	11/8/2017	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--	12/4/2017	14.64	12/4/2017	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--	1/8/2018	14.04	1/8/2018	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--	2/5/2018	12.57	2/6/2018	µg/L	NS-OL	NS-OL	NS-OL	NS-OL	NS-OL	NS-OL	NS-OL	NS-OL
	--	3/5/2018	10.90	3/6/2018	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--	4/5/2018	9.37	4/6/2018	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--	5/2/2018	9.7	5/3/2018	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	--	6/4/2018	8.5	6/4/2018	--	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP

Table 5. Analytical Results for Groundwater

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Gauging Date	Depth to Water	Sample Date	Analyte:	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
					Units	5.0	700	1,000	10,000	5.0	40	25	0.05
RBSL ^a :					µg/L	5.0	700	1,000	10,000	5.0	40	25	0.05
MW-21	MW-21-072715			7/27/2015	µg/L	5 U ^b	5 U	5 U	10 U	5 U ^b	5 U	5 U	0.02 U
	MW-21-012116			1/21/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U	0.02 U
	MW-21-112916			11/29/2016	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--
	MW-21-031417			3/14/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-21-032117			3/21/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-21-033117			3/31/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-21-040617			4/6/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-21-062817			6/28/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-21-090817			9/8/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-21-120717	12/4/2017	17.42	12/7/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-21-030718	3/5/2018	8.05	3/7/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-21-060718	6/4/2018	12.43	6/7/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
MW-22	--			7/27/2015	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	MW-22-012116			1/21/2016	µg/L	19.8	3.40	47.2	37.4	1 U	1 U	1 U	0.02 U
	--			11/28/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--			5/3/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	MW-22-062917			6/29/2017	µg/L	234	10 U	125	30 U	10 U ^b	10 U	50 U ^b	--
	--			7/17/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--			8/1/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--			9/5/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	10/3/2017	9.94	10/4/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	11/7/2017	9.96	11/8/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	12/4/2017	9.99	12/4/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	1/8/2018	10.01	1/8/2018	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	2/5/2018	9.81	2/6/2018	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	MW-22-030618	3/5/2018	8.05	3/6/2018	µg/L	1 U	1 U	1.03	3 U	1 U	1 U	5 U	--
	MW-22-040618	4/5/2018	7.27	4/6/2018	µg/L	1 U	1 U	1.76	46.6	1 U	1 U	5 U	--
	MW-22-050318	5/2/2018	7.19	5/3/2018	µg/L	1.43	1.79	33.1	426	1 U	1 U	1 U	--
	MW-22-060518	6/4/2018	5.72	6/5/2018	µg/L	1 U	1 U	4.27	41.6	1 U	1 U	5 U	--
MW-23	MW-23-072715			7/27/2015	µg/L	5 U ^b	5 U	7.50	10 U	5 U ^b	5 U	5 U	0.02 U
	MW-23-012016			1/20/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U	0.019 U
	MW-23-120216			12/2/2016	µg/L	450	5 U	14.6	336	5 U ^b	46.4	5.90	--
	MW-23-031317			3/13/2017	µg/L	709	5 U	23.1	548	5 U ^b	127	25 U ^b	--
	MW-23-032017			3/20/2017	µg/L	642	10 U	12.7	579	10 U ^b	108	50 U ^b	--

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Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Gauging Date	Depth to Water	Sample Date	Analyte:	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
					Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
RBSL ^a :					µg/L	5.0	700	1,000	10,000	5.0	40	25	0.05
MW-23	MW-23-033117			3/31/2017	µg/L	685	10 U	16.5	624	10 U ^b	130	50 U ^b	--
	MW-23-040617			4/6/2017	µg/L	432	1 U	6.61	254	1 U	76.5	5 U	--
	MW-23-062817			6/28/2017	µg/L	131	10 U	10 U	117	10 U ^b	19.1	5 U	--
	MW-23-071717			7/17/2017	µg/L	1.20	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-23-080117			8/1/2017	µg/L	132	1 U	6.18	252	1 U	48.1	5 U	--
	MW-23-090717			9/7/2017	µg/L	1,110	9.25	43.1	999	5 U ^b	141	25 U ^b	--
	MW-23-100417	10/3/2017	11.52	10/4/2017	µg/L	703	10 U	17.5	515	10 U ^b	90.1	50 U ^b	--
	MW-23-110817	11/7/2017	11.10	11/8/2017	µg/L	788	10 U	21.5	580	10 U ^b	118	50 U ^b	--
	MW-23-120617	12/4/2017	11.13	12/6/2017	µg/L	693	10 U	17.0	408	10 U ^b	99.5	50 U ^b	--
	MW-23-010918	1/8/2018	11.02	1/9/2018	µg/L	127	10 U	10 U	137	10 U ^b	69.6	50 U ^b	--
	MW-23-020618	2/5/2018	9.76	2/6/2018	µg/L	1.10	1 U	1 U	3 U	1 U	33.8	5 U	--
	MW-23-030618	3/5/2018	8.27	3/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	17.5	5 U	--
	MW-23-040618	4/5/2018	7.52	4/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	32.0	5 U	--
	MW-23-050318	5/2/2018	7.12	5/3/2018	µg/L	1 U	1 U	1 U	3 U	1 U	19.1	5 U	--
	MW-23-060518	6/4/2018	6.33	6/5/2018	µg/L	1 U	1 U	1 U	3 U	1 U	5.28	5 U	--
MW-23B	MW-23B-080515			8/5/2015	µg/L	5 U ^b	5 U	7.0	10 U	5 U ^b	5 U	5 U	0.02 U
	MW-23B-012016			1/20/2016	µg/L	1 U	1 U	3.9	7.10	1 U	1 U	1 U	0.02 U
	MW-23B-120216			12/2/2016	µg/L	1 U	1.40	3.5	11.0	1 U	1 U	1.30	--
	MW-23B-031317			3/13/2017	µg/L	1 U	1.11	2.63	8.86	1 U	1 U	5 U	--
	MW-23B-032017			3/20/2017	µg/L	1 U	1.55	2.98	11.7	1 U	1 U	5 U	--
	MW-23B-033117			3/31/2017	µg/L	1 U	1.24	2.41	8.86	1 U	1 U	5 U	--
	MW-23B-040617			4/6/2017	µg/L	1 U	1.21	2.41	9.23	1 U	1 U	5 U	--
	MW-23B-062817			6/28/2017	µg/L	1 U	1 U	1.73	6.20	1 U	1 U	5 U	--
	MW-23B-090717			9/7/2017	µg/L	1 U	1 U	1.65	5.40	1 U	1 U	5 U	--
	MW-23B-120617	12/4/2017	11.45	12/6/2017	µg/L	1 U	1.20	2.48	7.93	1 U	1 U	5 U	--
	MW-23B-030618	3/5/2018	10.88	3/6/2018	µg/L	1 U	1.20	4.57	9.14	1 U	1 U	5 U	--
	MW-23B-060518	6/4/2018	6.06	6/5/2018	µg/L	1 U	1 U	1.08	4.21	1 U	1 U	5 U	--
MW-24	MW-24-080515			8/5/2015	µg/L	5 U ^b	5 U	5 U	10 U	5 U ^b	5 U	5 U	0.02 U
	MW-24-012616			1/26/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U	0.019 U
	MW-24-120716			12/7/2016	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--
	MW-24-062817			6/28/2017	µg/L	28.8	3.96	1.70	22.2	1 U	1 U	5 U	--
	MW-24-090817			9/8/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-24-120617	12/4/2017	4.51	12/6/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-24-030818	3/5/2018	4.15	3/8/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-24-060618	6/4/2018	4.45	6/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--

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Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Gauging Date	Depth to Water	Sample Date	Analyte:	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
					Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
RBSL ^a :					µg/L	5.0	700	1,000	10,000	5.0	40	25	0.05
MW-24B	MW-24B-080515			8/5/2015	µg/L	5 U ^b	5 U	5 U	10 U	5 U ^b	5 U	5 U	0.02 U
	MW-24B-012616			1/26/2016	µg/L	1 U	1 U	3.30	6.80	1 U	1 U	1 U	0.019 U
	MW-24B-120716			12/7/2016	µg/L	1 U	1 U	2.90	1.60	1 U	1 U	1 U	--
	MW-24B-062817			6/28/2017	µg/L	28.9	3.89	1.77	20.7	1 U	1 U	5 U	--
	MW-24B-090817			9/8/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-24B-120617	12/4/2017	5.69	12/6/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-24B-030818	3/5/2018	5.03	3/8/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-24B-060618	6/4/2018	5.12	6/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
MW-25	MW-25-012716			1/27/2016	µg/L	101	1 U	1 U	115	1 U	1 U	1.80	0.02 U
	MW-25-012716			12/1/2016	µg/L	675	30.2	15.3	619	5 U ^b	5.90	29.7	--
	MW-25-031417			3/14/2017	µg/L	627	28.6	10.1	668	10 U ^b	10 U	50 U ^b	--
	MW-25-032017			3/20/2017	µg/L	604	20.4	20 U	680	20 U ^b	20 U	100 U ^b	--
	MW-25-033117			3/31/2017	µg/L	673	30.1	12.0	736	10 U ^b	10 U	50 U ^b	--
	MW-25-040617			4/6/2017	µg/L	558	24.3	10 U	682	10 U ^b	10 U	50 U ^b	--
	MW-25-050317			5/3/2017	µg/L	519	49.3	10.1	614	1 U	1 U	43.2	--
	MW-25-062817			6/28/2017	µg/L	431	34.8	10 U	520	10 U ^b	10 U	50 U ^b	--
	MW-25-071717			7/17/2017	µg/L	230	13.4	10 U	264	10 U ^b	10 U	50 U ^b	--
	MW-25-080117			8/1/2017	µg/L	234	14.4	10 U	277	10 U ^b	10 U	50 U ^b	--
	MW-25-090817			9/8/2017	µg/L	200	12.2	1.27	214	1 U	1 U	10.6	--
	MW-25-100417	10/3/2017	8.52	10/4/2017	µg/L	173	16.2	1.73	276	1 U	1.10	6.77	--
	MW-25-110817	11/7/2017	8.35	11/8/2017	µg/L	82.9	7.21	1 U	143	1 U	1 U	7.74	--
	MW-25-120617	12/4/2017	7.10	12/6/2017	µg/L	23.8	1.84	1 U	60.5	1 U	1 U	5 U	--
	MW-25-010918	1/8/2018	8.80	1/9/2018	µg/L	72.0	2.74	1 U	111	1 U	1 U	5 U	--
	MW-25-020618	2/5/2018	8.15	2/6/2018	µg/L	10.8	1 U	1 U	19.3	1 U	1 U	5 U	--
	MW-25-030818	3/5/2018	7.84	3/8/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-25-040618	4/5/2018	7.46	4/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-25-050318	5/2/2018	7.02	5/3/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-25-060518	6/4/2018	6.73	6/5/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
MW-25B	MW-25B-012716			1/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U	0.02 U
	MW-25B-120116			12/1/2016	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--
	MW-25B-031417			3/14/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-25B-032017			3/20/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-25B-033117			3/31/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-25B-040617			4/6/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-25B-062817			6/28/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-25B-090817			9/8/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-25B-120617	12/4/2017	5.30	12/6/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--

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Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Gauging Date	Depth to Water	Sample Date	Analyte:	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
					Units	5.0	700	1,000	10,000	5.0	40	25	0.05
RBSL ^a :					µg/L	5.0	700	1,000	10,000	5.0	40	25	0.05
MW-25B	MW-25B-030818	3/5/2018	4.12	3/8/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-25B-060518	6/4/2018	3.41	6/5/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
MW-26	MW-26-012016			1/20/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U	0.019 U
	MW-26-120116			12/1/2016	µg/L	1 U	1 U	2.30	1 U	1 U	1 U	1 U	--
	MW-26-031417			3/14/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-26-032017			3/20/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-26-033117			3/31/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-26-040617			4/6/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-26-050317			5/3/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-26-062817			6/28/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-26-071717			7/17/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-26-080117			8/1/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-26-090717			9/7/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-26-100417	10/3/2017	7.71	10/4/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-26-110817	11/7/2017	6.56	11/8/2017	µg/L	1 U	1 U	1.17	3 U	1 U	1 U	5 U	--
	MW-26-120617	12/4/2017	6.83	12/6/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-26-010918	1/8/2018	6.68	1/9/2018	µg/L	1 U	1.79	6.20	13.8	1 U	1 U	5 U	--
	MW-26-020618	2/5/2018	4.37	2/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-26-030618	3/5/2018	2.94	3/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-26-040618	4/5/2018	2.88	4/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-26-050318	5/2/2018	2.71	5/3/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-26-060518	6/4/2018	2.01	6/5/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
MW-26B	MW-26B-012016			1/20/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U	0.02 U
	MW-26B-120116			12/1/2016	µg/L	1 U	1 U	1 U	1.30	1 U	1 U	1 U	--
	MW-26B-031417			3/14/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-26B-032017			3/20/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-26B-033117			3/31/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-26B-040617			4/6/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-26B-062817			6/28/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-26B-090717			9/7/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-26B-120617	12/4/2017	9.17	12/6/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-26B-030618	3/5/2018	6.30	3/6/2018	µg/L	1 U	1 U	1.03	3 U	1 U	1 U	5 U	--
	MW-26B-060518	6/4/2018	3.66	6/5/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
MW-27	MW-27-012716			1/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U	0.019 U
	--			11/28/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	MW-27-062817			6/28/2017	µg/L	2.69	4.06	3.88	35.9	1 U	1 U	5 U	--
	MW-27-090817			9/8/2017	µg/L	4.96	5.75	2.13	14.8	1 U	1 U	5 U	--

Table 5. Analytical Results for Groundwater

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Gauging Date	Depth to Water	Sample Date	Analyte:	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
					Units	µg/L	µg/L	µg/L	µg/L	U	U	U	U
RBSL ^a :					µg/L	5.0	700	1,000	10,000	5.0	40	25	0.05
MW-27	MW-27-120517	12/4/2017	27.46	12/5/2017	µg/L	6.48	8.23	12.5	20.5	1 U	1 U	5 U	--
	MW-27-030818	3/5/2018	25.29	3/8/2018	µg/L	14.5	29.7	62.3	227	1 U	1 U	5 U	--
	MW-27-060518	6/4/2018	22.55	6/5/2018	µg/L	5.74	7.74	22.6	70.3	1 U	1 U	5 U	--
MW-27B	MW-27B-051216			5/12/2016	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.02 U
	MW-27B-120216			12/2/2016	µg/L	1 U	5.30	9.10	45.7	1 U	1 U	8.90	--
	MW-27B-062817			6/28/2017	µg/L	1 U	4.04	4.04	32.7	1 U	1 U	6.09	--
	MW-27B-090717			9/7/2017	µg/L	1 U	3.73	6.35	30.3	1 U	1 U	7.54	--
	MW-27B-120517	12/4/2017	30.70	12/5/2017	µg/L	1 U	3.10	5.91	24.8	1 U	1 U	5.81	--
	MW-27B-030818	3/5/2018	3.20	3/8/2018	µg/L	1 U	3.44	6.82	28.8	1 U	1 U	5 U	--
	MW-27B-060518	6/4/2018	28.42	6/5/2018	µg/L	1 U	3.38	6.18	26.8	1 U	1 U	5.10	--
MW-28	MW-28-012716			1/27/2016	µg/L	542	430	3,850	3,370	1 U	4.80	96.3	0.02 U
	--			11/28/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	MW-28-031517			3/15/2017	µg/L	1,120	68.9	3,350	1,370	50 U ^b	50 U ^b	250 U	--
	--			3/20/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--			3/31/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--			4/6/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	MW-28-050317			5/3/2017	µg/L	65.9	14.5	263	1,010	1 U	2.94	9.33	--
	MW-28-062817			6/28/2017	µg/L	199	55.0	108	546	1 U	1 U	10.1	--
	MW-28-071717			7/17/2017	µg/L	219	64.2	85.8	422	1 U	1 U	14.7	--
	MW-28-080217			8/2/2017	µg/L	219	48.7	52.7	187	1 U	3.46	11.9	--
	MW-28-090817			9/8/2017	µg/L	130	16.2	175	388	1 U	4.77	13.6	--
	--	10/3/2017	23.80	10/4/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	11/7/2017	23.78	11/7/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	12/4/2017	23.94	12/7/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	1/8/2018	24.15	1/9/2018	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	MW-28-020618	2/5/2018	22.60	2/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-28-030818	3/5/2018	21.65	3/8/2018	µg/L	10.1	9.92	5.27	21.2	1 U	1 U	5 U	--
	MW-28-040618	4/5/2018	20.68	4/6/2018	µg/L	16.1	11.6	4.00	23.4	1 U	1 U	5 U	--
	MW-28-050318	5/2/2018	20.81	5/3/2018	µg/L	8.25	8.8	1.55	24.5	1 U	1 U	5 U	--
	MW-28-060518	6/4/2018	19.82	6/5/2018	µg/L	3.81	3.77	1.01	16.0	1 U	1 U	5 U	--

Table 5. Analytical Results for Groundwater

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Gauging Date	Depth to Water	Sample Date	Analyte:	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
					Units	µg/L	700	1,000	10,000	5.0	40	25	0.05
RBSL ^a :					µg/L	5.0	700	1,000	10,000	5.0	40	25	0.05
MW-29	MW-29-012116			1/21/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U	0.02 U
	MW-29-112916			11/29/2016	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--
	MW-29-031317			3/13/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-29-032017			3/20/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-29-033117			3/31/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-29-040617			4/6/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-29-050317			5/3/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-29-062817			6/28/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-29-071717			7/17/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-29-080117			8/1/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-29-090717			9/7/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-29-100417	10/3/2017	10.85	10/4/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-29-110817	11/7/2017	10.06	11/8/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-29-120617	12/4/2017	10.39	12/6/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-29-010918	1/8/2018	10.36	1/9/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-29-020618	2/5/2018	7.80	2/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-29-030718	3/5/2018	4.20	3/7/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-29-040618	4/5/2018	5.28	4/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-29-050318	5/2/2018	4.72	5/3/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-29-060518	6/4/2018	3.23	6/5/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
MW-30	MW-30-012516			1/25/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U	0.02 U
	--			11/28/2016	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	MW-30-050417			5/4/2017	µg/L	104	3.98	341	161	1 U	1 U	5 U	--
	MW-30-062917			6/29/2017	µg/L	646	25 U	1,630	736	25 U ^b	25 U	125 U ^b	--
	MW-30-071717			7/17/2017	µg/L	922	25 U	2,050	1,320	25 U ^b	25 U	125 U ^b	--
	MW-30-080217			8/2/2017	µg/L	1,240	25.9	1,020	2,230	25 U ^b	25 U	125 U ^b	--
	--			9/5/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	10/3/2017	14.58	10/4/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	11/7/2017	14.60	11/8/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	12/4/2017	14.47	12/4/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	1/8/2018	14.59	1/8/2018	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	MW-30-020518	2/5/2018	13.11	2/5/2018	µg/L	2.20	1 U	1.86	4.10	1 U	1 U	5 U	--
	MW-30-030718	3/5/2018	11.43	3/7/2018	µg/L	22.1	1 U	8.94	19.1	1 U	2.25	5 U	--
	MW-30-040618	4/5/2018	11.92	4/6/2018	µg/L	1.90	1 U	7.38	5.95	1 U	2.22	5 U	--
	MW-30-050318	5/2/2018	11.49	5/3/2018	µg/L	1.19	1 U	3.70	3 U	1 U	2.29	5 U	--
	MW-30-060618	6/4/2018	10.47	6/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	2.58	5 U	--

Table 5. Analytical Results for Groundwater

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Gauging Date	Depth to Water	Sample Date	Analyte:	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
					Units	5.0	700	1,000	10,000	5.0	40	25	0.05
RBSL ^a :					µg/L	5.0	700	1,000	10,000	5.0	40	25	0.05
MW-31	MW-31-051016			5/10/2016	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.02 U
	MW-31-112916			11/29/2016	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--
	MW-31-050317			5/3/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-31-062817			6/28/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-31-071717			7/17/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-31-080117			8/1/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-31-090817			9/8/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-31-100417	10/3/2017	22.70	10/4/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-31-110817	11/7/2017	20.81	11/8/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-31-120617	12/4/2017	20.05	12/6/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-31-010918	1/8/2018	22.55	1/9/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-31-020618	2/5/2018	18.90	2/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-31-030718	3/5/2018	18.01	3/7/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-31-040618	4/5/2018	18.59	4/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-31-050318	5/2/2018	17.35	5/3/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-31-060618	6/4/2018	17.25	6/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
MW-31B	MW-31B-051116			5/11/2016	µg/L	1 U	1 U	2.70	1 U	1 U	1 U	1 U	0.02 U
MW-32	MW-32-051016			5/10/2016	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.02 U
	MW-32-120616			12/6/2016	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--
	MW-32-062917			6/29/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-32-090817			9/8/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-32-120717	12/4/2017	10.02	12/7/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-32-030718	3/5/2018	6.82	3/7/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-32-060618	6/4/2018	7.16	6/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
MW-33	MW-33-051016			5/10/2016	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.02 U
MW-33T	MW-33T-051016			5/10/2016	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.02 U
	MW-33T-120617	12/4/2017	27.12	12/6/2017	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--
	MW-33T-030718	3/5/2018	25.23	3/7/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-33T-060618	6/4/2018	23.56	6/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
MW-34	MW-34-031517			3/15/2017	--	978	33.0	143	218	10 U ^b	157	50 U ^b	--
	MW-34-032017			3/20/2017	µg/L	801	10.0 U	113	305	10 U ^b	149	50 U ^b	--
	MW-34-033117			3/31/2017	µg/L	728	10.0 U	81.4	224	10 U ^b	152	50 U ^b	--
	MW-34-040617			4/6/2017	µg/L	860	1.70	58.6	181	1 U	123	5 U	--
	MW-34-050317			5/3/2017	µg/L	287	2.62	27.2	130	1 U	124	5 U	--
	MW-34-062817			6/28/2017	µg/L	167	4.59	9.30	39.2	1 U	68.3	5 U	--
	MW-34-071717			7/17/2017	µg/L	137	5.83	19.8	69.5	1 U	73.8	5 U	--
	MW-34-080117			8/1/2017	µg/L	517	10 U	31.7	110	10 U ^b	98.3	50 U ^b	--

Table 5. Analytical Results for Groundwater

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Gauging Date	Depth to Water	Sample Date	Analyte:	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
					Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
RBSL ^a :					µg/L	5.0	700	1,000	10,000	5.0	40	25	0.05
MW-34	MW-34-090817			9/8/2017	µg/L	1,430	6.01	98.0	264	1 U	191	7.33	--
	MW-34-100417	10/3/2017	2.76	10/4/2017	µg/L	919	10 U	36.8	157	10 U ^b	151	50 U ^b	--
	MW-34-110817	11/7/2017	2.48	11/8/2017	µg/L	338	10 U	15.3	140	10 U ^b	266	50 U ^b	--
	MW-34-120617	12/4/2017	2.52	12/6/2017	µg/L	169	10 U	29.7	69.9	10 U ^b	218	50 U ^b	--
	MW-34-010918	1/8/2018	2.48	1/9/2018	µg/L	147	10 U	13.1	79.8	10 U ^b	246	50 U ^b	--
	MW-34-020618	2/5/2018	2.27	2/6/2018	µg/L	249	10 U	19.2	88.3	10 U ^b	191	50 U ^b	--
	MW-34-030818	3/5/2018	2.23	3/8/2018	µg/L	696	7.35	51.6	180	1 U	229	5.84	--
	MW-34-040618	4/5/2018	2.25	4/6/2018	µg/L	619	2.22	31.9	150	1 U	281	7.77	--
	MW-34-050318	5/2/2018	2.31	5/3/2018	µg/L	342	10 U	18.1	99.7	10 U ^b	278	50 U ^b	--
	MW-34-060518	6/4/2018	2.34	6/5/2018	µg/L	63.1	1 U	3.28	19.2	1 U	247	5 U	--
MW-35	MW-35-051016			5/10/2016	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.02 U
	MW-35-120116			12/1/2016	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--
	MW-35-031417			3/14/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-35-032017			3/20/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-35-033117			3/31/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-35-040617			4/6/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-35-050317			5/3/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-35-062817			6/28/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-35-071717			7/17/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-35-080117			8/1/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-35-090817			9/8/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-35-100417	10/3/2017	10.34	10/4/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-35-110817	11/7/2017	8.94	11/8/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-35-120617	12/4/2017	10.41	12/6/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-35-010918	1/8/2018	10.57	1/9/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-35-020618	2/5/2018	9.00	2/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-35-030818	3/5/2018	8.33	3/8/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-35-040618	4/5/2018	8.39	4/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-35-050318	5/2/2018	8.37	5/3/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-35-060618	6/4/2018	8.15	6/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
MW-36	MW-36-051116			5/11/2016	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.02 U
	MW-36-112916			11/29/2016	µg/L	1.30	1 U	6.50	1.10	1 U	1 U	1 U	--
	MW-36-062917			6/29/2017	µg/L	2.11	1 U	2.28	3 U	1 U	1 U	5 U	--
	MW-36-090817			9/8/2017	µg/L	4.75	1 U	6.16	4.62	1 U	1 U	5 U	--
	MW-36-120717	12/4/2017	20.14	12/7/2017	µg/L	17.5	1 U	30.2	14.4	1 U	1 U	5 U	--
	MW-36-030718	3/5/2018	18.11	3/7/2018	µg/L	44.2	10 U	75.2	38.4	10 U ^b	10 U	50 U ^b	--
	MW-36-060718	6/4/2018	15.21	6/7/2018	µg/L	184	1 U	208	134	1 U	2.06	5 U	--

Table 5. Analytical Results for Groundwater

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Gauging Date	Depth to Water	Sample Date	Analyte:	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
					Units	5.0	700	1,000	10,000	5.0	40	25	0.05
RBSL ^a :					µg/L	5.0	700	1,000	10,000	5.0	40	25	0.05
MW-36B	MW-36B-051116			5/11/2016	µg/L	1 U	1 U	7.20	1 U	1 U	1 U	1 U	0.02 U
	MW-36B-112916			11/29/2016	µg/L	1 U	1 U	1.60	1 U	1 U	1 U	1 U	--
	MW-36B-062917			6/29/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-36B-090817			9/8/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-36B-120717	12/4/2017	20.90	12/7/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-36B-030718	3/5/2018	17.81	3/7/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-36B-060618	6/4/2018	14.84	6/7/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
MW-37	MW-37-113016			11/30/2016	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--
	MW-37-062817			6/28/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1.44	5 U	--
	MW-37-090817			9/8/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1.50	5 U	--
	MW-37-120617	12/4/2017	3.47	12/6/2017	µg/L	1 U	1 U	1 U	3 U	1 U	2.93	5 U	--
	MW-37-030818	3/5/2018	3.28	3/8/2018	µg/L	1 U	1 U	1 U	3 U	1 U	3.71	5 U	--
	MW-37-060518	6/4/2018	3.26	6/5/2018	µg/L	1 U	1 U	1 U	3 U	1 U	5.06	5 U	--
MW-38	MW-38-113016			11/30/2016	µg/L	1 U	1 U	1 U	1 U	1 U	5.50	1 U	--
	MW-38-031417			3/14/2017	µg/L	1 U	1 U	1 U	3 U	1 U	9.14	5 U	--
	MW-38-032017			3/20/2017	µg/L	1 U	1 U	1 U	3 U	1 U	7.55	5 U	--
	MW-38-033117			3/31/2017	µg/L	1 U	1 U	1 U	3 U	1 U	10.2	5 U	--
	MW-38-040617			4/6/2017	µg/L	1 U	1 U	1 U	3 U	1 U	8.06	5 U	--
	MW-38-050317			5/3/2017	µg/L	1 U	1 U	1 U	3 U	1 U	9.08	5 U	--
	MW-38-062817			6/28/2017	µg/L	9.71	1.17	1 U	6.63	1 U	1 U	5 U	--
	MW-38-071717			7/17/2017	µg/L	1 U	1 U	1 U	3 U	1 U	8.59	5 U	--
	MW-38-080117			8/1/2017	µg/L	1 U	1 U	1 U	3 U	1 U	7.25	5 U	--
	MW-38-090817			9/8/2017	µg/L	1 U	1 U	1 U	3 U	1 U	12.9	5 U	--
	MW-38-100417	10/3/2017	2.23	10/4/2017	µg/L	1.75	1 U	1 U	3 U	1 U	11.2	5 U	--
	MW-38-110817	11/7/2017	1.88	11/8/2017	µg/L	4.48	1 U	1 U	12.4	1 U	29.2	5 U	--
	MW-38-120617	12/4/2017	2.01	12/6/2017	µg/L	102	1 U	1 U	86.1	1 U	38.0	5 U	--
	MW-38-010918	1/8/2018	1.95	1/9/2018	µg/L	311	1 U	2.31	158	1 U	49.4	5 U	--
	MW-38-020618	2/5/2018	1.58	2/6/2018	µg/L	389	5 U	5 U	208	5 U	48.8	25 U	--
	MW-38-030818	3/5/2018	1.25	3/8/2018	µg/L	364	5 U	5 U	202	5 U	54.8	25 U	--
	MW-38-040618	4/5/2018	1.50	4/6/2018	µg/L	347	1 U	2.95	221	1 U	68.8	10.4	--
	MW-38-050318	5/2/2018	1.7	5/3/2018	µg/L	378	10 U	10 U	212	10 U ^b	62.1	50 U ^b	--
	MW-38-060518	6/4/2018	1.2	6/5/2018	µg/L	373	1 U	2.49	222	1 U	75.5	9	--

Table 5. Analytical Results for Groundwater

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Gauging Date	Depth to Water	Sample Date	Analyte:	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
					Units								
RBSL ^a :					µg/L	5.0	700	1,000	10,000	5.0	40	25	0.05
MW-39	MW-39-120716			12/7/2016	µg/L	6,320	682	1,290	3,650	50 U ^b	311	86	--
	MW-39-031417			3/14/2017	µg/L	6,370	431	2,200	3,700	10 U ^b	199	117	--
	MW-39-032017			3/20/2017	µg/L	7,340	704	2,990	4,050	100 U ^b	248	500 U ^b	--
	MW-39-033117			3/31/2017	µg/L	7,540	899	3,140	4,400	50 U ^b	272	250 U ^b	--
	MW-39-040617			4/6/2017	µg/L	6,180	754	3,280	3,860	50 U ^b	257	250 U ^b	--
	MW-39-062817			6/28/2017	µg/L	5,470	57.7	3,360	3,900	20 U ^b	239	100 U ^b	--
	MW-39-071717			7/17/2017	µg/L	4,690	100 U	3,760	4,580	100 U ^b	344	500 U ^b	--
	MW-39-080117			8/1/2017	µg/L	4,630	100 U	2,880	4,740	100 U ^b	348	500 U ^b	--
	MW-39-090817			9/8/2017	µg/L	3,380	10.7	1,040	2,740	1 U	376	15.6	--
	MW-39-100417	10/3/2017	3.75	10/4/2017	µg/L	1,560	50 U	365	1,350	50 U ^b	305	250 U ^b	--
	MW-39-110817	11/7/2017	4.89	11/8/2017	µg/L	878	50 U	123	368	50 U ^b	442	250 U ^b	--
	MW-39-120617	12/4/2017	5.72	12/6/2017	µg/L	345	50 U	68.5	150	50 U ^b	355	250 U ^b	--
	MW-39-010918	1/8/2018	4.86	1/9/2018	µg/L	23.8	5 U	5 U	15 U	5 U	370	25 U	--
	MW-39-020618	2/5/2018	4.85	2/6/2018	µg/L	46.9	5 U	5 U	15 U	5 U	263	25 U	--
	MW-39-030818	3/5/2018	4.66	3/8/2018	µg/L	1 U	1 U	1 U	3 U	1 U	304	5 U	--
	MW-39-040618	4/5/2018	4.54	4/6/2018	µg/L	1	1 U	1 U	3 U	1 U	297	5 U	--
	MW-39-050318	5/2/2018	4.48	5/3/2018	µg/L	10 U	10 U	10 U	30 U	10 U ^b	287	50 U ^b	--
	MW-39-060518	6/4/2018	4.34	6/5/2018	µg/L	1 U	1 U	1 U	3 U	1 U	322	5 U	--

Table 5. Analytical Results for Groundwater

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Gauging Date	Depth to Water	Sample Date	Analyte:	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
					Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
RBSL ^a :					µg/L	5.0	700	1,000	10,000	5.0	40	25	0.05
MW-40	MW-40-120716			12/7/2016	µg/L	6,730	588	7,460	3,390	50 U ^b	373	64.8	--
	MW-40-031417			3/14/2017	µg/L	11,600	1,280	16,100	7,260	50 U ^b	691	250 U ^b	--
	MW-40-032017			3/20/2017	µg/L	12,300	1,330	19,600	7,500	200 U ^b	654	1,000 U ^b	--
	MW-40-033117			3/31/2017	µg/L	13,300	1,500	19,500	8,070	100 U ^b	727	500 U ^b	--
	MW-40-040617			4/6/2017	µg/L	10,400	1,180	16,200	6,570	200 U ^b	650	1,000 U ^b	--
	MW-40-062817			6/28/2017	µg/L	9,250	1,030	19,200	6,540	500 U ^b	590	2,500 U ^b	--
	MW-40-071717			7/17/2017	µg/L	11,400	1,210	25,300	7,430	500 U ^b	727	2,500 U ^b	--
	MW-40-080117			8/1/2017	µg/L	12,000	1,120	23,200	8,070	500 U ^b	631	2,500 U ^b	--
	MW-40-090817			9/8/2017	µg/L	14,300	1,250	28,700	9,250	20 U ^b	716	219	--
	MW-40-100417	10/3/2017	1.95	10/4/2017	µg/L	13,800	1,000 U ^b	28,800	9,530	1,000 U ^b	1,000 U ^b	5,000 U ^b	--
	MW-40-110817	11/7/2017	2.11	11/8/2017	µg/L	13,500	1,000 U ^b	23,000	9,290	1,000 U ^b	1,000 U ^b	5,000 U ^b	--
	MW-40-120617	12/4/2017	3.43	12/6/2017	µg/L	14,300	1,000 U ^b	22,300	10,100	1,000 U ^b	1,000 U ^b	5,000 U ^b	--
	MW-40-010918	1/8/2018	2.72	1/9/2018	µg/L	12,400	773	22,300	10,200	200 U ^b	497	1,000 U ^b	--
	MW-40-020618	2/5/2018	2.75	2/6/2018	µg/L	11,100	777	20,300	9,350	200 U ^b	373	1,000 U ^b	--
	MW-40-030818	3/5/2018	2.44	3/8/2018	µg/L	8,450	498	14,500	7,580	50 U ^b	337	250 U ^b	--
	MW-40-040618	4/5/2018	2.32	4/6/2018	µg/L	6,710	212	8,350	5,460	100 U ^b	423	500 U ^b	--
	MW-40-050318	5/2/2018	2.23	5/3/2018	µg/L	2,890	100 U	3,490	3,350	100 U ^b	288	500 U ^b	--
	MW-40-060518	6/4/2018	1.98	6/5/2018	µg/L	472	16.8	514	1,490	1 U	255	20.4	--
MW-41	MW-41-120716			12/7/2016	µg/L	212	2 U	2 U	155	2 U	6.7	5.6	--
	MW-41-031417			3/14/2017	µg/L	469	1.78	1 U	275	1 U	4.34	18.1	--
	MW-41-032017			3/20/2017	µg/L	424	2.62	1 U	342	1 U	1 U	16.9	--
	MW-41-033117			3/31/2017	µg/L	449	5 U	5 U	343	5 U ^b	5 U	25 U ^b	--
	MW-41-040617			4/6/2017	µg/L	470	2.06	1 U	258	1 U	3.84	10.6	--
	MW-41-062817			6/28/2017	µg/L	292	8.83	2.09	271	1 U	3.36	13.3	--
	MW-41-071717			7/17/2017	µg/L	487	15.8	3.09	366	1 U	3.62	27.9	--
	MW-41-080117			8/1/2017	µg/L	371	10 U	10 U	260	10 U ^b	10 U	50 U ^b	--
	MW-41-090817			9/8/2017	µg/L	189	1.51	1 U	90.0	1 U	3.74	5 U	--
	MW-41-100417	10/3/2017	4.37	10/4/2017	µg/L	93.5	1 U	1 U	59.9	1 U	1.84	5 U	--
	MW-41-110817	11/7/2017	4.39	11/8/2017	µg/L	99.6	1 U	1 U	56.6	1 U	2.46	5.68	--

Table 5. Analytical Results for Groundwater

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Gauging Date	Depth to Water	Sample Date	Analyte:	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
					Units	µg/L							
RBSL ^a :					µg/L	5.0	700	1,000	10,000	5.0	40	25	0.05
MW-41	MW-41-120617	12/4/2017	5.55	12/6/2017	µg/L	27.6	1 U	1 U	11.1	1 U	1.62	5 U	--
	MW-41-010918	1/8/2018	4.40	1/9/2018	µg/L	2.06	1 U	1 U	3 U	1 U	1.43	5 U	--
	MW-41-020618	2/5/2018	3.82	2/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-41-030818	3/5/2018	3.94	3/8/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-41-040618	4/5/2018	4.00	4/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-41-050318	5/2/2018	3.8	5/3/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-41-060518	6/4/2018	3.69	6/5/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
MW-42	MW-42-120716			12/7/2016	µg/L	3.80	1 U	1 U	2.70	1 U	1 U	1 U	--
	MW-42-031417			3/14/2017	µg/L	19.3	1 U	1 U	3 U	1 U	1.12	5 U	--
	MW-42-032017			3/20/2017	µg/L	59.6	1 U	1 U	16.9	1 U	1.24	5 U	--
	MW-42-033117			3/31/2017	µg/L	135	1 U	1 U	73.8	1 U	1 U	5.19	--
	MW-42-040617			4/6/2017	µg/L	93.5	1 U	1 U	53.3	1 U	1.18	5 U	--
	MW-42-062817			6/28/2017	µg/L	15.1	1 U	1 U	11.7	1 U	1.25	5 U	--
	MW-42-090817			9/8/2017	µg/L	143	1 U	1 U	100	1 U	1.51	5.52	--
	MW-42-120617	12/4/2017	5.26	12/6/2017	µg/L	9.82	1 U	1 U	45.0	1 U	1.24	5 U	--
	MW-42-030818	3/5/2018	4.86	3/8/2018	µg/L	1.02	1 U	1 U	3 U	1 U	1 U	5 U	--
MW-42-060518	6/4/2018	5.37	6/5/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--	
MW-43	MW-43-110817	11/7/2017	4.45	11/8/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-43-120617	12/4/2017	4.50	12/6/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-43-010918	1/8/2018	4.35	1/9/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-43-020618	2/5/2018	3.70	2/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-43-030818	3/5/2018	3.90	3/8/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-43-040618	4/5/2018	4.18	4/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-43-050318	5/2/2018	4.26	5/3/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-43-060618	6/4/2018	4.28	6/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
MW-43B	MW-43B-120617	12/4/2017	4.08	12/6/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-43B-030818	3/5/2018	1.21	3/8/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-43B-060618	6/4/2018	0.9	6/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
MW-44	--			3/13/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	MW-44-062917			6/29/2017	µg/L	1.06	1 U	7.12	3.11	1 U	1 U	5 U	--
	--			9/5/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	12/4/2017	9.40	12/4/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	MW-44-030818	3/5/2018	4.00	3/8/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-44-060518	6/4/2018	3.16	6/5/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--

Table 5. Analytical Results for Groundwater

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Gauging Date	Depth to Water	Sample Date	Analyte:	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
					Units	µg/L	700	1,000	10,000	5.0	40	25	0.05
RBSL ^a :					µg/L	5.0	700	1,000	10,000	5.0	40	25	0.05
MW-44B	MW-44B-031317			3/13/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-44B-062817			6/28/2017	µg/L	1 U	1 U	2.39	3 U	1 U	1 U	5 U	--
	MW-44B-090717			9/7/2017	µg/L	1 U	1 U	3.07	3 U	1 U	1 U	5 U	--
	MW-44B-120517	12/4/2017	14.32	12/5/2017	µg/L	1 U	1 U	2.27	3 U	1 U	1 U	5 U	--
	MW-44B-030818	3/5/2018	12.10	3/8/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-44B-060518	6/4/2018	9.5	6/5/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
MW-45	--			3/13/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--			3/20/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--			3/31/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--			4/6/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--			5/3/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	MW-45-062917			6/29/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-45-071717			7/17/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-45-080217			8/2/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	--			9/5/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	10/3/2017	14.25	10/4/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	11/7/2017	14.24	11/8/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	12/4/2017	14.22	12/4/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	1/8/2018	14.25	1/8/2018	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	--	2/5/2018	13.95	2/6/2018	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	MW-45-030618	3/5/2018	12.31	3/6/2018	µg/L	24.3	6.11	28.9	41.2	1 U	1 U	5 U	--
	MW-45-040618	4/5/2018	11.30	4/6/2018	µg/L	21.9	3.08	19.6	36.6	1 U	1 U	5 U	--
MW-45-050318	5/2/2018	10.74	5/3/2018	µg/L	2.65	1 U	1 U	1 U	1 U	3.35	5 U	--	
MW-45-060718	6/4/2018	24.15	6/7/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--	
MW-45B	MW-45B-031317			3/13/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-45B-032017			3/20/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-45B-033117			3/31/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-45B-040617			4/6/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-45B-062817			6/28/2017	µg/L	1 U	1 U	1.73	3 U	1 U	1 U	5 U	--
	--			9/5/2017	--	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW	NS-IW
	MW-45B-120717	12/4/2017	15.93	12/7/2017	µg/L	1 U	1 U	3.26	3 U	1 U	1 U	5 U	--
	MW-45B-030618	3/5/2018	14.65	3/6/2018	µg/L	1 U	1 U	2.75	3 U	1 U	1 U	5 U	--
	MW-45B-060718	6/4/2018	25.13	6/7/2018	µg/L	1 U	1 U	1.94	3 U	1 U	1 U	5 U	--
MW-46	MW-46-120617	12/4/2017	9.48	12/6/2017	µg/L	4.97	1 U	1 U	7.74	1 U	85.5	5 U	--
	MW-46-030618	3/5/2018	6.33	3/6/2018	µg/L	173	1.76	16.5	29.5	1 U	129	7.21	--
	MW-46-060518	6/4/2018	5.2	6/5/2018	µg/L	294	1 U	11.8	147	1 U	184	5 U	--

Table 5. Analytical Results for Groundwater

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Sample ID	Gauging Date	Depth to Water	Sample Date	Analyte:	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
					Units								
RBSL ^a :					µg/L	5.0	700	1,000	10,000	5.0	40	25	0.05
MW-47	MW-47-120617	12/4/2017	17.75	12/6/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-47-030718	3/5/2018	14.74	3/7/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-47-060618	6/4/2018	13.92	6/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
MW-48B	MW-48B-120617	12/4/2017	18.22	12/6/2017	µg/L	1 U	1 U	1 U	3 U	1 U	2.92	5 U	--
	MW-48B-030718	3/5/2018	16.70	3/7/2018	µg/L	1 U	1 U	1 U	3 U	1 U	2.97	5 U	--
	MW-48B-060618	6/4/2018	15.91	6/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	2.12	5 U	--
MW-49	MW-49-120617	12/4/2017	20.29	12/6/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-49-030818	3/5/2018	17.68	3/8/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-49-060518	6/4/2018	14.95	6/5/2018	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
MW-50B	MW-50B-120617	12/4/2017	21.37	12/6/2017	µg/L	1.37	1 U	1 U	3 U	1 U	35.5	5 U	--
	MW-50B-030718	3/5/2018	19.10	3/7/2018	µg/L	1 U	1 U	1 U	3 U	1 U	26.7	5 U	--
	MW-50B-060618	6/4/2018	18.36	6/6/2018	µg/L	1 U	1 U	1 U	3 U	1 U	21.8	5 U	--

Notes:

^a RBSL = Risk-based screening levels identified in South Carolina Underground Storage Tank Management Division Programmatic Quality Assurance Program Plan, Revision 3.1, Table D1 "RBSLs for Groundwater", February 2016

^b The analyte was analyzed for, but was not detected above the laboratory reporting/quantitation limit. However, the laboratory reporting/quantitation limit is above the screening criteria. The actual absence or presence of this analyte between the screening criteria and the laboratory reporting/quantitation limit can not be determined.

*Unable to collect depth to water due to fluctuation of the well from air bubbling.

Samples analyzed by EPA Methods SW 8260B and 8011

Bold indicates the analyte was detected above the method detection limit.

Gray shading indicates the analyte exceeded RBSLs.

MW = monitoring well

µg/L = microgram(s) per liter

1,2-DCA = 1,2-dichloroethane

EDB = 1,2-dibromoethane

ID = identification

MTBE = methyl tertiary butyl ether

U = analyte was not detected above the reported sample quantitation limit

NS-FP = sample not collected due to the presence of free product in the well

NS-HS = sample not collected due to health and safety concerns

NS-IW = sample not collected due to insufficient volume of water in well

NS-OL = sample not collected because it was overlooked in the field

NS-SL = sample not analyzed due to sample being lost in transit to laboratory

Table 6. Cumulative Product Shipped from the Site

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Date	Destination	Total Product (gal)	Date	Destination	Total Product (gal)
12/9/2014	PPL Greensboro	4,289	6/3/2015	Allied Energies	4,214
12/9/2014	PPL Greensboro	3,100	8/10/2015	Allied Energies	6,000
12/12/2014	PPL Greensboro	1,189	11/2/2015	Allied Energies	5,800
12/30/2014	Crystal Clean (FCC)	5,057	11/13/2015	Crystal Clean (FCC)	2,900
12/31/2014	Crystal Clean (FCC)	5,333	12/1/2015	Allied Energies	6,690
1/4/2015	Crystal Clean (FCC)	5,000	12/1/2015	Allied Energies	6,700
1/4/2015	Crystal Clean (FCC)	2,872	12/7/2015	Crystal Clean (FCC)	500
1/5/2015	Crystal Clean (FCC)	5,013	9/28/2016	Shamrock	495
1/6/2015	Crystal Clean (FCC)	4,800	10/17/2016	Shamrock	110
1/7/2015	Allied Energies	6,532	10/24/2016	Shamrock	85
1/7/2015	Allied Energies	6,425	10/31/2016	Shamrock	70
1/7/2015	Allied Energies	8,200	11/10/2016	Shamrock	168
1/9/2015	Allied Energies	6,482	1/18/2017	A&D Archdale, NC	3,758
1/9/2015	Allied Energies	7,825	3/3/2017	A&D Archdale, NC	460
1/12/2015	Allied Energies	6,540	3/8/2017	A&D Archdale, NC	500
1/12/2015	Allied Energies	6,467	3/15/2017	A&D Archdale, NC	4,189
1/13/2015	Allied Energies	6,732	4/3/2017	A&D Archdale, NC	458
1/13/2015	Allied Energies	6,595	4/19/2017	A&D Archdale, NC	927
1/15/2015	Allied Energies	6,500	4/19/2017	A&D Archdale, NC	747
1/22/2015	Allied Energies	5,791	5/22/2017	A&D Archdale, NC	50
1/23/2015	Allied Energies	5,450	6/7/2017	A&D Archdale, NC	658
1/27/2015	Allied Energies	5,791	6/29/2017	A&D Archdale, NC	695
1/27/2015	Allied Energies	5,557	8/25/2017	A&D Archdale, NC	566
1/27/2015	Allied Energies	6,043	9/8/2017	A&D Archdale, NC	99
1/28/2015	Allied Energies	4,411	1/8/2018	A&D Archdale, NC	6
2/5/2015	Allied Energies	5,513	6/30/2018	Remaining in poly tanks	8.7
2/11/2015	Allied Energies	5,732		Total (gallons)	222,983
2/11/2015	Allied Energies	5,606		Total (barrels)	5,309
2/25/2015	Allied Energies	5,583			
3/4/2015	Allied Energies	4,000			
3/16/2015	Allied Energies	5,200			
6/3/2015	Allied Energies	6,500			

Notes:

Gasoline and water are field-segregated using two 1,550-gallon poly tanks prior to offsite disposal.

A&D = A&D Environmental

gal = gallons

NC = North Carolina

PPL = Plantation Pipe Line Company

Table 7. Product Skimmer Recovery Results

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Well Identifier	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Total Recovered to Date (gal)
	Volume Recovered (gal)	Volume Recovered (gal)	Volume Recovered (gal)	Volume Recovered (gal)	Volume Recovered (gal)	Volume Recovered (gal)	Volume Recovered (gal)	
Date	2/20/2018	2/26/2018	3/9/2018	3/15/2018	4/6/2018	5/3/2018	6/7/2018	
Product Skimmers								
MW-08	-	-	-	-	0.001	-	-	0.001
MW-15	-	-	0.023	0.004	-	-	-	0.027
MW-20	0.004	0.017	0.016	-	0.002	-	0.008	0.046
RS-01	NA	NA	0.031	0.008	-	-	-	0.039
RS-02	-	-	0.001	-	-	-	0.008	0.009
RS-05	0.844	0.813	1.094	1.125	0.031	0.002	0.008	3.916
RS-10	0.002	-	-	-	0.008	-	-	0.010
RS-14	0.016	-	-	-	-	-	0.008	0.023
RS-17	-	-	0.001	-	-	-	0.008	0.009
RW-02	-	0.090	0.047	-	0.033	-	0.008	0.177
RW-03	-	-	0.008	0.008	0.002	-	0.008	0.025
RW-04	-	0.008	0.016	-	0.001	-	0.016	0.040
RW-05	-	0.016	0.016	0.656	-	0.001	0.018	0.706
RW-07	0.002	-	0.008	-	-	-	-	0.010
RW-08	-	-	-	-	-	-	-	-
RW-15	0.078	-	-	0.117	0.031	0.002	-	0.228
RW-10	-	-	-	-	-	-	-	-
Petroleum-Absorbent Socks								
MW-11	0.200	0.224	-	0.256	0.200	0.008	0.221	1.109
RS-08	-	-	-	-	0.243	0.040	0.259	0.542
RT-2K	-	-	-	-	0.006	0.006	0.215	0.227
RT-1A	-	-	-	-	0.228	0.036	0.254	0.518
RT-1B	-	-	-	-	0.251	0.038	0.244	0.533
RT-1C	-	-	-	-	0.255	0.039	0.231	0.525
Total:	1.145	1.167	1.259	2.174	1.291	0.171	1.513	8.720

Notes:

- = no product recovered
gal = gallons
ID = identification
NA = not applicable

MW = monitoring well
RS = recovery sump
RT = recovery trench
RW = recovery well

Table 8. Stream Gauge Construction Information

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location ID	Installation Method	Date Installed	Stream Bottom Elevation (ft amsl)	Elevation of Zero Mark (ft amsl)
SW-01	By hand	3/29/2016	812.39	812.82
SW-02	By hand	3/29/2016	808.36	808.65
SW-03	By hand	3/29/2016	815.05	815.09
SW-05	By hand	3/29/2016	838.69	838.75
SW-08	By hand	3/29/2016	802.14	802.04
SW-10	By hand	3/29/2016	776.62	778.09
SW-14	By hand	7/18/2017	837.13	NS

Notes:

amsl = above mean sea level relative to North American Vertical Datum of 1988 (NAVD88). Benchmark is 34.8289659 degrees north, 82.3710354 degrees west (NAD83, 2011), elevation 929.1 ft NAVD88.

ID = identification

SW = surface water

ft = feet

NS = location not surveyed

Table 9. Well Construction Information

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location ID	Installation Method	Permit #	Date Installed	Date Abandoned	Purpose	Ground	TOC Elevation (ft amsl)	Measured		Well Depth (ft bgs)	Bottom of Well (ft amsl)	Top of	Bottom of	Top of	Bottom of	Top of	Bottom of	Length of	
						Surface Elevation (ft amsl)		Depth to	Bore Hole			Screen or	Screen or	Screen or	Screen or	Screen or	Screen or	Screen or	Screen or
								Bottom	Diameter	Dia		Open	Open	Open	Open	Open	Open	Open	
Monitoring Wells																			
MW-01	CME 550 HSA	MW-10136	6/26/2015	Still in use	Monitoring Well/Gauging	850.25	853.07	15.61	8	2	13.00	837.2	5.82	15.82	3.0	13.0	847.2	837.2	10.00
MW-01B	Schramm Air Rig	MW-10136	6/25/2015	Still in use	Monitoring Well/Gauging	850.45	852.99	45.26	10	6	38.50	812.0	21.03	41.03	18.5	38.5	832.0	812.0	20.00
MW-02	CME 750 HSA	MW-10136	6/25/2015	Still in use	Monitoring Well/Gauging	841.24	841.04	19.78	8	2	20.00	821.2	4.80	19.80	5.0	20.0	836.2	821.2	15.00
MW-02B	Schramm Air Rig/rehabbed (10/5/2017) with a Mobile Drill B57	MW-10136	6/24/2015	Still in use	Monitoring Well/Gauging	841.18	841.19	81.55	10	2	81.70	759.5	70.00	81.70	70.0	81.7	771.2	759.5	13.00
MW-03	CME 550 HSA	MW-10136	6/23/2015	Still in use	Monitoring Well/Gauging	838.38	838.36	22.19	8	2	20.00	818.4	4.98	19.98	5.0	20.0	833.4	818.4	15.00
MW-04	CME 550 HSA	MW-10136	6/23/2015	Still in use	Monitoring Well/Gauging	844.51	844.42	20.65	8	2	20.00	824.5	4.91	19.91	5.0	20.0	839.5	824.5	15.00
MW-05	CME 550 HSA	MW-10136	6/24/2015	Still in use	Monitoring Well/Gauging	851.15	851.11	19.89	8	2	20.00	831.1	4.96	19.96	5.0	20.0	846.1	831.1	15.00
MW-06	CME 550 HSA	MW-10136	6/24/2015	Still in use	Monitoring Well/Gauging	852.98	852.92	19.20	8	2	19.60	833.4	4.54	19.54	5.0	19.6	848.0	833.4	15.00
MW-06B	Mobile Drill B57	MW-11117	10/17/2017	Still in use	Monitoring Well/Gauging	852.42	852.57	85.65	13.75	4	85.20	767.2	65.50	85.50	65.5	85.5	786.9	766.9	20.00
MW-07	CME 550 HSA	MW-10136	6/25/2015	Still in use	Monitoring Well/Gauging	853.02	853.02	13.60	8	2	13.50	839.5	3.50	13.50	3.5	13.5	849.5	839.5	10.00
MW-08	CME 550 HSA	MW-10136	6/25/2015	Still in use	Monitoring Well/Gauging	844.75	844.72	19.80	8	2	19.70	825.1	4.67	19.67	4.7	19.7	840.1	825.1	15.00
MW-09	CME 550 HSA	MW-10136	6/25/2015	Still in use	Monitoring Well/Gauging	843.72	843.63	20.21	8	2	19.50	824.2	4.41	19.41	4.5	19.5	839.2	824.2	15.00
MW-09B	Mobile Drill B57	MW-11117	10/17/2017	Still in use	Monitoring Well/Gauging	843.71	843.92	151.00	13.75	4	151.00	692.7	132.20	151.00	132.2	151.0	711.5	692.7	20.00
MW-10	CME 550 HSA	MW-10136	6/25/2015	Still in use	Monitoring Well/Gauging	842.33	845.41	23.54	8	2	20.00	822.3	8.08	23.08	5.0	20.0	837.3	822.3	15.00
MW-11	CME 550 HSA	MW-10136	7/1/2015	Still in use	Monitoring Well/Gauging	852.36	855.63	32.50	8	2	25.20	827.2	13.27	28.27	14.2	25.0	838.2	827.4	15.00
MW-12	CME 550 HSA	MW-10136	6/25/2015	Still in use	Monitoring Well/Gauging	832.20	834.53	21.69	8	2	19.30	812.9	6.63	21.63	4.3	19.3	827.9	812.9	15.00
MW-12B	Geoprobe 3230 DT HSA	MW-10460	12/22/2015	Still in use	Monitoring Well/Gauging	832.26	834.98	45.81	10	6	43.00	789.3	35.72	45.72	33.0	43.0	799.3	789.3	10.00
MW-13	CME 550 HSA	MW-10136	6/26/2015	Still in use	Monitoring Well/Gauging	845.93	848.84	22.18	8	2	19.00	826.9	6.92	21.92	4.0	19.0	841.9	826.9	15.00
MW-13B	Geoprobe 3230 DT HSA	MW-10461	12/21/2015	Still in use	Monitoring Well/Gauging	847.19	849.82	55.36	10	6	58.00	789.2	50.64	60.64	48.0	58.0	799.2	789.2	10.00
MW-14	CME 550 HSA	MW-10136	6/26/2015	Still in use	Monitoring Well/Gauging	836.47	838.70	22.20	8	2	19.30	817.2	6.53	21.53	4.3	19.3	832.2	817.2	15.00
MW-14B	Mobile ST Schramm	MW-10578	5/3/2016	Still in use	Monitoring Well/Gauging	837.12	840.20	76.97	10	6	76.90	760.2	66.07	76.07	66.0	76.0	771.1	761.1	10.00
MW-15	CME 550 HSA	MW-10136	6/29/2015	Still in use	Monitoring Well/Gauging	828.68	831.03	21.22	8	2	19.00	809.7	6.35	21.35	4.0	19.0	824.7	809.7	15.00
MW-15B	CME 550 HSA	MW-10136	7/28/2015	Still in use	Monitoring Well/Gauging	828.66	831.29	74.41	10	6	77.85	750.8	70.48	80.48	67.9	77.9	760.8	750.8	10.00
MW-16	CME 750 HSA	MW-10136	6/26/2015	Still in use	Monitoring Well/Gauging	847.63	847.67	20.37	8	2	20.00	827.6	5.03	20.03	5.0	20.0	842.6	827.6	15.00
MW-17	CME 750 HSA	MW-10136	6/29/2015	Still in use	Monitoring Well/Gauging	855.32	855.35	15.30	8	2	11.00	844.3	6.03	11.03	6.0	11.0	849.3	844.3	5.00
MW-17B	Geoprobe 3230 DT HSA	MW-10462	1/7/2016	Still in use	Monitoring Well/Gauging	855.37	855.37	27.50	10	6	27.00	828.4	17.00	27.00	17.0	27.0	838.4	828.4	10.00
MW-18	CME 550 HSA	MW-10136	6/29/2015	Still in use	Monitoring Well/Gauging	846.82	846.89	19.75	8	2	20.00	826.8	5.06	20.06	5.0	20.0	841.8	826.8	15.00
MW-19	CME 750 HSA	MW-10136	6/29/2015	Still in use	Monitoring Well/Gauging	851.23	853.94	12.13	8	2	9.50	841.7	7.20	12.20	4.5	9.5	846.7	841.7	5.00
MW-20	CME 750 HSA	MW-10136	6/30/2015	Still in use	Monitoring Well/Gauging	853.07	852.89	19.45	8	2	19.00	834.1	3.81	18.81	4.0	19.0	849.1	834.1	15.00
MW-21	CME 750 HSA	MW-10136	6/30/2015	Still in use	Monitoring Well/Gauging	855.68	855.77	20.70	8	2	20.00	835.7	5.09	20.09	5.0	20.0	850.7	835.7	15.00
MW-22	CME 750 HSA	MW-10136	7/1/2015	Still in use	Monitoring Well/Gauging	854.62	854.60	10.30	8	2	11.00	843.6	5.98	10.98	6.0	11.0	848.6	843.6	5.00
MW-23	CME 750 HSA	MW-10136	7/1/2015	Still in use	Monitoring Well/Gauging	846.66	849.57	23.50	8	2	20.00	826.7	7.91	22.91	5.0	20.0	841.7	826.7	15.00
MW-23B	CME 550 HSA	MW-10136	7/22/2015	Still in use	Monitoring Well/Gauging	846.81	849.69	53.48	10	6	50.50	796.3	30.88	53.38	28.0	50.5	818.8	796.3	22.50
MW-24	CME 550 HSA	MW-10136	7/15/2015	Still in use	Monitoring Well/Gauging	815.72	817.92	15.30	8	2	13.00	802.7	10.20	15.20	8.0	13.0	807.7	802.7	5.00
MW-24B	CME 550 HSA	MW-10136	7/20/2015	Still in use	Monitoring Well/Gauging	815.83	818.72	45.10	10	6	39.50	776.3	22.39	42.39	19.5	39.5	796.3	776.3	20.00
MW-25	Geoprobe 3230 DT HSA	MW-10463	1/5/2016	Still in use	Monitoring Well/Gauging	823.46	826.18	18.07	8	2	15.00	808.5	8.04	18.04	5.0	15.0	818.5	808.5	10.00
MW-25B	Geoprobe 3230 DT HSA	MW-10464	1/5/2016	Still in use	Monitoring Well/Gauging	822.59	823.81	59.00	10	6	58.00	764.6	49.22	59.22	48.0	58.0	774.6	764.6	10.00
MW-26	Geoprobe 3230 DT HSA	MW-10465	1/4/2016	Still in use	Monitoring Well/Gauging	844.76	847.56	17.15	8	2	15.25	829.5	7.27	17.27	5.0	15.0	839.8	829.8	10.00
MW-26B	Geoprobe 3230 DT HSA	MW-10466	1/4/2016	Still in use	Monitoring Well/Gauging	844.81	847.81	43.84	10	6	38.00	806.8	29.00	41.00	26.0	38.0	818.8	806.8	12.00
MW-27	Geoprobe 3230 DT HSA	MW-10467	1/5/2016	Still in use	Monitoring Well/Gauging	854.22	854.11	29.51	8	2	30.25	824.0	15.11	30.11	15.0	30.0	839.2	824.2	15.00
MW-27B	CME 550 HSA / Schramm	MW-10578	4/26/2016	Still in use	Monitoring Well/Gauging	854.27	857.14	41.45	10	6	46.00	808.3	31.45	41.45	36.0	46.0	818.3	808.3	10.00
MW-28	Geoprobe 3230 DT HSA	MW-10468	1/5/2016	Still in use	Monitoring Well/Gauging	841.49	844.31	25.93	8	2	25.25	816.2	13.50	23.50	15.0	25.0	826.5	816.5	10.00
MW-29	Geoprobe 3230 DT HSA	MW-10469	1/4/2016	Still in use	Monitoring Well/Gauging	852.07	852.20	15.10	8	2	15.25	836.8	5.00	15.00	5.0	15.0	847.1	837.1	10.00
MW-30	Geoprobe 3230 DT HSA	MW-10470	1/6/2016	Still in use	Monitoring Well/Gauging	841.21	841.28	14.69	8	2	15.25	826.0	5.00	15.00	5.0	15.0	836.2	826.2	10.00

Table 9. Well Construction Information

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Installation Method	Permit #	Date Installed	Date Abandoned	Purpose	Ground Surface Elevation (ft amsl)	TOC Elevation (ft amsl)	Measured Depth to Bottom (ft BTOC)	Bore Hole Diameter (in)	Well Dia (in)	Well Depth (ft bgs)	Bottom of Well (ft amsl)	Top of	Bottom of	Top of	Bottom of	Top of	Bottom of	Length of
													Screen or Open Borehole Interval (ft BTOC)	Screen or Open Borehole Interval (ft BTOC)	Screen or Open Borehole Interval (ft bgs)	Screen or Open Borehole Interval (ft bgs)	Screen or Open Borehole Interval (ft amsl)	Screen or Open Borehole Interval (ft amsl)	Screen or Open Borehole Interval (ft)
MW-31	CME 550 HSA	MW-10578	4/19/2016	Still in use	Monitoring Well/Gauging	842.26	845.04	28.20	8	2	25.00	817.3	13.20	28.20	10.0	25.0	832.3	817.3	15.00
MW-31B	CME 550 HSA / Schramm	MW-10578	4/22/2016	Still in use	Monitoring Well/Gauging	842.01	844.94	79.25	10	6	76.00	766.0	68.25	79.25	65.0	76.0	777.0	766.0	11.00
MW-32	CME 550 HSA	MW-10578	4/19/2016	Still in use	Monitoring Well/Gauging	839.81	842.93	29.09	8	2	26.00	813.8	13.09	28.09	10.0	25.0	829.8	814.8	15.00
MW-33	CME 550 HSA	MW-10578	4/15/2016	Still in use	Monitoring Well/Gauging	846.20	849.20	28.30	8	2	27.00	819.2	11.30	26.30	10.0	25.0	836.2	821.2	15.00
MW-33T	CME 550 HSA/Air Rotary	MW-10578	4/14/2016	Still in use	Monitoring Well/Gauging	846.15	849.11	100.35	8	2	96.50	749.7	87.85	97.85	84.0	94.0	762.2	752.2	10.00
MW-34	Hand Auger	MW-10994	3/16/2017	Still in use	Monitoring Well/Gauging	813.99	816.35	7.86	4	2	5.00	809.0	5.36	7.86	2.5	5.0	811.5	809.0	2.50
MW-35	CME 550 HSA	MW-10578	4/20/2016	Still in use	Monitoring Well/Gauging	826.22	829.40	28.42	8	2	26.00	800.2	12.42	27.42	10.0	25.0	816.2	801.2	15.00
MW-36	CME 550 HSA	MW-10578	4/22/2016	Still in use	Monitoring Well/Gauging	858.66	858.47	23.65	8	2	24.50	834.2	8.65	23.65	9.5	24.5	849.2	834.2	15.00
MW-36B	CME 550 HSA / Schramm	MW-10578	4/28/2016	Still in use	Monitoring Well/Gauging	858.49	858.15	47.54	10	6	54.90	803.6	36.64	46.64	44.0	54.0	814.5	804.5	10.00
MW-37	Geoprobe 8040 HSA	MW-10759	8/9/2016	Still in use	Monitoring Well/Gauging	810.93	813.92	18.11	6.25	2	16.00	794.9	7.11	17.11	5.0	15.0	805.9	795.9	10.00
MW-38	Geoprobe 8040 HSA	MW-10759	8/9/2016	Still in use	Monitoring Well/Gauging	810.49	813.28	11.61	6.25	2	9.10	801.4	6.41	11.41	3.9	8.9	806.6	801.6	5.00
MW-39	Geoprobe 8040 HSA	MW-10759	11/29/2016	Still in use	Monitoring Well/Gauging	816.92	819.90	13.01	6.25	2	11.00	805.9	7.01	12.01	5.0	10.0	811.9	806.9	5.00
MW-40	Geoprobe 8040 HSA	MW-10759	11/30/2016	Still in use	Monitoring Well/Gauging	814.75	817.79	13.18	6.25	2	11.00	803.8	7.18	12.18	5.0	10.0	809.8	804.8	5.00
MW-41	Geoprobe 8040 HSA	MW-10759	11/28/2016	Still in use	Monitoring Well/Gauging	816.67	819.68	13.20	6.25	2	11.00	805.7	7.20	12.20	5.0	10.0	811.7	806.7	5.00
MW-42	Geoprobe 8040 HSA	MW-10759	11/28/2016	Still in use	Monitoring Well/Gauging	817.31	820.33	13.40	6.25	2	11.00	806.3	7.40	12.40	5.0	10.0	812.3	807.3	5.00
MW-43	Mobile Drill B57	MW-10964	10/20/2017	Still in use	Monitoring Well/Gauging	815.92	818.12	10.30	8.5	2	7.50	808.42	5.30	10.30	2.5	7.5	813.42	808.42	5.00
MW-43B	Mobile Drill B57	MW-10964	10/20/2017	Still in use	Monitoring Well/Gauging	816.08	818.80	54.40	13.75	4	51.00	765.08	34.40	54.40	31.0	51.0	785.08	765.08	20.00
MW-44	Hollow Stem Auger	MW-10964	1/23/2017	Still in use	Monitoring Well/Gauging	853.82	853.67	9.82	6.25	2	10.00	843.8	4.82	9.82	5.0	10.0	848.8	843.8	5.00
MW-44B	Hollow Stem Auger/Wire Line/Air Rotary	MW-10964	1/23/2017	Still in use	Monitoring Well/Gauging	853.66	853.38	34.50	10.25	4	37.10	816.6	13.50	34.50	16.1	37.1	837.6	816.6	21.00
MW-45	Hollow Stem Auger	MW-10964	1/26/2017	Still in use	Monitoring Well/Gauging	852.39	852.47	14.42	6.25	2	14.00	838.4	4.42	14.42	4.0	14.0	848.4	838.4	10.00
MW-45B	Hollow Stem Auger/Wire Line/Air Rotary	MW-10964	1/25/2017	Still in use	Monitoring Well/Gauging	852.69	852.85	40.30	10.25	4	40.30	812.4	19.00	40.30	19.0	40.3	833.7	812.4	21.30
MW-46	Geoprobe 8040 DT	MW-11117	9/13/2017	Still in use	Monitoring Well/Gauging	842.43	845.47	17.05	8.5	2	14.00	828.4	12.05	17.05	9.0	14.0	833.4	828.4	5.00
MW-47	Geoprobe 8040 DT	MW-11117	9/14/2017	Still in use	Monitoring Well/Gauging	839.89	842.98	22.79	8.5	2	20.00	819.9	12.79	22.79	10.0	20.0	829.9	819.9	10.00
MW-48B	Mobile Drill B57	MW-11117	10/18/2017	Still in use	Monitoring Well/Gauging	829.53	832.34	94.50	13.75	4	91.00	738.5	74.50	94.50	71.0	91.0	758.5	738.5	20.00
MW-49	Geoprobe 8040 DT	MW-11117	9/14/2017	Still in use	Monitoring Well/Gauging	843.65	846.78	23.30	8.5	2	21.00	822.7	8.30	23.30	6.0	21.0	837.7	822.7	15.00
MW-50B	Mobile Drill B57	MW-11247	10/17/2017	Still in use	Monitoring Well/Gauging	847.11	850.34	109.60	13.75	4	106.00	741.1	89.60	109.60	96.0	106.0	751.1	741.1	20.00
Recovery Wells																			
RW-01	HSA	MW-09978	1/28/2015	Still in use	Gauging/LNAPL Recovery	849.49	851.92	20.80	6.25	4	17	832.5	4.44	19.44	2.0	17.0	847.5	832.5	15.00
RW-02	HSA	MW-09978	1/29/2015	Still in use	Gauging/LNAPL Recovery	850.22	852.69	25.72	6.25	4	23	827.2	15.47	25.47	13.0	23.0	837.2	827.2	10.00
RW-03	HSA	MW-09978	1/29/2015	Still in use	Gauging/LNAPL Recovery	850.03	852.34	33.39	6.25	4	31.2	818.8	18.51	33.51	16.2	31.2	833.8	818.8	15.00
RW-04	HSA	MW-09978	1/29/2015	Still in use	Gauging/LNAPL Recovery	852.15	853.93	35.04	6.25	4	33	819.2	14.78	34.78	13.0	33.0	839.2	819.2	20.00
RW-05	HSA	MW-09978	1/30/2015	Still in use	Gauging/LNAPL Recovery	850.99	853.53	38.25	6.25	4	34.5	816.5	22.04	37.04	19.5	34.5	831.5	816.5	15.00
RW-06	HSA	MW-09978	1/30/2015	Still in use	Gauging/LNAPL Recovery	844.21	846.21	38.50	6.25	4	38.5	805.7	20.49	40.49	18.5	38.5	825.7	805.7	20.00
RW-07	HSA	MW-09978	2/2/2015	Still in use	Gauging/LNAPL Recovery	841.01	843.19	38.00	6.25	4	38	803.0	15.18	40.18	13.0	38.0	828.0	803.0	25.00
RW-08	HSA	MW-09978	2/2/2015	Still in use	Gauging/LNAPL Recovery	833.46	835.48	33.50	6.25	4	33.5	800.0	10.52	35.52	8.5	33.5	825.0	800.0	25.00
RW-09	HSA	MW-09978	2/3/2015	Still in use	Gauging/LNAPL Recovery	831.13	835.12	42.13	6.25	4	41.5	789.6	15.49	45.49	11.5	41.5	819.6	789.6	30.00
RW-10	HSA	MW-10006	2/4/2015	Still in use	Gauging/LNAPL Recovery	846.76	848.53	66.51	6.25	4	68.5	778.3	5.27	70.27	3.5	68.5	843.3	778.3	65.00
RW-11	HSA	MW-10006	2/4/2015	Still in use	Gauging/LNAPL Recovery	851.03	852.97	21.40	6.25	4	19.5	831.5	6.44	21.44	4.5	19.5	846.5	831.5	15.00
RW-12	HSA	MW-10006	2/5/2015	Still in use	Gauging/LNAPL Recovery	851.64	854.49	16.90	6.25	4	14	837.6	6.90	16.90	4.0	14.0	847.6	837.6	10.00
RW-13	HSA	MW-10006	2/5/2015	Still in use	Gauging/LNAPL Recovery	847.57	847.97	45.53	6.25	4	50	797.6	0.53	45.53	5.0	50.0	842.6	797.6	45.00
RW-14	HSA	MW-10006	2/6/2015	Still in use	Gauging/LNAPL Recovery	826.25	827.54	55.00	6.25	4	55	771.2	5.00	55.00	5.0	55.0	821.2	771.2	50.00
RW-15	HSA	MW-10006	2/10/2015	Still in use	Gauging/LNAPL Recovery	849.48	851.64	36.50	6.25	4	36.5	813.0	1.50	36.50	1.5	36.5	848.0	813.0	35.00
Recovery Sumps																			
RS-01	Trackhoe	MW-09978	12/29/2014	Still in use	Gauging/LNAPL Recovery	847.95	849.13	23.60	NA	4	22.42	825.5	3.18	23.60	2.0	22.4	845.9	825.5	20.42

Table 9. Well Construction Information
 Plantation Pipe Line Company
 Lewis Drive Remediation Site, Belton, South Carolina
 Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Installation Method	Permit #	Date Installed	Date Abandoned	Purpose	Ground	Measured	Bore Hole Diameter (in)	Well Dia (in)	Well Depth (ft bgs)	Bottom of Well (ft amsl)	Top of	Bottom of	Top of	Bottom of	Top of	Bottom of	Length of	
						Surface Elevation (ft amsl)	TOC Elevation (ft amsl)					Screen or Open Interval (ft BTOC)	Screen or Open Interval (ft BTOC)	Screen or Open Interval (ft bgs)	Screen or Open Interval (ft bgs)	Screen or Open Interval (ft amsl)	Screen or Open Interval (ft amsl)	Screen or Open Interval (ft)	
RS-02	Trackhoe	MW-09978	12/29/2014	Still in use	Gauging/LNAPL Recovery	848.54	849.52	20.00	NA	4	19.02	829.5	2.98	20.00	2.0	19.0	846.5	829.5	17.02
RS-04	Trackhoe	MW-09978	12/30/2014	Still in use	Gauging/LNAPL Recovery	850.36	851.47	10.75	NA	4	9.64	840.7	3.11	10.75	2.0	9.6	848.4	840.7	7.64
RS-05	Trackhoe	MW-09978	12/31/2014	Still in use	Gauging/LNAPL Recovery	847.14	848.31	25.20	NA	4	24.03	823.1	3.17	25.20	2.0	24.0	845.1	823.1	22.03
RS-06	Trackhoe	MW-09978	12/31/2014	Still in use	Gauging/LNAPL Recovery	848.25	849.47	25.18	NA	4	23.96	824.3	3.22	25.18	2.0	24.0	846.2	824.3	21.96
RS-07	Trackhoe	MW-09978	12/31/2014	Still in use	Gauging/LNAPL Recovery	854.06	855.08	16.65	NA	4	15.63	838.4	3.02	16.65	2.0	15.6	852.1	838.4	13.63
RS-08	Trackhoe	MW-09978	12/31/2014	Still in use	Gauging/LNAPL Recovery	852.59	854.00	20.22	NA	4	18.81	833.8	3.41	20.22	2.0	18.8	850.6	833.8	16.81
RS-09	Trackhoe	MW-09978	1/7/2015	Still in use	Gauging/LNAPL Recovery	846.75	847.60	18.85	NA	4	18.00	828.8	2.85	18.85	2.0	18.0	844.8	828.8	16.00
RS-10	Trackhoe	MW-09978	1/7/2015	Still in use	Gauging/LNAPL Recovery	846.28	847.42	20.06	NA	4	18.92	827.4	3.14	20.06	2.0	18.9	844.3	827.4	16.92
RS-11	Trackhoe	MW-09978	1/7/2015	Still in use	Gauging/LNAPL Recovery	846.35	847.44	22.06	NA	4	20.97	825.4	3.09	22.06	2.0	21.0	844.3	825.4	18.97
RS-12	Trackhoe	MW-09978	1/7/2015	Still in use	Gauging/LNAPL Recovery	846.58	847.74	21.29	NA	4	20.13	826.5	3.16	21.29	2.0	20.1	844.6	826.5	18.13
RS-13	Trackhoe	MW-09978	1/8/2015	Still in use	Gauging/LNAPL Recovery	845.39	845.98	19.92	NA	4	19.33	826.1	1.96	19.92	1.4	19.3	844.0	826.1	17.96
RS-14	Trackhoe	MW-09978	1/8/2015	Still in use	Gauging/LNAPL Recovery	844.66	845.97	19.93	NA	4	18.62	826.0	3.31	19.93	2.0	18.6	842.7	826.0	16.62
RS-15	Trackhoe	MW-09978	1/8/2015	Still in use	Gauging/LNAPL Recovery	845.36	846.41	19.93	NA	4	18.88	826.5	3.05	19.93	2.0	18.9	843.4	826.5	16.88
RS-16	Trackhoe	MW-09978	1/8/2015	Still in use	Gauging/LNAPL Recovery	844.56	845.44	19.98	NA	4	19.10	825.5	2.88	19.98	2.0	19.1	842.6	825.5	17.10
RS-17	Trackhoe	MW-09978	1/8/2015	Still in use	Gauging/LNAPL Recovery	843.29	844.22	19.91	NA	4	18.98	824.3	2.93	19.91	2.0	19.0	841.3	824.3	16.98
RS-18	Trackhoe	MW-09978	1/8/2015	Still in use	Gauging/LNAPL Recovery	846.82	847.89	19.98	NA	4	18.91	827.9	3.07	19.98	2.0	18.9	844.8	827.9	16.91
RS-20	Trackhoe	MW-09978	3/19/2015	Still in use	Gauging/LNAPL Recovery	841.73	842.69	11.84	NA	4	9.91	831.8	3.93	11.84	2.0	9.9	839.7	831.8	7.91
Recovery Trench Sumps																			
RT-1A	Trackhoe	MW-09978	1/6/2015	Still in use	Gauging/LNAPL Recovery	852.86	854.06	20.89	NA	4	20.00	832.9	3.20	21.20	2.0	20.0	850.9	832.9	18.00
RT-1B	Trackhoe	MW-09978	1/6/2015	Still in use	Gauging/LNAPL Recovery	853.29	854.15	21.10	NA	4	20.00	833.3	2.86	20.86	2.0	20.0	851.3	833.3	18.00
RT-1C	Trackhoe	MW-09978	1/6/2015	Still in use	Gauging/LNAPL Recovery	853.55	854.55	21.27	NA	4	20.00	833.5	3.00	21.00	2.0	20.0	851.5	833.5	18.00
RT-2A	Trackhoe	MW-09978	1/22/2015	Still in use	Gauging/LNAPL Recovery	815.66	817.48	10.81	NA	4	10.00	805.7	3.82	11.82	2.0	10.0	813.7	805.7	8.00
RT-2B	Trackhoe	MW-09978	1/22/2015	Still in use	Gauging/LNAPL Recovery	816.72	817.61	10.82	NA	4	10.00	806.7	2.89	10.89	2.0	10.0	814.7	806.7	8.00
RT-2C	Trackhoe	MW-09978	1/22/2015	Still in use	Gauging/LNAPL Recovery	816.86	818.06	10.23	NA	4	10.00	806.9	3.20	11.20	2.0	10.0	814.9	806.9	8.00
RT-2D	Trackhoe	MW-09978	1/22/2015	Still in use	Gauging/LNAPL Recovery	817.11	818.12	10.21	NA	4	10.00	807.1	3.01	11.01	2.0	10.0	815.1	807.1	8.00
RT-2E	Trackhoe	MW-09978	1/22/2015	Still in use	Gauging/LNAPL Recovery	817.32	818.25	10.24	NA	4	10.00	807.3	2.93	10.93	2.0	10.0	815.3	807.3	8.00
RT-2F	Trackhoe	MW-09978	1/22/2015	Still in use	Gauging/LNAPL Recovery	817.74	818.57	10.23	NA	4	10.00	807.7	2.83	10.83	2.0	10.0	815.7	807.7	8.00
RT-2G	Trackhoe	MW-09978	1/22/2015	Still in use	Gauging/LNAPL Recovery	819.27	820.07	10.24	NA	4	10.00	809.3	2.80	10.80	2.0	10.0	817.3	809.3	8.00
RT-2I	Trackhoe	MW-09978	1/22/2015	Still in use	Gauging/LNAPL Recovery	819.23	819.51	10.20	NA	4	10.00	809.2	2.28	10.28	2.0	10.0	817.2	809.2	8.00
RT-2J	Trackhoe	MW-09978	1/22/2015	Still in use	Gauging/LNAPL Recovery	817.47	817.63	10.22	NA	4	10.00	807.5	2.16	10.16	2.0	10.0	815.5	807.5	8.00
RT-2K	Trackhoe	MW-09978	3/20/2015	Still in use	Gauging/LNAPL Recovery	816.11	817.40	4.14	NA	4	2.50	813.6	2.64	4.14	1.0	2.5	815.1	813.6	1.50
RT-2L	Trackhoe	MW-09978	3/20/2015	Still in use	Gauging/LNAPL Recovery	817.95	819.54	6.60	NA	4	3.71	814.2	3.89	6.60	1.0	3.7	816.9	814.2	2.71
Piezometers																			
TW-04R	DPT	MW-10006	2/4/2015	Still in use	Gauging	852.68	852.64	5.46	2.2	1	5.5	847.2	2.46	5.46	2.5	5.5	850.2	847.2	3.00
TW-05R	DPT	MW-10006	2/4/2015	Still in use	Gauging	849.96	849.93	8.87	2.2	1	8.8	841.2	2.87	8.87	2.8	8.9	847.2	841.1	6.00
TW-14R	DPT	MW-10006	2/4/2015	Still in use	Gauging	853.47	853.37	6.20	2.2	1	6.5	847.0	2.20	6.20	2.5	6.3	851.0	847.2	4.00
TW-15R	DPT	MW-10006	2/4/2015	Still in use	Gauging	850.70	850.62	4.85	2.2	1	5	845.7	1.85	4.85	2.0	4.9	848.7	845.8	3.00
TW-21	DPT	MW-09978	1/22/2015	Still in use	Gauging	849.72	849.70	9.54	2.2	1	14	835.7	-0.46	9.54	4.0	9.6	845.7	840.2	10.00
TW-28	DPT	MW-09978	1/23/2015	Still in use	Gauging	851.57	851.42	31.84	2.2	1	30	821.6	11.84	31.84	10.0	32.0	841.6	819.6	20.00
TW-30	DPT	MW-09978	1/23/2015	Still in use	Gauging	851.86	851.81	23.15	2.2	1	24	827.9	8.15	23.15	9.0	23.2	842.9	828.7	15.00
TW-34	DPT	MW-09978	1/24/2015	Still in use	Gauging	854.92	854.79	25.04	2.2	1	23	831.9	10.04	25.04	8.0	25.2	846.9	829.7	15.00
TW-35	DPT	MW-09978	1/24/2015	Still in use	Gauging	854.22	854.10	25.12	2.2	1	23	831.2	10.12	25.12	8.0	25.2	846.2	829.0	15.00
TW-40	DPT	MW-09978	1/24/2015	Still in use	Gauging	853.45	853.35	34.05	2.2	1	33	820.5	14.05	34.05	13.0	34.2	840.5	819.3	20.00
TW-41	DPT	MW-09978	1/25/2015	Still in use	Gauging	849.38	849.38	32.15	2.2	1	34	815.4	7.15	32.15	9.0	32.1	840.4	817.2	25.00
TW-42	DPT	MW-09978	1/25/2015	Still in use	Gauging	847.02	846.84	27.50	2.2	1	29.5	817.5	7.50	27.50	9.5	27.7	837.5	819.3	20.00
TW-45	DPT	MW-09978	1/25/2015	Still in use	Gauging	848.26	848.31	36.86	2.2	1	37.5	810.8	11.86	36.86	12.5	36.8	835.8	811.4	25.00
TW-55	DPT	MW-10006	2/5/2015	Still in use	Gauging	846.00	845.93	41.50	2.7	1	43	803.0	11.50	41.50	13.0	41.6	833.0	804.4	30.00
TW-59	DPT	MW-09978	1/30/2015	Still in use	Gauging	834.84	834.78	21.15	2.7	1	22	812.8	6.15	21.15	7.0	21.2	827.8	813.6	15.00

Table 9. Well Construction Information

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location	Installation Method	Permit #	Date Installed	Date Abandoned	Purpose	Ground Surface Elevation (ft amsl)	TOC Elevation (ft amsl)	Measured Depth to Bottom (ft BTOC)	Bore Hole Diameter (in)	Well Dia (in)	Well Depth (ft bgs)	Bottom of Well (ft amsl)	Top of Screen or Open Borehole Interval (ft BTOC)	Bottom of Screen or Open Borehole Interval (ft BTOC)	Top of Screen or Open Borehole Interval (ft bgs)	Bottom of Screen or Open Borehole Interval (ft bgs)	Top of Screen or Open Borehole Interval (ft amsl)	Bottom of Screen or Open Borehole Interval (ft amsl)	Length of Screen or Open Borehole Interval (ft)
TW-60	DPT	MW-09978	1/30/2015	Still in use	Gauging	828.00	828.03	37.20	2.7	1	41.5	786.5	2.20	37.20	6.5	37.2	821.5	790.8	35.00
TW-64	DPT	MW-09978	2/2/2015	Still in use	Gauging	845.89	845.88	52.85	2.2	1	55	790.9	2.85	52.85	5.0	52.9	840.9	793.0	50.00
TW-65	DPT	MW-09978	2/2/2015	Still in use	Gauging	845.66	845.62	44.81	2.2	1	44.5	801.2	9.81	44.81	9.5	44.8	836.2	800.8	35.00
TW-66	DPT	MW-09978	2/2/2015	Still in use	Gauging	820.18	820.31	23.81	2.7	1	24	796.2	3.81	23.81	4.0	23.7	816.2	796.5	20.00
TW-67	DPT	MW-09978	2/3/2015	Still in use	Gauging	852.88	852.71	26.47	2.7	1	27	825.9	6.47	26.47	7.0	26.6	845.9	826.2	20.00
TW-68	DPT	MW-09978	2/3/2015	Still in use	Gauging	846.59	846.45	29.96	2.2	1	27	819.6	9.96	29.96	7.0	30.1	839.6	816.5	20.00
TW-69	DPT	MW-09978	2/3/2015	Still in use	Gauging	840.38	840.27	51.91	2.2	1	50	790.4	11.91	51.91	10.0	52.0	830.4	788.4	40.00
TW-70	DPT	MW-09978	2/3/2015	Still in use	Gauging	842.07	841.95	45.05	2.2	1	43	799.1	10.05	45.05	8.0	45.2	834.1	796.9	35.00
TW-73	DPT	MW-09978	2/3/2015	Still in use	Gauging	850.60	850.53	16.00	2.7	1	16	834.6	6.00	16.00	6.0	16.1	844.6	834.5	10.00
TW-76	DPT	MW-10006	2/4/2015	Still in use	Gauging	852.53	852.44	43.62	2.7	1	43	809.5	8.62	43.62	8.0	43.7	844.5	808.8	35.00
TW-81	DPT	MW-10006	2/5/2015	Still in use	Gauging	849.48	849.43	7.00	2.2	1	7	842.5	2.00	7.00	2.0	7.0	847.5	842.4	5.00
TW-82	DPT	MW-10006	2/5/2015	Still in use	Gauging	849.83	849.64	10.00	2.2	1	10	839.8	2.00	10.00	2.0	10.2	847.8	839.6	8.00
TW-83	DPT	MW-10006	2/5/2015	Still in use	Gauging	850.54	850.44	17.00	2.2	1	17	833.5	2.00	17.00	2.0	17.1	848.5	833.4	15.00
TW-84	DPT	MW-10006	2/5/2015	Still in use	Gauging	851.38	851.22	13.50	2.2	1	13.5	837.9	3.50	13.50	3.5	13.7	847.9	837.7	10.00
TW-85	DPT	MW-10006	2/5/2015	Still in use	Gauging	843.64	843.49	39.00	2.7	1	39	804.6	9.00	39.00	9.0	39.2	834.6	804.5	30.00
TW-86	DPT	MW-10006	2/5/2015	Still in use	Gauging	853.28	853.10	6.00	2.2	1	6	847.3	2.00	6.00	2.0	6.2	851.3	847.1	4.00
TW-87	DPT	MW-10006	2/5/2015	Still in use	Gauging	852.33	852.25	7.00	2.2	1	7	845.3	2.00	7.00	2.0	7.1	850.3	845.3	5.00
TW-90	DPT	MW-10006	2/6/2015	Still in use	Gauging	845.48	845.43	46.50	2.7	1	46.5	799.0	6.50	46.50	6.5	46.6	839.0	798.9	40.00
TW-94	DPT	MW-10006	2/10/2015	Still in use	Gauging	840.75	840.58	40.00	2.7	1	40	800.8	5.00	40.00	5.0	40.2	835.8	800.6	35.00
TW-96	DPT	MW-10006	2/11/2015	Still in use	Gauging	840.52	840.40	28.76	2.7	1	30	810.5	3.76	28.76	5.0	28.9	835.5	811.6	25.00
Vertical Air Sparging Wells																			
VAS-01	Mobile B57 HSA	SCHE03020469	7/28/2016	Still in use	Cupboard Creek Protection	853.269	NS	NA	8.50	2.00	32.20	NA	NA	NA	28.70	31.20	NA	NA	2.50
VAS-02	Mobile B57 HSA	SCHE03020469	7/27/2016	Still in use	Cupboard Creek Protection	852.360	NS	NA	8.50	2.00	27.00	NA	NA	NA	23.50	26.00	NA	NA	2.50
VAS-03	Mobile B57 HSA	SCHE03020469	7/27/2016	Still in use	Cupboard Creek Protection	852.132	NS	NA	8.50	2.00	18.30	NA	NA	NA	14.80	17.30	NA	NA	2.50
VAS-04	Geoprobe 8040 HSA	SCHE03020469	8/4/2016	Still in use	Cupboard Creek Protection	852.056	NS	NA	8.50	2.00	16.70	NA	NA	NA	13.20	15.70	NA	NA	2.50
VAS-05	Mobile B57 HSA	SCHE03020469	7/27/2016	Still in use	Cupboard Creek Protection	851.559	NS	NA	8.50	2.00	13.00	NA	NA	NA	9.50	12.00	NA	NA	2.50
VAS-06	Mobile B57 HSA	SCHE03020469	7/26/2016	Still in use	Cupboard Creek Protection	851.612	NS	NA	8.50	2.00	14.40	NA	NA	NA	10.90	13.40	NA	NA	2.50
VAS-07	Mobile B57 HSA	SCHE03020469	7/26/2016	Still in use	Cupboard Creek Protection	851.603	NS	NA	8.50	2.00	19.40	NA	NA	NA	15.90	18.40	NA	NA	2.50
VAS-08	Mobile B57 HSA	SCHE03020469	7/25/2016	Still in use	Cupboard Creek Protection	851.583	NS	NA	8.50	2.00	22.00	NA	NA	NA	18.50	21.00	NA	NA	2.50
VAS-09	Mobile B57 HSA	SCHE03020469	7/25/2016	Still in use	Cupboard Creek Protection	851.607	NS	NA	8.50	2.00	14.00	NA	NA	NA	10.50	13.00	NA	NA	2.50
VAS-10	Mobile B57 HSA	SCHE03020469	7/25/2016	Still in use	Cupboard Creek Protection	851.411	NS	NA	8.50	2.00	16.10	NA	NA	NA	12.60	15.10	NA	NA	2.50
VAS-11	Mobile B57 HSA	SCHE03020469	7/28/2016	Still in use	Cupboard Creek Protection	852.476	NS	NA	8.50	2.00	25.30	NA	NA	NA	21.80	24.30	NA	NA	2.50
VAS-12	Geoprobe 8040 HSA	SCHE03020469	8/5/2016	Still in use	Cupboard Creek Protection	851.535	NS	NA	8.50	2.00	24.20	NA	NA	NA	20.70	23.20	NA	NA	2.50
VAS-13	Geoprobe 8040 HSA	SCHE03020469	8/5/2016	Still in use	Cupboard Creek Protection	851.701	NS	NA	8.50	2.00	19.60	NA	NA	NA	16.10	18.60	NA	NA	2.50
VAS-14	Geoprobe 8040 HSA	SCHE03020469	8/4/2016	Still in use	Cupboard Creek Protection	851.239	NS	NA	8.50	2.00	16.20	NA	NA	NA	12.70	15.20	NA	NA	2.50
VAS-15	Geoprobe 8040 HSA	SCHE03020469	8/4/2016	Still in use	Cupboard Creek Protection	850.732	NS	NA	8.50	2.00	15.50	NA	NA	NA	12.00	14.50	NA	NA	2.50
VAS-16	Geoprobe 8040 HSA	SCHE03020469	8/3/2016	Still in use	Cupboard Creek Protection	850.305	NS	NA	8.50	2.00	17.90	NA	NA	NA	14.40	16.90	NA	NA	2.50
VAS-17	Geoprobe 8040 HSA	SCHE03020469	8/3/2016	Still in use	Cupboard Creek Protection	849.842	NS	NA	8.50	2.00	19.30	NA	NA	NA	15.80	18.30	NA	NA	2.50
VAS-18	Geoprobe 8040 HSA	SCHE03020469	8/8/2016	Still in use	Cupboard Creek Protection	849.513	NS	NA	8.50	2.00	16.50	NA	NA	NA	13.00	15.50	NA	NA	2.50
VAS-19	Mobile B57 HSA	SCHE03020469	7/26/2016	Still in use	Cupboard Creek Protection	850.465	NS	NA	8.50	2.00	17.20	NA	NA	NA	13.60	16.10	NA	NA	2.50
VAS-20	Mobile B57 HSA	SCHE03020469	7/19/2016	Still in use	Brown's Creek Protection	827.789	NS	NA	8.50	2.00	47.60	NA	NA	NA	44.60	47.10	NA	NA	2.50
VAS-21	Mobile B57 HSA	SCHE03020469	7/19/2016	Still in use	Brown's Creek Protection	826.304	NS	NA	8.50	2.00	53.50	NA	NA	NA	50.00	52.50	NA	NA	2.50
VAS-22	Mobile B57 HSA	SCHE03020469	7/21/2016	Still in use	Brown's Creek Protection	827.394	NS	NA	8.50	2.00	57.00	NA	NA	NA	53.50	56.00	NA	NA	2.50
VAS-23	Mobile B57 HSA	SCHE03020469	7/22/2016	Still in use	Brown's Creek Protection	827.211	NS	NA	8.50	2.00	49.50	NA	NA	NA	46.00	48.50	NA	NA	2.50
VAS-24	Mobile B57 HSA	SCHE03020469	7/5/2016	Still in use	Brown's Creek Protection	826.803	NS	NA	8.50	2.00	58.50	NA	NA	NA	55.00	57.50	NA	NA	2.50
VAS-25	Mobile B57 HSA	SCHE03020469	7/11/2016	Still in use	Brown's Creek Protection	826.411	NS	NA	8.50	2.00	54.00	NA	NA	NA	50.50	53.00	NA	NA	2.50

Table 9. Well Construction Information

Plantation Pipe Line Company

Lewis Drive Remediation Site, Belton, South Carolina

Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Location ID	Installation Method	Permit #	Date Installed	Date Abandoned	Purpose	Ground Surface Elevation (ft amsl)	TOC Elevation (ft amsl)	Measured Depth to Bottom (ft BTOC)	Bore Hole Diameter (in)	Well Dia (in)	Well Depth (ft bgs)	Bottom of Well (ft amsl)	Top of Screen or Open Borehole	Bottom of Screen or Open Borehole	Top of Screen or Open Borehole	Bottom of Screen or Open Borehole	Top of Screen or Open Borehole	Bottom of Screen or Open Borehole	Length of Screen or Open Borehole (ft)
													Interval (ft BTOC)	Interval (ft BTOC)	Interval (ft bgs)	Interval (ft bgs)	Interval (ft amsl)	Interval (ft amsl)	
VAS-26	Mobile B57 HSA	SCHE03020469	7/11/2016	Still in use	Brown's Creek Protection	825.180	NS	NA	8.50	2.00	55.00	NA	NA	NA	51.50	54.00	NA	NA	2.50
VAS-27	Mobile B57 HSA	SCHE03020469	7/8/2016	Still in use	Brown's Creek Protection	826.369	NS	NA	8.50	2.00	54.00	NA	NA	NA	50.50	53.00	NA	NA	2.50
VAS-28	Mobile B57 HSA	SCHE03020469	7/6/2016	Still in use	Brown's Creek Protection	828.930	NS	NA	8.50	2.00	23.10	NA	NA	NA	19.80	22.30	NA	NA	2.50
VAS-29	Mobile B57 HSA	SCHE03020469	7/6/2016	Still in use	Brown's Creek Protection	832.025	NS	NA	8.50	2.00	27.50	NA	NA	NA	24.00	26.50	NA	NA	2.50
VAS-30	Mobile B57 HSA	SCHE03020469	6/21/2016	Still in use	Brown's Creek Protection	831.485	NS	NA	8.50	2.00	52.90	NA	NA	NA	49.40	51.90	NA	NA	2.50
VAS-31	Mobile B57 HSA	SCHE03020469	6/21/2016	Still in use	Brown's Creek Protection	828.337	NS	NA	8.50	2.00	42.00	NA	NA	NA	38.50	41.00	NA	NA	2.50
VAS-32	Mobile B57 HSA	SCHE03020469	6/30/2016	Still in use	Brown's Creek Protection	836.257	NS	NA	8.50	2.00	43.00	NA	NA	NA	39.50	42.00	NA	NA	2.50
VAS-33	Mobile B57 HSA	SCHE03020469	6/29/2016	Still in use	Brown's Creek Protection	840.900	NS	NA	8.50	2.00	52.60	NA	NA	NA	49.10	51.60	NA	NA	2.50
VAS-34	Mobile B57 HSA	SCHE03020469	7/13/2016	Still in use	Brown's Creek Protection	836.585	NS	NA	8.50	2.00	53.50	NA	NA	NA	50.00	52.50	NA	NA	2.50
VAS-35	Mobile B57 HSA	SCHE03020469	7/13/2016	Still in use	Brown's Creek Protection	831.212	NS	NA	8.50	2.00	40.00	NA	NA	NA	36.50	39.00	NA	NA	2.50
VAS-36	Mobile B57 HSA	SCHE03020469	7/7/2016	Still in use	Brown's Creek Protection	831.361	NS	NA	8.50	2.00	33.20	NA	NA	NA	29.70	32.20	NA	NA	2.50
VAS-37	Mobile B57 HSA	SCHE03020469	7/7/2016	Still in use	Brown's Creek Protection	832.454	NS	NA	8.50	2.00	16.50	NA	NA	NA	13.00	15.50	NA	NA	2.50
VAS-38	Mobile B57 HSA	SCHE03020469	7/6/2016	Still in use	Brown's Creek Protection	834.566	NS	NA	8.50	2.00	21.10	NA	NA	NA	16.60	19.10	NA	NA	2.50
VAS-39	Mobile B57 HSA	SCHE03020469	6/22/2016	Still in use	Brown's Creek Protection	835.956	NS	NA	8.50	2.00	42.40	NA	NA	NA	38.90	41.40	NA	NA	2.50
VAS-40	Mobile B57 HSA	SCHE03020469	6/23/2016	Still in use	Brown's Creek Protection	833.753	NS	NA	8.50	2.00	40.00	NA	NA	NA	36.50	39.00	NA	NA	2.50
VAS-41	Mobile B57 HSA	SCHE03020469	6/28/2016	Still in use	Brown's Creek Protection	845.071	NS	NA	8.50	2.00	27.80	NA	NA	NA	24.30	26.80	NA	NA	2.50
VAS-42A	Mobile B57 HSA	SCHE03020469	7/14/2016	Still in use	Brown's Creek Protection	845.304	NS	NA	8.50	2.00	39.30	NA	NA	NA	35.80	38.30	NA	NA	2.50
VAS-43A	Mobile B57 HSA	SCHE03020469	7/15/2016	Still in use	Brown's Creek Protection	843.078	NS	NA	8.50	2.00	66.50	NA	NA	NA	63.00	65.50	NA	NA	2.50
VAS-44A	Mobile B57 HSA	SCHE03020469	7/18/2016	Still in use	Brown's Creek Protection	838.353	NS	NA	8.50	2.00	72.50	NA	NA	NA	69.00	71.50	NA	NA	2.50
VAS-46	Mobile B57 HSA	SCHE03020469	6/24/2016	Still in use	Brown's Creek Protection	839.503	NS	NA	8.50	2.00	20.80	NA	NA	NA	18.00	20.50	NA	NA	2.50
Vertical Bedrock Sparging Wells																			
VBS-01	Hollow Stem Auger/Wire Line/Air Rotary	SCHE03020469M	1/28/2017	Still in use	Brown's Creek Protection	NS	NS	38.15	4.00	2.00	38.50	NA	NA	NA	34.50	38.50	NA	NA	2.00
VBS-02	Hollow Stem Auger/Wire Line/Air Rotary	SCHE03020469M	1/28/2017	Still in use	Brown's Creek Protection	NS	NS	31.05	4.00	2.00	31.00	NA	NA	NA	27.00	31.00	NA	NA	2.00
VBS-03	Hollow Stem Auger/Wire Line/Air Rotary	SCHE03020469M	1/27/2017	Still in use	Brown's Creek Protection	NS	NS	36.20	4.00	2.00	36.20	NA	NA	NA	32.20	36.20	NA	NA	2.00

Notes:

amsl = above mean sea level relative to North American Vertical Datum of 1988 (NAVD88). Benchmark is 34.8289659 degrees north, 82.3710354 degrees west (NAD83, 2011), elevation 929.1 ft NAVD88.

bgs = below ground surface

in = inches

MW = monitoring well

VAS = vertical air sparging well

BTOC = below top of casing

NA = not applicable

RS = recovery sump

VBS = vertical bedrock sparging well

DPT = direct push

NS = location not surveyed

RT = recovery trench

ft = feet

RNE = Refusal not encountered

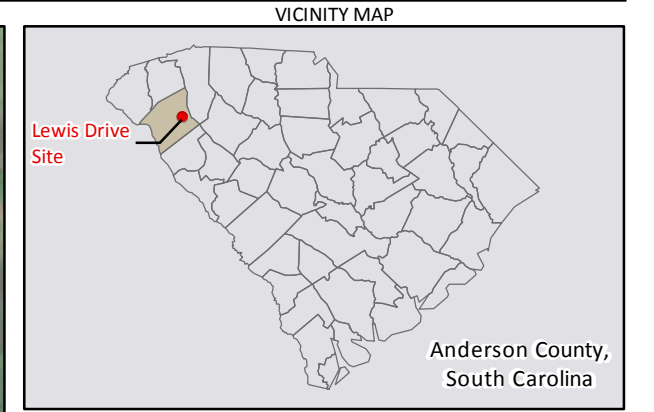
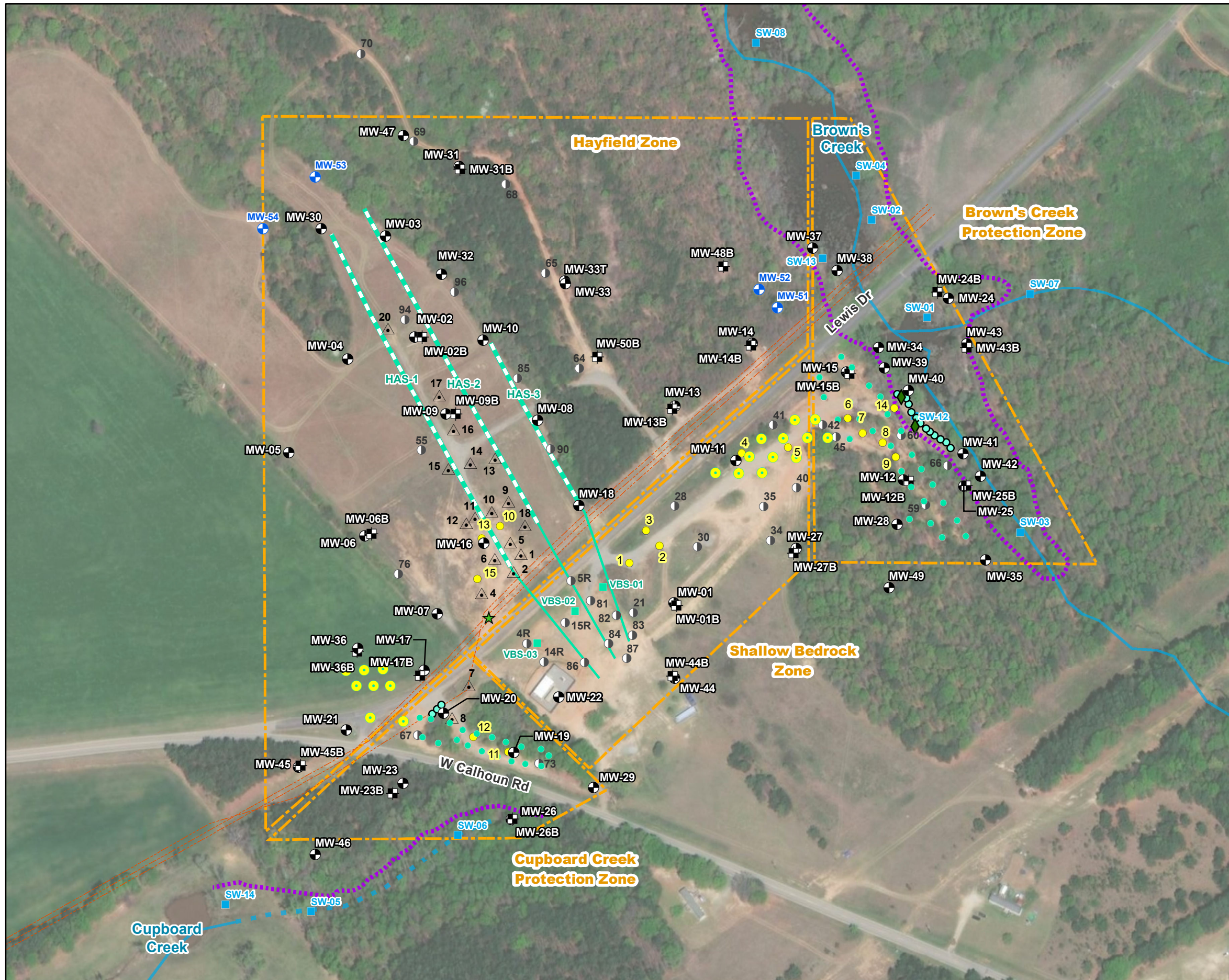
RW = recovery well

HSA = hollow-stem auger

TOC = top of casing

TW = temporary well

Figures



- LEGEND**
- ★ Release Point
 - Proposed Residuum Monitoring Well
 - ⊙ Residuum Monitoring Well
 - ⊠ Bedrock Monitoring Well
 - Piezometer to Abandon
 - △ Recovery Sump
 - Recovery Trench Point
 - Recovery Well (4" diameter)
 - Surface Water Sampling Location
 - ◆ Seep Location
 - Proposed Vertical Sparging Well
 - Vertical Bedrock Sparging Well
 - Vertical Saprolite Sparging Well
 - Pipeline
 - Horizontal Sparging Well Riser
 - Horizontal Sparging Well Screen
 - National Hydrography Dataset Stream
 - Intermittent Stream
 - Inspection Route for Sheen or Distressed Vegetation
 - Remediation Zone

Base Map Sources:
 *Environmental Systems Research Institute (ESRI)
 ArcMap World Imagery, 2017. Basemap features are approximate.
 *United States Geological Survey (USGS) National Hydrography Dataset (NHD)

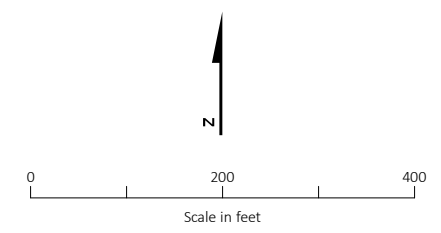
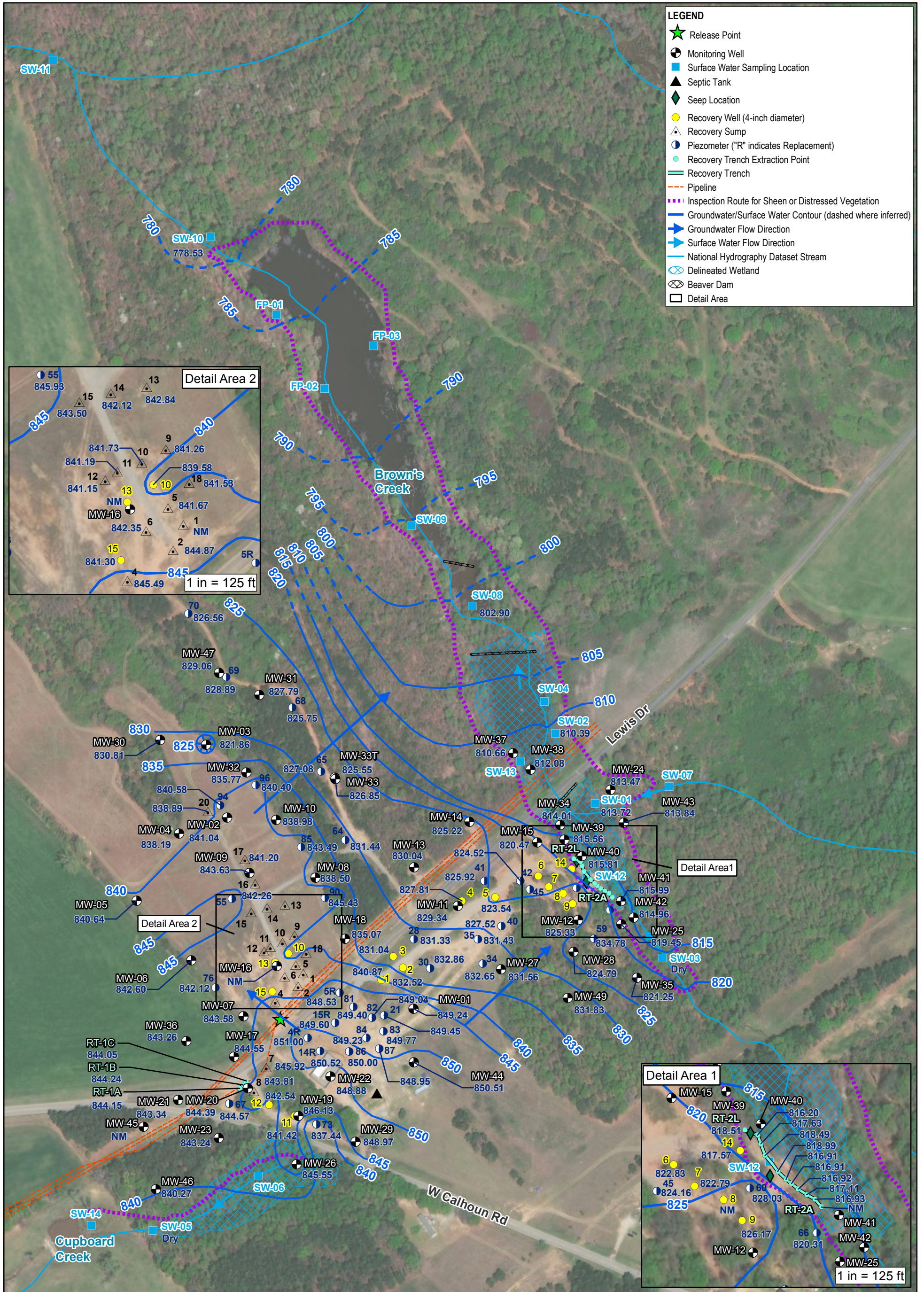


Figure 1. Site Overview
 Lewis Drive Remediation Site
 Belton, South Carolina
 Site ID #18693 "Kinder Morgan Belton Pipeline Release"



821.25 Corrected Groundwater Elevation as of 6/4/2018 in feet above mean sea level
NM Not Measured

Base Map Sources:
 *Environmental Systems Research Institute (ESRI)
 ArcMap World Imagery, 2017. Basemap features are approximate.
 *United States Geological Survey (USGS)
 National Hydrography Dataset (NHD)

Figure 2A. Residuum Groundwater and Surface Water Elevation Map
 Lewis Drive Remediation Site
 Belton, South Carolina
 Site ID #18693 "Kinder Morgan Belton Pipeline Release"

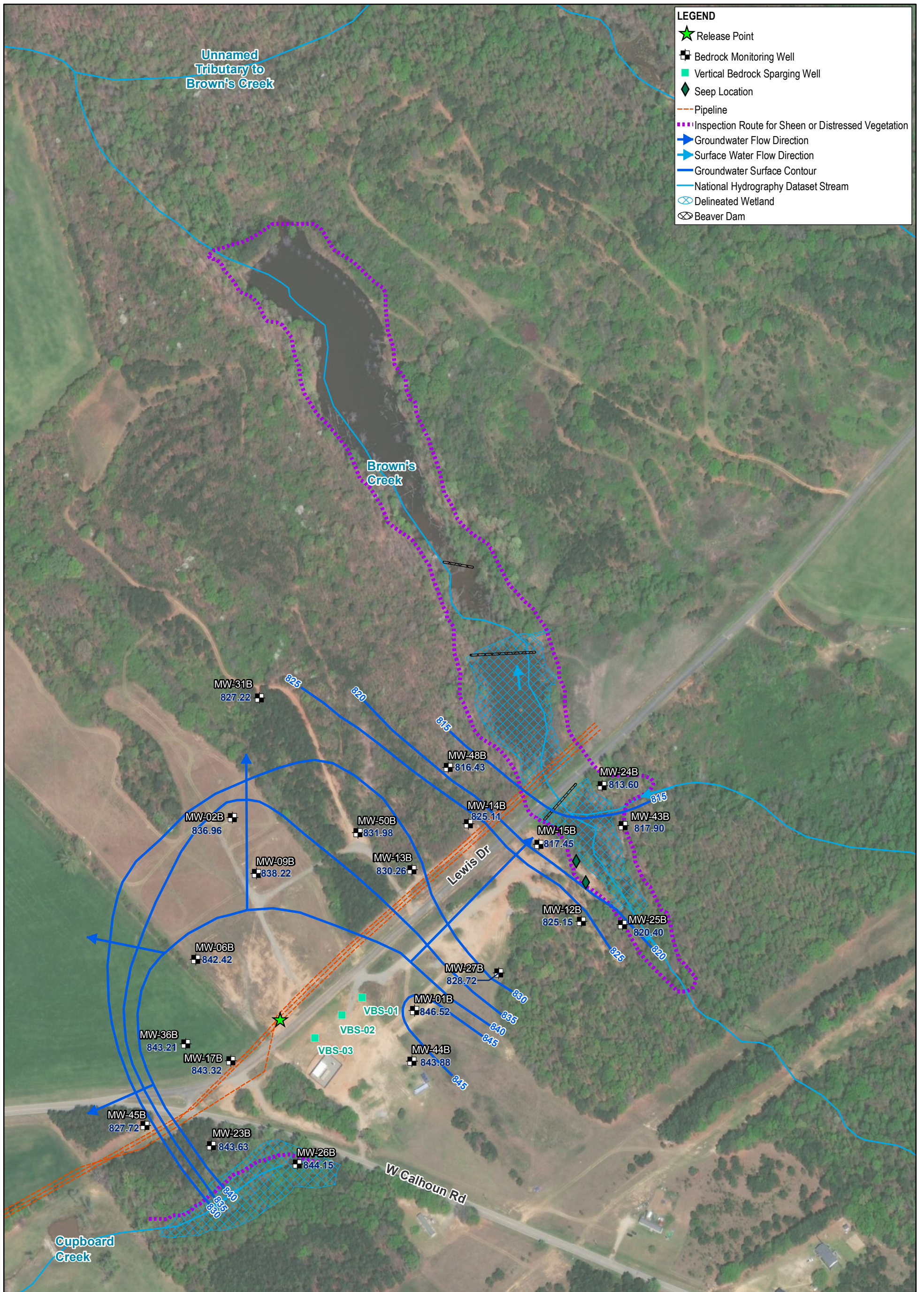
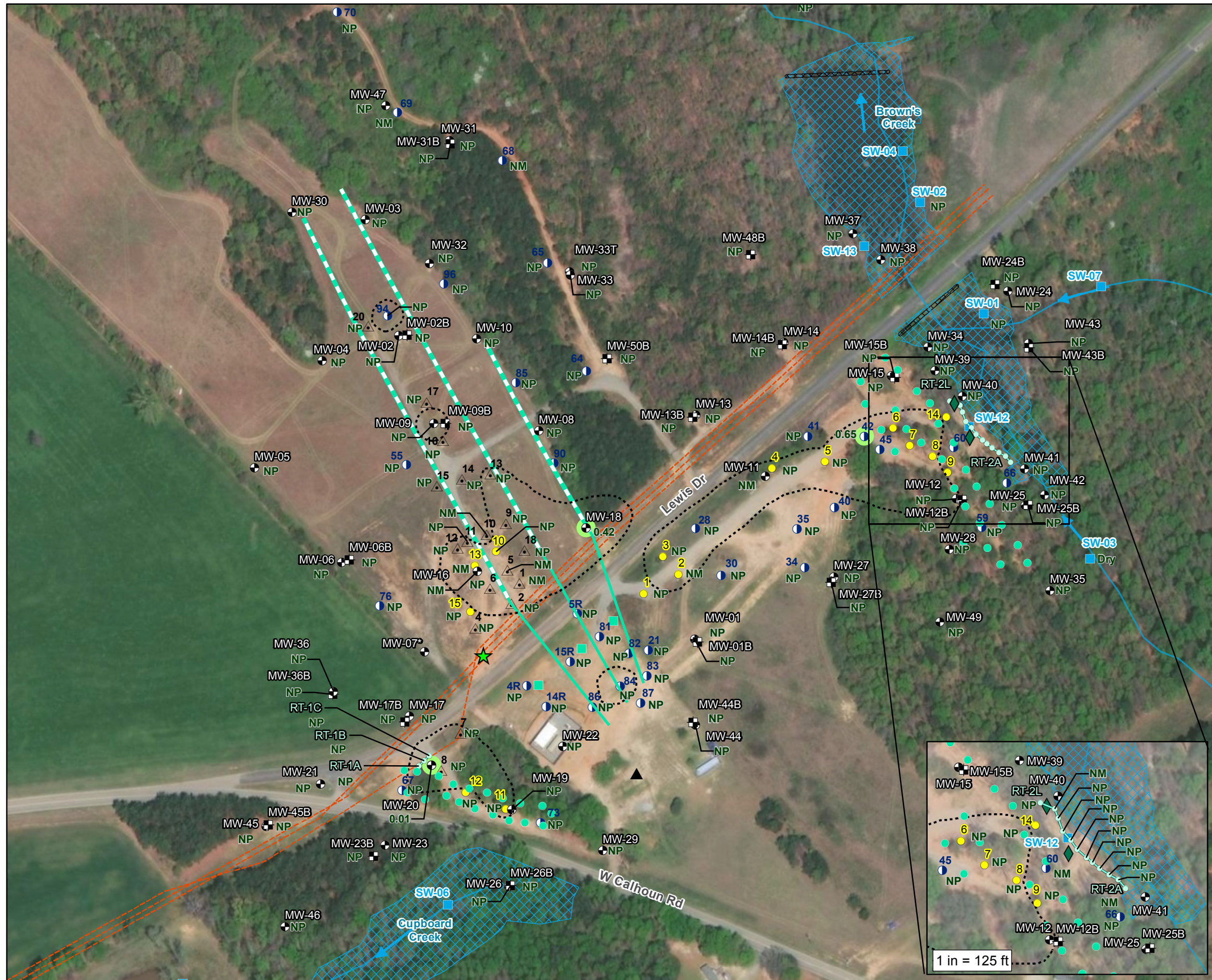


Figure 2B. Bedrock Groundwater Elevation Map
 Lewis Drive Remediation Site
 Belton, South Carolina
 Site ID #18693 "Kinder Morgan Belton Pipeline Release"



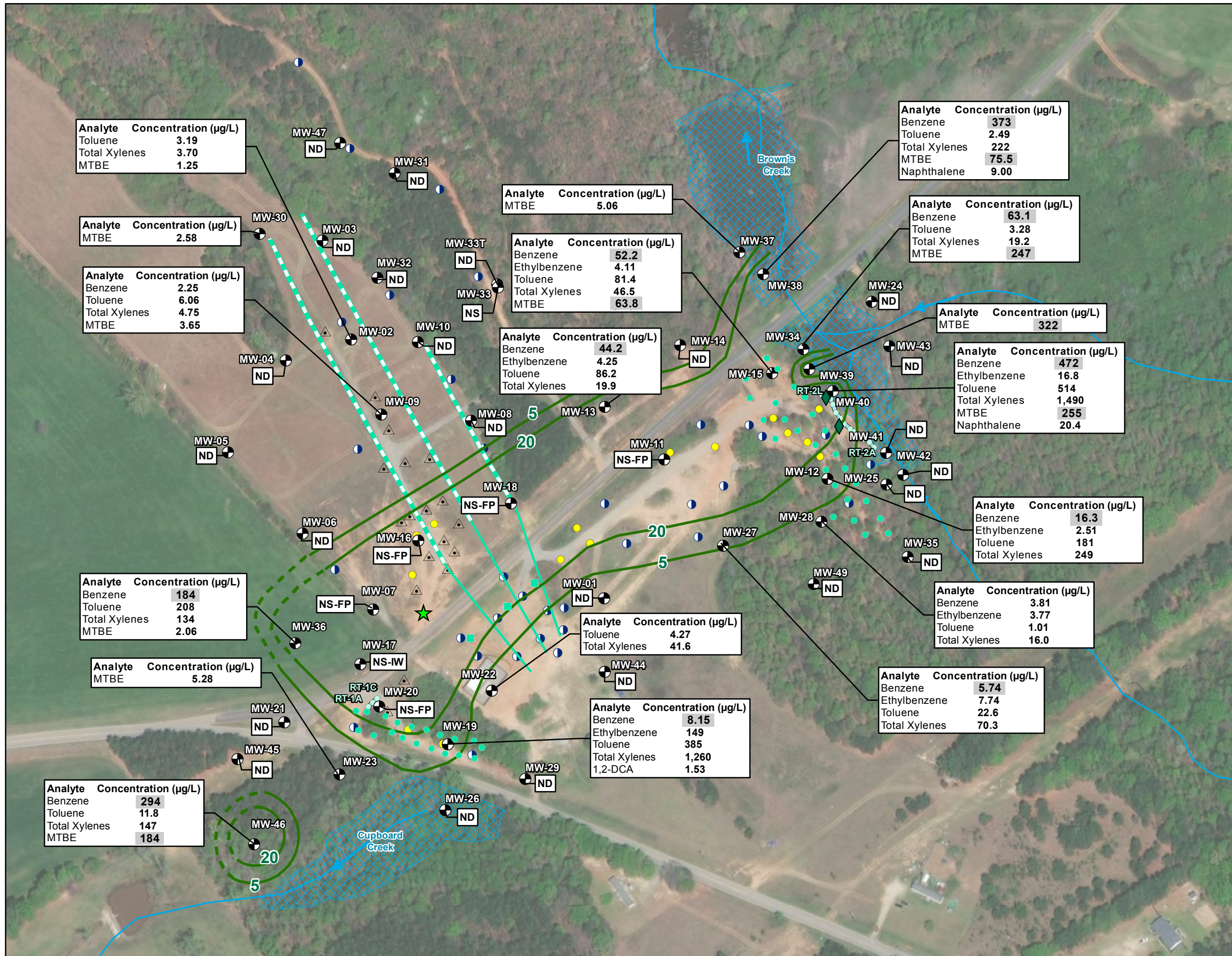
- LEGEND**
- ★ Release Point
 - ⊕ Monitoring Well
 - ⊕ Bedrock Monitoring Well
 - ◆ Seep Location
 - △ Recovery Sump
 - Piezometer ("R" indicates Replacement)
 - Recovery Well (4-inch diameter)
 - Well Contains Product as of 6/4/18
 - Vertical Bedrock Sparging Well
 - Vertical Saprolite Sparging Well
 - Surface Water Sampling Location
 - ▲ Septic Tank
 - Recovery Trench Extraction Point
 - Recovery Trench
 - Surface Water Flow Direction
 - Horizontal Sparging Well Riser
 - Horizontal Sparging Well Screen
 - - - Pipeline
 - ~ National Hydrography Dataset Stream
 - ▭ Delineated Wetland
 - ▭ Beaver Dam
 - ▭ Detail Area
 - ⋯ Approximate Extent of Product > 0.01' Thickness based on 6/10/2016 data (data not shown)
- 0.65** Product thickness in feet as of 6/4/2018
NP No product detected
NM Not measured
 * Product encountered in well during groundwater sample collection

Base Map Sources:
 *Environmental Systems Research Institute (ESRI) ArcMap World Imagery, 2017. Basemap features are approximate.
 *United States Geological Survey (USGS) National Hydrography Dataset (NHD)

0 175 350
 Scale in Feet

Figure 3. Product Thickness Map
 Lewis Drive Remediation Site
 Belton, South Carolina
 Site ID #18693 "Kinder Morgan Belton Pipeline Release"





LEGEND

- ★ Release Point
- ⊕ Residuum Monitoring Well
- Piezometer
- Vertical Bedrock Sparging Well
- Vertical Saporlite Sparging Well
- ◆ Seep Location
- Recovery Well (4" diameter)
- △ Recovery Sump
- Recovery Trench Point
- Recovery Trench
- Surface Water Flow Direction
- Horizontal Sparging Well Riser
- Horizontal Sparging Well Screen
- Dissolved Benzene Plume Extent (µg/L) (Dashed where inferred)
- National Hydrography Dataset Stream
- ▨ Delineated Wetland

- ### NOTES:
1. Total Xylenes is the sum of m&p xylenes and o-xylene.
 2. MTBE = Methyl Tertiary Butyl Ether
 3. 1,2-DCA = 1,2-dichloroethane
 4. µg/L = microgram(s) per liter
 5. Only detected analytes are shown on map.
 6. ND = Groundwater was collected and analyzed, but no analytes were detected above the reported sample quantitation limit.
 7. NS = Not scheduled to be sampled for this event
 8. NS-FP = Sample not collected due to the presence of free product in the well
 9. NS-IW = Sample not collected due to insufficient volume of water in well

Gray shading indicates the analyte exceeded risk-based screening levels (RBSLs) identified in South Carolina Underground Storage Tank Management Division Programmatic Quality Assurance Program Plan Revision 3.1, Table D1 "RBSLs for Groundwater", February 2016.

Base Map Sources:
 *Environmental Systems Research Institute (ESRI) ArcMap World Imagery, 2017. Basemap features are approximate.
 *United States Geological Survey (USGS) National Hydrography Dataset (NHD)

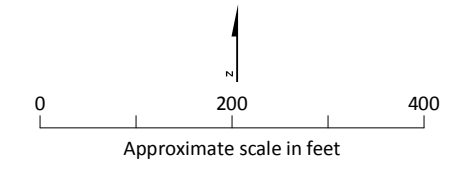
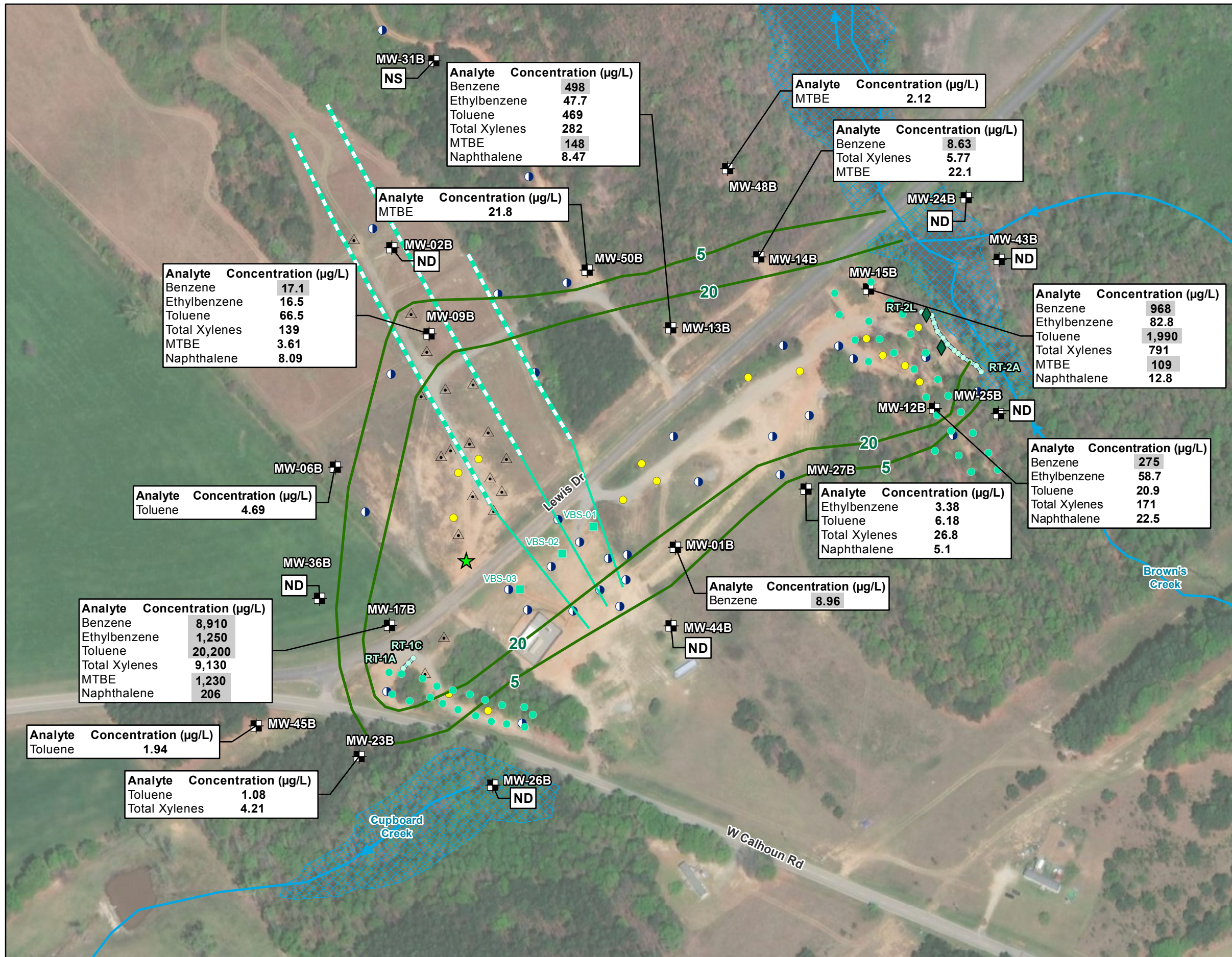


FIGURE 4A. Groundwater Analytical Results in Residuum Aquifer, June 2018
 Lewis Drive Remediation Site
 Belton, South Carolina
 Site ID #18693 "Kinder Morgan Belton Pipeline Release"





LEGEND

- ★ Release Point
- Bedrock Monitoring Well
- Piezometer
- Vertical Bedrock Sparging Well
- Vertical Saprolite Sparging Well
- ◆ Seep Location
- Recovery Well (4" diameter)
- △ Recovery Sump
- Recovery Trench Point
- Recovery Trench
- Surface Water Flow Direction
- Horizontal Sparging Well Risers
- Horizontal Sparging Well Screen
- Dissolved Benzene Plume Extent (µg/L)
- National Hydrography Dataset Stream
- ▨ Delineated Wetland

NOTES:
 Total Xylenes is the sum of m&p xylenes and o-xylene.
 MTBE = Methyl Tertiary Butyl Ether
 µg/L = microgram(s) per liter
 Only detected analytes are shown on map.
 ND = Groundwater was collected and analyzed, but no analytes were detected above the reported sample quantitation limit.
 NS = Not sampled during this event.

Gray shading indicates the analyte exceeded risk-based screening levels (RBSLs) identified in South Carolina Underground Storage Tank Management Division Programmatic Quality Assurance Program Plan Revision 3.1, Table D1 "RBSLs for Groundwater", February 2016.

Base Map Sources:
 *Environmental Systems Research Institute (ESRI) ArcMap World Imagery, 2017. Basemap features are approximate.
 *United States Geological Survey (USGS) National Hydrography Dataset (NHD)

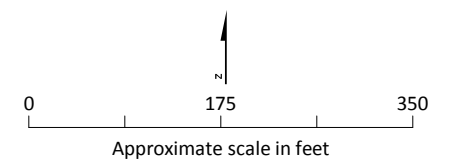


FIGURE 4B. Groundwater Analytical Results in Bedrock Aquifer, June 2018
 Lewis Drive Remediation Site
 Belton, South Carolina
 Site ID #18693 "Kinder Morgan Belton Pipeline Release"



Appendix A
Field Notes, Gauging Sheets, and
Purge Logs

Location Belton, SC Date ~~04/15/18~~ 75

Project / Client Lewis Drive 04/05/18

K. Sexton

TASK: Groundwater & Surface Water Gauging
and product recovery

Team: K. Sexton, M. Warren, Jake Crostic,
Janine Morgan cal

Equipment: Minilac # 28790, 0.0 & 100.0
Solinst 286743
solinst 225158
ODD Probe 015260
ODD Probe 35562

0700 Team onsite, conduct ATSP

0715 Calibrate equipment

0730 Gather equipment, plan out day

0745 Begin Gauging

1200 Break for lunch

1300 Return from lunch

1301 M. Warren and J. Crostic begin
Product Recovery

1730 Team completes gauging
and product recovery, minus socks

1735 Team offsite

Location BELTON, SCDate 04/06/18Project / Client LEWIS DRIVEAUTHOR: M. WARREN

TASK: GROUNDWATER/SURFACE WATER
SAMPLING; PRODUCT RECOVERY;
TROLL DATA

TEAM: M. WARREN, K. SEXTONEQUIPMENT: SEE PAGE 75.

ISO LOT #

EXP:

0700 TEAM ONSITE. HOLDS PITS,0730 TEAM BEGINS HIKE TO SW-110755 SW11-040618 NOSHEEN0805 SW10-040618 0.90' NOSHEEN0815 FPO1-040618 BIO SHEEN0820 FPO2-040618 NOSHEEN0830 SW09-040618 NOSHEEN0835 SW08-040618 1.08' ~~NOSHEEN~~0840 SW13-040618 BIO SHEEN0900 FPO3-0406180910 SW04-0608 0406180915 SW02-040618 1.68'0917 SW01-0406180920 SW07-040618 1.08'0925 SW12-0406180930 SW03-0406180935 TB01-0406181000 TEAM BREAKS FOR LUNCH1000 SW14-040618

Location BELTON, SC

Date 04/06/18

77

Project / Client LEWIS DRIVE

AUTHOR: M. WARREN

1100	TEAM RETURNS FROM LUNCH
1115	MW-29-040618
1120	MW-29-D-040618
1125	MW-26-040618
1130	MW-23-040618
1155	MW-22-040618
1200	MW-43-040618
1210	MW-38-040618
1215	MW-38-D-040618
1225	MW-34-040618
1230	MW-39-040618
1235	MW-40-040618
1240	MW-41-040618
1250	MW-25-040618
1300	MW-35-040618
1305	MW-28-040618
1320	FBO1-040618
1345	MW-31-040618
1355	MW-30-040618
1405	MW-03-040618
1415	MW-02-040618
1420	MW-10-040618
1450	MW-07-040618
1455	MW-05-040618

Product

MW
Rite in the Rain

Location BELTON, SC Date 04/06/18Project / Client LEWIS DRIVEAUTHOR: M. WARREN

<u>1500</u>	<u>MW-45 - 040618</u>
<u>1505</u>	<u>TB01 - 040618</u>
<u>NOTE</u>	SUOS AND SUO6 WERE DRY.
<u>1553</u>	RT-2K 3.80Z
<u>1600</u>	MW-11 23.20Z
<u>1610</u>	RS-05 DTP 8.53 DTB 8.59
	RS-05 DTB 25.00
<u>1620</u>	RT-1A 26.00Z
<u>1625</u>	RT-1B 28.30Z
<u>1630</u>	RT-1C 28.70Z
<u>1635</u>	WEST TANK 0.97 FT HIGH EAST TANK 0.90 FT HIGH
<u>1640</u>	TEAM DEPARTS FIELD.

04/06/18M. Warren

Location BELTON, SC

Date 04/06/18⁷⁹

Project / Client LEWIS DRIVE

AUTHOR: M. WARREN

ADDENDUM TO 04/05/18 NOTES

PRODUCT RECOVERY

<u>WELL</u>	<u>AMOUNT RECOVERED (OZ)</u>
RW-15	4.0
RS-02	DRY
RS-10	1.0
RS-01	DRY
RS-17	DRY
RW-03	0.2
RW-02	4.2
RW-04	0.1
RW-07	0.0
RW-08	DRY
MW-15	ALL WATER
MW-20	0.2
MW-08	0.1

Melissa Warren
04/06/18

Location BELTON, SC Date 05/02/18Project / Client LEWIS DRIVEAUTHOR: M. WARRENTASK SURFACEWATER AND GROUNDWATER
GAUGING / PRODUCT RECOVERYTEAM M. WARREN (BIO/FTL), J. MORGAN (SCI)
M. TRAMONTE, C. CARRUBBAEQUIPMENT MINIRAE # 18490 LOT# 881-248-100-10
EAP: 11/30/2022

MINIRAE # 021579 LOT#

SOLINST# 286846 / SOLINST# 27681

VSI PROODO # 15260

VSI PROODO # 35562

0710 TEAM ARRIVES ON SITECALIBRATION MINIRAE # 021579BEFOREAFTER

AIR

0

0

ISO

0

~~100.1~~ 101.3

MINIRAE # 18490

BEFOREAFTER

AIR

0

0

ISO

0

~~100.1~~ 99.90730 TEAM GEARS UP AND HOLDS
PTSP.0810 TEAM FINISHES GEARING UP
AND BEGINS GAUGING1145 TEAM BREAKS FOR LUNCH1245 TEAM RETURNS FROM LUNCH

Location BELTON, SC

Date 05/02/18 81

Project / Client LEWIS DIZIE

AUTHOR: M. WARREN

1810 TEAM GEARS DOWN AND BEGINS DOCUMENT QC

1845 TEAM DEPARTS FIELD

05/02/18

M. Warren

Location BELTON, SCDate 05/03/18Project / Client LEWIS DRIVEAUTHOR: M. WARRENTASK: SURFACE WATER AND GROUNDWATER
SAMPLING / PRODUCT RECOVERYTEAM: M. WARREN (BIO/FTL), K. SEXTON (GEO),
J. MORGAN (SCI)EQUIPMENT: SEE PAGE 800710 TEAM ARRIVES ON SITE. TEAM
GEARS UP AND HOLDS PTSP0800 TEAM BEGINS HIKE TO
SW-110825 SW11-0503180835 SW10-0503180840 FP01-0503180850 FP02-0503180900 SW09-0503180905 SW08-050318~~0910~~⁰⁹¹⁰ SW13-0503180935 FP03-0503180945 SW04-0503180950 SW02-0503180955 SW01-0503181000 SW07-0503181005 SW12-0503181010 SW03-0503181015 TR01-050318

MW

Location BELTON, SCDate 05/03/18

83

Project / Client LEWIS DRIVEAUTHOR: M. WARREN

1020 Measured sock weights from RT-1A, RT-1B, RT-1C, RT-2K, RS-03, and MW-11. All replaced socks^(new) measured 4g.

<u>Well</u>	<u>Dirty Sock Weight (g)</u>	<u>Replaced (Y/N)</u>
RT-1A	102g	Y
RT-1B	108g	Y
RT-1C	110	Y
RT-2K	108	N
RS-03	114	N
MW-11	114	Y

1030 SW14-0503181035 SW05-050318NOTE SW06 WAS DRY1045 TEAM BREAKS FOR LUNCH1145 TEAM RETURNS FROM LUNCH✓ 1155 MW-29-050318✓ 1205 MW-26-050318~~1215 MW-20-050318~~OBSERVED PRODUCT
NO SAMPLE✓ 1220 MW-23-050318✓ 1223 MW-23-D-050318✓ 1225 MW-45-050318✓ 1240 MW-22-050318✓ 1300 MW-43-050318✓ 1315 MW-38-050318✓ 1320 MW-34-050318

 Rate in the Rain

Location BELTON, SC Date 05/03/18Project / Client LEWIS DRIVEAUTHOR: M. WARREN✓ 1325 MW-39-050318✓ 1335 MW-40-050318✓ ~~1340~~ **1340** MW-41-050318✓ 1350 MW-25-050318✓ 1355 MW-35-050318✓ 1405 MW-28-050318✓ 1415 TBO1-050318✓ 1450 MW-31-050318✓ 1452 MW-31-D-050318✓ 1510 MW-10-050318✓ 1515 MW-02-050318✓ 1525 MW-03-050318✓ 1535 MW-30-050318✓ 1540 MW-05-050318✓ 1550 MW-07-050318✓ 1600 FBO1-0503181655 J. MORGAN DEPARTS FIELD

M. WARREN AND K. SEXTON

BEGIN PRODUCT RECOVERY

<u>WELL</u>	<u>DISTANCE TO SKIMMER (FTS)</u>	<u>PRODUCT (OZ)</u>
RS-01	5.19	DRY
RS-02	5.10	DRY
RS-05	6.79	0.2
RW-15	11.30	0.2

Location BELTON, SC Date 05/03/18 85

Project / Client LEWIS DRIVE

AUTHOR: M. WARREN

<u>WELL</u>	<u>DTS</u>	<u>PRODUCT (oz)</u>
RS-10	5.7	DRY
RS-14	2.11	DRY
RS-17	1.6	DRY ALL WATER
MW-08	6.2	ALL WATER
RW-02	19.64	DRY
RW-03	20.79	ALL WATER
RW-04	26.10	DRY
RW-05	30.09	ALL WATER 0.1
RW-07	19.68	DRY
RW-08	6.87	DRY
MW-15	10.24	ALL WATER
MW-20	8.92	ALL WATER

1830 TEAM DEPARTS FIELD

05/03/18



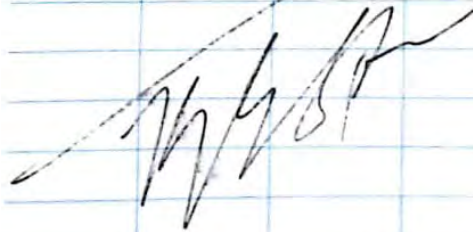
Location BELTON, SC Date 6-4-18Project / Client LEWIS DrAuthor: K. SEXTONTASK: Groundwater ~~sampling~~ ^{gauging} and
Surface water gaugingTEAM: K. Sexton, B. Garry, C. Cranberry,
E. HarkerEquipment: ① Mini Pac # 037608 col # MBH-248-100-8
② Mini Pac # 038258 col # GBH-248-100-18
③ Solinst # 27681 ④ 000
⑤ Solinst # 37062 ⑥ YSE550 DO0700 Team onsite, hold PTSP0705 Begin cal.

① 0.0 100.0

② 0.0 100.0

0730 Begin gauging1145 Break for lunch, attempt to contact O'Neil Farm1230 Return onsite2000 Team completes gauging2015 Team offsite

6-4-18



Location Belton, SC Date 6/5/18
Project / Client Lewis Drive quarterly groundwater event

- 0800 morning field logbook
- 0920 Collect MW-26B-060518
- 0940 Collect MW-26-060518
- 0952 Collect MW-23-060518
- 1002 Collect MW-23B-060518
- 1038 Collect MW-44-060518
- 1045 collect MW-44B-060518
- 1110 collect MW-27B-060518
- 1120 collect MW-27-060518
- 1135 Collect MW-01B-060518
- 1140 collect FB01-060518
- 1220 off-site for lunch
- 1310 back on site from lunch. will continue collecting samples with Hydrameters.
- 1340 Collect MW-01-060518 Ferrus Iron = 0.0 ppm
- ~~1400 Collect MW-28-060518 Sample~~
will require low-flow.
- 1440 collect MW-12-060518
Ferrus Iron = 0.0 ppm
- 1505 Collect MW-25-060518
Ferrus Iron = 0.0 ppm
- 1522 Collect MW-42-060518
Ferrus Iron = 0.0 ppm

Location Belton, SC Date 6-5-18
Project / Client Lewis Dr / O'Rely GW Sampling

- 1550 Collect MW-40-060518
Ferrus Iron = 0.0 ppm
- 1600 Headed back to staging area to finish COCs, organize samples, and pick-up coolers for shipping to FedEx ESC labs.
- 1700 ~~B. Conway~~ & E. Harker off site to ship cooler / FedEx.
Note: MW-44B-D-060518 collected @ 1045.

OK
6/5/18

Location Belton, SC Date 6-5-18

Project / Client Lewis Dr.

K. Sexton

TASK: Groundwater sampling
TEAM: K. Sexton, B. Gannoy, E. Harker, J. Morgan
Equip.: see pg 83

0800 Team onsite, hold P+SP
0810 Prep field equip.
0850 Begin sampling
0900 MW-29-060518 VOC
0910 ~~MW-19-060518~~ MNA PS
0915 No water recovered in hydrastave. Re-gauged DTW at 10.04. Call Tom Wiley and decide to low flow. Will return later after calibration

0935 MW-46-060518 VOC
0945 Begin calibrating EXO #30194

Parameter	Pre	Post	Lot #	Expiration
DO	104.4	104.5 91.1	-	-
cond	1314.7	1413	7612849	12/18
PTU0	7.32	0	0800582	10/18
PTU124	124.29	124	1001044011	02/19
PH9	4.02	4.0	0703277	3/19
PH7	7.11	7.0	2708A14	7/23/29
PH0	10.26	10.0	2709A29	3/19
ORP	236.1	240.1	0647	10/2021

1045 Calibration complete, set up on MW-19
1111 Begin purging MW-19
1122 Fixed pump - began purging

Date

1139

MW-19 dry

1210

MW-22-060518

MWA Fe²⁺ = 0.5 mg/l

1225

Break for lunch

1315

Return from lunch

1320

Go gauge MW-08, 11, 15, +20 with skimmers

MW	DTP	DTW	DTB
MW20	8.49	8.30	19.45
MW07	-	6.22	19.74
MW11	-	24.29	38.98
MW15	-	10.50	19.04

1400

Begin sampling Brown's Creek Area

1415

MW-49-060518

1425

MW-123-060518

1440

MW-253-060518

1450

MW-41-060518

1510

MW-37-060518

1520

MW-38-060518

1530

MW-34-060518

1540

MW-39-060518

1625

MW-05-060518

MWA Fe²⁺ = 2.25 mg/l

1640

Was approached down by Creek by a man named "John". Possibly a local. Claimed to be looking for fish. Drove a white GMC truck. Had 2 passengers, looked to be teens.

Location Belton, SC

Date 6/5/18

Project / Client

Lewis Drive

1700 Pack coolers. B. Garvey + E. Harker take coolers to FedEx. K. Sexton or J. Morgan to clean site and prep for tomorrow.
1715 Offsite

Rite in the Rain

Location Belton, SCProject / Client Lewis Drive
K. SextonDate 6.6.18

- TASK: Groundwater sampling
Team: See pg. 87
Equip: See pg 83
- 0700 team onsite
0715 Hold PTSP
0730 prep field equip. set up on MW-19
0735 calibrate PID, 0.0 + 100.0
0747 MW-19-060618 MNA $Fe^{2+} = 2.0$
0834 Head over to Brown's Creek to finish area
0900 MW-35-060618 MNA, $Fe^{2+} = 0.0$
0925 MW-15-060618 MNA, $Fe^{2+} = 0.0$
0940 Meet Scott Schinda for access to MW-09.
1000 Weigh & replace sock at MW-11. Thick product on sock, decide to not sample.
1020 Meet back up with B. Garry to discuss plan
1040 Mob to Hayfield
1100 MW-04-060618 MNA $Fe^{2+} = 0.0$
1117 MW-03-060618 MNA $Fe^{2+} = 0.0$
1135 Hydrastone fell off clip into well, go to compound to get hooks and fishing line
1200 Break for lunch
1215 Team back on site
1250 Begin fishing MW02
1415 Removed dropped sleeve from MW02

Location Belton, SCProject / Client Lewis DriveDate 6/6/18

- 1440 MW-02-060618 MNA $Fe^{2+} = 0.0$
1450 Talk to Scott Schinda about peds.
 Agree to pick up on Friday.
1500 Range MW-09, PID = 12.1, DTW = 0, DTB = 19.70
1525 MW-09-060618 MNA $Fe^{2+} = 0.0$
1540 House keeping and cooler prep
1620 B. Garry + E. Markie offsite
1630 K. Sexton + J. Morgan offsite

Location Belton, SC Date 6.6.18
 Project / Client Lewis Dr. / Otrly GW Sampling

0700 B Garvey & E Harker arrived on-site
 Morning H&S meeting and daily objectives
 are in the other field logbook.

0740 Headed to Brown's Creek area to keep
 sampling w/ Hydrasleeves

0755 Collect MW-43B-060618

0805 Collect MW-43-060618

0820 Collect MW-24-060618

0830 Collect MW-24B-060618

0900 Collected MW-15B-060618

0940 Collect MW-104B-060618

0950 Collected MW-104-060618

1010 Collect MW-13B-060618

1020 Collect MW-13-060618

1045 Collect MW-47-060618

1055 Collect MW-31-060618

1107 Collect MW-33T-060618

1125 Collect MW-48B-060618

and MW-48B-D-060618

1138 Collect FB02-060618

1313 Collect MW-50B-060618

Note: off-site for lunch ~ 1155. Back
 on-site ~ 1245.

1345 Collect MW-32-060618
 Ferrrous Iron = 0.00ppm

Location Belton, SC Date 6.6.18
 Project / Client Lewis Dr. / Otrly GW Sampling

1405 Collect MW-10-060618

Ferrrous Iron = 0.0ppm

1440 Collect MW-08-060618

Ferrrous Iron = 0.0ppm

1500 Collect MW-30-060618

~~1510~~ 1510 Collect MW-02B-060618

1527 Collect MW-09B-060618

1540 Head back to staging area to
 fill-out COCs, organized samples, and
 pack-up coolers for shipping to ESC.
 1620 B Garvey & E Harker off-site
 for the day.

RD 6.6.18

Location Belton, SC

Date 6-7-18

Project / Client Lewis Dr.

K. Sexton

TASK Complete Groundwater sampling
and Surface water sampling

TEAM See page 83

Equipment See pg 83

0700 Team onsite

0715 Hold PTSP

0720 Begin hike to SW-11

0825 Arrive at SW-11

0830 SW-11-060718 - no stream

0845 SW-10-060718 - bio stream

0855 DP-01-060718 - no stream

0905 FP-02-060718 - no stream

0915 SW-09-060718 - no stream

0920 SW-08-060718 - bio stream

0925 SW-13-060718 - bio stream

1020 DP-03-060718 - bio stream

1045 SW-12-060718 - no stream

1055 SW-03-060718 - no stream ^{water well low}

1105 SW-01-060718 - no stream

1115 SW-07-060718 - no stream ^{w.l. low}

1125 SW-02-060718 - no stream

1135 SW-04-060718 - no stream

Location _____

Date 6-7-18 93

Project / Client _____

1150 SW-14-060718 - bio stream

1200 Break for lunch

1300 Return from lunch

1310 Begin TROLL data collection

1400 Finish TROLL collection. Meet up
with B. Garvey & E. Harker

1655 B. Garvey & E. Harker offsite,
complete housekeeping.

1730 K. Sexton & J. Morgan offsite



Location Belton, SCDate 6.7.18Project / Client Lewis Dr. / Qtrly GW Sampling

0700 B. Garvey & E. Harter arrive on-site.
 Begin organizing car & VDA vials
 For each team to get day started.
 One team will do surface water
 sampling, the other will complete
 the Hydrasleeve sampling.
 H&S topic -- end of the week, don't
 rush. make sure each task is
 completed.

0800 Collect MW-45-0607180810 Collect MW-45B-0607180820 Collect MW-21-0607180835 Collect MW-17B-060718MW-17B-D-0607180855 Collect MW-FB03-0607180910 Collect MW-05-0607180920 Collect MW-06-0607180930 Collect MW-06B-0607181015 Collect MW-36-0607181025 Collect MW-36B-0607181050 Return to the staging area and
 get the cooler / samples organized.

1205 Off-site for lunch

1300 returned from lunch

Location Belton, SCDate 6.7.18Project / Client Lewis Dr. / Qtrly GW Sampling1320 Leaving staging area to go do product
 recovery.1630 Completed product recovery headed
 to FedEx to ship samples1655 B. Garvey & E. Harter off-site
 for day.

RZH

6.7.18

Table 2 - DO Measurement List

SM: Tom Wiley

Client: Plantation Pipe Line

Weather: 50's-60's SUNNY; HUMID

PN: 699858.LD.MR.GW

Project: Monthly Monitoring

Measuring Method: YSI proODO, Oil/Water Interface Probe

Technicians: M. WARREN, K. SEXTON, J. MORGAN, J. CROSTICK

Date: 04/05/18

Sample Location	Time	PID Reading (ppm)	Depth to Product (ft BTOC)	Depth to Water (ft BTOC)	Total Depth ¹ (ft BTOC)	DO(mg/L)	Comments (i.e. lid bolted down, missing bolts, condition of cap, replace cap, vault bolted down, water in vault, smell, etc.)
<i>Brown's Creek Protection Zone</i>							
MW-12	1637	324	—	11.46	21.49	7.93	has TROLL TD=21.03
MW-12B	1642	5.8	—	12.28	45.31	1.94	TD=44.31
MW-15	1535	7.9	—	10.88	19.18	1.17	has TROLL SKIMMER: PRODUCT IN SKIMMER; SKIMMER: PRODUCT IN SKIMMER; SKIMMER: PRODUCT IN SKIMMER; SKIMMER: PRODUCT IN SKIMMER
MW-15B	1524	1.0	—	14.62	72.50	1.17	TD=80.90
MW-25	1658	0.0	—	7.46	17.94	5.07	has TROLL TD=18.08
MW-25B	1653	0.0	—	4.06	56.50	1.60	TD=53.13
MW-28	1645	4.9	—	20.68	26.08	0.9	
MW-34	1635	6.3	—	2.25	7.82	--	
MW-35	1654	0.9	—	8.39	26.28	--	TD=28.26
MW-38	1592	0.2	—	1.50	11.51	--	
MW-39	1632	1.0	—	4.54	13.03	--	
MW-40	1638	46.1	—	2.32	13.15	--	has TROLL
MW-41	1645	0.1	—	4.0	13.19	--	
MW-43	1557	0.4	—	4.18	10.30	--	
SW-01	0980	--	--	--	--	8.15	1.67'
SW-03	0908	--	--	--	--	6.70	1.76'
SW-12	0930	--	--	--	--	7.90	
SW-13	0950	--	--	--	--	4.60	
TW-59	0925	0.5	12.27	20.55	22.00	10.85	
TW-60	0927	0.7	2.59	40.89	40.50	9.10/9.85	BUBBLING WELL
TW-66	0923	0.6	0.42	23.71	23.70	9.10	
<i>Cupboard Creek Protection Zone</i>							
MW-19	0756	725	—	10.16	12.15	5.60	UNDER PRESSURE
MW-20	0848	1132	9.38	9.37	19.40	—	has TROLL
MW-23	0816	1.8	—	7.52	23.21	--	
MW-26	0807	0.8	—	2.88	17.12	--	
MW-29	0745	14.3	—	5.28	14.95	4.47	
TW-67	1147	9.4	—	5.75	26.46	10.50	
TW-73	1153	0.6	—	3.55	12.75	11.18	TD=14.07

Table 2 - DO Measurement List

SM: Tom Wiley

Client: Plantation Pipe Line

Weather: _____

PN: 699858.LD.MR.GW

Project: Monthly Monitoring

Measuring Method: YSI proODO, Oil/Water Interface Probe

Technicians: _____

Date: 4/5/18

Sample Location	Time	PID Reading (ppm)	Depth to Product (ft BTOC)	Depth to Water (ft BTOC)	Total Depth ¹ (ft BTOC)	DO(mg/L)	Comments (i.e. lid bolted down, missing bolts, condition of cap, replace cap, vault bolted down, water in vault, smell, etc.)
<i>Hayfield Zone</i>							
MW-02	1340	34.0	—	4.79	23.14	1.17	has TROLL TD = 20.58
MW-02B	1336	0.1	—	0	81.55	2.23	TD = 81.72
MW-03	1015	0.1	—	~15.4	20.28	11.15	BUBBLING OVER CASING. APPX DTW MEASURED
MW-04	0942	0.0	—	7.75	19.56	8.38	FIRE ANT HILL BY WELL
MW-05	0937	1.0	—	11.80	19.78	--	TD = 19.90
MW-07	0920	180.0	—	11.39	13.57	--	TD = 14.34
MW-08	1036	0.1	8.92	8.93	19.70	PRODUCT IN S.M. MEMBER	TD = 19.84
MW-09	1350	0.9	2.20	2.23	20.21	PRODUCT	
MW-10	1028	0.1	—	8.21	23.21	9.46	has BaroTROLL
MW-16	1405	217	SURFACE	~1.0	20.58	PRODUCT	PRODUCT PRESENT. W/A SPARGE SYSTEM BUBBLING PRODUCT
MW-18	1050	2277	12.45 ⁺	16.85 [*]	20.11	PRODUCT	* WATER COLUMN FLUCTUATING W/IN WELL DUE TO SYSTEM
MW-30	1005	0.2	—	11.92	14.54	5.21	TD = 14.70
MW-31	1317	0.1	—	18.59	28.03	--	
MW-45	0830	0.6	—	11.30	14.44	--	TD = 14.45
TW-55	1135	23.5	—	~3.0	30.78	8.96	DTW FLUCTUATING W/IN WELL TD = 27.33
TW-64	1045	0.5	—	15.11	52.85	8.80	
TW-96	1114	0.2	—	3.0	28.76	10.45	BUBBLING W/IN WELL TD = 27.33
<i>Shallow Bedrock Zone</i>							
MW-01	1420	1.7	—	5.83	15.62	1.67	has BaroTROLL TD = 16.58
MW-01B	1430	0.5	—	6.63	42.21	1.38	TD = 44.52
MW-11	1516	394	—	27.73	32.40	PRODUCT IN SOIL	SOILST DID NOT DETECT PRODUCT, BUT SOIL HAS PRODUCT
MW-22	0908	1.7	—	7.27	10.32	1.70	TD = 10.34

BTOC - below top of casing

¹Total depths collected 3/5/18

ppm - parts per million

ft - feet

SM - Site Manager

PN - Project Number

- wells historically found to have product

Lewis Drive Monitoring Sheet 1

Name(s) M. WARREN, K. SELTON, J. MORGAN, J. CROSTICK
 Date: 04/05/18
 Weather: 50's - 60's SUNNY, HUMID

Weekly Gauging

* Confirm all instances of LNAPL with a bailer.

Well ID	Depth to LNAPL* (ft BTOC)	Depth to Water (ft BTOC)	Total Depth (if requested)
RS-01	-	8.72	22.48
RS-05	-	Dropped Skimmer	
RT-1A	-	11.31	18.50
RT-1B	-	10.92	17.64
RT-1C	-	10.74	18.75
RT-2A	-	0.7	7.2
RT-2B	-	1.23	9.36
RT-2C	-	1.33	7.21
RT-2D	-	1.43	8.42
RT-2E	-	1.71	9.35
RT-2F	-	1.03	10.05
RT-2G	-	1.04	10.06
RT-2H	-	damaged	
RT-2I	-	1.04	10.06
RT-2J	-	0.03	10.67
RT-2K	-	0.60	2.02
RT-2L	-	1.23	6.75
RW-02	-	21.69	25.75
RW-04	27.95	28.53	36.14
RW-05	31.70	31.76	32.56
RW-06	-	24.71	38.84
RW-07	-	21.26	40.67
RW-09	-	9.89	40.83
RW-11	-	11.80	21.31
RW-12	-	13.47	16.12
RW-15	-	12.91	40.18

These features only gauged once a month

RS-02	-	8.01	19.41
RS-04	-	9.74	10.05
RS-06	-	9.43	23.33
RS-07	-	10.40	15.61
RS-08	-	10.90	19.06
RS-09	-	9.73	17.22
RS-10	7.76	7.77	20.04
RS-11	-	7.68	17.20
RS-12	-	8.03	20.25
RS-13	-	7.96	17.60
RS-14	6.24	6.26	19.09
RS-15	-	6.24	17.46
RS-16	-	5.44	18.69
RS-17	-	5.40	19.01
RS-18	-	8.90	19.30
RS-19	-	damaged	
RS-20	-	5.71	10.49
RW-01	-	12.84	20.76
RW-03	-	23.00	33.96
RW-08	-	13.41	34.14
RW-10	-	9.56	60.65
RW-13	DO NOT GAUGE		
RW-14	-	6.72	44.64
MW-04			
MW-02B			

= locations with skimmers
 = locations with socks
 Red ID needs DO measurement

This column only gauged once per month

Well ID	Depth to LNAPL* (ft BTOC)	Depth to Water (ft BTOC)	Total Depth (if requested)
MW-02			
MW-02B			
MW-03			
MW-04			
MW-05			
MW-06	-	12.13	19.20
MW-06B	-	11.70	86.22
MW-07			
MW-08			
MW-09			
MW-09B	-	1.82	135.3
MW-10			
MW-11			
MW-12			
MW-12B			
MW-13	-	20.35	22.24
MW-13B	-	20.80	57.82
MW-14	-	14.97	22.20
MW-14B	-	16.17	72.94
MW-15			
MW-15B			
MW-16			
MW-17	-	10.86	11.83
MW-17B	-	13.71	18.62
MW-18			
MW-19			
MW-20			
MW-21	-	13.84	20.73
MW-22			
MW-23			
MW-23B	-	11.26	32.29
MW-24	-	4.31	15.30
MW-24B	-	5.16	15.54
MW-25			
MW-25B			
MW-26			
MW-26B	-	5.03	42.80
MW-27	-	23.64	30.64
MW-27B	-	30.66	52.60
MW-28			
MW-29			
MW-30			
MW-31			
MW-31B	-	20.60	77.25
MW-32	-	9.73	29.04
MW-33	-	23.68	28.30
MW-33T	-	24.73	49.52
MW-34			
MW-35			
MW-36	-	16.68	23.76
MW-36B	-	16.38	45.50
MW-37	-	3.33	18.10
MW-38			
MW-39			
MW-40			

¹/gauging not needed, only DO

Contractor	# Personnel
Jacobs	
A&D/ECS	
Kinder Morgan	

Well ID	Depth to LNAPL* (ft BTOC)	Depth to Water (ft BTOC)	Total Depth (if requested)
MW-41			
MW-42	-	4.98	13.39
MW-43			
MW-43B	-	0.8	34.89
MW-44	-	5.63	10.77
MW-44B	-	10.50	35.30
MW-45			
MW-45B	-	13.53	21.72
MW-46	-	6.36	17.10
MW-47	-	15.54	20.85
MW-48B	-	16.50	97.30
MW-49	-	16.18	23.91
MW-50B	-	18.43	67.50
TW-04R	-	3.99	3.29
TW-05R	-	cannot open	
TW-14R	-	4.71	4.98
TW-15R	-	0.24	1.95
TW-21	-	2.43	9.81
TW-28	21.65	21.67	28.67
TW-30	-	20.43	23.26
TW-34	-	22.15	22.25
TW-35	-	22.73	22.81
TW-40	-	27.26	31.67
TW-41	-	25.13	31.78
TW-42	23.82	24.31	27.63
TW-45	25.45	25.57	34.10
TW-46	-	damaged	-
TW-55	-		
TW-59	-	10.27	20.55
TW-60	-	2.59	40.89 (bubbles)
TW-61	-		
TW-65	-	19.90	42.62
TW-66	-	0.42	23.71
TW-67	-		
TW-68	-	22.26	40.89 (bubbles)
TW-69	-	12.51	49.64
TW-70	-	16.90	42.35
TW-73	-		
TW-76	-	11.92	38.96
TW-81	-	2.55	6.22
TW-82	-	2.42	9.30
TW-83	-	3.06	15.03
TW-84	-	3.93	12.77
TW-85	Fire Ant Hill	covering Mount	
TW-86		5.10	5.63
TW-87		1.68	6.82
TW-90		Bubbling	45.80
TW-94		BUBBLING	34.94
TW-96			
SW-01		1.67'	
SW-02		1.09'	
SW-03		1.76'	
SW-05		DRY	
SW-08	Biosheen	1.04'	
SW-10		0.90'	
SW-22			
SW-23	Biosheen		

~~DATA ON DO GAUGING SHEET~~

Table 2 - DO Measurement List

SM: Tom Wiley

Client: Plantation Pipe Line

Weather: _____

PN: 699858.LD.MR.GW

Project: Monthly Monitoring

Measuring Method: YSI proODO, Oil/Water Interface Probe

Technicians: _____

Date: 5/2/18

Sample Location	Time	PID Reading (ppm)	Depth to Product (ft BTOC)	Depth to Water (ft BTOC)	Total Depth ¹ (ft BTOC)	DO(mg/L)	Comments <small>(i.e. lid bolted down, missing bolts, condition of cap, replace cap, vault bolted down, water in vault, smell, etc.)</small>
Brown's Creek Protection Zone							
MW-12	1512	438.2	—	10.91	21.03	6.7	has TROLL
MW-12B	1514	11.7	—	10.03	44.31	0.78	
MW-15	1440	4.8	—	10.48	19.18	9.07	has TROLL
MW-15B	1442	58.7	—	14.31	80.90	0.93	TD = 85.5
MW-25	1548	0.2	—	7.02	18.08	5.90	has TROLL
MW-25B	1551	0.4	—	3.92	53.19	0.57	TD = 61.35
MW-28	1503	7.1	—	20.81	26.08	1.41	TD = 25.58
MW-34	1626	24.3	—	2.31	7.82	--	
MW-35	1531	1.4	—	8.37	26.26	--	TD = 28.52
MW-38	1641	0.8	—	1.70	11.51 ✓	--	TD = 11.51
MW-39	1616	48.9	—	4.48	13.03	--	
MW-40	1608	3.61	—	2.23	13.15	--	has TROLL
MW-41	1602	1.6	—	3.80	13.19	--	
MW-43	1709	0.7	—	4.26	10.30	--	
SW-01	1044	--	--	--	--	10.05	Biosheen 1.66'
SW-03	1026	--	--	--	--	5.78	1.78'
SW-12	1034	--	--	--	--	8.20	
SW-13	1100	--	--	--	--	5.00	
TW-59	1018	5.4	—	13.17	22.00	10.05	TD = 20.64
TW-60	1010	32.7	—	8.75	40.50	9.85	
TW-66	1030	0.9	—	1.15	23.70	9.15	
Cupboard Creek Protection Zone							
MW-19	0928	449.1	—	10.98	12.15	1.55	
MW-20	0920	142.2	—	9.70	19.40	3.90	has TROLL
MW-23	0845	2.2	—	7.12	23.21	--	
MW-26	0825	3.0	—	2.71	17.12	--	
MW-29	0815	306.2	—	4.72	14.95	3.10	TD = 14.81
TW-67	0825	6.7	—	8.29	20.46	10.05	TD = 29.80
TW-73	0815	0.1	—	5.25	14.07	10.22	TD = 14.24 Bolt Stripped

Table 2 - DO Measurement List

SM: Tom Wiley

Client: Plantation Pipe Line

Weather: MID 80'S / SUNNY

PN: 699858.LD.MR.GW

Project: Monthly Monitoring

Measuring Method: YSI proODO, Oil/Water Interface Probe

Technicians: M. WARREN, M. TRAMONTE, J. MORGAN, V. SEFFEL, C. CARUBBA

Date: 05/02/18

Sample Location	Time	PID Reading (ppm)	Depth to Product (ft BTOC)	Depth to Water (ft BTOC)	Total Depth ¹ (ft BTOC)	DO(mg/L)	Comments (i.e. lid bolted down, missing bolts, condition of cap, replace cap, vault bolted down, water in vault, smell, etc.)
<i>Hayfield Zone</i>							
MW-02	1122	0	—	10.85	20.58	9.80	has TROLL TD = 19.70
MW-02B	1144	0.3	—	7.16	81.72	8.08	TD = 80.59
MW-03	1130	0	—	BUBBLING	20.28	10.82	DTW NOT DETERMINED DUE TO SPALLING
MW-04	1115	0	—	6.94	19.56	8.71	
MW-05	1335	0	—	11.13	19.90	--	
MW-07	1351	610.9	—	10.35	14.34	--	
MW-08	1312	0.3	—	6.40	19.84	10.39	
MW-09	1322	0.5	—	0	20.21	9.26	
MW-10	1055	0	—	6.97	23.21	9.65	has BaroTROLL
MW-16	1254	698.1	0.1	0.1	20.58	PRODUCT	TD = 20.31
MW-18	1302	2355	15.97	18.01	20.11	PRODUCT	
MW-30	1110	0.2	—	11.49	14.70	4.04	
MW-31	1041	0	—	17.35	28.03	--	
MW-45	0906	0.3	—	10.74	14.45	--	
TW-55	1346	0.3	—	3.89	27.33	10.30	TD = 39.19
TW-64	1256	0.4	—	15.27	52.85	7.10	
TW-96	1400	0.2	—	BUBBLING	27.33	9.24	DTW NOT DETERMINED DUE TO SPALLING
<i>Shallow Bedrock Zone</i>							
MW-01	0940	10.3	—	5.20	16.58	1.44	has BaroTROLL TD = 15.40
MW-01B	0942	1.2	—	6.72	44.52	0.59	TD = 43.72
MW-11	1000	792.6	—	26.74	32.40	6.15	
MW-22	1745	34.8	—	7.19	10.34	1.42	

BTOC - below top of casing
ft - feet
PN - Project Number

¹Total depths collected 4/5/18

ppm - parts per million
SM - Site Manager
- wells historically found to have product

Lewis Drive Monitoring Sheet 1

Name(s): M. WARREN, M. TRAMONTE, J. MONTAN, C. CHARUBBA
 Date: 05/02/18
 Weather: MID 80'S / SUNNY

Contractor	# Personnel
Jacobs	
A&D/ECS	
Kinder Morgan	

Weekly Gauging

* Confirm all instances of LNAPL with a baller.

Well ID	Depth to LNAPL* (ft BTOC)	Depth to Water (ft BTOC)	Total Depth (if requested)
RS-01	7.60	7.62	22.40
RS-05	8.00	8.50	24.90
RT-1A	—	11.06	24.97
RT-1B	—	10.48	17.64
RT-1C	—	10.50	18.8
RT-2A	—	0.5	7.79
RT-2B	—	0.74	7.25
RT-2C	—	1.20	9.32
RT-2D	—	1.30	7.09
RT-2E	—	1.42	8.36
RT-2F	—	1.72	9.31
RT-2G	—	0.95	10.03
RT-2H	—	damaged	
RT-2I	—	1.04	10.00
RT-2J	—	0.04	10.00
RT-2K	—	0.82	2.29
RT-2L	—	1.16	5.80
RW-02	20.98	20.99	25.70
RW-04	26.84	27.04	36.96
RW-05	31.14	31.19	37.63
RW-06	—	24.16	39.65
RW-07	—	20.65	41.76
RW-09	—	10.78	41.07
RW-11	10.45	10.45	21.25
RW-12	HIGH PRESSURE LID TOO TIGHT		
RW-15	—	11.98	39.95

This column only gauged once per month

Well ID	Depth to LNAPL* (ft BTOC)	Depth to Water (ft BTOC)	Total Depth (if requested)
MW-02	—	—	—
MW-02B	—	—	—
MW-03	—	—	—
MW-04	—	—	—
MW-05	—	—	—
MW-06	—	13.16	19.19
MW-06B	—	10.90	86.90
MW-07	—	—	—
MW-08	—	—	—
MW-09	—	—	—
MW-09B	—	13.27	135.48
MW-10	—	—	—
MW-11	—	—	—
MW-12	—	—	—
MW-12B	—	—	—
MW-13	—	19.21	22.17
MW-13B	—	20.20	57.08
MW-14	—	14.27	22.18
MW-14B	—	15.66	84.60
MW-15	—	—	—
MW-16	—	—	—
MW-17	—	10.89	11.10
MW-17B	—	12.85	24.10
MW-18	—	—	—
MW-19	—	—	—
MW-20	—	—	—
MW-21	—	13.25	20.73
MW-22	—	—	—
MW-23	—	—	—
MW-23B	—	9.68	53.87
MW-24	—	4.39	15.35
MW-24B	—	5.10	27.30
MW-25	—	—	—
MW-25B	—	—	—
MW-26	—	—	—
MW-26B	—	4.68	41.52
MW-27	—	23.60	29.65
MW-27B	—	29.04	51.85
MW-28	—	—	—
MW-29	—	—	—
MW-30	—	—	—
MW-31	—	—	—
MW-31B	—	17.72	472.50
MW-32	—	8.60	28.90
MW-33	—	22.70	28.38
MW-33T	—	24.07	49.45
MW-34	—	—	—
MW-35	—	—	—
MW-36	—	15.95	23.65
MW-36B	—	15.69	45.28
MW-37	—	16.47	18.09
MW-38	—	—	—
MW-39	—	—	—
MW-40	—	—	—

This column only gauged once per month

Well ID	Depth to LNAPL* (ft BTOC)	Depth to Water (ft BTOC)	Total Depth (if requested)
MW-41	—	—	—
MW-42	—	4.29	13.39
MW-43	—	—	—
MW-43B	—	0.45	54.50
MW-44	—	4.79	9.70
MW-44B	—	10.21	34.90
MW-45	—	—	—
MW-45B	—	12.83	21.55
MW-46	—	5.88	17.05
MW-47	—	14.48	22.80
MW-48B	—	18.04	97.19
MW-49	—	15.65	27.30
MW-50B	—	19.95	103.25
TW-04R	—	3.39	5.25
TW-05R	SEALED SHUT		
TW-14R	—	4.21	4.98
TW-15R	—	DRY	1.94
TW-21	—	1.87	9.58
TW-28	—	20.60	28.42
TW-30	—	19.55	23.24
TW-34	—	22.14	22.30
TW-35	—	22.67	22.70
TW-40	—	26.49	31.38
TW-41	—	24.56	31.54
TW-42	23.35	23.81	27.64
TW-45	24.88	25.05	33.96
TW-46	—	damaged	
TW-55	—	—	—
TW-59	—	—	—
TW-60	—	—	—
TW-64	—	—	—
TW-65	—	18.94	44.46
TW-66	—	—	—
TW-67	—	—	—
TW-68	—	21.13	26.74
TW-69	OVERGROWN W/ POISON IVY		
TW-70	—	16.08	42.08
TW-73	—	—	—
TW-76	—	10.79	38.95
TW-81	—	1.94	6.19
TW-82	—	1.75	9.26
TW-83	FIRE ANT MOUND		
TW-84	—	3.39	12.78
TW-85	FIRE ANT MOUND		
TW-86	—	4.55	5.63
TW-87	—	3.98	6.82
TW-90	TOO PRESSURIZED TO GAUGE		
TW-94	—	ND (OVERFLOW)	39.38
TW-96	—	—	—
SW-01	—	—	—
SW-02	—	1.76'	—
SW-05	—	—	—
SW-05	—	0.36'	—
SW-08	—	1.05'	—
SW-10	—	0.70'	—
SW-22	—	—	—
SW-23	—	—	—

These features only gauged once a month

RS-02	—	6.18	19.41
RS-04	—	8.67	10.30
RS-06	—	8.44	23.72
RS-07	—	10.40	15.63
RS-08	—	10.53	19.10
RS-09	—	6.23	17.24
RS-10	6.96	6.98	20.02
RS-11	—	7.36	17.04
RS-12	—	7.67	20.04
RS-13	—	4.75	18.10
RS-14	4.25	4.27	19.09
RS-15	—	4.47	17.45
RS-16	—	3.64	18.54
RS-17	—	3.24	19.03
RS-18	—	6.31	19.50
RS-19	—	damaged	
RS-20	—	4.30	10.50
RW-01	—	12.18	20.74
RW-03	—	22.00	34.76
RW-08	—	13.34	34.10
RW-10	10.83	10.84	60.80
RW-23	DO NOT GAUGE		
RW-24	—	10.05	45.35

Locations with skimmers
 Locations with socks

* Gauging not needed, only DO

Table 2 - DO Measurement List

SM: Tom Wiley Client: Plantation Pipe Line Weather: Sunny, 80°F
 PN: 699858.LD.MR.GW
 Project: Monthly Monitoring Measuring Method: YSI proODO, Oil/Water Interface Probe
 Technicians: K. Sexton, E. Harker, B. Garvey, C. Cameron Date: 6-4-18

Sample Location	Time	PID Reading (ppm)	Depth to Product (ft BTOC)	Depth to Water (ft BTOC)	Total Depth ¹ (ft BTOC)	DO(mg/L)	Comments (i.e. lid bolted down, missing bolts, condition of cap, replace cap, vault bolted down, water in vault, smell, etc.)
Brown's Creek Protection Zone							
MW-12	1530	486.1	9.20	9.20	21.03	10.53	has TROLL TD=20.80
MW-12B	1535	9.4	-	9.83	44.31	1.24	TD=49.12
MW-15	-	-	-	-	19.18	-	has TROLL Skimmer, not gaged
MW-15B	1745	4.6	-	13.84	80.90	3.88	
MW-25	1940	0	-	6.73	18.08	9.20	has TROLL
MW-25B	1945	0	-	3.41	53.13	5.55	TD=59.65
MW-28	1637	0.8	-	19.52	26.08	4.85	
MW-34	1735	0.8	-	2.34	7.82	-	
MW-35	1950	0.5	-	8.15	26.26	-	TD=28.25
MW-38	1750	0.2	-	1.20	11.51	-	
MW-39	1730	17.6	-	4.34	13.03	-	has TROLL
MW-40	1726	21.3	-	1.98	13.15	-	has TROLL
MW-41	1720	0	-	3.69	13.19	-	
MW-43	1810	0.1	-	4.28	10.30	-	
SW-01	1820	-	-	-	-	6.53	
SW-03	1620	-	-	-	-	9.50	
SW-12	1613	-	-	-	-	9.34	
SW-13	1605	-	-	-	-	6.09	
TW-59	1650	0.6	-	0	22.00	9.34	TD=20.85
TW-80	1515	-	-	0	40.50	-	Bubbling out of casing, could not attain stable DO
TW-86	1700	0.2	-	0	23.70	10.33	
Cupboard Creek Protection Zone							
MW-19	0854	11675	-	7.81	12.15	4.20	12.14 - TD
MW-20	-	-	-	-	19.40	-	has TROLL skimmer, not gaged
MW-23	0925	0.3	10.33	23.16.33	23.21	-	TD=23.11
MW-28	0912	1.3	2.04	17.122.01	17.12	5.77	TD=17.12
MW-29	1010	7.7	-	3.23	14.95	1.59	TD=14.87 has TROLL
TW-87	1950	12.1	-	8.14	26.46	11.67	TD=24.30
TW-73	1955	23.7	-	13.09	14.07	10.80	TD=13.74

Skimmer -

Table 2 - DO Measurement List

SM: Tom Wiley Client: Plantation Pipe Line Weather: _____
 PN: 699858.LD.MR.GW
 Project: Monthly Monitoring Measuring Method: YSI proODO, Oil/Water Interface Probe
 Technicians: _____ Date: 6/4/18

Sample Location	Time	PID Reading (ppm)	Depth to Product (ft BTOC)	Depth to Water (ft BTOC)	Total Depth ¹ (ft BTOC)	DO(mg/L)	Comments (i.e. lid bolted down, missing bolts, condition of cap, replace cap, vault bolted down, water in vault, smell, etc.)
Hayfield Zone							
MW-02	1255	28.3	-	0	20.58	11.90	has TROLL
MW-02B	1300	1.2	-	4.23	81.72	4.60	TD = 83.08
MW-03	1113	0	-	14.5	20.28	12.34	TD = 20.46
MW-04	1121	0	-	6.23	19.56	8.64	
MW-05	1134	0.2	-	10.47	19.90	--	
MW-07	1140	661.2	-	9.44	14.34	--	
MW-08	1428	-	-	5.63	19.84	-	has Skimmer, not gauged
MW-09	-	-	-	-	20.21	-	could not open
MW-10	0958	0	-	6.43	23.21	7.68	has BaroTROLL
MW-16	1410	102.5	-	-	20.58	-	page system on, could not get accurate reading, possible product
MW-18	1444	2058	11.70	12.12	20.11	-	
MW-30	1035	0	-	10.47	14.70	4.43	
MW-31	0926	0	-	17.25	28.03	--	TD = 28.90
MW-45	0935	0	-	24.15	14.45	--	TD = 34.04
TW-55	1330	0.3	-	0	27.33	12.02	
TW-64	0900	0	-	14.44	52.85	7.96	
TW-96	1020	0	-	0	27.33	10.62	TD = 28.50
Shallow Bedrock Zone							
MW-01	1318	35.6	0 -	3.83	16.58	1.24	has BaroTROLL TD = 15.57
MW-01B	13.21	0.3	-	6.47	44.52	1.15	TD = 21.81
MW-11	-	-	-	-	32.40	-	has sock, not gauged
MW-22	1040	1.7	-	5.72	10.34	1.23	TD = 10.35

BTOC - below top of casing
 ft - feet
 PN - Project Number

¹Total depths collected 4/5/18

ppm - parts per million
 SM - Site Manager

- wells historically found to have product

Lewis Drive Monitoring Sheet 1

Name(s): K. Sexton, B. Emrey, E. Harber, C. Carruba
 Date: 6.4.18
 Weather: Sunny, 80°F 6/8/28/18

Contractor	# Personnel
Jacobs	
A&D/ECS	
Kinder Morgan	

Weekly Gauging

* Confirm all instances of LNAPL with a bailer.

Well ID	Depth to LNAPL* (ft BTOC)	Depth to Water (ft BTOC)	Total Depth (if requested)
RS-01	could not open, rusty lock		
RS-05			
RT-1A			
RT-1B			
RT-1C			
RT-2A	-	not there, cnt	
RT-2B	-	0.68	2.28
RT-2C	-	0.95	9.30
RT-2D	-	1.20	7.01
RT-2E	-	1.34	8.32
RT-2F	-	1.66	9.32
RT-2G	-	1.08	9.99
RT-2H	-	damaged	
RT-2I	-	1.02	9.99
RT-2J	-	bubbling out top	
RT-2K	-	1.03	5.82
RT-2L	-		
RW-02			
RW-04			
RW-05			
RW-06	-	23.38	39.81
RW-07			
RW-09	-	8.95	39.78
RW-11	-	11.55	21.01
RW-12	-	11.95	16.89
RW-15			

These features only gauged once a month

RS-02			
RS-04	-	5.98	9.96
RS-06	-	7.12	23.68
RS-07	-	9.16	15.64
RS-08			
RS-09	-	6.34	17.22
RS-10			
RS-11	-	6.25	17.24
RS-12	-	6.59	20.09
RS-13	-	3.14	17.50
RS-14			
RS-15	-	2.91	17.31
RS-16	-	3.18	18.58
RS-17			
RS-18	-	6.36	19.29
RS-19	-	damaged	
RS-20	-	3.80	10.80
RW-01	-	11.05	20.72
RW-03			
RW-08			
RW-10	-	8.95	58.61
RW-13	DO NOT GAUGE		
RW-14	-	9.97	44.56
MW-01			
MW-01B			

= locations with skimmers
 = locations with socks
 Red ID needs DO measurement

This column only gauged once per month

Well ID	Depth to LNAPL* (ft BTOC)	Depth to Water (ft BTOC)	Total Depth (if requested)
MW-02			
MW-02B			
MW-03			
MW-04			
MW-05			
MW-06	-	10.32	19.25
MW-06B	-	10.15	57.63
MW-07	-	9.44	13.60
MW-08			
MW-09**	-	-	-
MW-09B	-	5.70	138.0
MW-10			
MW-11			
MW-12			
MW-12B			
MW-13	-	18.80	22.24
MW-13B	-	19.56	58.20
MW-14	-	17.48	22.24
MW-14B	-	15.09	67.34
MW-15			
MW-15B			
MW-16			
MW-17	-	10.80	11.20
MW-17B	-	12.05	23.95
MW-18	11.70	12.12	20.12
MW-19			
MW-20			
MW-21	-	12.43	20.69
MW-22			
MW-23			
MW-23B	-	6.06	53.59
MW-24	-	4.45	15.32
MW-24B	-	5.12	43.10
MW-25			
MW-25B			
MW-26			
MW-26B	-	3.66	41.29
MW-27	-	22.55	29.82
MW-27B	-	28.42	50.48
MW-28			
MW-29			
MW-30			
MW-31			
MW-31B	-	17.72	72.70
MW-32	-	11.16	28.85
MW-33	-	22.35	29.69
MW-33T	-	27.56	100.20
MW-34			
MW-35	-	8.15	28.25
MW-36	-	15.21	29.67
MW-36B	-	14.94	56.0
MW-37	-	3.26	18.11
MW-38			
MW-39			
MW-40			

**well plug blown out last month, use caution
 *gauging not needed, only DO

This column only gauged once per month

Well ID	Depth to LNAPL* (ft BTOC)	Depth to Water (ft BTOC)	Total Depth (if requested)
MW-41	-	3.60	13.18
MW-42	-	5.37	13.38
MW-43			
MW-43B	-	0.9	55.70
MW-44	-	3.16	9.76
MW-44B	-	9.50	34.49
MW-45	-	24.15	34.04
MW-45B	-	25.13	31.42
MW-46	-	5.20	17.10
MW-47	-	13.92	22.83
MW-48B	-	15.91	78.29
MW-49	-	14.95	23.35
MW-50B	-	18.36	108.65
TW-04R	-	1.64	5.25
TW-05R	-	1.40	7.60
TW-14R	-	2.85	5.00
TW-15R	-	1.02	1.95
TW-21	-	0.25	9.81
TW-28	-	20.09	28.46
TW-30	-	18.95	23.26
TW-34	-	22.14	22.24
TW-35	-	22.67	22.73
TW-40	-	25.83	31.45
TW-41	-	23.46	31.59
TW-42	22.14	22.79	27.85
TW-45	-	24.15	34.04
TW-46	-	damaged	
TW-55			
TW-59			
TW-60	bubbling out of casing		
TW-64			
TW-65	-	18.54	42.72
TW-66			
TW-67	-	8.14	24.30
TW-68	-	20.70	26.82
TW-69	-	11.38	49.40
TW-70	-	16.39	42.05
TW-73	-	13.09	13.74
TW-76	-	10.32	38.92
TW-81	-	0.23	6.22
TW-82	-	0.6	9.30
TW-83	-	0.47	14.96
TW-84	-	1.99	3.75
TW-85	-	0	39.30
TW-86	-	3.10	5.62
TW-87	-	3.30	6.83
TW-90	-	0	46.0
TW-94	-	0	39.37
TW-96			
SW-01	-	0.90	
SW-02	-	1.74	
SW-03	-	Dry	
SW-05	-	no water (dry)	
SW-08	-	0.86	
SW-10	-	0.44	
SW-12*			
SW-13*			

DO
11.69

10.80

Table 1. Wells With Measurable Product Thickness
 Plantation Pipe Line Company
 Lewis Drive Remediation Site, Belton, South Carolina
 Site ID #18693 "Kinder Morgan Belton Pipeline Release"

Well Identifier ¹	Installation	Week	Volume of product recovered (fl oz)	Replacement skimmer type	DTW	Recommendation
	Date: 2/13/2018	6/7/18 ? DTBW				
MW-08	2" D, 1-L	0			6.22	2-inch diameter, 1-liter passive skimmer
MW-15	2" D, 1-L	0			10.56	2-inch diameter, 1-liter passive skimmer
MW-20	2" D, 1-L	1.0			8.50	2-inch diameter, 1-liter passive skimmer
RS-01	4"D, 4-L	Could not open - lock rusty -				4-inch diameter, 4-liter passive skimmer
RS-02	4"D, 4-L	1.0			4.65	4-inch diameter, 4-liter passive skimmer
RS-05	4"D, 4-L	1.0			6.64	4-inch diameter, 4-liter passive skimmer
RS-10	4"D, 4-L	0			5.69	4-inch diameter, 4-liter passive skimmer
RS-14	4"D, 4-L	1.0			3.85	4-inch diameter, 4-liter passive skimmer
RS-17	4"D, 4-L	1.0			3.02	4-inch diameter, 4-liter passive skimmer
RW-02	4"D, 4-L	1.0			20.17	4-inch diameter, 1-liter passive skimmer
RW-03	4"D, 1-L	2 1.0			21.30	4-inch diameter, 4-liter passive skimmer
RW-04	4"D, 4-L	2 32.0			26.12	4-inch diameter, 4-liter passive skimmer
RW-05	4"D, 4-L	2 23			29.99	4-inch diameter, 4-liter passive skimmer
RW-07	4"D, 4-L	0			20.40	4-inch diameter, 4-liter passive skimmer
RW-08	4"D, 4-L	0			—	4-inch diameter, 4-liter passive skimmer
RW-15	4"D, 4-L	0			10.34	4-inch diameter, 4-liter passive skimmer

Table 2. Socks

Well Identifier ¹	Installation	Week	Weight of sock (lbs) g	Replaced? (Y/N)	If replaced, record weight of empty sock (lbs) g	Recommendation	DTW
	Date: 2/13/2018						
MW-11	105		690	Y	80	Oil-only absorbent sock	
RS-08	not installed		825	Y	90	Oil-only absorbent sock	10.19 ft
RT-2K	not installed		700	Y	110	Oil-only absorbent sock	1.2 ft
RT-1A	not installed		785	Y	90	Oil-only absorbent sock	9.91 ft

RT-1B

not installed

755

4

90

Oil-only absorbent sock

9.91

RT-1C

not installed

720

4

90

Oil-only absorbent sock

10.50

DTW



PROJECT NUMBER 699858.LD.MR.GW	WELL NUMBER SHEET 1 OF 1
-----------------------------------	-----------------------------

LOW FLOW SAMPLING LOG

Well Number: MW-19	Site: Lewis Drive Site, Belton, SC																
Field Crew: K. Sexton	Date: 6-5-18																
Well Depth (ft): 12.15	<table border="1"> <tr> <th>Diameter</th> <th>Gal. Per Foot</th> <th>Diameter</th> <th>Gal. Per Foot</th> </tr> <tr> <td>0</td> <td><u>0.162</u></td> <td>5"</td> <td>1.02</td> </tr> <tr> <td>3"</td> <td>0.367</td> <td>6"</td> <td>1.469</td> </tr> <tr> <td>4"</td> <td>0.653</td> <td>8"</td> <td>2.611</td> </tr> </table>	Diameter	Gal. Per Foot	Diameter	Gal. Per Foot	0	<u>0.162</u>	5"	1.02	3"	0.367	6"	1.469	4"	0.653	8"	2.611
Diameter		Gal. Per Foot	Diameter	Gal. Per Foot													
0	<u>0.162</u>	5"	1.02														
3"	0.367	6"	1.469														
4"	0.653	8"	2.611														
DTW (ft): 10.04	Purge Methodology: low flow																
Water Column (ft): 2.11	Water level indicator, serial number: 27681, solinst																
Well Diameter (in): 2"	Pump type (please circle): Peristaltic Bladder																
Gal. Per ft: 0.163	Pump serial number: 034906																
Well volume (gal): 343																	
Depth of Screen (ft):																	

PID reading: opening well after venting, if initially high **1346** middle of sampling **600 1072** closing well

Field Parameters										
Time	DTW (loc)	Flow Rate (ml/min)	Total Volume (gal)	pH (Std. Units)	Temp (°C)	Cond. (mS/cm)	ORP (mV)	D.O. (mg/L) within 0.2 mg/L	Turbidity (NTU) ±10% or < 10	Color/Odor
Stabilization	<0.33' or 4"	100-500	NA	±0.15U	±1°C	±5%	±20 mV			NA
1102	10.04	150		6.55	21.34	206	81.2	3.57	244	brown, murky, stale
1127	10.41	150	.2	5.76	19.07	190	76.7	2.78	188	"
1132	10.87	150	.4	5.66	19.07	171	84.3	5.03	116.8	
1137	11.25	150	.6	5.56	18.84	168	100.7	4.41	86.0	
1139	12.15									dry

Remarks: well purged dry with 2 well volumes purged - well sample after recovery on 6-6-18, Fe²⁺ = 2.0 mg/L

SAMPLING INFORMATION:

Depth to Water Before Sampling: 7.45	Depth sample was acquired: 12"
Sample Methodology: shar	
Sample Date/Time: 6-6-18, 0747	
Signed Sampler: MS	
Filtered Metals Collected: Y / N	Filter Size: -
Sample Observations: spurge system very active, pushed water level back up	
Parameters (please circle): VOCs	SVOCs Dissolved Metals Other:

alk., nitrate, Ferrus Iron, Methane

Appendix B
Surface Water Analytical Laboratory
Reports

April 11, 2018

CH2M Hill- Kinder Morgan- Atlanta, GA

Sample Delivery Group: L984095
Samples Received: 04/07/2018
Project Number: 699858.LD.MR.SW
Description: Lewis Drive Surface Water
Site: LEWIS DRIVE
Report To: Bethany Garvey
6600 Peachtree Dunwoody Road
400 Embassy Row - Suite 600
Atlanta, GA 30328










Entire Report Reviewed By:



Chris McCord
Technical Service Representative

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



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SW09-040618 L984095-05	10	
SW08-040618 L984095-06	11	
SW13-040618 L984095-07	12	
FP03-040618 L984095-08	13	
SW04-040618 L984095-09	14	
SW02-040618 L984095-10	15	
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SAMPLE SUMMARY



SW11-040618 L984095-01 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095728	1	04/09/18 21:59	04/09/18 21:59	JAH

Collected by
Melissa Warren

Collected date/time
04/06/18 07:55

Received date/time
04/07/18 08:45

1
Cp

SW10-040618 L984095-02 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095728	1	04/09/18 22:18	04/09/18 22:18	JAH

Collected by
Melissa Warren

Collected date/time
04/06/18 08:05

Received date/time
04/07/18 08:45

2
Tc

3
Ss

4
Cn

5
Sr

FP01-040618 L984095-03 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095728	1	04/09/18 22:37	04/09/18 22:37	JAH

Collected by
Melissa Warren

Collected date/time
04/06/18 08:15

Received date/time
04/07/18 08:45

6
Qc

7
Gl

FP02-040618 L984095-04 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095728	1	04/09/18 22:56	04/09/18 22:56	JAH

Collected by
Melissa Warren

Collected date/time
04/06/18 08:20

Received date/time
04/07/18 08:45

8
Al

9
Sc

SW09-040618 L984095-05 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095728	1	04/09/18 23:16	04/09/18 23:16	JAH

Collected by
Melissa Warren

Collected date/time
04/06/18 08:30

Received date/time
04/07/18 08:45

SW08-040618 L984095-06 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095728	1	04/09/18 23:35	04/09/18 23:35	JAH

Collected by
Melissa Warren

Collected date/time
04/06/18 08:35

Received date/time
04/07/18 08:45

SW13-040618 L984095-07 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095728	1	04/09/18 23:54	04/09/18 23:54	JAH

Collected by
Melissa Warren

Collected date/time
04/06/18 08:40

Received date/time
04/07/18 08:45

FP03-040618 L984095-08 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095728	1	04/10/18 00:14	04/10/18 00:14	JAH

Collected by
Melissa Warren

Collected date/time
04/06/18 09:00

Received date/time
04/07/18 08:45

SAMPLE SUMMARY

SW04-040618 L984095-09 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095728	1	04/10/18 00:33	04/10/18 00:33	JAH

Collected by: Melissa Warren
 Collected date/time: 04/06/18 09:10
 Received date/time: 04/07/18 08:45

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

SW02-040618 L984095-10 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095728	1	04/10/18 00:52	04/10/18 00:52	JAH

Collected by: Melissa Warren
 Collected date/time: 04/06/18 09:15
 Received date/time: 04/07/18 08:45

SW01-040618 L984095-11 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095728	1	04/10/18 01:11	04/10/18 01:11	JAH

Collected by: Melissa Warren
 Collected date/time: 04/06/18 09:17
 Received date/time: 04/07/18 08:45

SW07-040618 L984095-12 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095728	1	04/10/18 01:31	04/10/18 01:31	JAH

Collected by: Melissa Warren
 Collected date/time: 04/06/18 09:20
 Received date/time: 04/07/18 08:45

SW12-040618 L984095-13 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095728	1	04/10/18 01:50	04/10/18 01:50	JAH

Collected by: Melissa Warren
 Collected date/time: 04/06/18 09:25
 Received date/time: 04/07/18 08:45

TB01-040618 L984095-14 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095728	1	04/09/18 21:01	04/09/18 21:01	JAH

Collected by: Melissa Warren
 Collected date/time: 04/06/18 09:35
 Received date/time: 04/07/18 08:45

SW03-040618 L984095-15 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095728	1	04/10/18 02:09	04/10/18 02:09	JAH

Collected by: Melissa Warren
 Collected date/time: 04/06/18 09:30
 Received date/time: 04/07/18 08:45

SW14-040618 L984095-16 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095728	1	04/10/18 02:29	04/10/18 02:29	JAH

Collected by: Melissa Warren
 Collected date/time: 04/06/18 10:00
 Received date/time: 04/07/18 08:45



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris McCord
Technical Service Representative

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/09/2018 21:59	WG1095728
Ethylbenzene	ND		1.00	1	04/09/2018 21:59	WG1095728
Methyl tert-butyl ether	ND		1.00	1	04/09/2018 21:59	WG1095728
Naphthalene	ND		5.00	1	04/09/2018 21:59	WG1095728
Toluene	ND		1.00	1	04/09/2018 21:59	WG1095728
o-Xylene	ND		1.00	1	04/09/2018 21:59	WG1095728
m&p-Xylene	ND		2.00	1	04/09/2018 21:59	WG1095728
Xylenes, Total	ND		3.00	1	04/09/2018 21:59	WG1095728
(S) Toluene-d8	109		80.0-120		04/09/2018 21:59	WG1095728
(S) Dibromofluoromethane	102		76.0-123		04/09/2018 21:59	WG1095728
(S) a,a,a-Trifluorotoluene	97.5		80.0-120		04/09/2018 21:59	WG1095728
(S) 4-Bromofluorobenzene	96.1		80.0-120		04/09/2018 21:59	WG1095728

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/09/2018 22:18	WG1095728
Ethylbenzene	ND		1.00	1	04/09/2018 22:18	WG1095728
Methyl tert-butyl ether	ND		1.00	1	04/09/2018 22:18	WG1095728
Naphthalene	ND		5.00	1	04/09/2018 22:18	WG1095728
Toluene	ND		1.00	1	04/09/2018 22:18	WG1095728
o-Xylene	ND		1.00	1	04/09/2018 22:18	WG1095728
m&p-Xylene	ND		2.00	1	04/09/2018 22:18	WG1095728
Xylenes, Total	ND		3.00	1	04/09/2018 22:18	WG1095728
(S) Toluene-d8	109		80.0-120		04/09/2018 22:18	WG1095728
(S) Dibromofluoromethane	101		76.0-123		04/09/2018 22:18	WG1095728
(S) a,a,a-Trifluorotoluene	96.5		80.0-120		04/09/2018 22:18	WG1095728
(S) 4-Bromofluorobenzene	97.7		80.0-120		04/09/2018 22:18	WG1095728

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/09/2018 22:37	WG1095728
Ethylbenzene	ND		1.00	1	04/09/2018 22:37	WG1095728
Methyl tert-butyl ether	ND		1.00	1	04/09/2018 22:37	WG1095728
Naphthalene	ND		5.00	1	04/09/2018 22:37	WG1095728
Toluene	ND		1.00	1	04/09/2018 22:37	WG1095728
o-Xylene	ND		1.00	1	04/09/2018 22:37	WG1095728
m&p-Xylene	ND		2.00	1	04/09/2018 22:37	WG1095728
Xylenes, Total	ND		3.00	1	04/09/2018 22:37	WG1095728
(S) Toluene-d8	108		80.0-120		04/09/2018 22:37	WG1095728
(S) Dibromofluoromethane	103		76.0-123		04/09/2018 22:37	WG1095728
(S) a,a,a-Trifluorotoluene	98.4		80.0-120		04/09/2018 22:37	WG1095728
(S) 4-Bromofluorobenzene	96.9		80.0-120		04/09/2018 22:37	WG1095728

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/09/2018 22:56	WG1095728
Ethylbenzene	ND		1.00	1	04/09/2018 22:56	WG1095728
Methyl tert-butyl ether	ND		1.00	1	04/09/2018 22:56	WG1095728
Naphthalene	ND		5.00	1	04/09/2018 22:56	WG1095728
Toluene	ND		1.00	1	04/09/2018 22:56	WG1095728
o-Xylene	ND		1.00	1	04/09/2018 22:56	WG1095728
m&p-Xylene	ND		2.00	1	04/09/2018 22:56	WG1095728
Xylenes, Total	ND		3.00	1	04/09/2018 22:56	WG1095728
(S) Toluene-d8	109		80.0-120		04/09/2018 22:56	WG1095728
(S) Dibromofluoromethane	100		76.0-123		04/09/2018 22:56	WG1095728
(S) a,a,a-Trifluorotoluene	97.7		80.0-120		04/09/2018 22:56	WG1095728
(S) 4-Bromofluorobenzene	94.8		80.0-120		04/09/2018 22:56	WG1095728

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/09/2018 23:16	WG1095728
Ethylbenzene	ND		1.00	1	04/09/2018 23:16	WG1095728
Methyl tert-butyl ether	ND		1.00	1	04/09/2018 23:16	WG1095728
Naphthalene	ND		5.00	1	04/09/2018 23:16	WG1095728
Toluene	ND		1.00	1	04/09/2018 23:16	WG1095728
o-Xylene	ND		1.00	1	04/09/2018 23:16	WG1095728
m&p-Xylene	ND		2.00	1	04/09/2018 23:16	WG1095728
Xylenes, Total	ND		3.00	1	04/09/2018 23:16	WG1095728
(S) Toluene-d8	111		80.0-120		04/09/2018 23:16	WG1095728
(S) Dibromofluoromethane	99.7		76.0-123		04/09/2018 23:16	WG1095728
(S) a,a,a-Trifluorotoluene	96.6		80.0-120		04/09/2018 23:16	WG1095728
(S) 4-Bromofluorobenzene	97.8		80.0-120		04/09/2018 23:16	WG1095728

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/09/2018 23:35	WG1095728
Ethylbenzene	ND		1.00	1	04/09/2018 23:35	WG1095728
Methyl tert-butyl ether	ND		1.00	1	04/09/2018 23:35	WG1095728
Naphthalene	ND		5.00	1	04/09/2018 23:35	WG1095728
Toluene	ND		1.00	1	04/09/2018 23:35	WG1095728
o-Xylene	ND		1.00	1	04/09/2018 23:35	WG1095728
m&p-Xylene	ND		2.00	1	04/09/2018 23:35	WG1095728
Xylenes, Total	ND		3.00	1	04/09/2018 23:35	WG1095728
(S) Toluene-d8	108		80.0-120		04/09/2018 23:35	WG1095728
(S) Dibromofluoromethane	102		76.0-123		04/09/2018 23:35	WG1095728
(S) a,a,a-Trifluorotoluene	97.4		80.0-120		04/09/2018 23:35	WG1095728
(S) 4-Bromofluorobenzene	95.2		80.0-120		04/09/2018 23:35	WG1095728

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/09/2018 23:54	WG1095728
Ethylbenzene	ND		1.00	1	04/09/2018 23:54	WG1095728
Methyl tert-butyl ether	1.40		1.00	1	04/09/2018 23:54	WG1095728
Naphthalene	ND		5.00	1	04/09/2018 23:54	WG1095728
Toluene	ND		1.00	1	04/09/2018 23:54	WG1095728
o-Xylene	ND		1.00	1	04/09/2018 23:54	WG1095728
m&p-Xylene	ND		2.00	1	04/09/2018 23:54	WG1095728
Xylenes, Total	ND		3.00	1	04/09/2018 23:54	WG1095728
<i>(S) Toluene-d8</i>	106		80.0-120		04/09/2018 23:54	WG1095728
<i>(S) Dibromofluoromethane</i>	101		76.0-123		04/09/2018 23:54	WG1095728
<i>(S) a,a,a-Trifluorotoluene</i>	95.7		80.0-120		04/09/2018 23:54	WG1095728
<i>(S) 4-Bromofluorobenzene</i>	97.4		80.0-120		04/09/2018 23:54	WG1095728

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/10/2018 00:14	WG1095728
Ethylbenzene	ND		1.00	1	04/10/2018 00:14	WG1095728
Methyl tert-butyl ether	ND		1.00	1	04/10/2018 00:14	WG1095728
Naphthalene	ND		5.00	1	04/10/2018 00:14	WG1095728
Toluene	ND		1.00	1	04/10/2018 00:14	WG1095728
o-Xylene	ND		1.00	1	04/10/2018 00:14	WG1095728
m&p-Xylene	ND		2.00	1	04/10/2018 00:14	WG1095728
Xylenes, Total	ND		3.00	1	04/10/2018 00:14	WG1095728
(S) Toluene-d8	108		80.0-120		04/10/2018 00:14	WG1095728
(S) Dibromofluoromethane	101		76.0-123		04/10/2018 00:14	WG1095728
(S) a,a,a-Trifluorotoluene	97.9		80.0-120		04/10/2018 00:14	WG1095728
(S) 4-Bromofluorobenzene	97.1		80.0-120		04/10/2018 00:14	WG1095728

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/10/2018 00:33	WG1095728
Ethylbenzene	ND		1.00	1	04/10/2018 00:33	WG1095728
Methyl tert-butyl ether	ND		1.00	1	04/10/2018 00:33	WG1095728
Naphthalene	ND		5.00	1	04/10/2018 00:33	WG1095728
Toluene	ND		1.00	1	04/10/2018 00:33	WG1095728
o-Xylene	ND		1.00	1	04/10/2018 00:33	WG1095728
m&p-Xylene	ND		2.00	1	04/10/2018 00:33	WG1095728
Xylenes, Total	ND		3.00	1	04/10/2018 00:33	WG1095728
(S) Toluene-d8	107		80.0-120		04/10/2018 00:33	WG1095728
(S) Dibromofluoromethane	99.9		76.0-123		04/10/2018 00:33	WG1095728
(S) a,a,a-Trifluorotoluene	97.1		80.0-120		04/10/2018 00:33	WG1095728
(S) 4-Bromofluorobenzene	95.8		80.0-120		04/10/2018 00:33	WG1095728

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	2.23		1.00	1	04/10/2018 00:52	WG1095728
Ethylbenzene	ND		1.00	1	04/10/2018 00:52	WG1095728
Methyl tert-butyl ether	2.13		1.00	1	04/10/2018 00:52	WG1095728
Naphthalene	ND		5.00	1	04/10/2018 00:52	WG1095728
Toluene	ND		1.00	1	04/10/2018 00:52	WG1095728
o-Xylene	ND		1.00	1	04/10/2018 00:52	WG1095728
m&p-Xylene	ND		2.00	1	04/10/2018 00:52	WG1095728
Xylenes, Total	ND		3.00	1	04/10/2018 00:52	WG1095728
(S) Toluene-d8	106		80.0-120		04/10/2018 00:52	WG1095728
(S) Dibromofluoromethane	99.7		76.0-123		04/10/2018 00:52	WG1095728
(S) a,a,a-Trifluorotoluene	97.6		80.0-120		04/10/2018 00:52	WG1095728
(S) 4-Bromofluorobenzene	98.9		80.0-120		04/10/2018 00:52	WG1095728

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/10/2018 01:11	WG1095728
Ethylbenzene	ND		1.00	1	04/10/2018 01:11	WG1095728
Methyl tert-butyl ether	1.10		1.00	1	04/10/2018 01:11	WG1095728
Naphthalene	ND		5.00	1	04/10/2018 01:11	WG1095728
Toluene	ND		1.00	1	04/10/2018 01:11	WG1095728
o-Xylene	ND		1.00	1	04/10/2018 01:11	WG1095728
m&p-Xylene	ND		2.00	1	04/10/2018 01:11	WG1095728
Xylenes, Total	ND		3.00	1	04/10/2018 01:11	WG1095728
(S) Toluene-d8	109		80.0-120		04/10/2018 01:11	WG1095728
(S) Dibromofluoromethane	102		76.0-123		04/10/2018 01:11	WG1095728
(S) a,a,a-Trifluorotoluene	98.3		80.0-120		04/10/2018 01:11	WG1095728
(S) 4-Bromofluorobenzene	95.4		80.0-120		04/10/2018 01:11	WG1095728

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/10/2018 01:31	WG1095728
Ethylbenzene	ND		1.00	1	04/10/2018 01:31	WG1095728
Methyl tert-butyl ether	ND		1.00	1	04/10/2018 01:31	WG1095728
Naphthalene	ND		5.00	1	04/10/2018 01:31	WG1095728
Toluene	ND		1.00	1	04/10/2018 01:31	WG1095728
o-Xylene	ND		1.00	1	04/10/2018 01:31	WG1095728
m&p-Xylene	ND		2.00	1	04/10/2018 01:31	WG1095728
Xylenes, Total	ND		3.00	1	04/10/2018 01:31	WG1095728
(S) Toluene-d8	106		80.0-120		04/10/2018 01:31	WG1095728
(S) Dibromofluoromethane	103		76.0-123		04/10/2018 01:31	WG1095728
(S) a,a,a-Trifluorotoluene	98.0		80.0-120		04/10/2018 01:31	WG1095728
(S) 4-Bromofluorobenzene	97.9		80.0-120		04/10/2018 01:31	WG1095728

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	1.88		1.00	1	04/10/2018 01:50	WG1095728
Ethylbenzene	ND		1.00	1	04/10/2018 01:50	WG1095728
Methyl tert-butyl ether	ND		1.00	1	04/10/2018 01:50	WG1095728
Naphthalene	ND		5.00	1	04/10/2018 01:50	WG1095728
Toluene	ND		1.00	1	04/10/2018 01:50	WG1095728
o-Xylene	2.82		1.00	1	04/10/2018 01:50	WG1095728
m&p-Xylene	5.05		2.00	1	04/10/2018 01:50	WG1095728
Xylenes, Total	7.87		3.00	1	04/10/2018 01:50	WG1095728
(S) Toluene-d8	109		80.0-120		04/10/2018 01:50	WG1095728
(S) Dibromofluoromethane	102		76.0-123		04/10/2018 01:50	WG1095728
(S) a,a,a-Trifluorotoluene	96.7		80.0-120		04/10/2018 01:50	WG1095728
(S) 4-Bromofluorobenzene	95.5		80.0-120		04/10/2018 01:50	WG1095728

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/09/2018 21:01	WG1095728
Ethylbenzene	ND		1.00	1	04/09/2018 21:01	WG1095728
Methyl tert-butyl ether	ND		1.00	1	04/09/2018 21:01	WG1095728
Naphthalene	ND		5.00	1	04/09/2018 21:01	WG1095728
Toluene	ND		1.00	1	04/09/2018 21:01	WG1095728
o-Xylene	ND		1.00	1	04/09/2018 21:01	WG1095728
m&p-Xylene	ND		2.00	1	04/09/2018 21:01	WG1095728
Xylenes, Total	ND		3.00	1	04/09/2018 21:01	WG1095728
(S) Toluene-d8	106		80.0-120		04/09/2018 21:01	WG1095728
(S) Dibromofluoromethane	102		76.0-123		04/09/2018 21:01	WG1095728
(S) a,a,a-Trifluorotoluene	97.6		80.0-120		04/09/2018 21:01	WG1095728
(S) 4-Bromofluorobenzene	103		80.0-120		04/09/2018 21:01	WG1095728

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/10/2018 02:09	WG1095728
Ethylbenzene	ND		1.00	1	04/10/2018 02:09	WG1095728
Methyl tert-butyl ether	ND		1.00	1	04/10/2018 02:09	WG1095728
Naphthalene	ND		5.00	1	04/10/2018 02:09	WG1095728
Toluene	ND		1.00	1	04/10/2018 02:09	WG1095728
o-Xylene	ND		1.00	1	04/10/2018 02:09	WG1095728
m&p-Xylene	ND		2.00	1	04/10/2018 02:09	WG1095728
Xylenes, Total	ND		3.00	1	04/10/2018 02:09	WG1095728
(S) Toluene-d8	107		80.0-120		04/10/2018 02:09	WG1095728
(S) Dibromofluoromethane	102		76.0-123		04/10/2018 02:09	WG1095728
(S) a,a,a-Trifluorotoluene	98.3		80.0-120		04/10/2018 02:09	WG1095728
(S) 4-Bromofluorobenzene	95.6		80.0-120		04/10/2018 02:09	WG1095728

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/10/2018 02:29	WG1095728
Ethylbenzene	ND		1.00	1	04/10/2018 02:29	WG1095728
Methyl tert-butyl ether	ND		1.00	1	04/10/2018 02:29	WG1095728
Naphthalene	ND		5.00	1	04/10/2018 02:29	WG1095728
Toluene	1.43		1.00	1	04/10/2018 02:29	WG1095728
o-Xylene	ND		1.00	1	04/10/2018 02:29	WG1095728
m&p-Xylene	ND		2.00	1	04/10/2018 02:29	WG1095728
Xylenes, Total	ND		3.00	1	04/10/2018 02:29	WG1095728
(S) Toluene-d8	106		80.0-120		04/10/2018 02:29	WG1095728
(S) Dibromofluoromethane	101		76.0-123		04/10/2018 02:29	WG1095728
(S) a,a,a-Trifluorotoluene	96.8		80.0-120		04/10/2018 02:29	WG1095728
(S) 4-Bromofluorobenzene	96.6		80.0-120		04/10/2018 02:29	WG1095728

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



Method Blank (MB)

(MB) R3300415-3 04/09/18 18:50

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.331	1.00
Ethylbenzene	U		0.384	1.00
Methyl tert-butyl ether	U		0.367	1.00
Naphthalene	U		1.00	5.00
Toluene	U		0.412	1.00
Xylenes, Total	U		1.06	3.00
o-Xylene	U		0.341	1.00
m&p-Xylenes	U		0.719	2.00
(S) Toluene-d8	108			80.0-120
(S) Dibromofluoromethane	99.2			76.0-123
(S) a,a,a-Trifluorotoluene	97.1			80.0-120
(S) 4-Bromofluorobenzene	97.3			80.0-120

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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

(LCS) R3300415-1 04/09/18 17:52 • (LCSD) R3300415-2 04/09/18 18:12

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Benzene	25.0	23.9	23.2	95.6	93.0	70.0-130			2.76	20
Ethylbenzene	25.0	25.6	24.8	102	99.3	70.0-130			3.03	20
Methyl tert-butyl ether	25.0	24.0	23.1	96.0	92.3	70.0-130			3.91	20
Naphthalene	25.0	22.7	22.1	91.0	88.3	70.0-130			3.01	20
Toluene	25.0	26.5	25.4	106	102	70.0-130			4.24	20
Xylenes, Total	75.0	78.4	74.7	105	99.6	70.0-130			4.83	20
o-Xylene	25.0	25.9	24.9	103	99.7	70.0-130			3.71	20
m&p-Xylenes	50.0	52.5	49.8	105	99.6	70.0-130			5.28	20
(S) Toluene-d8				107	107	80.0-120				
(S) Dibromofluoromethane				101	100	76.0-123				
(S) a,a,a-Trifluorotoluene				96.8	95.7	80.0-120				
(S) 4-Bromofluorobenzene				94.4	96.5	80.0-120				



Guide to Reading and Understanding Your Laboratory Report

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

Abbreviations and Definitions

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

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.



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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
 * Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

State Accreditations

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

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

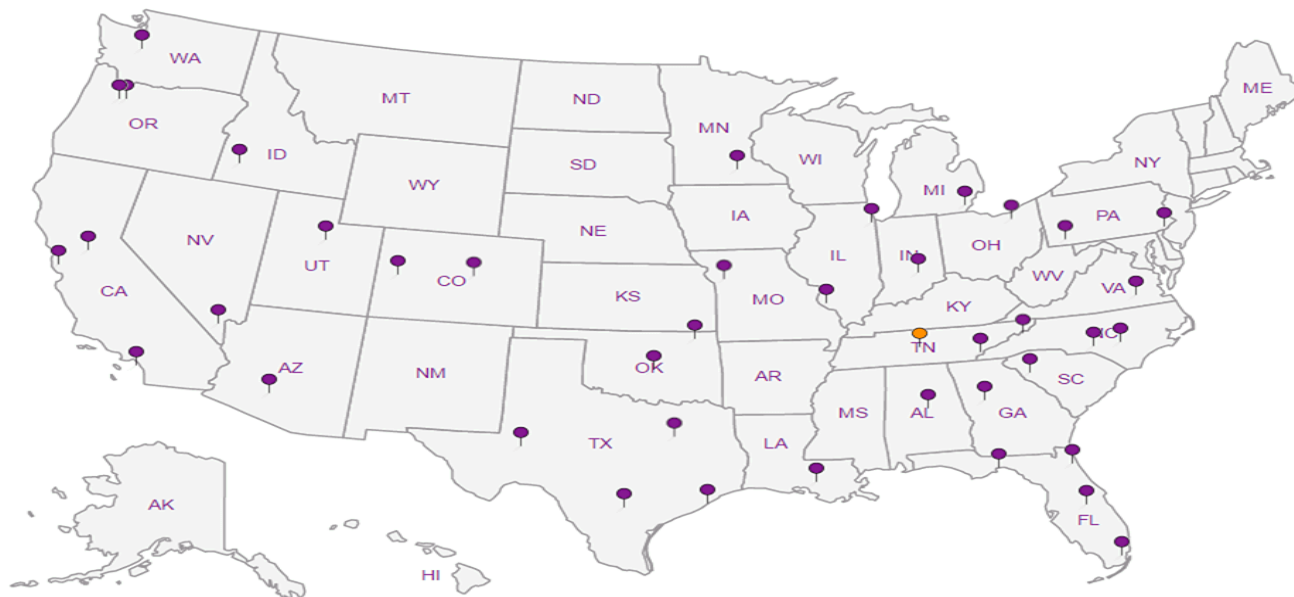
Third Party Federal Accreditations

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

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

Our Locations

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



CH2M Hill- Kinder Morgan- Atlanta, GA
 6600 Peachtree Dunwoody Road

Billing Information:
 Accounts Payable
 1000 Windward Concourse
 Ste 450
 Alpharetta, GA 30005

Report to:
Bethany Garvey

Email To: bgarvey@ch2m.com;
 tom.wiley@ch2m.com; scott.powell@ch2m.com;

Project
 Description: **Lewis Drive Surface Water**

City/State
 Collected: **BELTON, SC**

Phone: **770-604-9182**
 Fax:

Client Project #
LA9858, LD, MR, SW

Lab Project #
KINCH2MGA-LEWIS

Collected by (print):
MELISSA WARREN

Site/Facility ID #
LEWIS DRIVE

P.O. #

Collected by (signature):
Melissa Warren

Rush? (Lab MUST Be Notified)
 Same Day ___ Five Day ___
 Next Day ___ 5 Day (Rad Only) ___
 Two Day ___ 10 Day (Rad Only) ___
 Three Day ___

Quote #

Immediately Packed on Ice N ___ Y

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
-----------	-----------	----------	-------	------	------	--------------

SW11-040618	GRAB	GW	N/A	04/06/18	0755	3
SW10-040618		GW			0805	3
FPO1-040618		GW			0815	3
FPO2-040618		GW			0820	3
SW09-040618		GW			0830	3
SW08-040618		GW			0835	3
SW13-040618		GW			0840	3
FPO3-040618		GW			0900	3
SW04-040618		GW			0910.2	3
SW02-040618		GW			0915	3

Analysis / Container / Preservative	Pres Chk
V8260BTEXMNSC 40mlAmb-HCl	<input checked="" type="checkbox"/>
V8260TCLSC-TB 40mlAmb-HCl-Bik	<input checked="" type="checkbox"/>
BTEX	<input checked="" type="checkbox"/>
MTBE	<input checked="" type="checkbox"/>
NAPHTHALENE	<input checked="" type="checkbox"/>

Chain of Custody Page 1 of 2



LAB SCIENCES
 a subsidiary of Accutest

12065 Lebanon Rd
 Mount Juliet, TN 37122
 Phone: 615-758-5858
 Phone: 800-767-5859
 Fax: 615-758-5859



L# **989095**
B081

Acctnum: **KINCH2MGA**
 Template: **T132193**
 Prelogin: **P646447**
 TSR: **526 - Chris McCord**
 PB: **4-2-186**
 Shipped Via: **FedEx Ground**

Remarks	Sample # (lab only)
	-01
	-02
	-03
	-04
	-05
	-06
	-07
	-08
	-09
	-10

* Matrix:
 SS - Soil AIR - Air F - Filter
 GW - Groundwater B - Bioassay
 WW - WasteWater
 DW - Drinking Water
 OT - Other

Remarks: **V8260BTEXMNSC=BTEX,Naphthalene,MTBE**

Sample Receipt Checklist:

COC Seal Present/Intact: Y N
 COC Signed/Accurate: Y N
 Bottles arrive intact: Y N
 Correct bottles used: Y N
 Sufficient volume sent: Y N
 If Applicable
 VOA Zero Headspace: Y N
 Preservation Correct/Checked: Y N

Samples returned via:
 UBS FedEx Courier

Tracking # **4269 9219 3198**

Relinquished by: (Signature)
Melissa Warren

Date: **04/06/18**
 Time: **1750**

Received by: (Signature)
 Trip Blank Received: Yes No
 HCl / MeOH
 TBR

Relinquished by: (Signature)

Date:
 Time:
 Received by: (Signature)

Temp: **2.7** °C
 Bottles Received: **44**

Relinquished by: (Signature)

Date:
 Time:
 Received for lab by: (Signature)

Date: **4/7/18**
 Time: **8:45**
 Hold:

If preservation required by Login: Date/Time
 Condition:
 NCF OK

CH2M Hill- Kinder Morgan- Atlanta, GA
 6600 Peachtree Dunwoody Road

Billing Information:
Accounts Payable
 1000 Windward Concourse
 Ste 450
 Alpharetta, GA 30005

Report to:
Bethany Garvey

Email To: bgarvey@ch2m.com;
 tom.wiley@ch2m.com; scott.powell@ch2m.com;

Project
 Description: **Lewis Drive Surface Water**

City/State
 Collected: **BELTON, SC**

Phone: **770-604-9182**
 Fax:

Client Project #
SW 699858.WD.MP62

Lab Project #
KINCH2MGA-LEWIS

Collected by (print):
MELISSA WALKER

Site/Facility ID #
LEWIS DRIVE

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)
 ___ Same Day ___ Five Day
 ___ Next Day ___ 5 Day (Rad Only)
 ___ Two Day ___ 10 Day (Rad Only)
 ___ Three Day

Quote #
 Date Results Needed

Immediately Packed on Ice N ___ Y

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Pres Chk	Analysis / Container / Preservative
SW01-040618	GRAB	GW	N/A	04/06/18	0917	3	X	V8260BTEXMNSC-40mlAmb-HCl
SW07-040618	↓	GW	↓	↓	0920	3	X	V8260TCLSC-TB 40mlAmb-HCl-BIK
SW12-040618	↓	GW	↓	↓	0925	3	X	BTEX
SW TBO1-040618	↓	GW	↓	↓	0935	1	X	MTBE
SW03-040618	↓	GW	↓	↓	0930	3	X	NAPHTHALENE
SW14-040618	↓	GW	↓	↓	1000	3	X	

Chain of Custody Page 2 of 2

LAB SCIENCES
 a subsidiary of *PerkinElmer*

12065 Lebanon Rd
 Mount Juliet, TN 37122
 Phone: 615-758-5858
 Phone: 800-767-5859
 Fax: 615-758-5859

L# **984095**

Table #

Acctnum: **KINCH2MGA**
 Template: **T132193**
 Prelogin: **P646447**
 TSR: **526 - Chris McCord**
 PB: **4-2-186**

Shipped Via: **FedEx Ground**

* Matrix:
 SS - Soil AIR - Air F - Filter
 GW - Groundwater B - Bioassay
 WW - WasteWater
 DW - Drinking Water
 OT - Other

Remarks: **V8260BTEXMNSC=BTEX, Naphthalene, MTBE**

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y	N
COC Signed/Accurate:		Y	N
Bottles arrive intact:		Y	N
Correct bottles used:		Y	N
Sufficient volume sent:		Y	N
If Applicable			
VOA Zero Headspace:		Y	N
Preservation Correct/Checked:		Y	N

Samples returned via:
 ___ UPS ___ FedEx ___ Courier

Tracking # **4269 9219 3198**

Relinquished by: (Signature)

Date: **04/06/18**
 Time: **04:17:30**

Received by: (Signature)

Trip Blank Received: **1**
 Yes/No
 NCl/MeOH
 TBR

Relinquished by: (Signature)

Date: Time:

Received by: (Signature)

Temp: **29.2** °C
 Bottles Received: **44**

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date: Time:

Received for Lab by: (Signature)
909

Date: **4/7/18**
 Time: **8:45**

Hold: Condition: **NCF/GR**

May 11, 2018

CH2M Hill- Kinder Morgan- Atlanta, GA

Sample Delivery Group: L991250
Samples Received: 05/04/2018
Project Number: 699858.LD.MR.SW
Description: Lewis Drive Surface Water
Site: LEWIS DRIVE
Report To: Bethany Garvey
6600 Peachtree Dunwoody Road
400 Embassy Row - Suite 600
Atlanta, GA 30328

Entire Report Reviewed By:



Chris McCord
Technical Service Representative

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



Cp: Cover Page	1	1 Cp
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Cn: Case Narrative	6	
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FP01-050318 L991250-03	9	5 Sr
FP02-050318 L991250-04	10	
SW09-050318 L991250-05	11	6 Qc
SW08-050318 L991250-06	12	
SW13-050318 L991250-07	13	7 Gl
FP03-050318 L991250-08	14	8 Al
SW04-050318 L991250-09	15	
SW02-050318 L991250-10	16	9 Sc
SW01-050318 L991250-11	17	
SW07-050318 L991250-12	18	
SW12-050318 L991250-13	19	
SW03-050318 L991250-14	20	
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SAMPLE SUMMARY



SW11-050318 L991250-01 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107404	1	05/05/18 12:11	05/05/18 12:11	JAH

Collected by: Melissa Warren
 Collected date/time: 05/03/18 08:25
 Received date/time: 05/04/18 08:45

1 Cp

2 Tc

3 Ss

SW10-050318 L991250-02 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107404	1	05/05/18 12:31	05/05/18 12:31	JAH

Collected by: Melissa Warren
 Collected date/time: 05/03/18 08:35
 Received date/time: 05/04/18 08:45

4 Cn

5 Sr

FP01-050318 L991250-03 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107404	1	05/05/18 12:52	05/05/18 12:52	JAH

Collected by: Melissa Warren
 Collected date/time: 05/03/18 08:40
 Received date/time: 05/04/18 08:45

6 Qc

7 Gl

FP02-050318 L991250-04 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107404	1	05/05/18 13:12	05/05/18 13:12	JAH

Collected by: Melissa Warren
 Collected date/time: 05/03/18 08:50
 Received date/time: 05/04/18 08:45

8 Al

9 Sc

SW09-050318 L991250-05 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107404	1	05/05/18 13:32	05/05/18 13:32	JAH

Collected by: Melissa Warren
 Collected date/time: 05/03/18 09:00
 Received date/time: 05/04/18 08:45

SW08-050318 L991250-06 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107404	1	05/05/18 13:53	05/05/18 13:53	JAH

Collected by: Melissa Warren
 Collected date/time: 05/03/18 09:05
 Received date/time: 05/04/18 08:45

SW13-050318 L991250-07 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107404	1	05/05/18 14:13	05/05/18 14:13	JAH

Collected by: Melissa Warren
 Collected date/time: 05/03/18 09:10
 Received date/time: 05/04/18 08:45

FP03-050318 L991250-08 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107404	1	05/05/18 14:34	05/05/18 14:34	JAH

Collected by: Melissa Warren
 Collected date/time: 05/03/18 09:35
 Received date/time: 05/04/18 08:45

SAMPLE SUMMARY



SW04-050318 L991250-09 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107404	1	05/05/18 14:54	05/05/18 14:54	JAH

Collected by
Melissa Warren

Collected date/time
05/03/18 09:45

Received date/time
05/04/18 08:45

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

SW02-050318 L991250-10 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107404	1	05/05/18 15:14	05/05/18 15:14	JAH

Collected by
Melissa Warren

Collected date/time
05/03/18 09:50

Received date/time
05/04/18 08:45

SW01-050318 L991250-11 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107404	1	05/05/18 15:35	05/05/18 15:35	JAH

Collected by
Melissa Warren

Collected date/time
05/03/18 09:55

Received date/time
05/04/18 08:45

SW07-050318 L991250-12 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107404	1	05/05/18 15:55	05/05/18 15:55	JAH

Collected by
Melissa Warren

Collected date/time
05/03/18 10:00

Received date/time
05/04/18 08:45

SW12-050318 L991250-13 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107404	1	05/05/18 16:16	05/05/18 16:16	JAH

Collected by
Melissa Warren

Collected date/time
05/03/18 10:05

Received date/time
05/04/18 08:45

SW03-050318 L991250-14 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107404	1	05/05/18 16:36	05/05/18 16:36	JAH

Collected by
Melissa Warren

Collected date/time
05/03/18 10:10

Received date/time
05/04/18 08:45

TB01-050318 L991250-15 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107535	1	05/05/18 19:18	05/05/18 19:18	BMB

Collected by
Melissa Warren

Collected date/time
05/03/18 10:15

Received date/time
05/04/18 08:45

SW14-050318 L991250-16 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107404	1	05/05/18 16:57	05/05/18 16:57	JAH

Collected by
Melissa Warren

Collected date/time
05/03/18 10:30

Received date/time
05/04/18 08:45

SAMPLE SUMMARY



SW05-050318 L991250-17 GW

Collected by Melissa Warren	Collected date/time 05/03/18 10:35	Received date/time 05/04/18 08:45
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Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107404	1	05/05/18 17:17	05/05/18 17:17	JAH

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris McCord
Technical Service Representative

- ¹ Cp
- ² Tc
- ³ Ss
- ⁴ Cn
- ⁵ Sr
- ⁶ Qc
- ⁷ Gl
- ⁸ Al
- ⁹ Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	05/05/2018 12:11	WG1107404
Toluene	ND		1.00	1	05/05/2018 12:11	WG1107404
Ethylbenzene	ND		1.00	1	05/05/2018 12:11	WG1107404
o-Xylene	ND		1.00	1	05/05/2018 12:11	WG1107404
m&p-Xylene	ND		2.00	1	05/05/2018 12:11	WG1107404
Total Xylenes	ND		3.00	1	05/05/2018 12:11	WG1107404
Methyl tert-butyl ether	ND		1.00	1	05/05/2018 12:11	WG1107404
Naphthalene	ND		5.00	1	05/05/2018 12:11	WG1107404
(S) Toluene-d8	107		80.0-120		05/05/2018 12:11	WG1107404
(S) Dibromofluoromethane	99.5		76.0-123		05/05/2018 12:11	WG1107404
(S) 4-Bromofluorobenzene	99.9		80.0-120		05/05/2018 12:11	WG1107404

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	05/05/2018 12:31	WG1107404
Toluene	ND		1.00	1	05/05/2018 12:31	WG1107404
Ethylbenzene	ND		1.00	1	05/05/2018 12:31	WG1107404
o-Xylene	ND		1.00	1	05/05/2018 12:31	WG1107404
m&p-Xylene	ND		2.00	1	05/05/2018 12:31	WG1107404
Total Xylenes	ND		3.00	1	05/05/2018 12:31	WG1107404
Methyl tert-butyl ether	ND		1.00	1	05/05/2018 12:31	WG1107404
Naphthalene	ND		5.00	1	05/05/2018 12:31	WG1107404
(S) Toluene-d8	108		80.0-120		05/05/2018 12:31	WG1107404
(S) Dibromofluoromethane	98.3		76.0-123		05/05/2018 12:31	WG1107404
(S) 4-Bromofluorobenzene	108		80.0-120		05/05/2018 12:31	WG1107404

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	05/05/2018 12:52	WG1107404
Toluene	ND		1.00	1	05/05/2018 12:52	WG1107404
Ethylbenzene	ND		1.00	1	05/05/2018 12:52	WG1107404
o-Xylene	ND		1.00	1	05/05/2018 12:52	WG1107404
m&p-Xylene	ND		2.00	1	05/05/2018 12:52	WG1107404
Total Xylenes	ND		3.00	1	05/05/2018 12:52	WG1107404
Methyl tert-butyl ether	ND		1.00	1	05/05/2018 12:52	WG1107404
Naphthalene	ND		5.00	1	05/05/2018 12:52	WG1107404
(S) Toluene-d8	111		80.0-120		05/05/2018 12:52	WG1107404
(S) Dibromofluoromethane	99.6		76.0-123		05/05/2018 12:52	WG1107404
(S) 4-Bromofluorobenzene	102		80.0-120		05/05/2018 12:52	WG1107404

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	05/05/2018 13:12	WG1107404
Toluene	ND		1.00	1	05/05/2018 13:12	WG1107404
Ethylbenzene	ND		1.00	1	05/05/2018 13:12	WG1107404
o-Xylene	ND		1.00	1	05/05/2018 13:12	WG1107404
m&p-Xylene	ND		2.00	1	05/05/2018 13:12	WG1107404
Total Xylenes	ND		3.00	1	05/05/2018 13:12	WG1107404
Methyl tert-butyl ether	ND		1.00	1	05/05/2018 13:12	WG1107404
Naphthalene	ND		5.00	1	05/05/2018 13:12	WG1107404
<i>(S) Toluene-d8</i>	110		80.0-120		05/05/2018 13:12	WG1107404
<i>(S) Dibromofluoromethane</i>	96.7		76.0-123		05/05/2018 13:12	WG1107404
<i>(S) 4-Bromofluorobenzene</i>	96.7		80.0-120		05/05/2018 13:12	WG1107404

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	05/05/2018 13:32	WG1107404
Toluene	ND		1.00	1	05/05/2018 13:32	WG1107404
Ethylbenzene	ND		1.00	1	05/05/2018 13:32	WG1107404
o-Xylene	ND		1.00	1	05/05/2018 13:32	WG1107404
m&p-Xylene	ND		2.00	1	05/05/2018 13:32	WG1107404
Total Xylenes	ND		3.00	1	05/05/2018 13:32	WG1107404
Methyl tert-butyl ether	ND		1.00	1	05/05/2018 13:32	WG1107404
Naphthalene	ND		5.00	1	05/05/2018 13:32	WG1107404
<i>(S) Toluene-d8</i>	110		80.0-120		05/05/2018 13:32	WG1107404
<i>(S) Dibromofluoromethane</i>	103		76.0-123		05/05/2018 13:32	WG1107404
<i>(S) 4-Bromofluorobenzene</i>	105		80.0-120		05/05/2018 13:32	WG1107404

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	05/05/2018 13:53	WG1107404
Toluene	ND		1.00	1	05/05/2018 13:53	WG1107404
Ethylbenzene	ND		1.00	1	05/05/2018 13:53	WG1107404
o-Xylene	ND		1.00	1	05/05/2018 13:53	WG1107404
m&p-Xylene	ND		2.00	1	05/05/2018 13:53	WG1107404
Total Xylenes	ND		3.00	1	05/05/2018 13:53	WG1107404
Methyl tert-butyl ether	ND		1.00	1	05/05/2018 13:53	WG1107404
Naphthalene	ND		5.00	1	05/05/2018 13:53	WG1107404
<i>(S) Toluene-d8</i>	108		80.0-120		05/05/2018 13:53	WG1107404
<i>(S) Dibromofluoromethane</i>	99.2		76.0-123		05/05/2018 13:53	WG1107404
<i>(S) 4-Bromofluorobenzene</i>	98.0		80.0-120		05/05/2018 13:53	WG1107404

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	05/05/2018 14:13	WG1107404
Toluene	ND		1.00	1	05/05/2018 14:13	WG1107404
Ethylbenzene	ND		1.00	1	05/05/2018 14:13	WG1107404
o-Xylene	ND		1.00	1	05/05/2018 14:13	WG1107404
m&p-Xylene	ND		2.00	1	05/05/2018 14:13	WG1107404
Total Xylenes	ND		3.00	1	05/05/2018 14:13	WG1107404
Methyl tert-butyl ether	3.67		1.00	1	05/05/2018 14:13	WG1107404
Naphthalene	ND		5.00	1	05/05/2018 14:13	WG1107404
<i>(S) Toluene-d8</i>	114		80.0-120		05/05/2018 14:13	WG1107404
<i>(S) Dibromofluoromethane</i>	93.3		76.0-123		05/05/2018 14:13	WG1107404
<i>(S) 4-Bromofluorobenzene</i>	108		80.0-120		05/05/2018 14:13	WG1107404

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	05/05/2018 14:34	WG1107404
Toluene	ND		1.00	1	05/05/2018 14:34	WG1107404
Ethylbenzene	ND		1.00	1	05/05/2018 14:34	WG1107404
o-Xylene	ND		1.00	1	05/05/2018 14:34	WG1107404
m&p-Xylene	ND		2.00	1	05/05/2018 14:34	WG1107404
Total Xylenes	ND		3.00	1	05/05/2018 14:34	WG1107404
Methyl tert-butyl ether	ND		1.00	1	05/05/2018 14:34	WG1107404
Naphthalene	ND		5.00	1	05/05/2018 14:34	WG1107404
(S) Toluene-d8	108		80.0-120		05/05/2018 14:34	WG1107404
(S) Dibromofluoromethane	96.9		76.0-123		05/05/2018 14:34	WG1107404
(S) 4-Bromofluorobenzene	113		80.0-120		05/05/2018 14:34	WG1107404

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	05/05/2018 14:54	WG1107404
Toluene	ND		1.00	1	05/05/2018 14:54	WG1107404
Ethylbenzene	ND		1.00	1	05/05/2018 14:54	WG1107404
o-Xylene	ND		1.00	1	05/05/2018 14:54	WG1107404
m&p-Xylene	ND		2.00	1	05/05/2018 14:54	WG1107404
Total Xylenes	ND		3.00	1	05/05/2018 14:54	WG1107404
Methyl tert-butyl ether	1.20		1.00	1	05/05/2018 14:54	WG1107404
Naphthalene	ND		5.00	1	05/05/2018 14:54	WG1107404
<i>(S) Toluene-d8</i>	115		80.0-120		05/05/2018 14:54	WG1107404
<i>(S) Dibromofluoromethane</i>	95.4		76.0-123		05/05/2018 14:54	WG1107404
<i>(S) 4-Bromofluorobenzene</i>	102		80.0-120		05/05/2018 14:54	WG1107404

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	05/05/2018 15:14	WG1107404
Toluene	ND		1.00	1	05/05/2018 15:14	WG1107404
Ethylbenzene	ND		1.00	1	05/05/2018 15:14	WG1107404
o-Xylene	ND		1.00	1	05/05/2018 15:14	WG1107404
m&p-Xylene	ND		2.00	1	05/05/2018 15:14	WG1107404
Total Xylenes	ND		3.00	1	05/05/2018 15:14	WG1107404
Methyl tert-butyl ether	2.25		1.00	1	05/05/2018 15:14	WG1107404
Naphthalene	ND		5.00	1	05/05/2018 15:14	WG1107404
<i>(S) Toluene-d8</i>	98.7		80.0-120		05/05/2018 15:14	WG1107404
<i>(S) Dibromofluoromethane</i>	92.6		76.0-123		05/05/2018 15:14	WG1107404
<i>(S) 4-Bromofluorobenzene</i>	101		80.0-120		05/05/2018 15:14	WG1107404

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	05/05/2018 15:35	WG1107404
Toluene	ND		1.00	1	05/05/2018 15:35	WG1107404
Ethylbenzene	ND		1.00	1	05/05/2018 15:35	WG1107404
o-Xylene	ND		1.00	1	05/05/2018 15:35	WG1107404
m&p-Xylene	ND		2.00	1	05/05/2018 15:35	WG1107404
Total Xylenes	ND		3.00	1	05/05/2018 15:35	WG1107404
Methyl tert-butyl ether	ND		1.00	1	05/05/2018 15:35	WG1107404
Naphthalene	ND		5.00	1	05/05/2018 15:35	WG1107404
(S) Toluene-d8	111		80.0-120		05/05/2018 15:35	WG1107404
(S) Dibromofluoromethane	102		76.0-123		05/05/2018 15:35	WG1107404
(S) 4-Bromofluorobenzene	98.5		80.0-120		05/05/2018 15:35	WG1107404

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	05/05/2018 15:55	WG1107404
Toluene	ND		1.00	1	05/05/2018 15:55	WG1107404
Ethylbenzene	ND		1.00	1	05/05/2018 15:55	WG1107404
o-Xylene	ND		1.00	1	05/05/2018 15:55	WG1107404
m&p-Xylene	ND		2.00	1	05/05/2018 15:55	WG1107404
Total Xylenes	ND		3.00	1	05/05/2018 15:55	WG1107404
Methyl tert-butyl ether	ND		1.00	1	05/05/2018 15:55	WG1107404
Naphthalene	ND		5.00	1	05/05/2018 15:55	WG1107404
(S) Toluene-d8	106		80.0-120		05/05/2018 15:55	WG1107404
(S) Dibromofluoromethane	96.0		76.0-123		05/05/2018 15:55	WG1107404
(S) 4-Bromofluorobenzene	103		80.0-120		05/05/2018 15:55	WG1107404

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	05/05/2018 16:16	WG1107404
Toluene	ND		1.00	1	05/05/2018 16:16	WG1107404
Ethylbenzene	ND		1.00	1	05/05/2018 16:16	WG1107404
o-Xylene	2.72		1.00	1	05/05/2018 16:16	WG1107404
m&p-Xylene	4.18		2.00	1	05/05/2018 16:16	WG1107404
Total Xylenes	6.90		3.00	1	05/05/2018 16:16	WG1107404
Methyl tert-butyl ether	ND		1.00	1	05/05/2018 16:16	WG1107404
Naphthalene	ND		5.00	1	05/05/2018 16:16	WG1107404
<i>(S) Toluene-d8</i>	104		80.0-120		05/05/2018 16:16	WG1107404
<i>(S) Dibromofluoromethane</i>	103		76.0-123		05/05/2018 16:16	WG1107404
<i>(S) 4-Bromofluorobenzene</i>	106		80.0-120		05/05/2018 16:16	WG1107404

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	05/05/2018 16:36	WG1107404
Toluene	ND		1.00	1	05/05/2018 16:36	WG1107404
Ethylbenzene	ND		1.00	1	05/05/2018 16:36	WG1107404
o-Xylene	ND		1.00	1	05/05/2018 16:36	WG1107404
m&p-Xylene	ND		2.00	1	05/05/2018 16:36	WG1107404
Total Xylenes	ND		3.00	1	05/05/2018 16:36	WG1107404
Methyl tert-butyl ether	ND		1.00	1	05/05/2018 16:36	WG1107404
Naphthalene	ND		5.00	1	05/05/2018 16:36	WG1107404
(S) Toluene-d8	105		80.0-120		05/05/2018 16:36	WG1107404
(S) Dibromofluoromethane	96.3		76.0-123		05/05/2018 16:36	WG1107404
(S) 4-Bromofluorobenzene	106		80.0-120		05/05/2018 16:36	WG1107404

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		50.0	1	05/05/2018 19:18	WG1107535
Benzene	ND		1.00	1	05/05/2018 19:18	WG1107535
Bromodichloromethane	ND		1.00	1	05/05/2018 19:18	WG1107535
Bromoform	ND		1.00	1	05/05/2018 19:18	WG1107535
Bromomethane	ND		5.00	1	05/05/2018 19:18	WG1107535
Carbon disulfide	ND		1.00	1	05/05/2018 19:18	WG1107535
Carbon tetrachloride	ND		1.00	1	05/05/2018 19:18	WG1107535
Chlorobenzene	ND		1.00	1	05/05/2018 19:18	WG1107535
Chlorodibromomethane	ND		1.00	1	05/05/2018 19:18	WG1107535
Chloroethane	ND		5.00	1	05/05/2018 19:18	WG1107535
Chloroform	ND		5.00	1	05/05/2018 19:18	WG1107535
Chloromethane	ND		2.50	1	05/05/2018 19:18	WG1107535
1,2-Dibromo-3-Chloropropane	ND		5.00	1	05/05/2018 19:18	WG1107535
1,2-Dibromoethane	ND		1.00	1	05/05/2018 19:18	WG1107535
1,2-Dichlorobenzene	ND		1.00	1	05/05/2018 19:18	WG1107535
1,3-Dichlorobenzene	ND		1.00	1	05/05/2018 19:18	WG1107535
1,4-Dichlorobenzene	ND		1.00	1	05/05/2018 19:18	WG1107535
1,1-Dichloroethane	ND		1.00	1	05/05/2018 19:18	WG1107535
1,2-Dichloroethane	ND		1.00	1	05/05/2018 19:18	WG1107535
1,1-Dichloroethene	ND		1.00	1	05/05/2018 19:18	WG1107535
cis-1,2-Dichloroethene	ND		1.00	1	05/05/2018 19:18	WG1107535
trans-1,2-Dichloroethene	ND		1.00	1	05/05/2018 19:18	WG1107535
1,2-Dichloropropane	ND		1.00	1	05/05/2018 19:18	WG1107535
cis-1,3-Dichloropropene	ND		1.00	1	05/05/2018 19:18	WG1107535
trans-1,3-Dichloropropene	ND		1.00	1	05/05/2018 19:18	WG1107535
Di-isopropyl ether	ND		1.00	1	05/05/2018 19:18	WG1107535
Ethylbenzene	ND		1.00	1	05/05/2018 19:18	WG1107535
2-Butanone (MEK)	ND		10.0	1	05/05/2018 19:18	WG1107535
2-Hexanone	ND		10.0	1	05/05/2018 19:18	WG1107535
Methylene Chloride	ND		5.00	1	05/05/2018 19:18	WG1107535
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	05/05/2018 19:18	WG1107535
Methyl tert-butyl ether	ND		1.00	1	05/05/2018 19:18	WG1107535
Naphthalene	ND		5.00	1	05/05/2018 19:18	WG1107535
Styrene	ND		1.00	1	05/05/2018 19:18	WG1107535
1,1,2,2-Tetrachloroethane	ND		1.00	1	05/05/2018 19:18	WG1107535
Tetrachloroethene	ND		1.00	1	05/05/2018 19:18	WG1107535
Toluene	ND		1.00	1	05/05/2018 19:18	WG1107535
1,1,1-Trichloroethane	ND		1.00	1	05/05/2018 19:18	WG1107535
1,1,2-Trichloroethane	ND		1.00	1	05/05/2018 19:18	WG1107535
Trichloroethene	ND		1.00	1	05/05/2018 19:18	WG1107535
Vinyl chloride	ND		1.00	1	05/05/2018 19:18	WG1107535
o-Xylene	ND		1.00	1	05/05/2018 19:18	WG1107535
m&p-Xylene	ND		2.00	1	05/05/2018 19:18	WG1107535
Xylenes, Total	ND		3.00	1	05/05/2018 19:18	WG1107535
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	05/05/2018 19:18	WG1107535
1,2,3-Trimethylbenzene	ND		1.00	1	05/05/2018 19:18	WG1107535
(S) Toluene-d8	103		80.0-120		05/05/2018 19:18	WG1107535
(S) Dibromofluoromethane	96.0		76.0-123		05/05/2018 19:18	WG1107535
(S) a,a,a-Trifluorotoluene	109		80.0-120		05/05/2018 19:18	WG1107535
(S) 4-Bromofluorobenzene	103		80.0-120		05/05/2018 19:18	WG1107535

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	05/05/2018 16:57	WG1107404
Toluene	ND		1.00	1	05/05/2018 16:57	WG1107404
Ethylbenzene	ND		1.00	1	05/05/2018 16:57	WG1107404
o-Xylene	ND		1.00	1	05/05/2018 16:57	WG1107404
m&p-Xylene	ND		2.00	1	05/05/2018 16:57	WG1107404
Total Xylenes	ND		3.00	1	05/05/2018 16:57	WG1107404
Methyl tert-butyl ether	ND		1.00	1	05/05/2018 16:57	WG1107404
Naphthalene	ND		5.00	1	05/05/2018 16:57	WG1107404
(S) Toluene-d8	110		80.0-120		05/05/2018 16:57	WG1107404
(S) Dibromofluoromethane	95.7		76.0-123		05/05/2018 16:57	WG1107404
(S) 4-Bromofluorobenzene	96.1		80.0-120		05/05/2018 16:57	WG1107404

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	05/05/2018 17:17	WG1107404
Toluene	ND		1.00	1	05/05/2018 17:17	WG1107404
Ethylbenzene	ND		1.00	1	05/05/2018 17:17	WG1107404
o-Xylene	ND		1.00	1	05/05/2018 17:17	WG1107404
m&p-Xylene	ND		2.00	1	05/05/2018 17:17	WG1107404
Total Xylenes	ND		3.00	1	05/05/2018 17:17	WG1107404
Methyl tert-butyl ether	ND		1.00	1	05/05/2018 17:17	WG1107404
Naphthalene	ND		5.00	1	05/05/2018 17:17	WG1107404
(S) Toluene-d8	102		80.0-120		05/05/2018 17:17	WG1107404
(S) Dibromofluoromethane	99.8		76.0-123		05/05/2018 17:17	WG1107404
(S) 4-Bromofluorobenzene	113		80.0-120		05/05/2018 17:17	WG1107404

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



Method Blank (MB)

(MB) R3308514-3 05/05/18 11:02

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.331	1.00
Ethylbenzene	U		0.384	1.00
Methyl tert-butyl ether	U		0.367	1.00
Naphthalene	U		1.00	5.00
Toluene	U		0.412	1.00
Xylenes, Total	U		1.06	3.00
o-Xylene	U		0.341	1.00
m&p-Xylenes	U		0.719	2.00
(S) Toluene-d8	119			80.0-120
(S) Dibromofluoromethane	94.2			76.0-123
(S) 4-Bromofluorobenzene	101			80.0-120

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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

(LCS) R3308514-1 05/05/18 10:01 • (LCSD) R3308514-2 05/05/18 10:22

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Benzene	25.0	21.3	21.6	85.2	86.4	70.0-130			1.39	20
Ethylbenzene	25.0	20.5	20.7	82.0	83.0	70.0-130			1.17	20
Methyl tert-butyl ether	25.0	21.5	21.1	85.9	84.4	70.0-130			1.69	20
Naphthalene	25.0	20.0	18.8	80.1	75.3	70.0-130			6.17	20
Toluene	25.0	20.7	21.0	82.8	83.9	70.0-130			1.32	20
Xylenes, Total	75.0	64.3	61.2	85.7	81.6	70.0-130			4.94	20
o-Xylene	25.0	21.7	20.5	86.8	82.1	70.0-130			5.54	20
m&p-Xylenes	50.0	42.6	40.7	85.2	81.5	70.0-130			4.50	20
(S) Toluene-d8				97.4	97.5	80.0-120				
(S) Dibromofluoromethane				99.3	100	76.0-123				
(S) 4-Bromofluorobenzene				98.8	95.9	80.0-120				



Method Blank (MB)

(MB) R3307668-3 05/05/18 18:59

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		10.0	50.0
Benzene	U		0.331	1.00
Bromodichloromethane	U		0.380	1.00
Bromoform	U		0.469	1.00
Bromomethane	U		0.866	5.00
Carbon disulfide	U		0.275	1.00
Carbon tetrachloride	U		0.379	1.00
Chlorobenzene	U		0.348	1.00
Chlorodibromomethane	U		0.327	1.00
Chloroethane	U		0.453	5.00
Chloroform	U		0.324	5.00
Chloromethane	U		0.276	2.50
1,2-Dibromo-3-Chloropropane	U		1.33	5.00
1,2-Dibromoethane	U		0.381	1.00
1,2-Dichlorobenzene	U		0.349	1.00
1,3-Dichlorobenzene	U		0.220	1.00
1,4-Dichlorobenzene	U		0.274	1.00
1,1-Dichloroethane	U		0.259	1.00
1,2-Dichloroethane	U		0.361	1.00
1,1-Dichloroethene	U		0.398	1.00
cis-1,2-Dichloroethene	U		0.260	1.00
trans-1,2-Dichloroethene	U		0.396	1.00
1,2-Dichloropropane	U		0.306	1.00
cis-1,3-Dichloropropene	U		0.418	1.00
trans-1,3-Dichloropropene	U		0.419	1.00
Di-isopropyl ether	U		0.320	1.00
Ethylbenzene	U		0.384	1.00
2-Hexanone	U		3.82	10.0
2-Butanone (MEK)	U		3.93	10.0
Methylene Chloride	U		1.00	5.00
4-Methyl-2-pentanone (MIBK)	U		2.14	10.0
Methyl tert-butyl ether	U		0.367	1.00
Naphthalene	U		1.00	5.00
Styrene	U		0.307	1.00
1,1,2,2-Tetrachloroethane	U		0.130	1.00
Tetrachloroethene	U		0.372	1.00
Toluene	U		0.412	1.00
1,1,2-Trichlorotrifluoroethane	U		0.303	1.00
1,1,1-Trichloroethane	U		0.319	1.00
1,1,2-Trichloroethane	U		0.383	1.00

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3307668-3 05/05/18 18:59

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Trichloroethene	U		0.398	1.00
1,2,3-Trimethylbenzene	U		0.321	1.00
Vinyl chloride	U		0.259	1.00
Xylenes, Total	U		1.06	3.00
o-Xylene	U		0.341	1.00
m&p-Xylenes	U		0.719	2.00
(S) Toluene-d8	103			80.0-120
(S) Dibromofluoromethane	95.7			76.0-123
(S) a,a,a-Trifluorotoluene	103			80.0-120
(S) 4-Bromofluorobenzene	102			80.0-120

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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

(LCS) R3307668-1 05/05/18 17:59 • (LCSD) R3307668-2 05/05/18 18:19

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Acetone	125	127	138	101	111	70.0-130			8.69	23.9
Benzene	25.0	22.1	21.4	88.3	85.7	70.0-130			2.89	20
Bromodichloromethane	25.0	22.5	22.6	90.2	90.3	70.0-130			0.151	20
Bromoform	25.0	27.3	25.8	109	103	70.0-130			5.54	20
Bromomethane	25.0	29.3	27.0	117	108	70.0-130			7.97	20
Carbon disulfide	25.0	23.7	22.5	95.0	90.2	70.0-130			5.15	20
Carbon tetrachloride	25.0	22.6	21.4	90.2	85.7	70.0-130			5.18	20
Chlorobenzene	25.0	24.3	23.8	97.4	95.4	70.0-130			2.07	20
Chlorodibromomethane	25.0	25.5	24.9	102	99.7	70.0-130			2.47	20
Chloroethane	25.0	27.5	25.9	110	103	70.0-130			5.97	20
Chloroform	25.0	21.5	20.7	85.9	82.6	70.0-130			3.91	20
Chloromethane	25.0	24.0	23.7	95.9	94.8	70.0-130			1.24	20
1,2-Dibromo-3-Chloropropane	25.0	25.6	25.1	103	100	70.0-130			2.10	20
1,2-Dibromoethane	25.0	24.8	24.6	99.3	98.5	70.0-130			0.766	20
1,2-Dichlorobenzene	25.0	24.1	23.3	96.4	93.3	70.0-130			3.30	20
1,3-Dichlorobenzene	25.0	24.6	23.6	98.4	94.5	70.0-130			4.00	20
1,4-Dichlorobenzene	25.0	22.7	22.8	90.9	91.0	70.0-130			0.0916	20
1,1-Dichloroethane	25.0	21.6	20.3	86.3	81.1	70.0-130			6.10	20
1,2-Dichloroethane	25.0	21.6	20.7	86.4	83.0	70.0-130			4.04	20
1,1-Dichloroethene	25.0	23.8	22.3	95.0	89.3	70.0-130			6.16	20
cis-1,2-Dichloroethene	25.0	22.3	21.5	89.1	86.0	70.0-130			3.51	20
trans-1,2-Dichloroethene	25.0	21.6	21.0	86.4	83.9	70.0-130			2.94	20
1,2-Dichloropropane	25.0	21.3	21.3	85.3	85.2	70.0-130			0.110	20



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

(LCS) R3307668-1 05/05/18 17:59 • (LCSD) R3307668-2 05/05/18 18:19

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
cis-1,3-Dichloropropene	25.0	25.1	24.7	100	98.8	70.0-130			1.45	20
trans-1,3-Dichloropropene	25.0	24.5	23.9	97.9	95.5	70.0-130			2.42	20
Di-isopropyl ether	25.0	22.3	21.5	89.3	85.9	70.0-130			3.86	20
Ethylbenzene	25.0	23.8	23.5	95.3	94.0	70.0-130			1.39	20
2-Hexanone	125	117	121	93.6	96.6	70.0-130			3.13	20
2-Butanone (MEK)	125	115	120	91.8	95.7	70.0-130			4.17	20
Methylene Chloride	25.0	22.4	21.7	89.7	86.9	70.0-130			3.07	20
4-Methyl-2-pentanone (MIBK)	125	119	121	95.1	97.2	70.0-130			2.13	20
Methyl tert-butyl ether	25.0	22.4	21.9	89.8	87.5	70.0-130			2.53	20
Naphthalene	25.0	20.1	21.6	80.6	86.4	70.0-130			6.90	20
Styrene	25.0	25.4	24.3	101	97.2	70.0-130			4.35	20
1,1,2,2-Tetrachloroethane	25.0	26.7	25.9	107	103	70.0-130			3.13	20
Tetrachloroethene	25.0	26.3	25.2	105	101	70.0-130			4.15	20
Toluene	25.0	24.7	23.4	98.9	93.8	70.0-130			5.31	20
1,1,2-Trichlorotrifluoroethane	25.0	24.0	22.4	95.8	89.6	70.0-130			6.66	20
1,1,1-Trichloroethane	25.0	22.1	21.4	88.4	85.6	70.0-130			3.27	20
1,1,2-Trichloroethane	25.0	24.2	24.1	97.0	96.2	70.0-130			0.789	20
Trichloroethene	25.0	21.5	21.2	86.0	84.9	70.0-130			1.24	20
1,2,3-Trimethylbenzene	25.0	21.8	22.2	87.4	88.9	70.0-130			1.72	20
Vinyl chloride	25.0	24.8	22.4	99.3	89.5	70.0-130			10.3	20
Xylenes, Total	75.0	73.5	73.5	98.0	98.0	70.0-130			0.000	20
o-Xylene	25.0	24.3	24.4	97.4	97.5	70.0-130			0.0940	20
m&p-Xylenes	50.0	49.2	49.1	98.4	98.2	70.0-130			0.285	20
(S) Toluene-d8				104	104	80.0-120				
(S) Dibromofluoromethane				94.9	93.1	76.0-123				
(S) a,a,a-Trifluorotoluene				103	105	80.0-120				
(S) 4-Bromofluorobenzene				103	100	80.0-120				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Guide to Reading and Understanding Your Laboratory Report

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

Abbreviations and Definitions

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

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.



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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
 * Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

State Accreditations

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

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

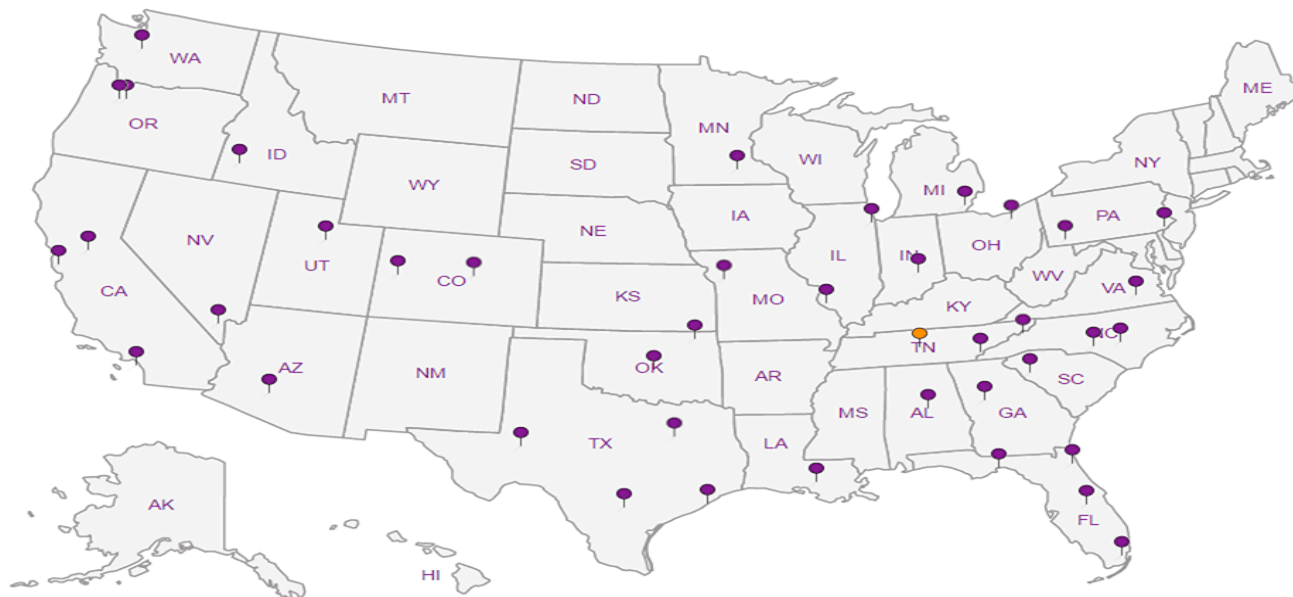
Third Party Federal Accreditations

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

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

Our Locations

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



CH2M Hill- Kinder Morgan- Atlanta, GA

Billing Information:
Accounts Payable
1000 Windward Concourse
Ste 450

Alpharetta, GA 30005

Email To: bgarvey@ch2m.com;
tom.wiley@ch2m.com; scott.powell@ch2m.com;

6600 Peachtree Dunwoody Road

Report to:
Bethany Garvey

Project Description: Lewis Drive Surface Water

City/State Collected: BELTON, SC

Phone: 770-604-9182
Fax:

Client Project #
69988.1B, MR. SW

Lab Project #
KINCH2MGA-LEWIS

Collected by (print):
MELISSA WARR

Site/Facility ID #
LEWIS DRIVE

P.O. #

Collected by (signature):
Melissa Warr

Rush? (Lab MUST Be Notified)
 Same Day Five Day
 Next Day 5 Day (Rad Only)
 Two Day 10 Day (Rad Only)
 Three Day

Quote #
Date Results Needed

Immediately Packed on Ice N Y

No. of Cntrs

Analysis / Container / Preservative

Pres Chk

X Y Y Y

Chain of Custody Page 1 of 2



12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859



L# L991250
Tab C215

Acctnum: KINCH2MGA

Template: T135403

Prelogin: P649727

TSR: 526 - Chris McCord

PB: 4-25-186

Shipped Via: FedEx Ground

Remarks Sample # (lab only)

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260TCLSC 40mlAmb-NoPres	V8260TCLSC-TB 40mlAmb-NoPres-Bik	BTEX	MTBE	NAPHTHALENE	Remarks	Sample # (lab only)
SW11-050318	GRAB	GW	N/A	05/03/18	0825	3	X		X	X	X		-01
SW10-050318		GW			0835	3	X						-02
FPO1-050318		GW			0840	3	X						-03
FPO2-050318		GW			0850	3	X						-04
SW09-050318		GW			0900	3	X						-05
SW08-050318		GW			0905	3	X						-06
SW13-050318		GW			0910	3	X						-07
FPO3-050318		GW			0935	3	X						-08
SW04-050318		GW			0945	3	X						-09
SW02-050318		GW			0950	3	X						-10

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Sample returned via:
 UPS FedEx Courier

Tracking # 4380 6825 3479

Sample Receipt Checklist

COC Seal Present/Intact:	<input checked="" type="checkbox"/> NP	<input type="checkbox"/> N
COC Signed/Accurate:	<input checked="" type="checkbox"/>	<input type="checkbox"/> N
Bottles arrive intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/> N
Correct bottles used:	<input checked="" type="checkbox"/>	<input type="checkbox"/> N
Sufficient volume sent:	<input checked="" type="checkbox"/>	<input type="checkbox"/> N
If Applicable		
VOA Zero Headspace:	<input checked="" type="checkbox"/>	<input type="checkbox"/> N
Preservation Correct/Checked:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N

Relinquished by: (Signature) <i>Melissa Warr</i>	Date: 05/03/18	Time: 1730	Received by: (Signature) <i>Bethany Garvey</i>	Trip Blank Received: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No HCL / MeOH TBR
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.1°C Bottles Received: 48/49
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature) <i>Bethany Garvey</i>	Date: 5/4/18 Time: 0845

If preservation required by Login: Date/Time
Hold: _____ Condition: NCF

CH2M Hill- Kinder Morgan- Atlanta, GA

Billing Information:
Accounts Payable
1000 Windward Concourse
Ste 450
Alpharetta, GA 30005

6600 Peachtree Dunwoody Road

Email To: bgarvey@ch2m.com;
 tom.wiley@ch2m.com; scott.powell@ch2m.com;

Report to:
Bethany Garvey

Project Description: **Lewis Drive Surface Water**

City/State Collected: **BELTON, SC**

Phone: **770-604-9182**
 Fax:

Client Project #
699858, LD, MR, SW

Lab Project #
KINCH2MGA-LEWIS

Collected by (print):
MELISSA WARMEL

Site/Facility ID #
LEWIS DRIVE

P.O. #

Collected by (signature):
Melissa Warmel

Rush? (Lab MUST Be Notified)
 Same Day Five Day
 Next Day 5 Day (Rad Only)
 Two Day 10 Day (Rad Only)
 Three Day

Quote #

Immediately Packed on Ice **N Y**

Date Results Needed

Pres Chk		Analysis / Container / Preservative									
X	X	X	X	X							
V8260TCLSC 40mlAmb-NoPres		V8260TCLSC-TB 40mlAmb-NoPres-Blk		BTEX		MTBE		NAPHTHALENE			

Chain of Custody Page 2 of 2



12065 Lebanon Rd
 Mount Juliet, TN 37122
 Phone: 615-758-5858
 Phone: 800-767-5859
 Fax: 615-758-5859



L# **L991250**

Table #

Acctnum: **KINCH2MGA**

Template: **T135403**

Prelogin: **P649727**

TSR: **526 - Chris McCord**

PB: **4-25-18**

Shipped Via: **FedEx Ground**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
SW01-050318	GRAB	GW	NA	05/03/18	0955	3
SW07-050318		GW			1000	3
SW12-050318		GW			1005	3
SW03-050318		GW			1010	3
TB01-050318		GW			1015	1
SW14-050318		GW			1030	3
SW05-050318		GW			1035	3

* Matrix:
 SS - Soil AIR - Air F - Filter
 GW - Groundwater B - Bioassay
 WW - WasteWater
 DW - Drinking Water
 OT - Other

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Tracking # **438068053479**

Sample Receipt Checklist

COC Seal Present/Intact:	MP	Y	N
COC Signed/Accurate:		Y	N
Bottles arrive intact:		Y	N
Correct bottles used:		Y	N
Sufficient volume sent:		Y	N
VOA Zero Headspace:		Y	N
Preservation Correct/Checked:		Y	N

Relinquished by: (Signature)
Melissa Warmel

Date: **05/03/18**

Time: **1730**

Received by: (Signature)
[Signature]

Date:

Time:

Received by: (Signature)
[Signature]

Date:

Time:

Trip Blank Received: Yes / No
 HCL / MeOH
 TBR

Temp: **4.1°C**

Bottles Received: **48XV4P**

Date: **5/4/18**

Time: **0845**

If preservation required by Login: Date/Time

Hold:

Condition: **NCF OK**

June 20, 2018

Kinder Morgan- Atlanta, GA

Sample Delivery Group: L1002917
Samples Received: 06/08/2018
Project Number: 699858
Description: Lewis Drive Groundwater
Site: KM-LEWIS DR
Report To: Bethany Garvey
6600 Peachtree Dunwoody Road
400 Embassy Row - Suite 600
Atlanta, GA 30328

Entire Report Reviewed By:



Chris McCord
Technical Service Representative

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



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SW-10-060718 L1002917-02	7	⁴Cn
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FP-02-060718 L1002917-04	9	
SW-09-060718 L1002917-05	10	⁶Qc
SW-08-060718 L1002917-06	11	
SW-13-060718 L1002917-07	12	⁷Gl
FP-03-060718 L1002917-08	13	⁸Al
SW-01-060718 L1002917-09	14	
SW-07-060718 L1002917-10	15	⁹Sc
SW-12-060718 L1002917-11	16	
SW-03-060718 L1002917-12	17	
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SAMPLE SUMMARY



SW-11-060718 L1002917-01 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122619	1	06/11/18 12:12	06/11/18 12:12	JHH

Collected by BG/EH
 Collected date/time 06/07/18 08:30
 Received date/time 06/08/18 08:45

1 Cp

SW-10-060718 L1002917-02 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122619	1	06/11/18 12:34	06/11/18 12:34	JHH

Collected by BG/EH
 Collected date/time 06/07/18 08:45
 Received date/time 06/08/18 08:45

2 Tc

3 Ss

4 Cn

FP-01-060718 L1002917-03 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122619	1	06/11/18 12:55	06/11/18 12:55	JHH

Collected by BG/EH
 Collected date/time 06/07/18 08:55
 Received date/time 06/08/18 08:45

5 Sr

6 Qc

7 Gl

FP-02-060718 L1002917-04 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122619	1	06/11/18 13:17	06/11/18 13:17	JHH

Collected by BG/EH
 Collected date/time 06/07/18 09:05
 Received date/time 06/08/18 08:45

8 Al

9 Sc

SW-09-060718 L1002917-05 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122619	1	06/11/18 13:39	06/11/18 13:39	JHH

Collected by BG/EH
 Collected date/time 06/07/18 09:15
 Received date/time 06/08/18 08:45

SW-08-060718 L1002917-06 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122619	1	06/11/18 14:00	06/11/18 14:00	JHH

Collected by BG/EH
 Collected date/time 06/07/18 09:20
 Received date/time 06/08/18 08:45

SW-13-060718 L1002917-07 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122619	1	06/11/18 14:22	06/11/18 14:22	JHH

Collected by BG/EH
 Collected date/time 06/07/18 09:25
 Received date/time 06/08/18 08:45

FP-03-060718 L1002917-08 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122619	1	06/11/18 14:44	06/11/18 14:44	JHH

Collected by BG/EH
 Collected date/time 06/07/18 10:20
 Received date/time 06/08/18 08:45

SAMPLE SUMMARY



SW-01-060718 L1002917-09 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122619	1	06/11/18 15:05	06/11/18 15:05	JHH

Collected by BG/EH
 Collected date/time 06/07/18 11:05
 Received date/time 06/08/18 08:45

1 Cp

2 Tc

3 Ss

SW-07-060718 L1002917-10 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122619	1	06/11/18 15:27	06/11/18 15:27	JHH

Collected by BG/EH
 Collected date/time 06/07/18 11:15
 Received date/time 06/08/18 08:45

4 Cn

5 Sr

SW-12-060718 L1002917-11 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122609	1	06/11/18 02:35	06/11/18 02:35	JHH

Collected by BG/EH
 Collected date/time 06/07/18 10:45
 Received date/time 06/08/18 08:45

6 Qc

7 Gl

SW-03-060718 L1002917-12 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122609	1	06/11/18 02:55	06/11/18 02:55	JHH

Collected by BG/EH
 Collected date/time 06/07/18 10:55
 Received date/time 06/08/18 08:45

8 Al

9 Sc

SW-02-060718 L1002917-13 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122609	1	06/11/18 03:16	06/11/18 03:16	JHH

Collected by BG/EH
 Collected date/time 06/07/18 11:25
 Received date/time 06/08/18 08:45

SW-04-060718 L1002917-14 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122609	1	06/11/18 03:36	06/11/18 03:36	JHH

Collected by BG/EH
 Collected date/time 06/07/18 11:35
 Received date/time 06/08/18 08:45

SW-14-060718 L1002917-15 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122609	1	06/11/18 03:56	06/11/18 03:56	JHH

Collected by BG/EH
 Collected date/time 06/07/18 11:50
 Received date/time 06/08/18 08:45



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris McCord
Technical Service Representative

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/11/2018 12:12	WG1122619
Toluene	ND		1.00	1	06/11/2018 12:12	WG1122619
Ethylbenzene	ND		1.00	1	06/11/2018 12:12	WG1122619
o-Xylene	ND		1.00	1	06/11/2018 12:12	WG1122619
m&p-Xylene	ND		2.00	1	06/11/2018 12:12	WG1122619
Total Xylenes	ND		3.00	1	06/11/2018 12:12	WG1122619
Methyl tert-butyl ether	ND		1.00	1	06/11/2018 12:12	WG1122619
Naphthalene	ND		5.00	1	06/11/2018 12:12	WG1122619
(S) Toluene-d8	105		80.0-120		06/11/2018 12:12	WG1122619
(S) Dibromofluoromethane	96.9		76.0-123		06/11/2018 12:12	WG1122619
(S) 4-Bromofluorobenzene	104		80.0-120		06/11/2018 12:12	WG1122619

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/11/2018 12:34	WG1122619
Toluene	ND		1.00	1	06/11/2018 12:34	WG1122619
Ethylbenzene	ND		1.00	1	06/11/2018 12:34	WG1122619
o-Xylene	ND		1.00	1	06/11/2018 12:34	WG1122619
m&p-Xylene	ND		2.00	1	06/11/2018 12:34	WG1122619
Total Xylenes	ND		3.00	1	06/11/2018 12:34	WG1122619
Methyl tert-butyl ether	ND		1.00	1	06/11/2018 12:34	WG1122619
Naphthalene	ND		5.00	1	06/11/2018 12:34	WG1122619
(S) Toluene-d8	101		80.0-120		06/11/2018 12:34	WG1122619
(S) Dibromofluoromethane	98.5		76.0-123		06/11/2018 12:34	WG1122619
(S) 4-Bromofluorobenzene	102		80.0-120		06/11/2018 12:34	WG1122619

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/11/2018 12:55	WG1122619
Toluene	ND		1.00	1	06/11/2018 12:55	WG1122619
Ethylbenzene	ND		1.00	1	06/11/2018 12:55	WG1122619
o-Xylene	ND		1.00	1	06/11/2018 12:55	WG1122619
m&p-Xylene	ND		2.00	1	06/11/2018 12:55	WG1122619
Total Xylenes	ND		3.00	1	06/11/2018 12:55	WG1122619
Methyl tert-butyl ether	ND		1.00	1	06/11/2018 12:55	WG1122619
Naphthalene	ND		5.00	1	06/11/2018 12:55	WG1122619
(S) Toluene-d8	100		80.0-120		06/11/2018 12:55	WG1122619
(S) Dibromofluoromethane	98.9		76.0-123		06/11/2018 12:55	WG1122619
(S) 4-Bromofluorobenzene	103		80.0-120		06/11/2018 12:55	WG1122619

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/11/2018 13:17	WG1122619
Toluene	ND		1.00	1	06/11/2018 13:17	WG1122619
Ethylbenzene	ND		1.00	1	06/11/2018 13:17	WG1122619
o-Xylene	ND		1.00	1	06/11/2018 13:17	WG1122619
m&p-Xylene	ND		2.00	1	06/11/2018 13:17	WG1122619
Total Xylenes	ND		3.00	1	06/11/2018 13:17	WG1122619
Methyl tert-butyl ether	ND		1.00	1	06/11/2018 13:17	WG1122619
Naphthalene	ND		5.00	1	06/11/2018 13:17	WG1122619
(S) Toluene-d8	101		80.0-120		06/11/2018 13:17	WG1122619
(S) Dibromofluoromethane	98.7		76.0-123		06/11/2018 13:17	WG1122619
(S) 4-Bromofluorobenzene	101		80.0-120		06/11/2018 13:17	WG1122619

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/11/2018 13:39	WG1122619
Toluene	ND		1.00	1	06/11/2018 13:39	WG1122619
Ethylbenzene	ND		1.00	1	06/11/2018 13:39	WG1122619
o-Xylene	ND		1.00	1	06/11/2018 13:39	WG1122619
m&p-Xylene	ND		2.00	1	06/11/2018 13:39	WG1122619
Total Xylenes	ND		3.00	1	06/11/2018 13:39	WG1122619
Methyl tert-butyl ether	ND		1.00	1	06/11/2018 13:39	WG1122619
Naphthalene	ND		5.00	1	06/11/2018 13:39	WG1122619
(S) Toluene-d8	102		80.0-120		06/11/2018 13:39	WG1122619
(S) Dibromofluoromethane	98.3		76.0-123		06/11/2018 13:39	WG1122619
(S) 4-Bromofluorobenzene	102		80.0-120		06/11/2018 13:39	WG1122619

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/11/2018 14:00	WG1122619
Toluene	ND		1.00	1	06/11/2018 14:00	WG1122619
Ethylbenzene	ND		1.00	1	06/11/2018 14:00	WG1122619
o-Xylene	ND		1.00	1	06/11/2018 14:00	WG1122619
m&p-Xylene	ND		2.00	1	06/11/2018 14:00	WG1122619
Total Xylenes	ND		3.00	1	06/11/2018 14:00	WG1122619
Methyl tert-butyl ether	ND		1.00	1	06/11/2018 14:00	WG1122619
Naphthalene	ND		5.00	1	06/11/2018 14:00	WG1122619
(S) Toluene-d8	102		80.0-120		06/11/2018 14:00	WG1122619
(S) Dibromofluoromethane	98.5		76.0-123		06/11/2018 14:00	WG1122619
(S) 4-Bromofluorobenzene	103		80.0-120		06/11/2018 14:00	WG1122619

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	2.99		1.00	1	06/11/2018 14:22	WG1122619
Toluene	2.48		1.00	1	06/11/2018 14:22	WG1122619
Ethylbenzene	ND		1.00	1	06/11/2018 14:22	WG1122619
o-Xylene	ND		1.00	1	06/11/2018 14:22	WG1122619
m&p-Xylene	ND		2.00	1	06/11/2018 14:22	WG1122619
Total Xylenes	ND		3.00	1	06/11/2018 14:22	WG1122619
Methyl tert-butyl ether	8.08		1.00	1	06/11/2018 14:22	WG1122619
Naphthalene	ND		5.00	1	06/11/2018 14:22	WG1122619
(S) Toluene-d8	102		80.0-120		06/11/2018 14:22	WG1122619
(S) Dibromofluoromethane	98.3		76.0-123		06/11/2018 14:22	WG1122619
(S) 4-Bromofluorobenzene	103		80.0-120		06/11/2018 14:22	WG1122619

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/11/2018 14:44	WG1122619
Toluene	ND		1.00	1	06/11/2018 14:44	WG1122619
Ethylbenzene	ND		1.00	1	06/11/2018 14:44	WG1122619
o-Xylene	ND		1.00	1	06/11/2018 14:44	WG1122619
m&p-Xylene	ND		2.00	1	06/11/2018 14:44	WG1122619
Total Xylenes	ND		3.00	1	06/11/2018 14:44	WG1122619
Methyl tert-butyl ether	ND		1.00	1	06/11/2018 14:44	WG1122619
Naphthalene	ND		5.00	1	06/11/2018 14:44	WG1122619
(S) Toluene-d8	101		80.0-120		06/11/2018 14:44	WG1122619
(S) Dibromofluoromethane	99.2		76.0-123		06/11/2018 14:44	WG1122619
(S) 4-Bromofluorobenzene	103		80.0-120		06/11/2018 14:44	WG1122619

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/11/2018 15:05	WG1122619
Toluene	ND		1.00	1	06/11/2018 15:05	WG1122619
Ethylbenzene	ND		1.00	1	06/11/2018 15:05	WG1122619
o-Xylene	ND		1.00	1	06/11/2018 15:05	WG1122619
m&p-Xylene	ND		2.00	1	06/11/2018 15:05	WG1122619
Total Xylenes	ND		3.00	1	06/11/2018 15:05	WG1122619
Methyl tert-butyl ether	1.43		1.00	1	06/11/2018 15:05	WG1122619
Naphthalene	ND		5.00	1	06/11/2018 15:05	WG1122619
<i>(S) Toluene-d8</i>	102		80.0-120		06/11/2018 15:05	WG1122619
<i>(S) Dibromofluoromethane</i>	102		76.0-123		06/11/2018 15:05	WG1122619
<i>(S) 4-Bromofluorobenzene</i>	104		80.0-120		06/11/2018 15:05	WG1122619

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/11/2018 15:27	WG1122619
Toluene	ND		1.00	1	06/11/2018 15:27	WG1122619
Ethylbenzene	ND		1.00	1	06/11/2018 15:27	WG1122619
o-Xylene	ND		1.00	1	06/11/2018 15:27	WG1122619
m&p-Xylene	ND		2.00	1	06/11/2018 15:27	WG1122619
Total Xylenes	ND		3.00	1	06/11/2018 15:27	WG1122619
Methyl tert-butyl ether	ND		1.00	1	06/11/2018 15:27	WG1122619
Naphthalene	ND		5.00	1	06/11/2018 15:27	WG1122619
<i>(S) Toluene-d8</i>	102		80.0-120		06/11/2018 15:27	WG1122619
<i>(S) Dibromofluoromethane</i>	102		76.0-123		06/11/2018 15:27	WG1122619
<i>(S) 4-Bromofluorobenzene</i>	102		80.0-120		06/11/2018 15:27	WG1122619

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	1.85		1.00	1	06/11/2018 02:35	WG1122609
Toluene	ND		1.00	1	06/11/2018 02:35	WG1122609
Ethylbenzene	ND		1.00	1	06/11/2018 02:35	WG1122609
o-Xylene	1.64		1.00	1	06/11/2018 02:35	WG1122609
m&p-Xylene	3.24		2.00	1	06/11/2018 02:35	WG1122609
Total Xylenes	4.88		3.00	1	06/11/2018 02:35	WG1122609
Methyl tert-butyl ether	ND		1.00	1	06/11/2018 02:35	WG1122609
Naphthalene	ND		5.00	1	06/11/2018 02:35	WG1122609
<i>(S) Toluene-d8</i>	99.5		80.0-120		06/11/2018 02:35	WG1122609
<i>(S) Dibromofluoromethane</i>	108		76.0-123		06/11/2018 02:35	WG1122609
<i>(S) 4-Bromofluorobenzene</i>	110		80.0-120		06/11/2018 02:35	WG1122609

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/11/2018 02:55	WG1122609
Toluene	ND		1.00	1	06/11/2018 02:55	WG1122609
Ethylbenzene	ND		1.00	1	06/11/2018 02:55	WG1122609
o-Xylene	ND		1.00	1	06/11/2018 02:55	WG1122609
m&p-Xylene	ND		2.00	1	06/11/2018 02:55	WG1122609
Total Xylenes	ND		3.00	1	06/11/2018 02:55	WG1122609
Methyl tert-butyl ether	ND		1.00	1	06/11/2018 02:55	WG1122609
Naphthalene	ND		5.00	1	06/11/2018 02:55	WG1122609
(S) Toluene-d8	97.4		80.0-120		06/11/2018 02:55	WG1122609
(S) Dibromofluoromethane	106		76.0-123		06/11/2018 02:55	WG1122609
(S) 4-Bromofluorobenzene	113		80.0-120		06/11/2018 02:55	WG1122609

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/11/2018 03:16	WG1122609
Toluene	ND		1.00	1	06/11/2018 03:16	WG1122609
Ethylbenzene	ND		1.00	1	06/11/2018 03:16	WG1122609
o-Xylene	ND		1.00	1	06/11/2018 03:16	WG1122609
m&p-Xylene	ND		2.00	1	06/11/2018 03:16	WG1122609
Total Xylenes	ND		3.00	1	06/11/2018 03:16	WG1122609
Methyl tert-butyl ether	1.92		1.00	1	06/11/2018 03:16	WG1122609
Naphthalene	ND		5.00	1	06/11/2018 03:16	WG1122609
<i>(S) Toluene-d8</i>	94.9		80.0-120		06/11/2018 03:16	WG1122609
<i>(S) Dibromofluoromethane</i>	109		76.0-123		06/11/2018 03:16	WG1122609
<i>(S) 4-Bromofluorobenzene</i>	111		80.0-120		06/11/2018 03:16	WG1122609

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/11/2018 03:36	WG1122609
Toluene	ND		1.00	1	06/11/2018 03:36	WG1122609
Ethylbenzene	ND		1.00	1	06/11/2018 03:36	WG1122609
o-Xylene	ND		1.00	1	06/11/2018 03:36	WG1122609
m&p-Xylene	ND		2.00	1	06/11/2018 03:36	WG1122609
Total Xylenes	ND		3.00	1	06/11/2018 03:36	WG1122609
Methyl tert-butyl ether	1.31		1.00	1	06/11/2018 03:36	WG1122609
Naphthalene	ND		5.00	1	06/11/2018 03:36	WG1122609
<i>(S) Toluene-d8</i>	97.5		80.0-120		06/11/2018 03:36	WG1122609
<i>(S) Dibromofluoromethane</i>	105		76.0-123		06/11/2018 03:36	WG1122609
<i>(S) 4-Bromofluorobenzene</i>	112		80.0-120		06/11/2018 03:36	WG1122609

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/11/2018 03:56	WG1122609
Toluene	ND		1.00	1	06/11/2018 03:56	WG1122609
Ethylbenzene	ND		1.00	1	06/11/2018 03:56	WG1122609
o-Xylene	ND		1.00	1	06/11/2018 03:56	WG1122609
m&p-Xylene	ND		2.00	1	06/11/2018 03:56	WG1122609
Total Xylenes	ND		3.00	1	06/11/2018 03:56	WG1122609
Methyl tert-butyl ether	1.18		1.00	1	06/11/2018 03:56	WG1122609
Naphthalene	ND		5.00	1	06/11/2018 03:56	WG1122609
<i>(S) Toluene-d8</i>	102		80.0-120		06/11/2018 03:56	WG1122609
<i>(S) Dibromofluoromethane</i>	108		76.0-123		06/11/2018 03:56	WG1122609
<i>(S) 4-Bromofluorobenzene</i>	109		80.0-120		06/11/2018 03:56	WG1122609

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



Method Blank (MB)

(MB) R3316983-3 06/10/18 19:43

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.331	1.00
Ethylbenzene	U		0.384	1.00
Methyl tert-butyl ether	U		0.367	1.00
Naphthalene	U		1.00	5.00
Toluene	U		0.412	1.00
Xylenes, Total	U		1.06	3.00
o-Xylene	U		0.341	1.00
m&p-Xylenes	U		0.719	2.00
(S) Toluene-d8	100			80.0-120
(S) Dibromofluoromethane	101			76.0-123
(S) 4-Bromofluorobenzene	111			80.0-120

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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

(LCS) R3316983-1 06/10/18 18:43 • (LCSD) R3316983-4 06/10/18 20:07

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Benzene	25.0	25.9	25.6	104	102	70.0-130			1.35	20
Ethylbenzene	25.0	22.1	20.4	88.6	81.7	70.0-130			8.04	20
Methyl tert-butyl ether	25.0	22.9	21.4	91.5	85.8	70.0-130			6.44	20
Naphthalene	25.0	25.5	22.1	102	88.2	70.0-130			14.6	20
Toluene	25.0	23.7	22.9	94.9	91.6	70.0-130			3.54	20
Xylenes, Total	75.0	69.6	64.8	92.8	86.4	70.0-130			7.14	20
o-Xylene	25.0	22.7	20.5	90.9	81.8	70.0-130			10.5	20
m&p-Xylenes	50.0	46.9	44.3	93.8	88.7	70.0-130			5.61	20
(S) Toluene-d8				101	99.3	80.0-120				
(S) Dibromofluoromethane				95.6	99.9	76.0-123				
(S) 4-Bromofluorobenzene				101	105	80.0-120				



Method Blank (MB)

(MB) R3318032-3 06/11/18 08:14

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.331	1.00
Ethylbenzene	U		0.384	1.00
Methyl tert-butyl ether	U		0.367	1.00
Naphthalene	U		1.00	5.00
Toluene	U		0.412	1.00
Xylenes, Total	U		1.06	3.00
o-Xylene	U		0.341	1.00
m&p-Xylenes	U		0.719	2.00
(S) Toluene-d8	103			80.0-120
(S) Dibromofluoromethane	99.6			76.0-123
(S) 4-Bromofluorobenzene	103			80.0-120

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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

(LCS) R3318032-1 06/11/18 06:47 • (LCSD) R3318032-2 06/11/18 07:09

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Benzene	25.0	26.0	25.3	104	101	70.0-130			2.59	20
Ethylbenzene	25.0	26.4	25.6	106	102	70.0-130			2.97	20
Methyl tert-butyl ether	25.0	26.3	25.5	105	102	70.0-130			3.05	20
Naphthalene	25.0	24.8	23.6	99.1	94.3	70.0-130			5.00	20
Toluene	25.0	24.9	24.2	99.5	96.9	70.0-130			2.62	20
Xylenes, Total	75.0	80.5	77.9	107	104	70.0-130			3.28	20
o-Xylene	25.0	27.4	26.5	110	106	70.0-130			3.35	20
m&p-Xylenes	50.0	53.1	51.4	106	103	70.0-130			3.21	20
(S) Toluene-d8				102	103	80.0-120				
(S) Dibromofluoromethane				98.6	99.2	76.0-123				
(S) 4-Bromofluorobenzene				102	105	80.0-120				



Guide to Reading and Understanding Your Laboratory Report

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

Abbreviations and Definitions

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

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.



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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
 * Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

State Accreditations

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

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

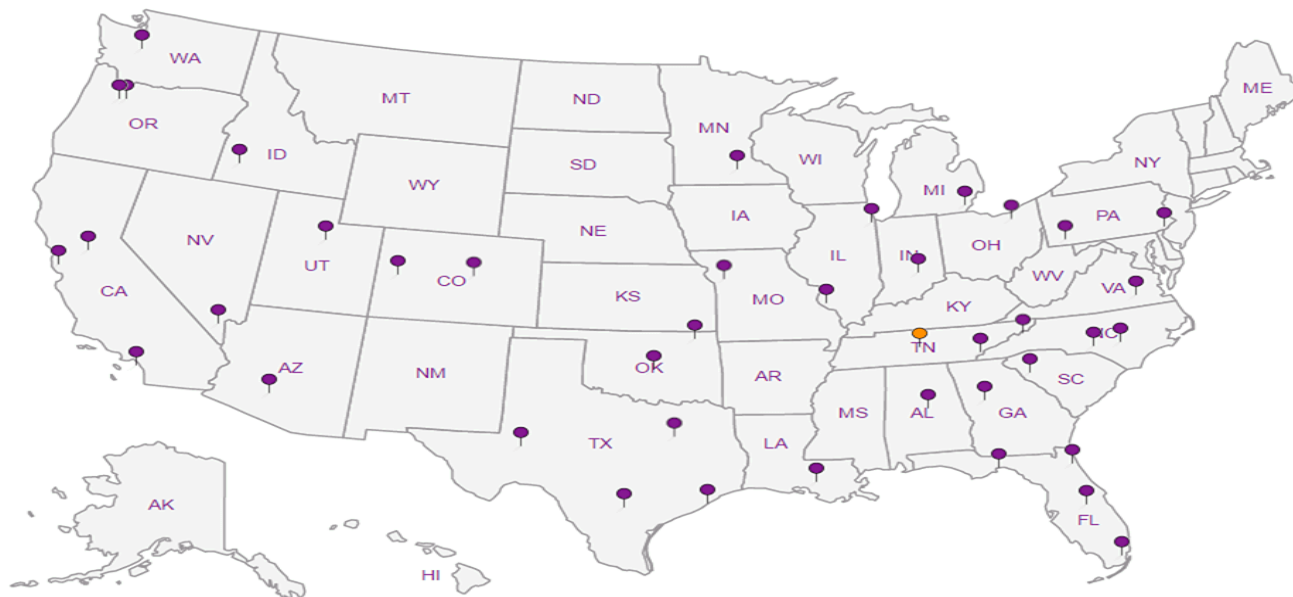
Third Party Federal Accreditations

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

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

Our Locations

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



Kinder Morgan- Atlanta, GA

6600 Peachtree Dunwoody Road
400 Embassy Row - Suite 600
Atlanta, GA 30328

Billing Information:
Accounts Payable
1000 Windward Concourse
Ste 450
Alpharetta, GA 30005

Pres
Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 1



12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-8858
Phone: 800-767-5838
Fax: 615-258-0859



Report to:
Bethany Garvey

Email To: bgarvey@ch2m.com;
tom.wiley@ch2m.com; scott.powell@ch2m.com;

Project
Description: **Lewis Drive Groundwater**

City/State
Collected: **SC**

Phone: **770-604-9182**
Fax:

Client Project #

699858

Lab Project #
KINCH2MGA-LEWIS12

Collected by (print):
JM/KS

Site/Facility ID #

KIM-LEWIS.DS

P.O. #

Collected by (signature):
[Signature]

Rush? (Lab MUST Be Notified)

Same Day Five Day
 Next Day 5 Day (Rad Only)
 Two Day 10 Day (Rad Only)
 Three Day

Quote #

Date Results Needed

No. of
Entrs

Immediately

Packed on Ice: **N** **Y**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Entrs
SW-11-060718	Grab	GW		6-7-18	0830	
SW-10-060718		GW			0845	
FP-01-060718		SW			0855	
FP-02-060718					0905	
SW-09-060718					0915	
SW-18-060718					0920	
SW-13-060718					0925	
FP-03-060718					1020	
SW-08-060718					1105	
SW-167-060718		SW		6-7-18	1115	

NITRATE,SULFATE 125mlHDPE-NoPres
ALK,CO2 125mlHDPE-NoPres
RSK175 40mlAmb HCl
V82608TEXMNSC 40mlAmb-HCl
V82607CLSC-TB 40mlAmb-NoPres-Bik

L# **L1000743**
Table # **L1002917**
Acctnum: **KINCH2MGA**
Template **T130277**
Prelogin: **P655547**
TSA: 526 - Chris McCord
PB: **530186**
Shipped Via **FedEX Ground**

AD
6/20/18

01
02
03
04
05
06
07
08
09
10

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - Wastewater
DW - Drinking Water
OT - Other

Remarks: *NITRATE/SULFATE* has a 48hr hold time.

Samples returned via:
 UPS FedEx Courier

Tracking # **4380 6874 1169**

pH _____ Temp _____
Flow _____ Other _____

Sample Receipt Checklist
COC Seal Present/Intact: Y N
COC Signed/Accurate: Y N
Bottled airtight (instant): Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VSA Zero Headspace: Y N
Preservative Correct/Checked: Y N

Relinquished by: (Signature) *Bethany Garvey*
Date: **6-7-18** Time: **1700**

Received by: (Signature) _____
Trip Blank Received: Yes No
 HCL/MeqH
 TB

Relinquished by: (Signature) _____
Date: _____ Time: _____

Received by: (Signature) _____
Temp: **0.9** °C
Bottles Received: **78**

Relinquished by: (Signature) _____
Date: _____ Time: _____

Received for lab by: (Signature) *[Signature]*
Date: **6/8/18** Time: **0845**

If preservation required by Log'n: Date/Time

Hold: _____
Condition: **OK**

Kinder Morgan- Atlanta, GA
 6600 Peachtree Dunwoody Road
 400 Embassy Row - Suite 600
 Atlanta, GA 30328

Billing Information:
 Accounts Payable
 1000 Windward Concourse
 Ste 450
 Alpharetta, GA 30005

Report to:
Bethany Garvey

City/State Collected: **SC**

Client Project # **699858**

Lab Project # **KINCH2MGA-LEWIS12**

Site/Facility ID # **Km-Lewis Dr**

Quote #

Date Results Needed

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page ___ of ___



Phone: **770-604-9182**

Fax:

Collected by (print): **SW/KS**

Collected by (signature): **KS**

Immediately Packed on Ice: **N** **Y** **X**

Rush? (Lab MUST Be Notified)
 Same Day Five Day
 Next Day 5 Day (Rad Only)
 Two Day 10 Day (Rad Only)
 Three Day

City/State Collected: **SC**

Lab Project # **KINCH2MGA-LEWIS12**

Site/Facility ID # **Km-Lewis Dr**

Quote #

Date Results Needed

No. of Entrys

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Entrys	Analysis / Container / Preservative
SW-12-060718	Grab	GW		6-7-18	1045		*NITRATE,SULFATE* 125mlHDPE-NoPres
SW-13-060718		GW			1055		ALK,CO2 125mlHDPE-NoPres
SW-12-060718		SW			1125		RSK175 40mlAmb HCl
SW-14-060718		SW			1135		V8260BTEXMNSC 40mlAmb-HCl
SW-14-060718		SW		6-7-18	1150		V8260TCLSC-TB 40mlAmb-NoPres-Bik

* Matrix: SS - Soil AIR - Air F - Filter
 GW - Groundwater B - Bioassay
 WW - WasteWater
 DW - Drinking Water
 OT - Other

Remarks: *NITRATE/SULFATE* has a 48hr hold time.

pH _____ Temp _____
 Flow _____ Other _____

Samples returned via: UPS FedEx Courier _____

Tracking # **4360 6874 1169**

Trip Blank Received: Yes No
 HCl / MeOH
 TBR

Bottles Received: **18**

Temp: **0.83** °C

If preservation required by Login: Date/Time

Hold: _____

Condition: OK NOK

Relinquished by: (Signature) **Bethany Garvey** Date: **6-7-18** Time: **1700**

Received by: (Signature) _____ Date: _____ Time: _____

Relinquished by: (Signature) _____ Date: _____ Time: _____

Received by: (Signature) _____ Date: _____ Time: _____

Relinquished by: (Signature) _____ Date: _____ Time: _____

Received by: (Signature) **Heim** Date: **6/8/18** Time: **0845**

N 6/20/17

11
12
13
14
15

Appendix C
Groundwater Analytical Laboratory
Reports

April 26, 2018

CH2M Hill- Kinder Morgan- Atlanta, GA

Sample Delivery Group: L984086
Samples Received: 04/07/2018
Project Number: 699858.LD.MR.GW
Description: Lewis Drive Groundwater
Site: LEWIS DRIVE
Report To: Bethany Garvey
6600 Peachtree Dunwoody Road
400 Embassy Row - Suite 600
Atlanta, GA 30328

Entire Report Reviewed By:



Chris McCord
Technical Service Representative

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



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SAMPLE SUMMARY



MW-29-040618 L984086-01 GW

Collected by
Melissa Warren

Collected date/time
04/06/18 11:15

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095557	1	04/09/18 11:10	04/09/18 11:10	RAS

1 Cp

2 Tc

3 Ss

MW-29-D-040618 L984086-02 GW

Collected by
Melissa Warren

Collected date/time
04/06/18 11:20

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095557	1	04/09/18 11:32	04/09/18 11:32	RAS

4 Cn

5 Sr

MW-26-040618 L984086-03 GW

Collected by
Melissa Warren

Collected date/time
04/06/18 11:25

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095557	1	04/09/18 11:54	04/09/18 11:54	RAS

6 Qc

7 Gl

MW-23-040618 L984086-04 GW

Collected by
Melissa Warren

Collected date/time
04/06/18 11:30

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095557	1	04/09/18 12:15	04/09/18 12:15	RAS

8 Al

9 Sc

MW-22-040618 L984086-05 GW

Collected by
Melissa Warren

Collected date/time
04/06/18 11:35

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095557	1	04/09/18 12:37	04/09/18 12:37	RAS

MW-43-040618 L984086-06 GW

Collected by
Melissa Warren

Collected date/time
04/06/18 12:00

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095557	1	04/09/18 12:58	04/09/18 12:58	RAS

MW-38-040618 L984086-07 GW

Collected by
Melissa Warren

Collected date/time
04/06/18 12:10

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095557	1	04/09/18 13:19	04/09/18 13:19	RAS
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095557	10	04/13/18 22:14	04/13/18 22:14	RAS

MW-38-D-040618 L984086-08 GW

Collected by
Melissa Warren

Collected date/time
04/06/18 12:15

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095557	1	04/09/18 13:41	04/09/18 13:41	RAS
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095557	10	04/13/18 22:33	04/13/18 22:33	RAS

SAMPLE SUMMARY



MW-34-040618 L984086-09 GW

Collected by
Melissa Warren

Collected date/time
04/06/18 12:25

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095557	1	04/09/18 14:02	04/09/18 14:02	RAS
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095557	10	04/13/18 22:53	04/13/18 22:53	RAS

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

MW-39-040618 L984086-10 GW

Collected by
Melissa Warren

Collected date/time
04/06/18 12:30

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095557	1	04/19/18 13:32	04/19/18 13:32	GLN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095557	10	04/20/18 12:25	04/20/18 12:25	GLN

MW-40-040618 L984086-11 GW

Collected by
Melissa Warren

Collected date/time
04/06/18 12:35

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095557	100	04/09/18 14:44	04/09/18 14:44	RAS

MW-41-040618 L984086-12 GW

Collected by
Melissa Warren

Collected date/time
04/06/18 12:40

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095557	1	04/09/18 15:06	04/09/18 15:06	RAS

MW-25-040618 L984086-13 GW

Collected by
Melissa Warren

Collected date/time
04/06/18 12:50

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095557	1	04/09/18 15:27	04/09/18 15:27	RAS

MW-35-040618 L984086-14 GW

Collected by
Melissa Warren

Collected date/time
04/06/18 13:00

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095557	1	04/09/18 15:48	04/09/18 15:48	RAS

MW-28-040618 L984086-15 GW

Collected by
Melissa Warren

Collected date/time
04/06/18 13:05

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095557	1	04/09/18 16:09	04/09/18 16:09	RAS

FB01-040618 L984086-16 GW

Collected by
Melissa Warren

Collected date/time
04/06/18 13:20

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095557	1	04/09/18 16:31	04/09/18 16:31	RAS

SAMPLE SUMMARY



MW-31-040618 L984086-17 GW						Collected by Melissa Warren	Collected date/time 04/06/18 13:45	Received date/time 04/07/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst			
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095557	1	04/09/18 16:52	04/09/18 16:52	RAS			
MW-30-040618 L984086-18 GW						Collected by Melissa Warren	Collected date/time 04/06/18 13:55	Received date/time 04/07/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst			
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095557	1	04/09/18 17:14	04/09/18 17:14	RAS			
MW-03-040618 L984086-19 GW						Collected by Melissa Warren	Collected date/time 04/06/18 14:05	Received date/time 04/07/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst			
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095557	1	04/09/18 17:35	04/09/18 17:35	RAS			
MW-02-040618 L984086-20 GW						Collected by Melissa Warren	Collected date/time 04/06/18 14:15	Received date/time 04/07/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst			
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095557	1	04/09/18 17:57	04/09/18 17:57	RAS			
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095557	10	04/13/18 23:31	04/13/18 23:31	RAS			
MW-10-040618 L984086-21 GW						Collected by Melissa Warren	Collected date/time 04/06/18 14:20	Received date/time 04/07/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst			
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095729	1	04/09/18 21:49	04/09/18 21:49	LRL			
MW-05-040618 L984086-22 GW						Collected by Melissa Warren	Collected date/time 04/06/18 14:55	Received date/time 04/07/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst			
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095729	1	04/09/18 22:10	04/09/18 22:10	LRL			
MW-45-040618 L984086-23 GW						Collected by Melissa Warren	Collected date/time 04/06/18 15:00	Received date/time 04/07/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst			
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095729	1	04/09/18 22:30	04/09/18 22:30	LRL			
TB01-040618 L984086-24 GW						Collected by Melissa Warren	Collected date/time 04/06/18 15:05	Received date/time 04/07/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst			
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095442	1	04/08/18 20:29	04/08/18 20:29	JAH			

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris McCord
 Technical Service Representative

Project Narrative

A revised report is being issued due to sample L984086-10 being re-analyzed per client request to confirm if the sample was possibly contaminated with carry-over contamination for Benzene during the initial analysis. The sample was originally reported with an elevated Reporting Limit due to this possibility. Per client request, the confirmation analysis is being reported where no contamination is suspected.

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/09/2018 11:10	WG1095557
Toluene	ND		1.00	1	04/09/2018 11:10	WG1095557
Ethylbenzene	ND		1.00	1	04/09/2018 11:10	WG1095557
Total Xylenes	ND		3.00	1	04/09/2018 11:10	WG1095557
Methyl tert-butyl ether	ND		1.00	1	04/09/2018 11:10	WG1095557
Naphthalene	ND		5.00	1	04/09/2018 11:10	WG1095557
1,2-Dichloroethane	ND		1.00	1	04/09/2018 11:10	WG1095557
(S) Toluene-d8	96.1		80.0-120		04/09/2018 11:10	WG1095557
(S) Dibromofluoromethane	108		76.0-123		04/09/2018 11:10	WG1095557
(S) 4-Bromofluorobenzene	90.9		80.0-120		04/09/2018 11:10	WG1095557

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/09/2018 11:32	WG1095557
Toluene	ND		1.00	1	04/09/2018 11:32	WG1095557
Ethylbenzene	ND		1.00	1	04/09/2018 11:32	WG1095557
Total Xylenes	ND		3.00	1	04/09/2018 11:32	WG1095557
Methyl tert-butyl ether	ND		1.00	1	04/09/2018 11:32	WG1095557
Naphthalene	ND		5.00	1	04/09/2018 11:32	WG1095557
1,2-Dichloroethane	ND		1.00	1	04/09/2018 11:32	WG1095557
(S) Toluene-d8	97.8		80.0-120		04/09/2018 11:32	WG1095557
(S) Dibromofluoromethane	107		76.0-123		04/09/2018 11:32	WG1095557
(S) 4-Bromofluorobenzene	92.3		80.0-120		04/09/2018 11:32	WG1095557

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/09/2018 11:54	WG1095557
Toluene	ND		1.00	1	04/09/2018 11:54	WG1095557
Ethylbenzene	ND		1.00	1	04/09/2018 11:54	WG1095557
Total Xylenes	ND		3.00	1	04/09/2018 11:54	WG1095557
Methyl tert-butyl ether	ND		1.00	1	04/09/2018 11:54	WG1095557
Naphthalene	ND		5.00	1	04/09/2018 11:54	WG1095557
1,2-Dichloroethane	ND		1.00	1	04/09/2018 11:54	WG1095557
(S) Toluene-d8	98.5		80.0-120		04/09/2018 11:54	WG1095557
(S) Dibromofluoromethane	109		76.0-123		04/09/2018 11:54	WG1095557
(S) 4-Bromofluorobenzene	90.2		80.0-120		04/09/2018 11:54	WG1095557

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/09/2018 12:15	WG1095557
Toluene	ND		1.00	1	04/09/2018 12:15	WG1095557
Ethylbenzene	ND		1.00	1	04/09/2018 12:15	WG1095557
Total Xylenes	ND		3.00	1	04/09/2018 12:15	WG1095557
Methyl tert-butyl ether	32.0		1.00	1	04/09/2018 12:15	WG1095557
Naphthalene	ND		5.00	1	04/09/2018 12:15	WG1095557
1,2-Dichloroethane	ND		1.00	1	04/09/2018 12:15	WG1095557
(S) Toluene-d8	96.8		80.0-120		04/09/2018 12:15	WG1095557
(S) Dibromofluoromethane	109		76.0-123		04/09/2018 12:15	WG1095557
(S) 4-Bromofluorobenzene	91.5		80.0-120		04/09/2018 12:15	WG1095557

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/09/2018 12:37	WG1095557
Toluene	1.76		1.00	1	04/09/2018 12:37	WG1095557
Ethylbenzene	ND		1.00	1	04/09/2018 12:37	WG1095557
Total Xylenes	46.6		3.00	1	04/09/2018 12:37	WG1095557
Methyl tert-butyl ether	ND		1.00	1	04/09/2018 12:37	WG1095557
Naphthalene	ND		5.00	1	04/09/2018 12:37	WG1095557
1,2-Dichloroethane	ND		1.00	1	04/09/2018 12:37	WG1095557
(S) Toluene-d8	95.4		80.0-120		04/09/2018 12:37	WG1095557
(S) Dibromofluoromethane	111		76.0-123		04/09/2018 12:37	WG1095557
(S) 4-Bromofluorobenzene	90.0		80.0-120		04/09/2018 12:37	WG1095557

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/09/2018 12:58	WG1095557
Toluene	ND		1.00	1	04/09/2018 12:58	WG1095557
Ethylbenzene	ND		1.00	1	04/09/2018 12:58	WG1095557
Total Xylenes	ND		3.00	1	04/09/2018 12:58	WG1095557
Methyl tert-butyl ether	ND		1.00	1	04/09/2018 12:58	WG1095557
Naphthalene	ND		5.00	1	04/09/2018 12:58	WG1095557
1,2-Dichloroethane	ND		1.00	1	04/09/2018 12:58	WG1095557
(S) Toluene-d8	96.7		80.0-120		04/09/2018 12:58	WG1095557
(S) Dibromofluoromethane	110		76.0-123		04/09/2018 12:58	WG1095557
(S) 4-Bromofluorobenzene	90.2		80.0-120		04/09/2018 12:58	WG1095557

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	347		10.0	10	04/13/2018 22:14	WG1095557
Toluene	2.95		1.00	1	04/09/2018 13:19	WG1095557
Ethylbenzene	ND		1.00	1	04/09/2018 13:19	WG1095557
Total Xylenes	221		3.00	1	04/09/2018 13:19	WG1095557
Methyl tert-butyl ether	68.8		1.00	1	04/09/2018 13:19	WG1095557
Naphthalene	10.4		5.00	1	04/09/2018 13:19	WG1095557
1,2-Dichloroethane	ND		1.00	1	04/09/2018 13:19	WG1095557
(S) Toluene-d8	108		80.0-120		04/13/2018 22:14	WG1095557
(S) Toluene-d8	97.7		80.0-120		04/09/2018 13:19	WG1095557
(S) Dibromofluoromethane	91.8		76.0-123		04/09/2018 13:19	WG1095557
(S) Dibromofluoromethane	101		76.0-123		04/13/2018 22:14	WG1095557
(S) 4-Bromofluorobenzene	90.3		80.0-120		04/09/2018 13:19	WG1095557
(S) 4-Bromofluorobenzene	97.0		80.0-120		04/13/2018 22:14	WG1095557

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	371		10.0	10	04/13/2018 22:33	WG1095557
Toluene	2.61		1.00	1	04/09/2018 13:41	WG1095557
Ethylbenzene	ND		1.00	1	04/09/2018 13:41	WG1095557
Total Xylenes	190		3.00	1	04/09/2018 13:41	WG1095557
Methyl tert-butyl ether	67.6		1.00	1	04/09/2018 13:41	WG1095557
Naphthalene	9.46		5.00	1	04/09/2018 13:41	WG1095557
1,2-Dichloroethane	ND		1.00	1	04/09/2018 13:41	WG1095557
(S) Toluene-d8	97.9		80.0-120		04/09/2018 13:41	WG1095557
(S) Toluene-d8	110		80.0-120		04/13/2018 22:33	WG1095557
(S) Dibromofluoromethane	94.9		76.0-123		04/09/2018 13:41	WG1095557
(S) Dibromofluoromethane	100		76.0-123		04/13/2018 22:33	WG1095557
(S) 4-Bromofluorobenzene	90.6		80.0-120		04/09/2018 13:41	WG1095557
(S) 4-Bromofluorobenzene	96.1		80.0-120		04/13/2018 22:33	WG1095557

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	619		10.0	10	04/13/2018 22:53	WG1095557
Toluene	31.9		1.00	1	04/09/2018 14:02	WG1095557
Ethylbenzene	2.22		1.00	1	04/09/2018 14:02	WG1095557
Total Xylenes	150		3.00	1	04/09/2018 14:02	WG1095557
Methyl tert-butyl ether	281		10.0	10	04/13/2018 22:53	WG1095557
Naphthalene	7.77		5.00	1	04/09/2018 14:02	WG1095557
1,2-Dichloroethane	ND		1.00	1	04/09/2018 14:02	WG1095557
(S) Toluene-d8	98.0		80.0-120		04/09/2018 14:02	WG1095557
(S) Toluene-d8	107		80.0-120		04/13/2018 22:53	WG1095557
(S) Dibromofluoromethane	85.6		76.0-123		04/09/2018 14:02	WG1095557
(S) Dibromofluoromethane	100		76.0-123		04/13/2018 22:53	WG1095557
(S) 4-Bromofluorobenzene	96.7		80.0-120		04/13/2018 22:53	WG1095557
(S) 4-Bromofluorobenzene	90.3		80.0-120		04/09/2018 14:02	WG1095557

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	1.00		1.00	1	04/19/2018 13:32	WG1095557
Toluene	ND		1.00	1	04/19/2018 13:32	WG1095557
Ethylbenzene	ND		1.00	1	04/19/2018 13:32	WG1095557
Total Xylenes	ND		3.00	1	04/19/2018 13:32	WG1095557
Methyl tert-butyl ether	297		10.0	10	04/20/2018 12:25	WG1095557
Naphthalene	ND		5.00	1	04/19/2018 13:32	WG1095557
1,2-Dichloroethane	ND		1.00	1	04/19/2018 13:32	WG1095557
(S) Toluene-d8	99.3		80.0-120		04/19/2018 13:32	WG1095557
(S) Toluene-d8	106		80.0-120		04/20/2018 12:25	WG1095557
(S) Dibromofluoromethane	102		76.0-123		04/20/2018 12:25	WG1095557
(S) Dibromofluoromethane	97.3		76.0-123		04/19/2018 13:32	WG1095557
(S) 4-Bromofluorobenzene	108		80.0-120		04/20/2018 12:25	WG1095557
(S) 4-Bromofluorobenzene	108		80.0-120		04/19/2018 13:32	WG1095557

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	6710		100	100	04/09/2018 14:44	WG1095557
Toluene	8350		100	100	04/09/2018 14:44	WG1095557
Ethylbenzene	212		100	100	04/09/2018 14:44	WG1095557
Total Xylenes	5460		300	100	04/09/2018 14:44	WG1095557
Methyl tert-butyl ether	423		100	100	04/09/2018 14:44	WG1095557
Naphthalene	ND		500	100	04/09/2018 14:44	WG1095557
1,2-Dichloroethane	ND		100	100	04/09/2018 14:44	WG1095557
(S) Toluene-d8	99.0		80.0-120		04/09/2018 14:44	WG1095557
(S) Dibromofluoromethane	107		76.0-123		04/09/2018 14:44	WG1095557
(S) 4-Bromofluorobenzene	92.8		80.0-120		04/09/2018 14:44	WG1095557

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/09/2018 15:06	WG1095557
Toluene	ND		1.00	1	04/09/2018 15:06	WG1095557
Ethylbenzene	ND		1.00	1	04/09/2018 15:06	WG1095557
Total Xylenes	ND		3.00	1	04/09/2018 15:06	WG1095557
Methyl tert-butyl ether	ND		1.00	1	04/09/2018 15:06	WG1095557
Naphthalene	ND		5.00	1	04/09/2018 15:06	WG1095557
1,2-Dichloroethane	ND		1.00	1	04/09/2018 15:06	WG1095557
(S) Toluene-d8	97.2		80.0-120		04/09/2018 15:06	WG1095557
(S) Dibromofluoromethane	106		76.0-123		04/09/2018 15:06	WG1095557
(S) 4-Bromofluorobenzene	91.1		80.0-120		04/09/2018 15:06	WG1095557

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/09/2018 15:27	WG1095557
Toluene	ND		1.00	1	04/09/2018 15:27	WG1095557
Ethylbenzene	ND		1.00	1	04/09/2018 15:27	WG1095557
Total Xylenes	ND		3.00	1	04/09/2018 15:27	WG1095557
Methyl tert-butyl ether	ND		1.00	1	04/09/2018 15:27	WG1095557
Naphthalene	ND		5.00	1	04/09/2018 15:27	WG1095557
1,2-Dichloroethane	ND		1.00	1	04/09/2018 15:27	WG1095557
(S) Toluene-d8	96.1		80.0-120		04/09/2018 15:27	WG1095557
(S) Dibromofluoromethane	110		76.0-123		04/09/2018 15:27	WG1095557
(S) 4-Bromofluorobenzene	91.4		80.0-120		04/09/2018 15:27	WG1095557

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/09/2018 15:48	WG1095557
Toluene	ND		1.00	1	04/09/2018 15:48	WG1095557
Ethylbenzene	ND		1.00	1	04/09/2018 15:48	WG1095557
Total Xylenes	ND		3.00	1	04/09/2018 15:48	WG1095557
Methyl tert-butyl ether	ND		1.00	1	04/09/2018 15:48	WG1095557
Naphthalene	ND		5.00	1	04/09/2018 15:48	WG1095557
1,2-Dichloroethane	ND		1.00	1	04/09/2018 15:48	WG1095557
(S) Toluene-d8	96.8		80.0-120		04/09/2018 15:48	WG1095557
(S) Dibromofluoromethane	110		76.0-123		04/09/2018 15:48	WG1095557
(S) 4-Bromofluorobenzene	89.9		80.0-120		04/09/2018 15:48	WG1095557

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	16.1		1.00	1	04/09/2018 16:09	WG1095557
Toluene	4.00		1.00	1	04/09/2018 16:09	WG1095557
Ethylbenzene	11.6		1.00	1	04/09/2018 16:09	WG1095557
Total Xylenes	23.4		3.00	1	04/09/2018 16:09	WG1095557
Methyl tert-butyl ether	ND		1.00	1	04/09/2018 16:09	WG1095557
Naphthalene	ND		5.00	1	04/09/2018 16:09	WG1095557
1,2-Dichloroethane	ND		1.00	1	04/09/2018 16:09	WG1095557
(S) Toluene-d8	96.8		80.0-120		04/09/2018 16:09	WG1095557
(S) Dibromofluoromethane	109		76.0-123		04/09/2018 16:09	WG1095557
(S) 4-Bromofluorobenzene	89.4		80.0-120		04/09/2018 16:09	WG1095557

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/09/2018 16:31	WG1095557
Toluene	ND		1.00	1	04/09/2018 16:31	WG1095557
Ethylbenzene	ND		1.00	1	04/09/2018 16:31	WG1095557
Total Xylenes	ND		3.00	1	04/09/2018 16:31	WG1095557
Methyl tert-butyl ether	ND		1.00	1	04/09/2018 16:31	WG1095557
Naphthalene	ND		5.00	1	04/09/2018 16:31	WG1095557
1,2-Dichloroethane	ND		1.00	1	04/09/2018 16:31	WG1095557
(S) Toluene-d8	98.4		80.0-120		04/09/2018 16:31	WG1095557
(S) Dibromofluoromethane	111		76.0-123		04/09/2018 16:31	WG1095557
(S) 4-Bromofluorobenzene	91.4		80.0-120		04/09/2018 16:31	WG1095557

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/09/2018 16:52	WG1095557
Toluene	ND		1.00	1	04/09/2018 16:52	WG1095557
Ethylbenzene	ND		1.00	1	04/09/2018 16:52	WG1095557
Total Xylenes	ND		3.00	1	04/09/2018 16:52	WG1095557
Methyl tert-butyl ether	ND		1.00	1	04/09/2018 16:52	WG1095557
Naphthalene	ND		5.00	1	04/09/2018 16:52	WG1095557
1,2-Dichloroethane	ND		1.00	1	04/09/2018 16:52	WG1095557
(S) Toluene-d8	96.4		80.0-120		04/09/2018 16:52	WG1095557
(S) Dibromofluoromethane	111		76.0-123		04/09/2018 16:52	WG1095557
(S) 4-Bromofluorobenzene	90.3		80.0-120		04/09/2018 16:52	WG1095557

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	1.90		1.00	1	04/09/2018 17:14	WG1095557
Toluene	7.38		1.00	1	04/09/2018 17:14	WG1095557
Ethylbenzene	ND		1.00	1	04/09/2018 17:14	WG1095557
Total Xylenes	5.95		3.00	1	04/09/2018 17:14	WG1095557
Methyl tert-butyl ether	2.22		1.00	1	04/09/2018 17:14	WG1095557
Naphthalene	ND		5.00	1	04/09/2018 17:14	WG1095557
1,2-Dichloroethane	ND		1.00	1	04/09/2018 17:14	WG1095557
(S) Toluene-d8	96.4		80.0-120		04/09/2018 17:14	WG1095557
(S) Dibromofluoromethane	111		76.0-123		04/09/2018 17:14	WG1095557
(S) 4-Bromofluorobenzene	92.3		80.0-120		04/09/2018 17:14	WG1095557

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/09/2018 17:35	WG1095557
Toluene	ND		1.00	1	04/09/2018 17:35	WG1095557
Ethylbenzene	ND		1.00	1	04/09/2018 17:35	WG1095557
Total Xylenes	ND		3.00	1	04/09/2018 17:35	WG1095557
Methyl tert-butyl ether	ND		1.00	1	04/09/2018 17:35	WG1095557
Naphthalene	ND		5.00	1	04/09/2018 17:35	WG1095557
1,2-Dichloroethane	ND		1.00	1	04/09/2018 17:35	WG1095557
(S) Toluene-d8	98.6		80.0-120		04/09/2018 17:35	WG1095557
(S) Dibromofluoromethane	109		76.0-123		04/09/2018 17:35	WG1095557
(S) 4-Bromofluorobenzene	91.9		80.0-120		04/09/2018 17:35	WG1095557

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	72.5		1.00	1	04/09/2018 17:57	WG1095557
Toluene	94.7		1.00	1	04/09/2018 17:57	WG1095557
Ethylbenzene	8.96		1.00	1	04/09/2018 17:57	WG1095557
Total Xylenes	501		30.0	10	04/13/2018 23:31	WG1095557
Methyl tert-butyl ether	18.4		1.00	1	04/09/2018 17:57	WG1095557
Naphthalene	ND		5.00	1	04/09/2018 17:57	WG1095557
1,2-Dichloroethane	ND		1.00	1	04/09/2018 17:57	WG1095557
(S) Toluene-d8	109		80.0-120		04/13/2018 23:31	WG1095557
(S) Toluene-d8	97.6		80.0-120		04/09/2018 17:57	WG1095557
(S) Dibromofluoromethane	105		76.0-123		04/09/2018 17:57	WG1095557
(S) Dibromofluoromethane	104		76.0-123		04/13/2018 23:31	WG1095557
(S) 4-Bromofluorobenzene	87.2		80.0-120		04/09/2018 17:57	WG1095557
(S) 4-Bromofluorobenzene	97.4		80.0-120		04/13/2018 23:31	WG1095557

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/09/2018 21:49	WG1095729
Toluene	ND		1.00	1	04/09/2018 21:49	WG1095729
Ethylbenzene	ND		1.00	1	04/09/2018 21:49	WG1095729
Total Xylenes	ND		3.00	1	04/09/2018 21:49	WG1095729
Methyl tert-butyl ether	ND		1.00	1	04/09/2018 21:49	WG1095729
Naphthalene	ND		5.00	1	04/09/2018 21:49	WG1095729
1,2-Dichloroethane	ND		1.00	1	04/09/2018 21:49	WG1095729
(S) Toluene-d8	108		80.0-120		04/09/2018 21:49	WG1095729
(S) Dibromofluoromethane	87.8		76.0-123		04/09/2018 21:49	WG1095729
(S) 4-Bromofluorobenzene	105		80.0-120		04/09/2018 21:49	WG1095729

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/09/2018 22:10	WG1095729
Toluene	ND		1.00	1	04/09/2018 22:10	WG1095729
Ethylbenzene	ND		1.00	1	04/09/2018 22:10	WG1095729
Total Xylenes	ND		3.00	1	04/09/2018 22:10	WG1095729
Methyl tert-butyl ether	ND		1.00	1	04/09/2018 22:10	WG1095729
Naphthalene	ND		5.00	1	04/09/2018 22:10	WG1095729
1,2-Dichloroethane	ND		1.00	1	04/09/2018 22:10	WG1095729
(S) Toluene-d8	108		80.0-120		04/09/2018 22:10	WG1095729
(S) Dibromofluoromethane	88.2		76.0-123		04/09/2018 22:10	WG1095729
(S) 4-Bromofluorobenzene	104		80.0-120		04/09/2018 22:10	WG1095729

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	21.9		1.00	1	04/09/2018 22:30	WG1095729
Toluene	19.6		1.00	1	04/09/2018 22:30	WG1095729
Ethylbenzene	3.08		1.00	1	04/09/2018 22:30	WG1095729
Total Xylenes	36.6		3.00	1	04/09/2018 22:30	WG1095729
Methyl tert-butyl ether	ND		1.00	1	04/09/2018 22:30	WG1095729
Naphthalene	ND		5.00	1	04/09/2018 22:30	WG1095729
1,2-Dichloroethane	ND		1.00	1	04/09/2018 22:30	WG1095729
(S) Toluene-d8	107		80.0-120		04/09/2018 22:30	WG1095729
(S) Dibromofluoromethane	89.4		76.0-123		04/09/2018 22:30	WG1095729
(S) 4-Bromofluorobenzene	107		80.0-120		04/09/2018 22:30	WG1095729

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		50.0	1	04/08/2018 20:29	WG1095442
Benzene	ND		1.00	1	04/08/2018 20:29	WG1095442
Bromodichloromethane	ND		1.00	1	04/08/2018 20:29	WG1095442
Bromoform	ND		1.00	1	04/08/2018 20:29	WG1095442
Bromomethane	ND		5.00	1	04/08/2018 20:29	WG1095442
Carbon disulfide	ND		1.00	1	04/08/2018 20:29	WG1095442
Carbon tetrachloride	ND		1.00	1	04/08/2018 20:29	WG1095442
Chlorobenzene	ND		1.00	1	04/08/2018 20:29	WG1095442
Chlorodibromomethane	ND		1.00	1	04/08/2018 20:29	WG1095442
Chloroethane	ND		5.00	1	04/08/2018 20:29	WG1095442
Chloroform	ND		5.00	1	04/08/2018 20:29	WG1095442
Chloromethane	ND		2.50	1	04/08/2018 20:29	WG1095442
1,2-Dibromo-3-Chloropropane	ND		5.00	1	04/08/2018 20:29	WG1095442
1,2-Dibromoethane	ND		1.00	1	04/08/2018 20:29	WG1095442
1,2-Dichlorobenzene	ND		1.00	1	04/08/2018 20:29	WG1095442
1,3-Dichlorobenzene	ND		1.00	1	04/08/2018 20:29	WG1095442
1,4-Dichlorobenzene	ND		1.00	1	04/08/2018 20:29	WG1095442
1,1-Dichloroethane	ND		1.00	1	04/08/2018 20:29	WG1095442
1,2-Dichloroethane	ND		1.00	1	04/08/2018 20:29	WG1095442
1,1-Dichloroethene	ND		1.00	1	04/08/2018 20:29	WG1095442
cis-1,2-Dichloroethene	ND		1.00	1	04/08/2018 20:29	WG1095442
trans-1,2-Dichloroethene	ND		1.00	1	04/08/2018 20:29	WG1095442
1,2-Dichloropropane	ND		1.00	1	04/08/2018 20:29	WG1095442
cis-1,3-Dichloropropene	ND		1.00	1	04/08/2018 20:29	WG1095442
trans-1,3-Dichloropropene	ND		1.00	1	04/08/2018 20:29	WG1095442
Di-isopropyl ether	ND		1.00	1	04/08/2018 20:29	WG1095442
Ethylbenzene	ND		1.00	1	04/08/2018 20:29	WG1095442
2-Butanone (MEK)	ND		10.0	1	04/08/2018 20:29	WG1095442
2-Hexanone	ND		10.0	1	04/08/2018 20:29	WG1095442
Methylene Chloride	ND		5.00	1	04/08/2018 20:29	WG1095442
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	04/08/2018 20:29	WG1095442
Methyl tert-butyl ether	ND		1.00	1	04/08/2018 20:29	WG1095442
Naphthalene	ND		5.00	1	04/08/2018 20:29	WG1095442
Styrene	ND		1.00	1	04/08/2018 20:29	WG1095442
1,1,2,2-Tetrachloroethane	ND		1.00	1	04/08/2018 20:29	WG1095442
Tetrachloroethene	ND		1.00	1	04/08/2018 20:29	WG1095442
Toluene	ND		1.00	1	04/08/2018 20:29	WG1095442
1,1,1-Trichloroethane	ND		1.00	1	04/08/2018 20:29	WG1095442
1,1,2-Trichloroethane	ND		1.00	1	04/08/2018 20:29	WG1095442
Trichloroethene	ND		1.00	1	04/08/2018 20:29	WG1095442
Vinyl chloride	ND		1.00	1	04/08/2018 20:29	WG1095442
Xylenes, Total	ND		3.00	1	04/08/2018 20:29	WG1095442
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	04/08/2018 20:29	WG1095442
1,2,3-Trimethylbenzene	ND		1.00	1	04/08/2018 20:29	WG1095442
(S) Toluene-d8	106		80.0-120		04/08/2018 20:29	WG1095442
(S) Dibromofluoromethane	107		76.0-123		04/08/2018 20:29	WG1095442
(S) a,a,a-Trifluorotoluene	101		80.0-120		04/08/2018 20:29	WG1095442
(S) 4-Bromofluorobenzene	108		80.0-120		04/08/2018 20:29	WG1095442

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc



Method Blank (MB)

(MB) R3300184-2 04/08/18 19:23

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		10.0	50.0
Benzene	U		0.331	1.00
Bromodichloromethane	U		0.380	1.00
Bromoform	U		0.469	1.00
Bromomethane	U		0.866	5.00
Carbon disulfide	U		0.275	1.00
Carbon tetrachloride	U		0.379	1.00
Chlorobenzene	U		0.348	1.00
Chlorodibromomethane	U		0.327	1.00
Chloroethane	U		0.453	5.00
Chloroform	U		0.324	5.00
Chloromethane	U		0.276	2.50
1,2-Dibromo-3-Chloropropane	U		1.33	5.00
1,2-Dibromoethane	U		0.381	1.00
1,2-Dichlorobenzene	U		0.349	1.00
1,3-Dichlorobenzene	U		0.220	1.00
1,4-Dichlorobenzene	U		0.274	1.00
1,1-Dichloroethane	U		0.259	1.00
1,2-Dichloroethane	U		0.361	1.00
1,1-Dichloroethene	U		0.398	1.00
cis-1,2-Dichloroethene	U		0.260	1.00
trans-1,2-Dichloroethene	U		0.396	1.00
1,2-Dichloropropane	U		0.306	1.00
cis-1,3-Dichloropropene	U		0.418	1.00
trans-1,3-Dichloropropene	U		0.419	1.00
Di-isopropyl ether	U		0.320	1.00
Ethylbenzene	U		0.384	1.00
2-Hexanone	U		3.82	10.0
2-Butanone (MEK)	U		3.93	10.0
Methylene Chloride	U		1.00	5.00
4-Methyl-2-pentanone (MIBK)	U		2.14	10.0
Methyl tert-butyl ether	U		0.367	1.00
Naphthalene	U		1.00	5.00
Styrene	U		0.307	1.00
1,1,2,2-Tetrachloroethane	U		0.130	1.00
Tetrachloroethene	U		0.372	1.00
Toluene	U		0.412	1.00
1,1,2-Trichlorotrifluoroethane	U		0.303	1.00
1,1,1-Trichloroethane	U		0.319	1.00
1,1,2-Trichloroethane	U		0.383	1.00

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3300184-2 04/08/18 19:23

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Trichloroethene	U		0.398	1.00
1,2,3-Trimethylbenzene	U		0.321	1.00
Vinyl chloride	U		0.259	1.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	106			80.0-120
(S) Dibromofluoromethane	106			76.0-123
(S) a,a,a-Trifluorotoluene	101			80.0-120
(S) 4-Bromofluorobenzene	108			80.0-120

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

Laboratory Control Sample (LCS)

(LCS) R3300184-1 04/08/18 18:42

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Acetone	125	112	89.9	70.0-130	
Benzene	25.0	24.5	98.2	70.0-130	
Bromodichloromethane	25.0	20.1	80.3	70.0-130	
Bromoform	25.0	29.4	118	70.0-130	
Bromomethane	25.0	26.6	106	70.0-130	
Carbon disulfide	25.0	23.1	92.4	70.0-130	
Carbon tetrachloride	25.0	26.2	105	70.0-130	
Chlorobenzene	25.0	25.3	101	70.0-130	
Chlorodibromomethane	25.0	26.7	107	70.0-130	
Chloroethane	25.0	26.0	104	70.0-130	
Chloroform	25.0	23.9	95.4	70.0-130	
Chloromethane	25.0	26.9	108	70.0-130	
1,2-Dibromo-3-Chloropropane	25.0	26.4	105	70.0-130	
1,2-Dibromoethane	25.0	27.5	110	70.0-130	
1,2-Dichlorobenzene	25.0	27.0	108	70.0-130	
1,3-Dichlorobenzene	25.0	25.5	102	70.0-130	
1,4-Dichlorobenzene	25.0	25.5	102	70.0-130	
1,1-Dichloroethane	25.0	27.4	110	70.0-130	
1,2-Dichloroethane	25.0	28.0	112	70.0-130	
1,1-Dichloroethene	25.0	24.8	99.3	70.0-130	
cis-1,2-Dichloroethene	25.0	23.7	94.7	70.0-130	
trans-1,2-Dichloroethene	25.0	24.9	99.6	70.0-130	
1,2-Dichloropropane	25.0	26.1	104	70.0-130	
cis-1,3-Dichloropropene	25.0	27.8	111	70.0-130	
trans-1,3-Dichloropropene	25.0	26.6	106	70.0-130	

7 Gl

8 Al

9 Sc



Laboratory Control Sample (LCS)

(LCS) R3300184-1 04/08/18 18:42

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Di-isopropyl ether	25.0	27.8	111	70.0-130	
Ethylbenzene	25.0	24.6	98.4	70.0-130	
2-Hexanone	125	142	113	70.0-130	
2-Butanone (MEK)	125	135	108	70.0-130	
Methylene Chloride	25.0	24.7	98.8	70.0-130	
4-Methyl-2-pentanone (MIBK)	125	140	112	70.0-130	
Methyl tert-butyl ether	25.0	24.0	96.0	70.0-130	
Naphthalene	25.0	26.7	107	70.0-130	
Styrene	25.0	27.1	108	70.0-130	
1,1,2,2-Tetrachloroethane	25.0	25.4	102	70.0-130	
Tetrachloroethene	25.0	25.7	103	70.0-130	
Toluene	25.0	23.1	92.4	70.0-130	
1,1,2-Trichlorotrifluoroethane	25.0	27.5	110	70.0-130	
1,1,1-Trichloroethane	25.0	23.0	92.2	70.0-130	
1,1,2-Trichloroethane	25.0	23.5	94.1	70.0-130	
Trichloroethene	25.0	25.1	100	70.0-130	
1,2,3-Trimethylbenzene	25.0	26.2	105	70.0-130	
Vinyl chloride	25.0	29.5	118	70.0-130	
Xylenes, Total	75.0	72.6	96.8	70.0-130	
<i>(S) Toluene-d8</i>			104	80.0-120	
<i>(S) Dibromofluoromethane</i>			107	76.0-123	
<i>(S) a,a,a-Trifluorotoluene</i>			102	80.0-120	
<i>(S) 4-Bromofluorobenzene</i>			111	80.0-120	

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3301771-2 04/09/18 10:49

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.331	1.00
1,2-Dichloroethane	U		0.361	1.00
Ethylbenzene	U		0.384	1.00
Methyl tert-butyl ether	U		0.367	1.00
Naphthalene	U		1.00	5.00
Toluene	U		0.412	1.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	97.0			80.0-120
(S) Dibromofluoromethane	109			76.0-123
(S) 4-Bromofluorobenzene	90.0			80.0-120

Laboratory Control Sample (LCS)

(LCS) R3301771-1 04/09/18 09:46

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Benzene	25.0	27.6	111	70.0-130	
1,2-Dichloroethane	25.0	28.4	114	70.0-130	
Ethylbenzene	25.0	25.3	101	70.0-130	
Methyl tert-butyl ether	25.0	28.5	114	70.0-130	
Naphthalene	25.0	27.8	111	70.0-130	
Toluene	25.0	25.4	101	70.0-130	
Xylenes, Total	75.0	76.7	102	70.0-130	
(S) Toluene-d8			97.4	80.0-120	
(S) Dibromofluoromethane			104	76.0-123	
(S) 4-Bromofluorobenzene			88.3	80.0-120	

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3301230-2 04/09/18 20:23

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.331	1.00
1,2-Dichloroethane	U		0.361	1.00
Ethylbenzene	U		0.384	1.00
Methyl tert-butyl ether	U		0.367	1.00
Naphthalene	U		1.00	5.00
Toluene	U		0.412	1.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	109			80.0-120
(S) Dibromofluoromethane	89.0			76.0-123
(S) 4-Bromofluorobenzene	107			80.0-120

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Laboratory Control Sample (LCS)

(LCS) R3301230-1 04/09/18 19:41

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Benzene	25.0	24.5	98.1	70.0-130	
1,2-Dichloroethane	25.0	23.9	95.7	70.0-130	
Ethylbenzene	25.0	27.5	110	70.0-130	
Methyl tert-butyl ether	25.0	24.8	99.1	70.0-130	
Naphthalene	25.0	23.0	92.0	70.0-130	
Toluene	25.0	26.5	106	70.0-130	
Xylenes, Total	75.0	83.5	111	70.0-130	
(S) Toluene-d8			102	80.0-120	
(S) Dibromofluoromethane			90.4	76.0-123	
(S) 4-Bromofluorobenzene			104	80.0-120	



Guide to Reading and Understanding Your Laboratory Report

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

Abbreviations and Definitions

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

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.



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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
 * Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

State Accreditations

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

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

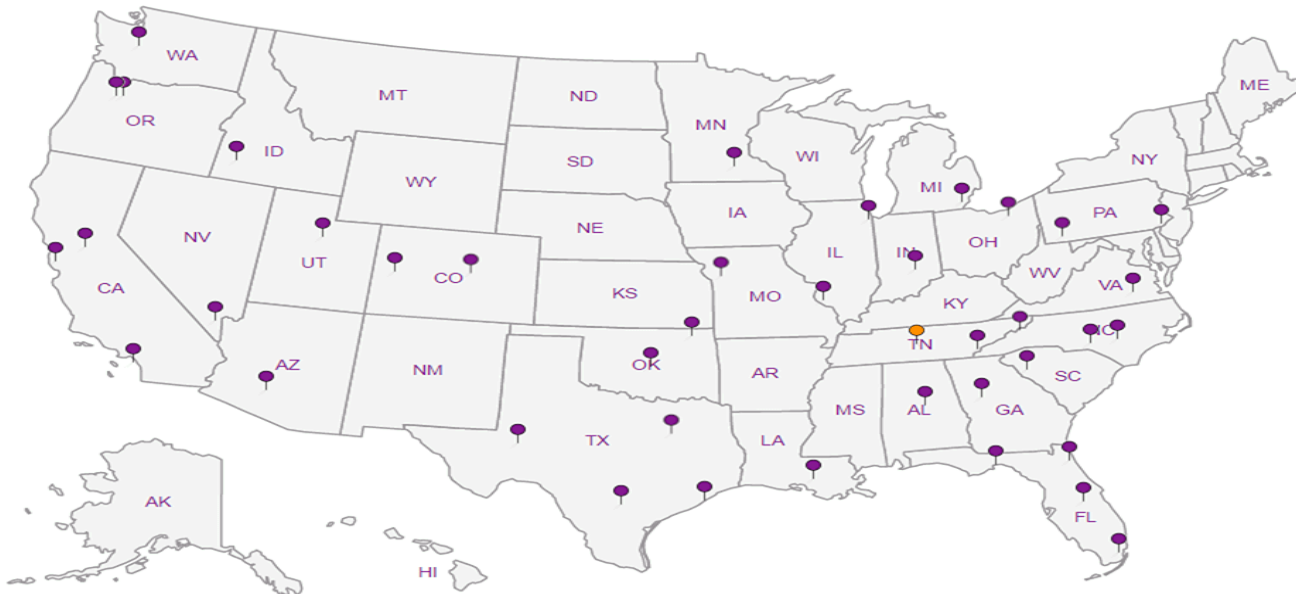
Third Party Federal Accreditations

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

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

Our Locations

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



CH2M Hill- Kinder Morgan- Atlanta, GA

6600 Peachtree Dunwoody Road

Report to:
Bethany Garvey

Billing Information:
Accounts Payable
1000 Windward Concourse
Ste 450
Alpharetta, GA 30005

Email To: bgarvey@ch2m.com;
tom.wiley@ch2m.com; scott.powell@ch2m.com;

Project Description: **Lewis Drive Groundwater**

City/State Collected: **BELTON, SC**

Phone: **770-604-9182**

Client Project #

Lab Project #
KINCH2MGA-LEWIS12

Fax:

699858.LD.MR.GW

Collected by (print):

Site/Facility ID #

P.O. #

Collected by (signature):

MELISSA WARREN

LEWIS DRIVE
Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

No. of Cntrs

Immediately Packed on Ice N Y

Analysis / Container / Preservative

Chain of Custody Page 1 of 3



A-B SCIENCES
a subsidiary of

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859



L# **904 984026**
B078

Acctnum: **KINCH2MGA**

Template: **T131319**

Prelogin: **P646448**

TSR: **526 - Chris McCord**

PB: **4-2-18**

Shipped Via: **FedEx Ground**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260BTEXMNSC 40mlAmb-HCl	V8260TCLSC-TB 40mlAmb-HCl-BIK	BTEX	MTBE	NAPHTHALENE	1,2-DCA	Remarks	Sample # (lab only)
MW-29-040618	GRAB	GW	N/A	04/06/18	1115	3	X		6	6	6	6		-01
MW-29-B-040618		GW			1120	3	X							-02
MW-26-040618		GW			1125	3	X							-03
MW-23-040618		GW			1130	3	X							-04
MW-22-040618		GW			1135	3	X							-05
MW-43-040618		GW			1200	3	X							-06
MW-38-040618		GW			1210	3	X							-08
MW-38-B-040618		GW			1215	3	X							-07
MW-34-040618		GW			1225	3	X							-09
MW-39-040618		GW			1230	3	X							-10

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks: V8260BTEXMNSC = BTEX, MTBE, Naphthalene, 1,2-DCA.

pH _____ Temp _____

Flow _____ Other _____

Sample Receipt Checklist:
COC Seal Present/Intact: Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
if Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N

Samples returned via:
UPS FedEx Courier

Tracking # **4269 9219 3165**

Relinquished by: (Signature) <i>Melissa Warren</i>	Date: 04/06/18	Time: 1730	Received by: (Signature)	Trip Blank Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> HCl / MeOH TBR.
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.9 °C Bottles Received: 69
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) <i>JM</i>	Date: 4/7/18 Time: 8:45 Hold: Condition: NCF / OK

CH2M Hill- Kinder Morgan- Atlanta, GA
 6600 Peachtree Dunwoody Road

Billing Information:
Accounts Payable
 1000 Windward Concourse
 Ste 450
 Alpharetta, GA 30005

Pres Chk
 Analysis / Container / Preservative

Chain of Custody Page **2 of 3**

 L-A-B S-C-I-E-N-C-E-S
 a subsidiary of 
 12065 Lebanon Rd
 Mount Juliet, TN 37122
 Phone: 615-758-5858
 Phone: 800-767-5859
 Fax: 615-758-5859


Report to:
Bethany Garvey

Email To: bgarvey@ch2m.com;
 tom.wiley@ch2m.com; scott.powell@ch2m.com;

Project
 Description: **Lewis Drive Groundwater**

City/State
 Collected: **BELTON, SC**

Phone: **770-604-9182**
 Fax:

Client Project #
699958.LD.MR.GW

Lab Project #
KINCH2MGA-LEWIS12

Collected by (print):
MELISSA WARREN

Site/Facility ID #
LEWIS DRIVE

P.O. #
 Quote #
 Date Results Needed
 No. of Cntrs

Collected by (signature):
 Immediately Packed on Ice **N X Y**

Rush? (Lab MUST Be Notified)
 ___ Same Day ___ Five Day
 ___ Next Day ___ 5 Day (Rad Only)
 ___ Two Day ___ 10 Day (Rad Only)
 ___ Three Day

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
MW-40-040618	GRAB	GW	N/A	04/06/18	1235	3
MW-41-040618		GW			1240	3
MW-25-040618		GW			1250	3
MW-35-040618		GW			1300	3
MW-28-040618		GW			1305	3
FBI-040618		GW			1320	3
MW-31-040618		GW			1345	3
MW-30-040618		GW			1355	3
MW-03-040618		GW			1405	3
MW-02-040618		GW			1415	3

Remarks: **V8260BTEXMNSC = BTEX, MTBE, Naphthalene, 1,2-DCA.**

Analysis / Container / Preservative	Pres Chk
V8260BTEXMNSC 40miAmb-HCI	X
V8260TCLSC-TB 40miAmb-HCI-Bik	X
BTEX	X
MTBE	X
NAPHTHALENE	X
1,2-DCA	X

L # **984026**
 Table #
 Acctnum: **KINCH2MGA**
 Template: **T131319**
 Prelogin: **P646448**
 TSR: **526 - Chris McCord**
 PB: **4-2-186**
 Shipped Via: **FedEx Ground**

* Matrix:
 SS - Soil AIR - Air F - Filter
 GW - Groundwater B - Bioassay
 WW - WasteWater
 DW - Drinking Water
 OT - Other

Samples returned via:
 ___ UPS ___ FedEx ___ Courier ___
 Tracking # **4269 9219 3105**

pH ___ Temp ___
 Flow ___ Other ___

Remarks	Sample # (lab only)
	-11
	-12
	-13
	-14
	-15
	-16
	-17
	-18
	-19
	-20

Relinquished by: (Signature)
Melissa Warren
 Date: **04/06/18**
 Time: **1730**

Received by: (Signature)
[Signature]
 Date: **4/7/18**
 Time: **8:45**

Trip Blank Received: **Yes/No**
 HCl / MeOH
 TBR
 Temp: **2.9 KM °C**
 Bottles Received: **69**

Sample Receipt Check:
 COC Seal Present/Intact: **N** Y ___ N ___
 COC Signed/Accurate: **N** Y ___ N ___
 Bottles arrive intact: **N** Y ___ N ___
 Correct bottles used: **N** Y ___ N ___
 Sufficient volume sent: **N** Y ___ N ___
 VOA Zero Headspace: **N** Y ___ N ___
 Preservation Correct/Checked: **N** Y ___ N ___
 If preservation required by Login: Date/Time
 Hold:
 Condition: **NCF / CX**

CH2M Hill- Kinder Morgan- Atlanta, GA

6600 Peachtree Dunwoody Road

Report to:
Bethany Garvey

Billing Information:
Accounts Payable
1000 Windward Concourse
Ste 450
Alpharetta, GA 30005

Email To: bgarvey@ch2m.com;
tom.wiley@ch2m.com; scott.powell@ch2m.com;

Project Description: **Lewis Drive Surface Water**

City/State Collected: **BELTON, SC**

Lab Project # **KINCH2MGA-LEWIS**

P.O. #

Quote #

Date Results Needed

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page 3 of 3



LAB SCIENCES
a subsidiary of

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859



L# **98408**

Table #

Acctnum: **KINCH2MGA**

Template: **T132193**

Prelogin: **P646447**

TSR: **526 - Chris McCord**

PB: **4-2-18**

Shipped Via: **FedEX Ground**

Remarks Sample # (lab only)

Phone: **770-604-9182**

Client Project #

699858.LD.MR.6W

Fax:

Collected by (print):

MELISSA WAMEN

Site/Facility ID #

LEWIS DRIVE

Collected by (signature):

Melissa Wamen

Rush? (Lab MUST Be Notified)

___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Immediately

Packed on Ice N ___ Y ___

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260BTEXMNSC 40mlAmb-HCl	V8260TCLSC-TB 40mlAmb-HCl-BIK	BTEX	MTBE	NAPHTHALENE	1,2-DCA	Remarks	Sample # (lab only)
MW-10-040618	GRAB	GW	N/A	04/06/18	1420	3	X		X	X	X	X		-21
MW-05-040618	↓	GW	↓	↓	1455	3	X		X	X	X	X		-22
MW-45-040618	↓	GW	↓	↓	1500	3	X		X	X	X	X		-23
TB01-040618	↓	GW	↓	↓	1505	1		X						-24

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks: **V8260BTEXMNSC=BTEX,Napthalene,MTBE**

pH ___ Temp ___
Flow ___ Other ___

Sample Receipt Checklist
COC Seal Present/Intact: Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N

Samples returned via:
___ UPS ___ FedEx ___ Courier ___

Tracking # **4269 9219 3165**

Relinquished by: (Signature) *Melissa Wamen* Date: **03/04/18** Time: **1750**

Relinquished by: (Signature) _____ Date: _____ Time: _____

Relinquished by: (Signature) _____ Date: _____ Time: _____

Received by: (Signature) _____ Trip Blank Received: Yes No
H₂O / MeOH TBR

Received by: (Signature) _____ Temp: **2.9** °C Bottles Received: **69**

Received for lab by: (Signature) *[Signature]* Date: **4/7/18** Time: **8:45**

If preservation required by Login: Date/Time

Hold: _____ Condition: **NCF / OK**

May 14, 2018

Jacobs - Kinder Morgan- Atlanta, GA

Sample Delivery Group: L991256
Samples Received: 05/04/2018
Project Number: 699858.LD.MR.GW
Description: Lewis Drive Groundwater
Site: LEWIS DRIVE
Report To: Bethany Garvey
6600 Peachtree Dunwoody Road
400 Embassy Row - Suite 600
Atlanta, GA 30328

Entire Report Reviewed By:



Chris McCord
Technical Service Representative

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



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1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

SAMPLE SUMMARY



MW-29-050318 L991256-01 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by Melissa Warren				Collected date/time 05/03/18 11:55	Received date/time 05/04/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107404	1	05/05/18 17:37	05/05/18 17:37	JAH

1 Cp

2 Tc

3 Ss

MW-26-050318 L991256-02 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by Melissa Warren				Collected date/time 05/03/18 12:05	Received date/time 05/04/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107404	1	05/05/18 17:58	05/05/18 17:58	JAH

4 Cn

5 Sr

MW-23-050318 L991256-03 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by Melissa Warren				Collected date/time 05/03/18 12:20	Received date/time 05/04/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107404	1	05/05/18 18:18	05/05/18 18:18	JAH

6 Qc

7 Gl

MW-23-D-050318 L991256-04 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by Melissa Warren				Collected date/time 05/03/18 12:23	Received date/time 05/04/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107404	1	05/05/18 18:39	05/05/18 18:39	JAH

8 Al

9 Sc

MW-45-050318 L991256-05 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by Melissa Warren				Collected date/time 05/03/18 12:25	Received date/time 05/04/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107544	1	05/11/18 16:42	05/11/18 16:42	BMB

MW-22-050318 L991256-06 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by Melissa Warren				Collected date/time 05/03/18 12:40	Received date/time 05/04/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107544	1	05/06/18 12:25	05/06/18 12:25	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107544	10	05/09/18 00:24	05/09/18 00:24	ACG

MW-43-050318 L991256-07 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by Melissa Warren				Collected date/time 05/03/18 13:00	Received date/time 05/04/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107544	1	05/06/18 12:45	05/06/18 12:45	BMB

MW-38-050318 L991256-08 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by Melissa Warren				Collected date/time 05/03/18 13:15	Received date/time 05/04/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107544	10	05/06/18 13:04	05/06/18 13:04	BMB

SAMPLE SUMMARY



MW-34-050318 L991256-09 GW

Collected by
Melissa Warren

Collected date/time
05/03/18 13:20

Received date/time
05/04/18 08:45

1 Cp

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107544	10	05/06/18 13:24	05/06/18 13:24	BMB

2 Tc

MW-39-050318 L991256-10 GW

Collected by
Melissa Warren

Collected date/time
05/03/18 13:25

Received date/time
05/04/18 08:45

3 Ss

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107544	10	05/11/18 17:03	05/11/18 17:03	BMB

4 Cn

MW-40-050318 L991256-11 GW

Collected by
Melissa Warren

Collected date/time
05/03/18 13:35

Received date/time
05/04/18 08:45

5 Sr

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107544	100	05/11/18 17:23	05/11/18 17:23	BMB

6 Qc

MW-41-050318 L991256-12 GW

Collected by
Melissa Warren

Collected date/time
05/03/18 13:40

Received date/time
05/04/18 08:45

7 Gl

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107544	1	05/11/18 17:43	05/11/18 17:43	BMB

8 Al

MW-25-050318 L991256-13 GW

Collected by
Melissa Warren

Collected date/time
05/03/18 13:50

Received date/time
05/04/18 08:45

9 Sc

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107544	1	05/06/18 14:42	05/06/18 14:42	BMB

MW-35-050318 L991256-14 GW

Collected by
Melissa Warren

Collected date/time
05/03/18 13:55

Received date/time
05/04/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107544	1	05/11/18 18:03	05/11/18 18:03	BMB

MW-28-050318 L991256-15 GW

Collected by
Melissa Warren

Collected date/time
05/03/18 14:05

Received date/time
05/04/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107544	1	05/11/18 18:50	05/11/18 18:50	BMB

TB01-050318 L991256-16 GW

Collected by
Melissa Warren

Collected date/time
05/03/18 14:15

Received date/time
05/04/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107535	1	05/05/18 19:38	05/05/18 19:38	BMB

SAMPLE SUMMARY



MW-31-050318 L991256-17 GW

Collected by
Melissa Warren

Collected date/time
05/03/18 14:50

Received date/time
05/04/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107544	1	05/11/18 19:10	05/11/18 19:10	BMB

1 Cp

2 Tc

3 Ss

MW-31-D-050318 L991256-18 GW

Collected by
Melissa Warren

Collected date/time
05/03/18 14:52

Received date/time
05/04/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107544	1	05/11/18 19:30	05/11/18 19:30	BMB

4 Cn

5 Sr

MW-10-050318 L991256-19 GW

Collected by
Melissa Warren

Collected date/time
05/03/18 15:10

Received date/time
05/04/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107544	1	05/11/18 20:16	05/11/18 20:16	BMB

6 Qc

7 Gl

MW-02-050318 L991256-20 GW

Collected by
Melissa Warren

Collected date/time
05/03/18 15:15

Received date/time
05/04/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107544	1	05/09/18 00:44	05/09/18 00:44	ACG

8 Al

9 Sc

MW-03-050318 L991256-21 GW

Collected by
Melissa Warren

Collected date/time
05/03/18 15:25

Received date/time
05/04/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107544	1	05/06/18 17:22	05/06/18 17:22	BMB

MW-30-050318 L991256-22 GW

Collected by
Melissa Warren

Collected date/time
05/03/18 15:35

Received date/time
05/04/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107544	1	05/06/18 17:41	05/06/18 17:41	BMB

MW-05-050318 L991256-23 GW

Collected by
Melissa Warren

Collected date/time
05/03/18 15:40

Received date/time
05/04/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107544	1	05/11/18 20:36	05/11/18 20:36	BMB

MW-07-050318 L991256-24 GW

Collected by
Melissa Warren

Collected date/time
05/03/18 15:50

Received date/time
05/04/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107544	250	05/11/18 20:56	05/11/18 20:56	BMB

SAMPLE SUMMARY



FB01-050318 L991256-25 GW

Collected by
Melissa Warren

Collected date/time
05/03/18 16:00

Received date/time
05/04/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1107544	1	05/06/18 11:46	05/06/18 11:46	BMB

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris McCord
Technical Service Representative

- ¹ Cp
- ² Tc
- ³ Ss
- ⁴ Cn
- ⁵ Sr
- ⁶ Qc
- ⁷ Gl
- ⁸ Al
- ⁹ Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	05/05/2018 17:37	WG1107404
Toluene	ND		1.00	1	05/05/2018 17:37	WG1107404
Ethylbenzene	ND		1.00	1	05/05/2018 17:37	WG1107404
Total Xylenes	ND		3.00	1	05/05/2018 17:37	WG1107404
Methyl tert-butyl ether	ND		1.00	1	05/05/2018 17:37	WG1107404
Naphthalene	ND		5.00	1	05/05/2018 17:37	WG1107404
1,2-Dichloroethane	ND		1.00	1	05/05/2018 17:37	WG1107404
(S) Toluene-d8	98.3		80.0-120		05/05/2018 17:37	WG1107404
(S) Dibromofluoromethane	107		76.0-123		05/05/2018 17:37	WG1107404
(S) 4-Bromofluorobenzene	107		80.0-120		05/05/2018 17:37	WG1107404

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	05/05/2018 17:58	WG1107404
Toluene	ND		1.00	1	05/05/2018 17:58	WG1107404
Ethylbenzene	ND		1.00	1	05/05/2018 17:58	WG1107404
Total Xylenes	ND		3.00	1	05/05/2018 17:58	WG1107404
Methyl tert-butyl ether	ND		1.00	1	05/05/2018 17:58	WG1107404
Naphthalene	ND		5.00	1	05/05/2018 17:58	WG1107404
1,2-Dichloroethane	ND		1.00	1	05/05/2018 17:58	WG1107404
(S) Toluene-d8	108		80.0-120		05/05/2018 17:58	WG1107404
(S) Dibromofluoromethane	97.6		76.0-123		05/05/2018 17:58	WG1107404
(S) 4-Bromofluorobenzene	97.2		80.0-120		05/05/2018 17:58	WG1107404

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	05/05/2018 18:18	WG1107404
Toluene	ND		1.00	1	05/05/2018 18:18	WG1107404
Ethylbenzene	ND		1.00	1	05/05/2018 18:18	WG1107404
Total Xylenes	ND		3.00	1	05/05/2018 18:18	WG1107404
Methyl tert-butyl ether	19.1		1.00	1	05/05/2018 18:18	WG1107404
Naphthalene	ND		5.00	1	05/05/2018 18:18	WG1107404
1,2-Dichloroethane	ND		1.00	1	05/05/2018 18:18	WG1107404
(S) Toluene-d8	102		80.0-120		05/05/2018 18:18	WG1107404
(S) Dibromofluoromethane	104		76.0-123		05/05/2018 18:18	WG1107404
(S) 4-Bromofluorobenzene	105		80.0-120		05/05/2018 18:18	WG1107404

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	05/05/2018 18:39	WG1107404
Toluene	ND		1.00	1	05/05/2018 18:39	WG1107404
Ethylbenzene	ND		1.00	1	05/05/2018 18:39	WG1107404
Total Xylenes	ND		3.00	1	05/05/2018 18:39	WG1107404
Methyl tert-butyl ether	16.9		1.00	1	05/05/2018 18:39	WG1107404
Naphthalene	ND		5.00	1	05/05/2018 18:39	WG1107404
1,2-Dichloroethane	ND		1.00	1	05/05/2018 18:39	WG1107404
(S) Toluene-d8	111		80.0-120		05/05/2018 18:39	WG1107404
(S) Dibromofluoromethane	93.5		76.0-123		05/05/2018 18:39	WG1107404
(S) 4-Bromofluorobenzene	103		80.0-120		05/05/2018 18:39	WG1107404

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	2.65		1.00	1	05/11/2018 16:42	WG1107544
Toluene	ND		1.00	1	05/11/2018 16:42	WG1107544
Ethylbenzene	ND		1.00	1	05/11/2018 16:42	WG1107544
Total Xylenes	ND		3.00	1	05/11/2018 16:42	WG1107544
Methyl tert-butyl ether	3.35		1.00	1	05/11/2018 16:42	WG1107544
Naphthalene	ND		5.00	1	05/11/2018 16:42	WG1107544
1,2-Dichloroethane	ND		1.00	1	05/11/2018 16:42	WG1107544
(S) Toluene-d8	107		80.0-120		05/11/2018 16:42	WG1107544
(S) Dibromofluoromethane	101		76.0-123		05/11/2018 16:42	WG1107544
(S) 4-Bromofluorobenzene	105		80.0-120		05/11/2018 16:42	WG1107544

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	1.43		1.00	1	05/06/2018 12:25	WG1107544
Toluene	33.1		1.00	1	05/06/2018 12:25	WG1107544
Ethylbenzene	1.79		1.00	1	05/06/2018 12:25	WG1107544
Total Xylenes	426		30.0	10	05/09/2018 00:24	WG1107544
Methyl tert-butyl ether	ND		1.00	1	05/06/2018 12:25	WG1107544
Naphthalene	ND		5.00	1	05/06/2018 12:25	WG1107544
1,2-Dichloroethane	ND		1.00	1	05/06/2018 12:25	WG1107544
(S) Toluene-d8	95.2		80.0-120		05/09/2018 00:24	WG1107544
(S) Toluene-d8	103		80.0-120		05/06/2018 12:25	WG1107544
(S) Dibromofluoromethane	97.8		76.0-123		05/09/2018 00:24	WG1107544
(S) Dibromofluoromethane	97.0		76.0-123		05/06/2018 12:25	WG1107544
(S) 4-Bromofluorobenzene	86.4		80.0-120		05/06/2018 12:25	WG1107544
(S) 4-Bromofluorobenzene	95.1		80.0-120		05/09/2018 00:24	WG1107544

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	05/06/2018 12:45	WG1107544
Toluene	ND		1.00	1	05/06/2018 12:45	WG1107544
Ethylbenzene	ND		1.00	1	05/06/2018 12:45	WG1107544
Total Xylenes	ND		3.00	1	05/06/2018 12:45	WG1107544
Methyl tert-butyl ether	ND		1.00	1	05/06/2018 12:45	WG1107544
Naphthalene	ND		5.00	1	05/06/2018 12:45	WG1107544
1,2-Dichloroethane	ND		1.00	1	05/06/2018 12:45	WG1107544
(S) Toluene-d8	107		80.0-120		05/06/2018 12:45	WG1107544
(S) Dibromofluoromethane	94.7		76.0-123		05/06/2018 12:45	WG1107544
(S) 4-Bromofluorobenzene	82.6		80.0-120		05/06/2018 12:45	WG1107544

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	378		10.0	10	05/06/2018 13:04	WG1107544
Toluene	ND		10.0	10	05/06/2018 13:04	WG1107544
Ethylbenzene	ND		10.0	10	05/06/2018 13:04	WG1107544
Total Xylenes	212		30.0	10	05/06/2018 13:04	WG1107544
Methyl tert-butyl ether	62.1		10.0	10	05/06/2018 13:04	WG1107544
Naphthalene	ND		50.0	10	05/06/2018 13:04	WG1107544
1,2-Dichloroethane	ND		10.0	10	05/06/2018 13:04	WG1107544
(S) Toluene-d8	106		80.0-120		05/06/2018 13:04	WG1107544
(S) Dibromofluoromethane	95.0		76.0-123		05/06/2018 13:04	WG1107544
(S) 4-Bromofluorobenzene	81.0		80.0-120		05/06/2018 13:04	WG1107544

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	342		10.0	10	05/06/2018 13:24	WG1107544
Toluene	18.1		10.0	10	05/06/2018 13:24	WG1107544
Ethylbenzene	ND		10.0	10	05/06/2018 13:24	WG1107544
Total Xylenes	99.7		30.0	10	05/06/2018 13:24	WG1107544
Methyl tert-butyl ether	278		10.0	10	05/06/2018 13:24	WG1107544
Naphthalene	ND		50.0	10	05/06/2018 13:24	WG1107544
1,2-Dichloroethane	ND		10.0	10	05/06/2018 13:24	WG1107544
(S) Toluene-d8	106		80.0-120		05/06/2018 13:24	WG1107544
(S) Dibromofluoromethane	97.7		76.0-123		05/06/2018 13:24	WG1107544
(S) 4-Bromofluorobenzene	81.1		80.0-120		05/06/2018 13:24	WG1107544

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		10.0	10	05/11/2018 17:03	WG1107544
Toluene	ND		10.0	10	05/11/2018 17:03	WG1107544
Ethylbenzene	ND		10.0	10	05/11/2018 17:03	WG1107544
Total Xylenes	ND		30.0	10	05/11/2018 17:03	WG1107544
Methyl tert-butyl ether	287		10.0	10	05/11/2018 17:03	WG1107544
Naphthalene	ND		50.0	10	05/11/2018 17:03	WG1107544
1,2-Dichloroethane	ND		10.0	10	05/11/2018 17:03	WG1107544
(S) Toluene-d8	107		80.0-120		05/11/2018 17:03	WG1107544
(S) Dibromofluoromethane	101		76.0-123		05/11/2018 17:03	WG1107544
(S) 4-Bromofluorobenzene	109		80.0-120		05/11/2018 17:03	WG1107544

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	2890		100	100	05/11/2018 17:23	WG1107544
Toluene	3490		100	100	05/11/2018 17:23	WG1107544
Ethylbenzene	ND		100	100	05/11/2018 17:23	WG1107544
Total Xylenes	3350		300	100	05/11/2018 17:23	WG1107544
Methyl tert-butyl ether	288		100	100	05/11/2018 17:23	WG1107544
Naphthalene	ND		500	100	05/11/2018 17:23	WG1107544
1,2-Dichloroethane	ND		100	100	05/11/2018 17:23	WG1107544
(S) Toluene-d8	105		80.0-120		05/11/2018 17:23	WG1107544
(S) Dibromofluoromethane	102		76.0-123		05/11/2018 17:23	WG1107544
(S) 4-Bromofluorobenzene	104		80.0-120		05/11/2018 17:23	WG1107544

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	05/11/2018 17:43	WG1107544
Toluene	ND		1.00	1	05/11/2018 17:43	WG1107544
Ethylbenzene	ND		1.00	1	05/11/2018 17:43	WG1107544
Total Xylenes	ND		3.00	1	05/11/2018 17:43	WG1107544
Methyl tert-butyl ether	ND		1.00	1	05/11/2018 17:43	WG1107544
Naphthalene	ND		5.00	1	05/11/2018 17:43	WG1107544
1,2-Dichloroethane	ND		1.00	1	05/11/2018 17:43	WG1107544
(S) Toluene-d8	106		80.0-120		05/11/2018 17:43	WG1107544
(S) Dibromofluoromethane	104		76.0-123		05/11/2018 17:43	WG1107544
(S) 4-Bromofluorobenzene	107		80.0-120		05/11/2018 17:43	WG1107544

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	05/06/2018 14:42	WG1107544
Toluene	ND		1.00	1	05/06/2018 14:42	WG1107544
Ethylbenzene	ND		1.00	1	05/06/2018 14:42	WG1107544
Total Xylenes	ND		3.00	1	05/06/2018 14:42	WG1107544
Methyl tert-butyl ether	ND		1.00	1	05/06/2018 14:42	WG1107544
Naphthalene	ND		5.00	1	05/06/2018 14:42	WG1107544
1,2-Dichloroethane	ND		1.00	1	05/06/2018 14:42	WG1107544
(S) Toluene-d8	107		80.0-120		05/06/2018 14:42	WG1107544
(S) Dibromofluoromethane	96.2		76.0-123		05/06/2018 14:42	WG1107544
(S) 4-Bromofluorobenzene	80.5		80.0-120		05/06/2018 14:42	WG1107544

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	05/11/2018 18:03	WG1107544
Toluene	ND		1.00	1	05/11/2018 18:03	WG1107544
Ethylbenzene	ND		1.00	1	05/11/2018 18:03	WG1107544
Total Xylenes	ND		3.00	1	05/11/2018 18:03	WG1107544
Methyl tert-butyl ether	ND		1.00	1	05/11/2018 18:03	WG1107544
Naphthalene	ND		5.00	1	05/11/2018 18:03	WG1107544
1,2-Dichloroethane	ND		1.00	1	05/11/2018 18:03	WG1107544
(S) Toluene-d8	104		80.0-120		05/11/2018 18:03	WG1107544
(S) Dibromofluoromethane	103		76.0-123		05/11/2018 18:03	WG1107544
(S) 4-Bromofluorobenzene	108		80.0-120		05/11/2018 18:03	WG1107544

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	8.25		1.00	1	05/11/2018 18:50	WG1107544
Toluene	1.55		1.00	1	05/11/2018 18:50	WG1107544
Ethylbenzene	8.82		1.00	1	05/11/2018 18:50	WG1107544
Total Xylenes	24.5		3.00	1	05/11/2018 18:50	WG1107544
Methyl tert-butyl ether	ND		1.00	1	05/11/2018 18:50	WG1107544
Naphthalene	ND		5.00	1	05/11/2018 18:50	WG1107544
1,2-Dichloroethane	ND		1.00	1	05/11/2018 18:50	WG1107544
(S) Toluene-d8	104		80.0-120		05/11/2018 18:50	WG1107544
(S) Dibromofluoromethane	102		76.0-123		05/11/2018 18:50	WG1107544
(S) 4-Bromofluorobenzene	103		80.0-120		05/11/2018 18:50	WG1107544

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		50.0	1	05/05/2018 19:38	WG1107535
Benzene	ND		1.00	1	05/05/2018 19:38	WG1107535
Bromodichloromethane	ND		1.00	1	05/05/2018 19:38	WG1107535
Bromoform	ND		1.00	1	05/05/2018 19:38	WG1107535
Bromomethane	ND		5.00	1	05/05/2018 19:38	WG1107535
Carbon disulfide	ND		1.00	1	05/05/2018 19:38	WG1107535
Carbon tetrachloride	ND		1.00	1	05/05/2018 19:38	WG1107535
Chlorobenzene	ND		1.00	1	05/05/2018 19:38	WG1107535
Chlorodibromomethane	ND		1.00	1	05/05/2018 19:38	WG1107535
Chloroethane	ND		5.00	1	05/05/2018 19:38	WG1107535
Chloroform	ND		5.00	1	05/05/2018 19:38	WG1107535
Chloromethane	ND		2.50	1	05/05/2018 19:38	WG1107535
1,2-Dibromo-3-Chloropropane	ND		5.00	1	05/05/2018 19:38	WG1107535
1,2-Dibromoethane	ND		1.00	1	05/05/2018 19:38	WG1107535
1,2-Dichlorobenzene	ND		1.00	1	05/05/2018 19:38	WG1107535
1,3-Dichlorobenzene	ND		1.00	1	05/05/2018 19:38	WG1107535
1,4-Dichlorobenzene	ND		1.00	1	05/05/2018 19:38	WG1107535
1,1-Dichloroethane	ND		1.00	1	05/05/2018 19:38	WG1107535
1,2-Dichloroethane	ND		1.00	1	05/05/2018 19:38	WG1107535
1,1-Dichloroethene	ND		1.00	1	05/05/2018 19:38	WG1107535
cis-1,2-Dichloroethene	ND		1.00	1	05/05/2018 19:38	WG1107535
trans-1,2-Dichloroethene	ND		1.00	1	05/05/2018 19:38	WG1107535
1,2-Dichloropropane	ND		1.00	1	05/05/2018 19:38	WG1107535
cis-1,3-Dichloropropene	ND		1.00	1	05/05/2018 19:38	WG1107535
trans-1,3-Dichloropropene	ND		1.00	1	05/05/2018 19:38	WG1107535
Di-isopropyl ether	ND		1.00	1	05/05/2018 19:38	WG1107535
Ethylbenzene	ND		1.00	1	05/05/2018 19:38	WG1107535
2-Butanone (MEK)	ND		10.0	1	05/05/2018 19:38	WG1107535
2-Hexanone	ND		10.0	1	05/05/2018 19:38	WG1107535
Methylene Chloride	ND		5.00	1	05/05/2018 19:38	WG1107535
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	05/05/2018 19:38	WG1107535
Methyl tert-butyl ether	ND		1.00	1	05/05/2018 19:38	WG1107535
Naphthalene	ND		5.00	1	05/05/2018 19:38	WG1107535
Styrene	ND		1.00	1	05/05/2018 19:38	WG1107535
1,1,2,2-Tetrachloroethane	ND		1.00	1	05/05/2018 19:38	WG1107535
Tetrachloroethene	ND		1.00	1	05/05/2018 19:38	WG1107535
Toluene	ND		1.00	1	05/05/2018 19:38	WG1107535
1,1,1-Trichloroethane	ND		1.00	1	05/05/2018 19:38	WG1107535
1,1,2-Trichloroethane	ND		1.00	1	05/05/2018 19:38	WG1107535
Trichloroethene	ND		1.00	1	05/05/2018 19:38	WG1107535
Vinyl chloride	ND		1.00	1	05/05/2018 19:38	WG1107535
Xylenes, Total	ND		3.00	1	05/05/2018 19:38	WG1107535
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	05/05/2018 19:38	WG1107535
1,2,3-Trimethylbenzene	ND		1.00	1	05/05/2018 19:38	WG1107535
(S) Toluene-d8	105		80.0-120		05/05/2018 19:38	WG1107535
(S) Dibromofluoromethane	96.6		76.0-123		05/05/2018 19:38	WG1107535
(S) a,a,a-Trifluorotoluene	107		80.0-120		05/05/2018 19:38	WG1107535
(S) 4-Bromofluorobenzene	103		80.0-120		05/05/2018 19:38	WG1107535

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	05/11/2018 19:10	WG1107544
Toluene	ND		1.00	1	05/11/2018 19:10	WG1107544
Ethylbenzene	ND		1.00	1	05/11/2018 19:10	WG1107544
Total Xylenes	ND		3.00	1	05/11/2018 19:10	WG1107544
Methyl tert-butyl ether	ND		1.00	1	05/11/2018 19:10	WG1107544
Naphthalene	ND		5.00	1	05/11/2018 19:10	WG1107544
1,2-Dichloroethane	ND		1.00	1	05/11/2018 19:10	WG1107544
(S) Toluene-d8	104		80.0-120		05/11/2018 19:10	WG1107544
(S) Dibromofluoromethane	103		76.0-123		05/11/2018 19:10	WG1107544
(S) 4-Bromofluorobenzene	111		80.0-120		05/11/2018 19:10	WG1107544

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	05/11/2018 19:30	WG1107544
Toluene	ND		1.00	1	05/11/2018 19:30	WG1107544
Ethylbenzene	ND		1.00	1	05/11/2018 19:30	WG1107544
Total Xylenes	ND		3.00	1	05/11/2018 19:30	WG1107544
Methyl tert-butyl ether	ND		1.00	1	05/11/2018 19:30	WG1107544
Naphthalene	ND		5.00	1	05/11/2018 19:30	WG1107544
1,2-Dichloroethane	ND		1.00	1	05/11/2018 19:30	WG1107544
(S) Toluene-d8	105		80.0-120		05/11/2018 19:30	WG1107544
(S) Dibromofluoromethane	102		76.0-123		05/11/2018 19:30	WG1107544
(S) 4-Bromofluorobenzene	106		80.0-120		05/11/2018 19:30	WG1107544

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	05/11/2018 20:16	WG1107544
Toluene	ND		1.00	1	05/11/2018 20:16	WG1107544
Ethylbenzene	ND		1.00	1	05/11/2018 20:16	WG1107544
Total Xylenes	ND		3.00	1	05/11/2018 20:16	WG1107544
Methyl tert-butyl ether	ND		1.00	1	05/11/2018 20:16	WG1107544
Naphthalene	ND		5.00	1	05/11/2018 20:16	WG1107544
1,2-Dichloroethane	ND		1.00	1	05/11/2018 20:16	WG1107544
(S) Toluene-d8	107		80.0-120		05/11/2018 20:16	WG1107544
(S) Dibromofluoromethane	103		76.0-123		05/11/2018 20:16	WG1107544
(S) 4-Bromofluorobenzene	108		80.0-120		05/11/2018 20:16	WG1107544

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	35.4		1.00	1	05/09/2018 00:44	WG1107544
Toluene	14.9		1.00	1	05/09/2018 00:44	WG1107544
Ethylbenzene	7.50		1.00	1	05/09/2018 00:44	WG1107544
Total Xylenes	163		3.00	1	05/09/2018 00:44	WG1107544
Methyl tert-butyl ether	7.95		1.00	1	05/09/2018 00:44	WG1107544
Naphthalene	ND		5.00	1	05/09/2018 00:44	WG1107544
1,2-Dichloroethane	ND		1.00	1	05/09/2018 00:44	WG1107544
(S) Toluene-d8	96.8		80.0-120		05/09/2018 00:44	WG1107544
(S) Dibromofluoromethane	95.8		76.0-123		05/09/2018 00:44	WG1107544
(S) 4-Bromofluorobenzene	96.1		80.0-120		05/09/2018 00:44	WG1107544

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	05/06/2018 17:22	WG1107544
Toluene	ND		1.00	1	05/06/2018 17:22	WG1107544
Ethylbenzene	ND		1.00	1	05/06/2018 17:22	WG1107544
Total Xylenes	ND		3.00	1	05/06/2018 17:22	WG1107544
Methyl tert-butyl ether	ND		1.00	1	05/06/2018 17:22	WG1107544
Naphthalene	ND		5.00	1	05/06/2018 17:22	WG1107544
1,2-Dichloroethane	ND		1.00	1	05/06/2018 17:22	WG1107544
(S) Toluene-d8	107		80.0-120		05/06/2018 17:22	WG1107544
(S) Dibromofluoromethane	95.4		76.0-123		05/06/2018 17:22	WG1107544
(S) 4-Bromofluorobenzene	83.4		80.0-120		05/06/2018 17:22	WG1107544

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	1.19		1.00	1	05/06/2018 17:41	WG1107544
Toluene	3.70		1.00	1	05/06/2018 17:41	WG1107544
Ethylbenzene	ND		1.00	1	05/06/2018 17:41	WG1107544
Total Xylenes	ND		3.00	1	05/06/2018 17:41	WG1107544
Methyl tert-butyl ether	2.29		1.00	1	05/06/2018 17:41	WG1107544
Naphthalene	ND		5.00	1	05/06/2018 17:41	WG1107544
1,2-Dichloroethane	ND		1.00	1	05/06/2018 17:41	WG1107544
(S) Toluene-d8	107		80.0-120		05/06/2018 17:41	WG1107544
(S) Dibromofluoromethane	95.1		76.0-123		05/06/2018 17:41	WG1107544
(S) 4-Bromofluorobenzene	80.4		80.0-120		05/06/2018 17:41	WG1107544

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	05/11/2018 20:36	WG1107544
Toluene	ND		1.00	1	05/11/2018 20:36	WG1107544
Ethylbenzene	ND		1.00	1	05/11/2018 20:36	WG1107544
Total Xylenes	ND		3.00	1	05/11/2018 20:36	WG1107544
Methyl tert-butyl ether	ND		1.00	1	05/11/2018 20:36	WG1107544
Naphthalene	ND		5.00	1	05/11/2018 20:36	WG1107544
1,2-Dichloroethane	ND		1.00	1	05/11/2018 20:36	WG1107544
(S) Toluene-d8	106		80.0-120		05/11/2018 20:36	WG1107544
(S) Dibromofluoromethane	106		76.0-123		05/11/2018 20:36	WG1107544
(S) 4-Bromofluorobenzene	108		80.0-120		05/11/2018 20:36	WG1107544

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	6330		250	250	05/11/2018 20:56	WG1107544
Toluene	16500		250	250	05/11/2018 20:56	WG1107544
Ethylbenzene	662		250	250	05/11/2018 20:56	WG1107544
Total Xylenes	9060		750	250	05/11/2018 20:56	WG1107544
Methyl tert-butyl ether	ND		250	250	05/11/2018 20:56	WG1107544
Naphthalene	ND		1250	250	05/11/2018 20:56	WG1107544
1,2-Dichloroethane	ND		250	250	05/11/2018 20:56	WG1107544
(S) Toluene-d8	107		80.0-120		05/11/2018 20:56	WG1107544
(S) Dibromofluoromethane	102		76.0-123		05/11/2018 20:56	WG1107544
(S) 4-Bromofluorobenzene	106		80.0-120		05/11/2018 20:56	WG1107544

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	05/06/2018 11:46	WG1107544
Toluene	ND		1.00	1	05/06/2018 11:46	WG1107544
Ethylbenzene	ND		1.00	1	05/06/2018 11:46	WG1107544
Total Xylenes	ND		3.00	1	05/06/2018 11:46	WG1107544
Methyl tert-butyl ether	ND		1.00	1	05/06/2018 11:46	WG1107544
Naphthalene	ND		5.00	1	05/06/2018 11:46	WG1107544
1,2-Dichloroethane	ND		1.00	1	05/06/2018 11:46	WG1107544
(S) Toluene-d8	105		80.0-120		05/06/2018 11:46	WG1107544
(S) Dibromofluoromethane	96.1		76.0-123		05/06/2018 11:46	WG1107544
(S) 4-Bromofluorobenzene	80.8		80.0-120		05/06/2018 11:46	WG1107544

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



Method Blank (MB)

(MB) R3308514-3 05/05/18 11:02

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.331	1.00
1,2-Dichloroethane	U		0.361	1.00
Ethylbenzene	U		0.384	1.00
Methyl tert-butyl ether	U		0.367	1.00
Naphthalene	U		1.00	5.00
Toluene	U		0.412	1.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	119			80.0-120
(S) Dibromofluoromethane	94.2			76.0-123
(S) 4-Bromofluorobenzene	101			80.0-120

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

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

(LCS) R3308514-1 05/05/18 10:01 • (LCSD) R3308514-2 05/05/18 10:22

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Benzene	25.0	21.3	21.6	85.2	86.4	70.0-130			1.39	20
1,2-Dichloroethane	25.0	20.6	20.2	82.3	80.7	70.0-130			2.00	20
Ethylbenzene	25.0	20.5	20.7	82.0	83.0	70.0-130			1.17	20
Methyl tert-butyl ether	25.0	21.5	21.1	85.9	84.4	70.0-130			1.69	20
Naphthalene	25.0	20.0	18.8	80.1	75.3	70.0-130			6.17	20
Toluene	25.0	20.7	21.0	82.8	83.9	70.0-130			1.32	20
Xylenes, Total	75.0	64.3	61.2	85.7	81.6	70.0-130			4.94	20
(S) Toluene-d8				97.4	97.5	80.0-120				
(S) Dibromofluoromethane				99.3	100	76.0-123				
(S) 4-Bromofluorobenzene				98.8	95.9	80.0-120				



Method Blank (MB)

(MB) R3307668-3 05/05/18 18:59

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		10.0	50.0
Benzene	U		0.331	1.00
Bromodichloromethane	U		0.380	1.00
Bromoform	U		0.469	1.00
Bromomethane	U		0.866	5.00
Carbon disulfide	U		0.275	1.00
Carbon tetrachloride	U		0.379	1.00
Chlorobenzene	U		0.348	1.00
Chlorodibromomethane	U		0.327	1.00
Chloroethane	U		0.453	5.00
Chloroform	U		0.324	5.00
Chloromethane	U		0.276	2.50
1,2-Dibromo-3-Chloropropane	U		1.33	5.00
1,2-Dibromoethane	U		0.381	1.00
1,2-Dichlorobenzene	U		0.349	1.00
1,3-Dichlorobenzene	U		0.220	1.00
1,4-Dichlorobenzene	U		0.274	1.00
1,1-Dichloroethane	U		0.259	1.00
1,2-Dichloroethane	U		0.361	1.00
1,1-Dichloroethene	U		0.398	1.00
cis-1,2-Dichloroethene	U		0.260	1.00
trans-1,2-Dichloroethene	U		0.396	1.00
1,2-Dichloropropane	U		0.306	1.00
cis-1,3-Dichloropropene	U		0.418	1.00
trans-1,3-Dichloropropene	U		0.419	1.00
Di-isopropyl ether	U		0.320	1.00
Ethylbenzene	U		0.384	1.00
2-Hexanone	U		3.82	10.0
2-Butanone (MEK)	U		3.93	10.0
Methylene Chloride	U		1.00	5.00
4-Methyl-2-pentanone (MIBK)	U		2.14	10.0
Methyl tert-butyl ether	U		0.367	1.00
Naphthalene	U		1.00	5.00
Styrene	U		0.307	1.00
1,1,2,2-Tetrachloroethane	U		0.130	1.00
Tetrachloroethene	U		0.372	1.00
Toluene	U		0.412	1.00
1,1,2-Trichlorotrifluoroethane	U		0.303	1.00
1,1,1-Trichloroethane	U		0.319	1.00
1,1,2-Trichloroethane	U		0.383	1.00

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3307668-3 05/05/18 18:59

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Trichloroethene	U		0.398	1.00
1,2,3-Trimethylbenzene	U		0.321	1.00
Vinyl chloride	U		0.259	1.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	103			80.0-120
(S) Dibromofluoromethane	95.7			76.0-123
(S) a,a,a-Trifluorotoluene	103			80.0-120
(S) 4-Bromofluorobenzene	102			80.0-120

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

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

(LCS) R3307668-1 05/05/18 17:59 • (LCSD) R3307668-2 05/05/18 18:19

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	125	127	138	101	111	70.0-130			8.69	23.9
Benzene	25.0	22.1	21.4	88.3	85.7	70.0-130			2.89	20
Bromodichloromethane	25.0	22.5	22.6	90.2	90.3	70.0-130			0.151	20
Bromoform	25.0	27.3	25.8	109	103	70.0-130			5.54	20
Bromomethane	25.0	29.3	27.0	117	108	70.0-130			7.97	20
Carbon disulfide	25.0	23.7	22.5	95.0	90.2	70.0-130			5.15	20
Carbon tetrachloride	25.0	22.6	21.4	90.2	85.7	70.0-130			5.18	20
Chlorobenzene	25.0	24.3	23.8	97.4	95.4	70.0-130			2.07	20
Chlorodibromomethane	25.0	25.5	24.9	102	99.7	70.0-130			2.47	20
Chloroethane	25.0	27.5	25.9	110	103	70.0-130			5.97	20
Chloroform	25.0	21.5	20.7	85.9	82.6	70.0-130			3.91	20
Chloromethane	25.0	24.0	23.7	95.9	94.8	70.0-130			1.24	20
1,2-Dibromo-3-Chloropropane	25.0	25.6	25.1	103	100	70.0-130			2.10	20
1,2-Dibromoethane	25.0	24.8	24.6	99.3	98.5	70.0-130			0.766	20
1,2-Dichlorobenzene	25.0	24.1	23.3	96.4	93.3	70.0-130			3.30	20
1,3-Dichlorobenzene	25.0	24.6	23.6	98.4	94.5	70.0-130			4.00	20
1,4-Dichlorobenzene	25.0	22.7	22.8	90.9	91.0	70.0-130			0.0916	20
1,1-Dichloroethane	25.0	21.6	20.3	86.3	81.1	70.0-130			6.10	20
1,2-Dichloroethane	25.0	21.6	20.7	86.4	83.0	70.0-130			4.04	20
1,1-Dichloroethene	25.0	23.8	22.3	95.0	89.3	70.0-130			6.16	20
cis-1,2-Dichloroethene	25.0	22.3	21.5	89.1	86.0	70.0-130			3.51	20
trans-1,2-Dichloroethene	25.0	21.6	21.0	86.4	83.9	70.0-130			2.94	20
1,2-Dichloropropane	25.0	21.3	21.3	85.3	85.2	70.0-130			0.110	20
cis-1,3-Dichloropropene	25.0	25.1	24.7	100	98.8	70.0-130			1.45	20
trans-1,3-Dichloropropene	25.0	24.5	23.9	97.9	95.5	70.0-130			2.42	20

7 Gl

8 Al

9 Sc



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

(LCS) R3307668-1 05/05/18 17:59 • (LCSD) R3307668-2 05/05/18 18:19

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Di-isopropyl ether	25.0	22.3	21.5	89.3	85.9	70.0-130			3.86	20
Ethylbenzene	25.0	23.8	23.5	95.3	94.0	70.0-130			1.39	20
2-Hexanone	125	117	121	93.6	96.6	70.0-130			3.13	20
2-Butanone (MEK)	125	115	120	91.8	95.7	70.0-130			4.17	20
Methylene Chloride	25.0	22.4	21.7	89.7	86.9	70.0-130			3.07	20
4-Methyl-2-pentanone (MIBK)	125	119	121	95.1	97.2	70.0-130			2.13	20
Methyl tert-butyl ether	25.0	22.4	21.9	89.8	87.5	70.0-130			2.53	20
Naphthalene	25.0	20.1	21.6	80.6	86.4	70.0-130			6.90	20
Styrene	25.0	25.4	24.3	101	97.2	70.0-130			4.35	20
1,1,2-Tetrachloroethane	25.0	26.7	25.9	107	103	70.0-130			3.13	20
Tetrachloroethene	25.0	26.3	25.2	105	101	70.0-130			4.15	20
Toluene	25.0	24.7	23.4	98.9	93.8	70.0-130			5.31	20
1,1,2-Trichlorotrifluoroethane	25.0	24.0	22.4	95.8	89.6	70.0-130			6.66	20
1,1,1-Trichloroethane	25.0	22.1	21.4	88.4	85.6	70.0-130			3.27	20
1,1,2-Trichloroethane	25.0	24.2	24.1	97.0	96.2	70.0-130			0.789	20
Trichloroethene	25.0	21.5	21.2	86.0	84.9	70.0-130			1.24	20
1,2,3-Trimethylbenzene	25.0	21.8	22.2	87.4	88.9	70.0-130			1.72	20
Vinyl chloride	25.0	24.8	22.4	99.3	89.5	70.0-130			10.3	20
Xylenes, Total	75.0	73.5	73.5	98.0	98.0	70.0-130			0.000	20
<i>(S) Toluene-d8</i>				104	104	80.0-120				
<i>(S) Dibromofluoromethane</i>				94.9	93.1	76.0-123				
<i>(S) a,a,a-Trifluorotoluene</i>				103	105	80.0-120				
<i>(S) 4-Bromofluorobenzene</i>				103	100	80.0-120				

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3308043-2 05/06/18 11:16

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.331	1.00
1,2-Dichloroethane	U		0.361	1.00
Ethylbenzene	U		0.384	1.00
Methyl tert-butyl ether	U		0.367	1.00
Naphthalene	U		1.00	5.00
Toluene	U		0.412	1.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	108			80.0-120
(S) Dibromofluoromethane	94.0			76.0-123
(S) 4-Bromofluorobenzene	81.3			80.0-120

Laboratory Control Sample (LCS)

(LCS) R3308043-1 05/06/18 10:37

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Benzene	25.0	21.3	85.2	70.0-130	
1,2-Dichloroethane	25.0	23.4	93.5	70.0-130	
Ethylbenzene	25.0	23.5	93.8	70.0-130	
Methyl tert-butyl ether	25.0	20.7	82.7	70.0-130	
Naphthalene	25.0	19.2	76.7	70.0-130	
Toluene	25.0	23.2	92.7	70.0-130	
Xylenes, Total	75.0	71.7	95.6	70.0-130	
(S) Toluene-d8			105	80.0-120	
(S) Dibromofluoromethane			98.8	76.0-123	
(S) 4-Bromofluorobenzene			83.3	80.0-120	

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Guide to Reading and Understanding Your Laboratory Report

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

Abbreviations and Definitions

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

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.



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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
 * Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

State Accreditations

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

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

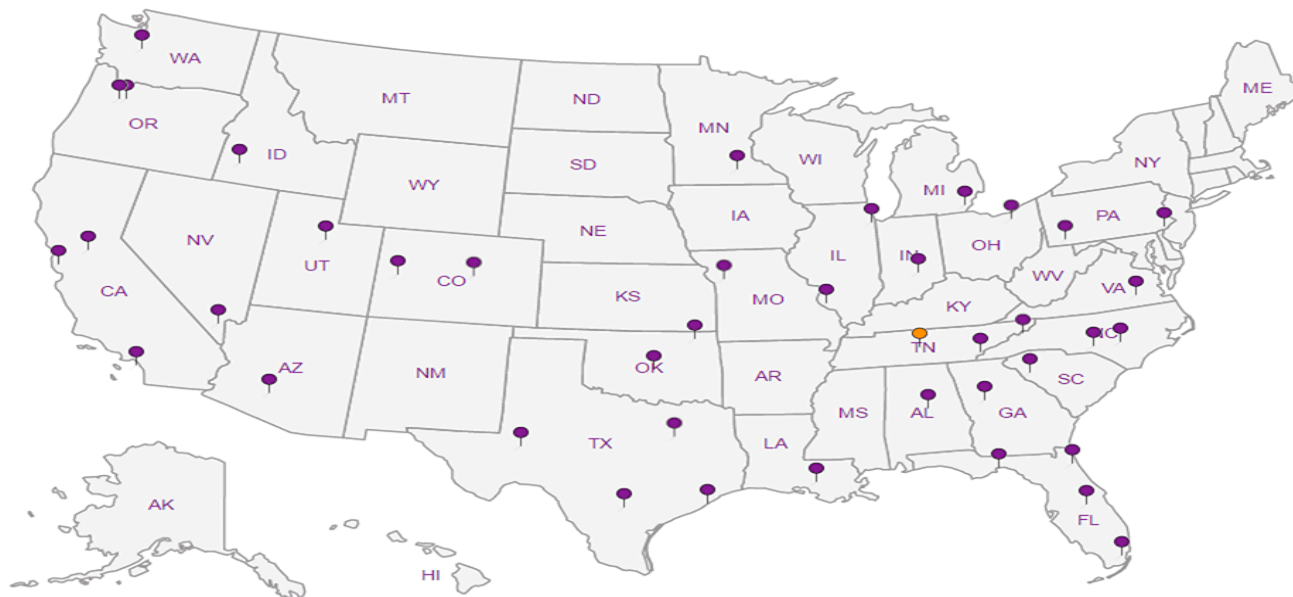
Third Party Federal Accreditations

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

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

Our Locations

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



CH2M Hill- Kinder Morgan- Atlanta, GA

Billing Information:
Accounts Payable
1000 Windward Concourse
Ste 450
Alpharetta, GA 30005

Pres
Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 3

ESC
Environmental Sciences
a subsidiary of
 12065 Lebanon Rd
 Mount Juliet, TN 37122
 Phone: 615-758-5858
 Phone: 800-767-5859
 Fax: 615-758-5859

6600 Peachtree Dunwoody Road

Report to:
Bethany Garvey

Email To: bgarvey@ch2m.com;
 tom.wiley@ch2m.com; scott.powell@ch2m.com;

Project
 Description: **Lewis Drive Groundwater**

City/State
 Collected: **BELTON, SC**

Phone: **770-604-9182**

Client Project #

Lab Project #
KINCH2MGA-LEWIS12

Fax:

69858.LD.MR.GW

Collected by (print):

MELISSA WARREN

Site/Facility ID #

LEWIS DRIVE

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)

Same Day Five Day
 Next Day 5 Day (Rad Only)
 Two Day 10 Day (Rad Only)
 Three Day

Quote #

Date Results Needed

Immediately Packed on ice N Y

No. of
Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260BTEXMNSC 40mlAmb-HCl	V8260BTEXMNSC-TB 40mlAmb-NoPres-Bik	BTEX	MTBE	NAPHTHALENE	1,2-DCA
MW-29-050318	GRAB	GW	NA	05/03/18	1155	3	X		X	X	X	X
MW-26-050318		GW			1205	3	X					
MW-23-050318		GW			1220	3	X					
MW-23-D-050318		GW			1223	3	X					
MW-45-050318		GW			1225	3	X					
MW-22-050318		GW			1240	3	X					
MW-43-050318		GW			1300	3	X					
MW-38-050318		GW			1315	3	X					
MW-34-050318		GW			1320	3	X					
MW-39-050318		GW			1325	3	X					

L# **L991256**
 Tabl **C214**
 Acctnum: **KINCH2MGA**
 Template: **T135401**
 Prelogin: **P649732**
 TSR: **526 - Chris McCord**
 PB: **4-25-186**
 Shipped Via: **FedEX Ground**

* Matrix:
 SS - Soil AIR - Air F - Filter
 GW - Groundwater B - Bioassay
 WW - WasteWater
 DW - Drinking Water
 OT - Other

Remarks:
 pH _____ Temp _____
 Flow _____ Other _____
 Samples returned via:
 UPS FedEx Courier

Sample Receipt Checklist
 COC Seal Present/Intact: NP Y N
 COC Signed/Accurate: Y N
 Bottles arrive intact: Y N
 Correct bottles used: Y N
 Sufficient volume sent: Y N
 If Applicable
 VOA Zero Headspace: Y N
 Preservation Correct/Checked: Y N

Relinquished by: (Signature) **Melissa Warren** Date: **05/03/18** Time: **1730**
 Received by: (Signature) **Kelly...** Date: **5/4/18** Time: **0845**
 Trip Blank Received: **Yes** No **Yes** No
 HCl / MeOH TBR
 Temp: **5.8** °C Bottles Received: **72XV4P**
 If preservation required by Login: Date/Time
 Hold: Condition: **NCF**

CH2M Hill- Kinder Morgan- Atlanta, GA

Billing Information:
Accounts Payable
1000 Windward Concourse
Ste 450

6600 Peachtree Dunwoody Road

Alpharetta, GA 30005

Report to:
Bethany Garvey

Email To: bgarvey@ch2m.com;
 tom.wiley@ch2m.com; scott.powell@ch2m.com;

Project
 Description: **Lewis Drive Groundwater**

City/State
 Collected: **BELTON, SC**

Phone: **770-604-9182**
 Fax:

Client Project #
699898.LD.MR.GW

Lab Project #
KINCH2MGA-LEWIS12

Collected by (print):
MELISSA WARREN

Site/Facility ID #
LEWIS DRIVE

P.O. #

Collected by (signature):
Melissa Warren

Rush? (Lab MUST Be Notified)
 Same Day Five Day
 Next Day 5 Day (Rad Only)
 Two Day 10 Day (Rad Only)
 Three Day


Quote #

Immediately Packed on Ice N Y

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
-----------	-----------	----------	-------	------	------	--------------

MW-40-050318	GRAB	GW	N/A	05/03/18	1335	3
MW-41-050318		GW			1340	3
MW-25-050318		GW			1350	3
MW-35-050318		GW			1355	3
MW-28-050318		GW			1405	3
TRO1-050318		GW			1415	3
MW-31-050318		GW			1450	3
MW-31-D-050318		GW			1452	3
MW-10-050318		GW			1510	3
MW-02-050318		GW			1515	3

Pres Chk		Analysis / Container / Preservative								Chain of Custody Page 2 of 3	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	 12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859	
V8260BTEXMNSC 40mlAmb-HCI		V8260TCLSC-TB 40mlAmb-NoPres-Bik		BTEX		MTBE		NAPHTHAENIC		L# L991256	
										Table #	
										Acctnum: KINCH2MGA	
										Template: T135401	
										Prelogin: P649732	
										TSR: 526 - Chris McCord	
										PB: 4-75-186	
										Shipped Via: FedEx Ground	
										Remarks	
										Sample # (lab only)	

* Matrix:
 SS - Soil AIR - Air F - Filter
 GW - Groundwater B - Bioassay
 WW - WasteWater
 DW - Drinking Water
 OT - Other

Remarks:
 pH _____ Temp _____
 Flow _____ Other _____
 Samples returned via:
 UPS FedEx Courier _____
 Tracking # **4380 68453516**

Sample Receipt Checklist
 COC Seal Present/Intact: NP N
 COC Signed/Accurate: N
 Bottles arrive intact: N
 Correct bottles used: N
 Sufficient volume sent: N
 If Applicable
 VOA Zero Headspace: N
 Preservation Correct/Checked: N

Relinquished by: (Signature)
Melissa Warren

Date: **05/03/18** Time: **1730**

Received by: (Signature)
[Signature]

Trio Blank Received: Yes / No
 HCl / MeOH

Relinquished by: (Signature)

Date: _____ Time: _____

Received by: (Signature)

Temp: **5.8°C** Bottles Received: **72XV9**

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date: _____ Time: _____

Received for lab by: (Signature)
[Signature]

Date: **5/4/18** Time: **0845**

Hold: _____ Condition: **NCF**

CH2M Hill- Kinder Morgan- Atlanta, GA

6600 Peachtree Dunwoody Road

Report to:
Bethany Garvey

Project
Description: **Lewis Drive Groundwater**

Phone: **770-604-9182**

Fax:

Collected by (print):

Collected by (signature):

Immediately
Packed on Ice: N Y

Billing Information:

Accounts Payable
1000 Windward Concourse
Ste 450
Alpharetta, GA 30005

Email To: bgarvey@ch2m.com;
tom.wiley@ch2m.com; scott.powell@ch2m.com;

City/State
Collected: **BELTON, SC**

Lab Project #
KINCH2MGA-LEWIS12

P.O. #

Quote #

Date Results Needed

Pres
Chk

Analysis / Container / Preservative

Chain of Custody Page 3 of 3



12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859



L# **L991256**

Table #

Acctnum: **KINCH2MGA**

Template: **T135401**

Prelogin: **P649732**

TSR: 526 - Chris McCord

PB: **4.25-186**

Shipped Via: **FedEX Ground**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Analysis / Container / Preservative
MW-03-050318	GRAB	GW	N/A	05/03/18	1525	3	X
MW-30-050318	↓	GW	↓	↓	1535	3	X
MW-05-050318	↓	GW	↓	↓	1540	3	X
MW-07-050318	↓	GW	↓	↓	1550	3	X
FB01-050318	↓	GW	↓	↓	1600	3	X
		GW				3	X
		GW				3	X
		GW				3	X
		GW				2	X

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks:

Samples returned via:
UPS FedEx Courier

Tracking # **47580 6845 3516**

pH _____ Temp _____
Flow _____ Other _____

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headpace: Y N
Preservation Correct/Checked: Y N

Relinquished by: (Signature) <i>[Signature]</i>	Date: 05/03/18	Time: 1730	Received by: (Signature) <i>[Signature]</i>	Trip Blank Received: <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No MeOH <input type="checkbox"/> TBR
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 5.8°C Bottles Received: 22XVP
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature) <i>[Signature]</i>	Date: 5/4/18 Time: 0545 Hold: Condition: NCF

June 14, 2018

Kinder Morgan- Atlanta, GA

Sample Delivery Group: L999242
Samples Received: 06/06/2018
Project Number: 699858
Description: Lewis Drive Groundwater
Site: LEWIS DR.
Report To: Bethany Garvey
6600 Peachtree Dunwoody Road
400 Embassy Row - Suite 600
Atlanta, GA 30328

Entire Report Reviewed By:



Chris McCord
Technical Service Representative

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



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MW-46-060518 L999242-02	11	⁴Cn
MW-22-060518 L999242-03	12	⁵Sr
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MW-26-060518 L999242-05	14	⁶Qc
MW-23-060518 L999242-06	15	
MW-23B-060518 L999242-07	16	⁷Gl
MW-44-060518 L999242-08	17	⁸Al
MW-44B-060518 L999242-09	18	
MW-27B-060518 L999242-10	19	⁹Sc
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54

Sc: Sample Chain of Custody

55

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

SAMPLE SUMMARY

MW-29-060518 L999242-01 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by KS, BG, EH, JM			Collected date/time 06/05/18 09:00	Received date/time 06/06/18 08:45	
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1121153	1	06/07/18 14:38	06/07/18 14:38	JHH

1
Cp

2
Tc

3
Ss

MW-46-060518 L999242-02 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by KS, BG, EH, JM			Collected date/time 06/05/18 09:35	Received date/time 06/06/18 08:45	
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1121153	1	06/07/18 14:58	06/07/18 14:58	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1123803	10	06/13/18 12:00	06/13/18 12:00	ACG

4
Cn

5
Sr

6
Qc

MW-22-060518 L999242-03 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by KS, BG, EH, JM			Collected date/time 06/05/18 12:10	Received date/time 06/06/18 08:45	
Wet Chemistry by Method 2320 B-2011	WG1122753	1	06/12/18 22:12	06/12/18 22:12	GB
Wet Chemistry by Method 4500CO2 D-2011	WG1122753	1	06/12/18 22:12	06/12/18 22:12	GB
Wet Chemistry by Method 9056A	WG1120583	1	06/06/18 15:01	06/06/18 15:01	MCG
Volatile Organic Compounds (GC) by Method RSK175	WG1121601	1	06/08/18 10:37	06/08/18 10:37	MEL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1121153	1	06/07/18 15:17	06/07/18 15:17	JHH

7
Gl

8
Al

9
Sc

MW-26B-060518 L999242-04 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by KS, BG, EH, JM			Collected date/time 06/05/18 09:20	Received date/time 06/06/18 08:45	
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1121153	1	06/07/18 15:37	06/07/18 15:37	JHH

MW-26-060518 L999242-05 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by KS, BG, EH, JM			Collected date/time 06/05/18 09:40	Received date/time 06/06/18 08:45	
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1121153	1	06/07/18 15:56	06/07/18 15:56	JHH

MW-23-060518 L999242-06 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by KS, BG, EH, JM			Collected date/time 06/05/18 09:52	Received date/time 06/06/18 08:45	
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1121153	1	06/07/18 16:15	06/07/18 16:15	JHH

MW-23B-060518 L999242-07 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by KS, BG, EH, JM			Collected date/time 06/05/18 10:02	Received date/time 06/06/18 08:45	
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1121153	1	06/07/18 16:35	06/07/18 16:35	JHH

SAMPLE SUMMARY



MW-44-060518 L999242-08 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1121153	1	06/07/18 16:53	06/07/18 16:53	JHH

Collected by: KS, BG, EH, JM
 Collected date/time: 06/05/18 10:38
 Received date/time: 06/06/18 08:45

1 Cp

2 Tc

3 Ss

MW-44B-060518 L999242-09 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1121153	1	06/07/18 17:12	06/07/18 17:12	JHH

Collected by: KS, BG, EH, JM
 Collected date/time: 06/05/18 10:45
 Received date/time: 06/06/18 08:45

4 Cn

5 Sr

MW-27B-060518 L999242-10 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1121153	1	06/07/18 17:31	06/07/18 17:31	JHH

Collected by: KS, BG, EH, JM
 Collected date/time: 06/05/18 11:10
 Received date/time: 06/06/18 08:45

6 Qc

7 Gl

MW-27-060518 L999242-11 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1121153	1	06/07/18 17:51	06/07/18 17:51	JHH

Collected by: KS, BG, EH, JM
 Collected date/time: 06/05/18 11:20
 Received date/time: 06/06/18 08:45

8 Al

9 Sc

MW-01B-060518 L999242-12 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1121153	1	06/07/18 18:10	06/07/18 18:10	JHH

Collected by: KS, BG, EH, JM
 Collected date/time: 06/05/18 11:35
 Received date/time: 06/06/18 08:45

FB01-060518 L999242-13 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1121153	1	06/07/18 18:29	06/07/18 18:29	JHH

Collected by: KS, BG, EH, JM
 Collected date/time: 06/05/18 11:40
 Received date/time: 06/06/18 08:45

MW-49-060518 L999242-14 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1121153	1	06/07/18 18:49	06/07/18 18:49	JHH

Collected by: KS, BG, EH, JM
 Collected date/time: 06/05/18 14:15
 Received date/time: 06/06/18 08:45

MW-12B-060518 L999242-15 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1121507	1	06/07/18 23:35	06/07/18 23:35	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122502	10	06/10/18 17:45	06/10/18 17:45	JAH

Collected by: KS, BG, EH, JM
 Collected date/time: 06/05/18 14:25
 Received date/time: 06/06/18 08:45

SAMPLE SUMMARY



MW-25B-060518 L999242-16 GW

Collected by KS, BG, EH, JM Collected date/time 06/05/18 14:40 Received date/time 06/06/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1121507	1	06/07/18 23:54	06/07/18 23:54	JAH

1 Cp

2 Tc

3 Ss

MW-41-060518 L999242-17 GW

Collected by KS, BG, EH, JM Collected date/time 06/05/18 14:50 Received date/time 06/06/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1121507	1	06/08/18 00:13	06/08/18 00:13	JAH

4 Cn

5 Sr

MW-37-060518 L999242-18 GW

Collected by KS, BG, EH, JM Collected date/time 06/05/18 15:10 Received date/time 06/06/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1121507	1	06/08/18 00:32	06/08/18 00:32	JAH

6 Qc

7 Gl

MW-38-060518 L999242-19 GW

Collected by KS, BG, EH, JM Collected date/time 06/05/18 15:20 Received date/time 06/06/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1121507	1	06/08/18 00:51	06/08/18 00:51	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122502	10	06/10/18 18:04	06/10/18 18:04	JAH

8 Al

9 Sc

MW-34-060518 L999242-20 GW

Collected by KS, BG, EH, JM Collected date/time 06/05/18 15:30 Received date/time 06/06/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1121507	1	06/08/18 01:10	06/08/18 01:10	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122502	5	06/10/18 18:24	06/10/18 18:24	JAH

MW-39-060518 L999242-21 GW

Collected by KS, BG, EH, JM Collected date/time 06/05/18 15:40 Received date/time 06/06/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1121507	1	06/08/18 01:29	06/08/18 01:29	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122502	10	06/10/18 18:43	06/10/18 18:43	JAH

MW-01-060518 L999242-22 GW

Collected by KS, BG, EH, JM Collected date/time 06/05/18 13:40 Received date/time 06/06/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 2320 B-2011	WG1121212	1	06/08/18 17:11	06/08/18 17:11	GB
Wet Chemistry by Method 4500CO2 D-2011	WG1121212	1	06/08/18 17:11	06/08/18 17:11	GB
Wet Chemistry by Method 9056A	WG1120583	1	06/06/18 15:32	06/06/18 15:32	MCG
Volatile Organic Compounds (GC) by Method RSK175	WG1121601	1	06/08/18 10:41	06/08/18 10:41	MEL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1121507	1	06/08/18 01:49	06/08/18 01:49	JAH

SAMPLE SUMMARY



MW-12-060518 L999242-23 GW

Collected by
KS, BG, EH, JM
Collected date/time
06/05/18 14:40
Received date/time
06/06/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 2320 B-2011	WG1121212	1	06/08/18 17:17	06/08/18 17:17	GB
Wet Chemistry by Method 4500CO2 D-2011	WG1121212	1	06/08/18 17:17	06/08/18 17:17	GB
Wet Chemistry by Method 9056A	WG1120583	1	06/06/18 16:49	06/06/18 16:49	MCG
Volatile Organic Compounds (GC) by Method RSK175	WG1121601	1	06/08/18 10:48	06/08/18 10:48	MEL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1121507	1	06/08/18 02:08	06/08/18 02:08	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122502	10	06/10/18 19:03	06/10/18 19:03	JAH

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

MW-25-060518 L999242-24 GW

Collected by
KS, BG, EH, JM
Collected date/time
06/05/18 15:05
Received date/time
06/06/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 2320 B-2011	WG1121212	1	06/08/18 17:23	06/08/18 17:23	GB
Wet Chemistry by Method 4500CO2 D-2011	WG1121212	1	06/08/18 17:23	06/08/18 17:23	GB
Wet Chemistry by Method 9056A	WG1120583	1	06/06/18 17:04	06/06/18 17:04	MCG
Volatile Organic Compounds (GC) by Method RSK175	WG1121601	1	06/08/18 10:51	06/08/18 10:51	MEL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1121507	1	06/08/18 02:27	06/08/18 02:27	JAH

MW-42-060518 L999242-25 GW

Collected by
KS, BG, EH, JM
Collected date/time
06/05/18 15:22
Received date/time
06/06/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 2320 B-2011	WG1121212	1	06/08/18 17:29	06/08/18 17:29	GB
Wet Chemistry by Method 4500CO2 D-2011	WG1121212	1	06/08/18 17:29	06/08/18 17:29	GB
Wet Chemistry by Method 9056A	WG1120583	1	06/06/18 17:20	06/06/18 17:20	MCG
Volatile Organic Compounds (GC) by Method RSK175	WG1121601	1	06/08/18 11:07	06/08/18 11:07	MEL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1121507	1	06/08/18 02:47	06/08/18 02:47	JAH

MW-40-060518 L999242-26 GW

Collected by
KS, BG, EH, JM
Collected date/time
06/05/18 15:50
Received date/time
06/06/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 2320 B-2011	WG1121212	1	06/08/18 17:35	06/08/18 17:35	GB
Wet Chemistry by Method 4500CO2 D-2011	WG1121212	1	06/08/18 17:35	06/08/18 17:35	GB
Wet Chemistry by Method 9056A	WG1120583	1	06/06/18 17:35	06/06/18 17:35	MCG
Volatile Organic Compounds (GC) by Method RSK175	WG1121601	1	06/08/18 11:19	06/08/18 11:19	MEL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1121507	1	06/08/18 03:06	06/08/18 03:06	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122502	25	06/10/18 19:22	06/10/18 19:22	JAH

TB01-060518 L999242-27 GW

Collected by
KS, BG, EH, JM
Collected date/time
06/05/18 00:00
Received date/time
06/06/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1121507	1	06/07/18 23:15	06/07/18 23:15	JAH

MW-44B-D-060518 L999242-28 GW

Collected by
KS, BG, EH, JM
Collected date/time
06/05/18 10:45
Received date/time
06/06/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1121507	1	06/08/18 03:26	06/08/18 03:26	JAH

SAMPLE SUMMARY



MW-28-060518 L999242-29 GW

Collected by: KS, BG, EH, JM
 Collected date/time: 06/05/18 16:25
 Received date/time: 06/06/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 2320 B-2011	WG1122753	1	06/12/18 22:18	06/12/18 22:18	GB
Wet Chemistry by Method 4500CO2 D-2011	WG1122753	1	06/12/18 22:18	06/12/18 22:18	GB
Wet Chemistry by Method 9056A	WG1120583	1	06/06/18 17:51	06/06/18 17:51	MCG
Volatile Organic Compounds (GC) by Method RSK175	WG1121601	1	06/08/18 11:37	06/08/18 11:37	MEL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1121507	1	06/08/18 03:45	06/08/18 03:45	JAH

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris McCord
Technical Service Representative

- ¹ Cp
- ² Tc
- ³ Ss
- ⁴ Cn
- ⁵ Sr
- ⁶ Qc
- ⁷ Gl
- ⁸ Al
- ⁹ Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/07/2018 14:38	WG1121153
Toluene	ND		1.00	1	06/07/2018 14:38	WG1121153
Ethylbenzene	ND		1.00	1	06/07/2018 14:38	WG1121153
Total Xylenes	ND		3.00	1	06/07/2018 14:38	WG1121153
Methyl tert-butyl ether	ND		1.00	1	06/07/2018 14:38	WG1121153
Naphthalene	ND		5.00	1	06/07/2018 14:38	WG1121153
1,2-Dichloroethane	ND		1.00	1	06/07/2018 14:38	WG1121153
(S) Toluene-d8	102		80.0-120		06/07/2018 14:38	WG1121153
(S) Dibromofluoromethane	101		76.0-123		06/07/2018 14:38	WG1121153
(S) 4-Bromofluorobenzene	96.2		80.0-120		06/07/2018 14:38	WG1121153

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	294		10.0	10	06/13/2018 12:00	WG1123803
Toluene	11.8		1.00	1	06/07/2018 14:58	WG1121153
Ethylbenzene	ND		1.00	1	06/07/2018 14:58	WG1121153
Total Xylenes	147		3.00	1	06/07/2018 14:58	WG1121153
Methyl tert-butyl ether	184		1.00	1	06/07/2018 14:58	WG1121153
Naphthalene	ND		5.00	1	06/07/2018 14:58	WG1121153
1,2-Dichloroethane	ND		1.00	1	06/07/2018 14:58	WG1121153
(S) Toluene-d8	99.8		80.0-120		06/07/2018 14:58	WG1121153
(S) Toluene-d8	102		80.0-120		06/13/2018 12:00	WG1123803
(S) Dibromofluoromethane	101		76.0-123		06/07/2018 14:58	WG1121153
(S) Dibromofluoromethane	98.9		76.0-123		06/13/2018 12:00	WG1123803
(S) 4-Bromofluorobenzene	96.6		80.0-120		06/07/2018 14:58	WG1121153
(S) 4-Bromofluorobenzene	103		80.0-120		06/13/2018 12:00	WG1123803

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity	ND		20000	1	06/12/2018 22:12	WG1122753

Sample Narrative:

L999242-03 WG1122753: Endpoint pH 4.5

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Free Carbon Dioxide	29800	<u>T8</u>	20000	1	06/12/2018 22:12	WG1122753

Sample Narrative:

L999242-03 WG1122753: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Nitrate as (N)	1410		100	1	06/06/2018 15:01	WG1120583
Sulfate	55300		5000	1	06/06/2018 15:01	WG1120583

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Methane	ND		10.0	1	06/08/2018 10:37	WG1121601

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/07/2018 15:17	WG1121153
Toluene	4.27		1.00	1	06/07/2018 15:17	WG1121153
Ethylbenzene	ND		1.00	1	06/07/2018 15:17	WG1121153
Total Xylenes	41.6		3.00	1	06/07/2018 15:17	WG1121153
Methyl tert-butyl ether	ND		1.00	1	06/07/2018 15:17	WG1121153
Naphthalene	ND		5.00	1	06/07/2018 15:17	WG1121153
1,2-Dichloroethane	ND		1.00	1	06/07/2018 15:17	WG1121153
(S) Toluene-d8	103		80.0-120		06/07/2018 15:17	WG1121153
(S) Dibromofluoromethane	101		76.0-123		06/07/2018 15:17	WG1121153
(S) 4-Bromofluorobenzene	98.4		80.0-120		06/07/2018 15:17	WG1121153

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/07/2018 15:37	WG1121153
Toluene	ND		1.00	1	06/07/2018 15:37	WG1121153
Ethylbenzene	ND		1.00	1	06/07/2018 15:37	WG1121153
Total Xylenes	ND		3.00	1	06/07/2018 15:37	WG1121153
Methyl tert-butyl ether	ND		1.00	1	06/07/2018 15:37	WG1121153
Naphthalene	ND		5.00	1	06/07/2018 15:37	WG1121153
1,2-Dichloroethane	ND		1.00	1	06/07/2018 15:37	WG1121153
(S) Toluene-d8	97.3		80.0-120		06/07/2018 15:37	WG1121153
(S) Dibromofluoromethane	101		76.0-123		06/07/2018 15:37	WG1121153
(S) 4-Bromofluorobenzene	96.9		80.0-120		06/07/2018 15:37	WG1121153

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/07/2018 15:56	WG1121153
Toluene	ND		1.00	1	06/07/2018 15:56	WG1121153
Ethylbenzene	ND		1.00	1	06/07/2018 15:56	WG1121153
Total Xylenes	ND		3.00	1	06/07/2018 15:56	WG1121153
Methyl tert-butyl ether	ND		1.00	1	06/07/2018 15:56	WG1121153
Naphthalene	ND		5.00	1	06/07/2018 15:56	WG1121153
1,2-Dichloroethane	ND		1.00	1	06/07/2018 15:56	WG1121153
(S) Toluene-d8	101		80.0-120		06/07/2018 15:56	WG1121153
(S) Dibromofluoromethane	99.8		76.0-123		06/07/2018 15:56	WG1121153
(S) 4-Bromofluorobenzene	97.3		80.0-120		06/07/2018 15:56	WG1121153

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/07/2018 16:15	WG1121153
Toluene	ND		1.00	1	06/07/2018 16:15	WG1121153
Ethylbenzene	ND		1.00	1	06/07/2018 16:15	WG1121153
Total Xylenes	ND		3.00	1	06/07/2018 16:15	WG1121153
Methyl tert-butyl ether	5.28		1.00	1	06/07/2018 16:15	WG1121153
Naphthalene	ND		5.00	1	06/07/2018 16:15	WG1121153
1,2-Dichloroethane	ND		1.00	1	06/07/2018 16:15	WG1121153
(S) Toluene-d8	100		80.0-120		06/07/2018 16:15	WG1121153
(S) Dibromofluoromethane	101		76.0-123		06/07/2018 16:15	WG1121153
(S) 4-Bromofluorobenzene	97.5		80.0-120		06/07/2018 16:15	WG1121153

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/07/2018 16:35	WG1121153
Toluene	1.08		1.00	1	06/07/2018 16:35	WG1121153
Ethylbenzene	ND		1.00	1	06/07/2018 16:35	WG1121153
Total Xylenes	4.21		3.00	1	06/07/2018 16:35	WG1121153
Methyl tert-butyl ether	ND		1.00	1	06/07/2018 16:35	WG1121153
Naphthalene	ND		5.00	1	06/07/2018 16:35	WG1121153
1,2-Dichloroethane	ND		1.00	1	06/07/2018 16:35	WG1121153
(S) Toluene-d8	101		80.0-120		06/07/2018 16:35	WG1121153
(S) Dibromofluoromethane	101		76.0-123		06/07/2018 16:35	WG1121153
(S) 4-Bromofluorobenzene	98.5		80.0-120		06/07/2018 16:35	WG1121153

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/07/2018 16:53	WG1121153
Toluene	ND		1.00	1	06/07/2018 16:53	WG1121153
Ethylbenzene	ND		1.00	1	06/07/2018 16:53	WG1121153
Total Xylenes	ND		3.00	1	06/07/2018 16:53	WG1121153
Methyl tert-butyl ether	ND		1.00	1	06/07/2018 16:53	WG1121153
Naphthalene	ND		5.00	1	06/07/2018 16:53	WG1121153
1,2-Dichloroethane	ND		1.00	1	06/07/2018 16:53	WG1121153
(S) Toluene-d8	101		80.0-120		06/07/2018 16:53	WG1121153
(S) Dibromofluoromethane	100		76.0-123		06/07/2018 16:53	WG1121153
(S) 4-Bromofluorobenzene	100		80.0-120		06/07/2018 16:53	WG1121153

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/07/2018 17:12	WG1121153
Toluene	ND		1.00	1	06/07/2018 17:12	WG1121153
Ethylbenzene	ND		1.00	1	06/07/2018 17:12	WG1121153
Total Xylenes	ND		3.00	1	06/07/2018 17:12	WG1121153
Methyl tert-butyl ether	ND		1.00	1	06/07/2018 17:12	WG1121153
Naphthalene	ND		5.00	1	06/07/2018 17:12	WG1121153
1,2-Dichloroethane	ND		1.00	1	06/07/2018 17:12	WG1121153
(S) Toluene-d8	98.7		80.0-120		06/07/2018 17:12	WG1121153
(S) Dibromofluoromethane	102		76.0-123		06/07/2018 17:12	WG1121153
(S) 4-Bromofluorobenzene	100		80.0-120		06/07/2018 17:12	WG1121153

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/07/2018 17:31	WG1121153
Toluene	6.18		1.00	1	06/07/2018 17:31	WG1121153
Ethylbenzene	3.38		1.00	1	06/07/2018 17:31	WG1121153
Total Xylenes	26.8		3.00	1	06/07/2018 17:31	WG1121153
Methyl tert-butyl ether	ND		1.00	1	06/07/2018 17:31	WG1121153
Naphthalene	5.10		5.00	1	06/07/2018 17:31	WG1121153
1,2-Dichloroethane	ND		1.00	1	06/07/2018 17:31	WG1121153
(S) Toluene-d8	98.7		80.0-120		06/07/2018 17:31	WG1121153
(S) Dibromofluoromethane	98.6		76.0-123		06/07/2018 17:31	WG1121153
(S) 4-Bromofluorobenzene	97.9		80.0-120		06/07/2018 17:31	WG1121153

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	5.74		1.00	1	06/07/2018 17:51	WG1121153
Toluene	22.6		1.00	1	06/07/2018 17:51	WG1121153
Ethylbenzene	7.74		1.00	1	06/07/2018 17:51	WG1121153
Total Xylenes	70.3		3.00	1	06/07/2018 17:51	WG1121153
Methyl tert-butyl ether	ND		1.00	1	06/07/2018 17:51	WG1121153
Naphthalene	ND		5.00	1	06/07/2018 17:51	WG1121153
1,2-Dichloroethane	ND		1.00	1	06/07/2018 17:51	WG1121153
(S) Toluene-d8	98.5		80.0-120		06/07/2018 17:51	WG1121153
(S) Dibromofluoromethane	96.0		76.0-123		06/07/2018 17:51	WG1121153
(S) 4-Bromofluorobenzene	96.3		80.0-120		06/07/2018 17:51	WG1121153

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	8.96		1.00	1	06/07/2018 18:10	WG1121153
Toluene	ND		1.00	1	06/07/2018 18:10	WG1121153
Ethylbenzene	ND		1.00	1	06/07/2018 18:10	WG1121153
Total Xylenes	ND		3.00	1	06/07/2018 18:10	WG1121153
Methyl tert-butyl ether	ND		1.00	1	06/07/2018 18:10	WG1121153
Naphthalene	ND		5.00	1	06/07/2018 18:10	WG1121153
1,2-Dichloroethane	ND		1.00	1	06/07/2018 18:10	WG1121153
(S) Toluene-d8	99.4		80.0-120		06/07/2018 18:10	WG1121153
(S) Dibromofluoromethane	99.2		76.0-123		06/07/2018 18:10	WG1121153
(S) 4-Bromofluorobenzene	96.7		80.0-120		06/07/2018 18:10	WG1121153

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/07/2018 18:29	WG1121153
Toluene	ND		1.00	1	06/07/2018 18:29	WG1121153
Ethylbenzene	ND		1.00	1	06/07/2018 18:29	WG1121153
Total Xylenes	ND		3.00	1	06/07/2018 18:29	WG1121153
Methyl tert-butyl ether	ND		1.00	1	06/07/2018 18:29	WG1121153
Naphthalene	ND		5.00	1	06/07/2018 18:29	WG1121153
1,2-Dichloroethane	ND		1.00	1	06/07/2018 18:29	WG1121153
(S) Toluene-d8	103		80.0-120		06/07/2018 18:29	WG1121153
(S) Dibromofluoromethane	99.8		76.0-123		06/07/2018 18:29	WG1121153
(S) 4-Bromofluorobenzene	99.0		80.0-120		06/07/2018 18:29	WG1121153

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/07/2018 18:49	WG1121153
Toluene	ND		1.00	1	06/07/2018 18:49	WG1121153
Ethylbenzene	ND		1.00	1	06/07/2018 18:49	WG1121153
Total Xylenes	ND		3.00	1	06/07/2018 18:49	WG1121153
Methyl tert-butyl ether	ND		1.00	1	06/07/2018 18:49	WG1121153
Naphthalene	ND		5.00	1	06/07/2018 18:49	WG1121153
1,2-Dichloroethane	ND		1.00	1	06/07/2018 18:49	WG1121153
(S) Toluene-d8	101		80.0-120		06/07/2018 18:49	WG1121153
(S) Dibromofluoromethane	100		76.0-123		06/07/2018 18:49	WG1121153
(S) 4-Bromofluorobenzene	98.4		80.0-120		06/07/2018 18:49	WG1121153

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	275		10.0	10	06/10/2018 17:45	WG1122502
Toluene	20.9		1.00	1	06/07/2018 23:35	WG1121507
Ethylbenzene	58.7		1.00	1	06/07/2018 23:35	WG1121507
Total Xylenes	171		3.00	1	06/07/2018 23:35	WG1121507
Methyl tert-butyl ether	ND		1.00	1	06/07/2018 23:35	WG1121507
Naphthalene	22.5		5.00	1	06/07/2018 23:35	WG1121507
1,2-Dichloroethane	ND		1.00	1	06/07/2018 23:35	WG1121507
(S) Toluene-d8	96.5		80.0-120		06/07/2018 23:35	WG1121507
(S) Toluene-d8	109		80.0-120		06/10/2018 17:45	WG1122502
(S) Dibromofluoromethane	95.9		76.0-123		06/07/2018 23:35	WG1121507
(S) Dibromofluoromethane	98.7		76.0-123		06/10/2018 17:45	WG1122502
(S) 4-Bromofluorobenzene	96.3		80.0-120		06/07/2018 23:35	WG1121507
(S) 4-Bromofluorobenzene	108		80.0-120		06/10/2018 17:45	WG1122502

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/07/2018 23:54	WG1121507
Toluene	ND		1.00	1	06/07/2018 23:54	WG1121507
Ethylbenzene	ND		1.00	1	06/07/2018 23:54	WG1121507
Total Xylenes	ND		3.00	1	06/07/2018 23:54	WG1121507
Methyl tert-butyl ether	ND		1.00	1	06/07/2018 23:54	WG1121507
Naphthalene	ND		5.00	1	06/07/2018 23:54	WG1121507
1,2-Dichloroethane	ND		1.00	1	06/07/2018 23:54	WG1121507
(S) Toluene-d8	98.4		80.0-120		06/07/2018 23:54	WG1121507
(S) Dibromofluoromethane	95.8		76.0-123		06/07/2018 23:54	WG1121507
(S) 4-Bromofluorobenzene	97.2		80.0-120		06/07/2018 23:54	WG1121507

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/08/2018 00:13	WG1121507
Toluene	ND		1.00	1	06/08/2018 00:13	WG1121507
Ethylbenzene	ND		1.00	1	06/08/2018 00:13	WG1121507
Total Xylenes	ND		3.00	1	06/08/2018 00:13	WG1121507
Methyl tert-butyl ether	ND		1.00	1	06/08/2018 00:13	WG1121507
Naphthalene	ND		5.00	1	06/08/2018 00:13	WG1121507
1,2-Dichloroethane	ND		1.00	1	06/08/2018 00:13	WG1121507
(S) Toluene-d8	100		80.0-120		06/08/2018 00:13	WG1121507
(S) Dibromofluoromethane	96.9		76.0-123		06/08/2018 00:13	WG1121507
(S) 4-Bromofluorobenzene	96.6		80.0-120		06/08/2018 00:13	WG1121507

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/08/2018 00:32	WG1121507
Toluene	ND		1.00	1	06/08/2018 00:32	WG1121507
Ethylbenzene	ND		1.00	1	06/08/2018 00:32	WG1121507
Total Xylenes	ND		3.00	1	06/08/2018 00:32	WG1121507
Methyl tert-butyl ether	5.06		1.00	1	06/08/2018 00:32	WG1121507
Naphthalene	ND		5.00	1	06/08/2018 00:32	WG1121507
1,2-Dichloroethane	ND		1.00	1	06/08/2018 00:32	WG1121507
(S) Toluene-d8	98.8		80.0-120		06/08/2018 00:32	WG1121507
(S) Dibromofluoromethane	97.7		76.0-123		06/08/2018 00:32	WG1121507
(S) 4-Bromofluorobenzene	99.6		80.0-120		06/08/2018 00:32	WG1121507

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	373		10.0	10	06/10/2018 18:04	WG1122502
Toluene	2.49		1.00	1	06/08/2018 00:51	WG1121507
Ethylbenzene	ND		1.00	1	06/08/2018 00:51	WG1121507
Total Xylenes	222		3.00	1	06/08/2018 00:51	WG1121507
Methyl tert-butyl ether	75.5		1.00	1	06/08/2018 00:51	WG1121507
Naphthalene	9.00		5.00	1	06/08/2018 00:51	WG1121507
1,2-Dichloroethane	ND		1.00	1	06/08/2018 00:51	WG1121507
(S) Toluene-d8	99.7		80.0-120		06/08/2018 00:51	WG1121507
(S) Toluene-d8	107		80.0-120		06/10/2018 18:04	WG1122502
(S) Dibromofluoromethane	93.9		76.0-123		06/08/2018 00:51	WG1121507
(S) Dibromofluoromethane	98.0		76.0-123		06/10/2018 18:04	WG1122502
(S) 4-Bromofluorobenzene	97.9		80.0-120		06/08/2018 00:51	WG1121507
(S) 4-Bromofluorobenzene	108		80.0-120		06/10/2018 18:04	WG1122502

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	63.1		1.00	1	06/08/2018 01:10	WG1121507
Toluene	3.28		1.00	1	06/08/2018 01:10	WG1121507
Ethylbenzene	ND		1.00	1	06/08/2018 01:10	WG1121507
Total Xylenes	19.2		3.00	1	06/08/2018 01:10	WG1121507
Methyl tert-butyl ether	247		5.00	5	06/10/2018 18:24	WG1122502
Naphthalene	ND		5.00	1	06/08/2018 01:10	WG1121507
1,2-Dichloroethane	ND		1.00	1	06/08/2018 01:10	WG1121507
(S) Toluene-d8	99.0		80.0-120		06/08/2018 01:10	WG1121507
(S) Toluene-d8	108		80.0-120		06/10/2018 18:24	WG1122502
(S) Dibromofluoromethane	95.4		76.0-123		06/08/2018 01:10	WG1121507
(S) Dibromofluoromethane	96.6		76.0-123		06/10/2018 18:24	WG1122502
(S) 4-Bromofluorobenzene	95.4		80.0-120		06/08/2018 01:10	WG1121507
(S) 4-Bromofluorobenzene	109		80.0-120		06/10/2018 18:24	WG1122502

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/08/2018 01:29	WG1121507
Toluene	ND		1.00	1	06/08/2018 01:29	WG1121507
Ethylbenzene	ND		1.00	1	06/08/2018 01:29	WG1121507
Total Xylenes	ND		3.00	1	06/08/2018 01:29	WG1121507
Methyl tert-butyl ether	322		10.0	10	06/10/2018 18:43	WG1122502
Naphthalene	ND		5.00	1	06/08/2018 01:29	WG1121507
1,2-Dichloroethane	ND		1.00	1	06/08/2018 01:29	WG1121507
(S) Toluene-d8	96.1		80.0-120		06/08/2018 01:29	WG1121507
(S) Toluene-d8	109		80.0-120		06/10/2018 18:43	WG1122502
(S) Dibromofluoromethane	98.3		76.0-123		06/08/2018 01:29	WG1121507
(S) Dibromofluoromethane	95.8		76.0-123		06/10/2018 18:43	WG1122502
(S) 4-Bromofluorobenzene	94.5		80.0-120		06/08/2018 01:29	WG1121507
(S) 4-Bromofluorobenzene	106		80.0-120		06/10/2018 18:43	WG1122502

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity	ND		20000	1	06/08/2018 17:11	WG1121212

Sample Narrative:

L999242-22 WG1121212: Endpoint pH 4.5

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Free Carbon Dioxide	37900	<u>T8</u>	20000	1	06/08/2018 17:11	WG1121212

Sample Narrative:

L999242-22 WG1121212: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Nitrate as (N)	ND		100	1	06/06/2018 15:32	WG1120583
Sulfate	ND		5000	1	06/06/2018 15:32	WG1120583

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Methane	ND		10.0	1	06/08/2018 10:41	WG1121601

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/08/2018 01:49	WG1121507
Toluene	ND		1.00	1	06/08/2018 01:49	WG1121507
Ethylbenzene	ND		1.00	1	06/08/2018 01:49	WG1121507
Total Xylenes	ND		3.00	1	06/08/2018 01:49	WG1121507
Methyl tert-butyl ether	ND		1.00	1	06/08/2018 01:49	WG1121507
Naphthalene	ND		5.00	1	06/08/2018 01:49	WG1121507
1,2-Dichloroethane	ND		1.00	1	06/08/2018 01:49	WG1121507
(S) Toluene-d8	99.9		80.0-120		06/08/2018 01:49	WG1121507
(S) Dibromofluoromethane	95.8		76.0-123		06/08/2018 01:49	WG1121507
(S) 4-Bromofluorobenzene	95.1		80.0-120		06/08/2018 01:49	WG1121507

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity	ND		20000	1	06/08/2018 17:17	WG1121212

Sample Narrative:

L999242-23 WG1121212: Endpoint pH 4.5

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Free Carbon Dioxide	ND	<u>T8</u>	20000	1	06/08/2018 17:17	WG1121212

Sample Narrative:

L999242-23 WG1121212: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Nitrate as (N)	ND		100	1	06/06/2018 16:49	WG1120583
Sulfate	ND		5000	1	06/06/2018 16:49	WG1120583

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Methane	ND		10.0	1	06/08/2018 10:48	WG1121601

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	16.3		1.00	1	06/08/2018 02:08	WG1121507
Toluene	181		10.0	10	06/10/2018 19:03	WG1122502
Ethylbenzene	2.51		1.00	1	06/08/2018 02:08	WG1121507
Total Xylenes	249		3.00	1	06/08/2018 02:08	WG1121507
Methyl tert-butyl ether	ND		1.00	1	06/08/2018 02:08	WG1121507
Naphthalene	ND		5.00	1	06/08/2018 02:08	WG1121507
1,2-Dichloroethane	ND		1.00	1	06/08/2018 02:08	WG1121507
(S) Toluene-d8	100		80.0-120		06/08/2018 02:08	WG1121507
(S) Toluene-d8	105		80.0-120		06/10/2018 19:03	WG1122502
(S) Dibromofluoromethane	96.7		76.0-123		06/08/2018 02:08	WG1121507
(S) Dibromofluoromethane	96.4		76.0-123		06/10/2018 19:03	WG1122502
(S) 4-Bromofluorobenzene	100		80.0-120		06/08/2018 02:08	WG1121507
(S) 4-Bromofluorobenzene	108		80.0-120		06/10/2018 19:03	WG1122502

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity	ND		20000	1	06/08/2018 17:23	WG1121212

Sample Narrative:

L999242-24 WG1121212: Endpoint pH 4.5

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Free Carbon Dioxide	35800	<u>T8</u>	20000	1	06/08/2018 17:23	WG1121212

Sample Narrative:

L999242-24 WG1121212: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Nitrate as (N)	203		100	1	06/06/2018 17:04	WG1120583
Sulfate	ND		5000	1	06/06/2018 17:04	WG1120583

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Methane	ND		10.0	1	06/08/2018 10:51	WG1121601

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/08/2018 02:27	WG1121507
Toluene	ND		1.00	1	06/08/2018 02:27	WG1121507
Ethylbenzene	ND		1.00	1	06/08/2018 02:27	WG1121507
Total Xylenes	ND		3.00	1	06/08/2018 02:27	WG1121507
Methyl tert-butyl ether	ND		1.00	1	06/08/2018 02:27	WG1121507
Naphthalene	ND		5.00	1	06/08/2018 02:27	WG1121507
1,2-Dichloroethane	ND		1.00	1	06/08/2018 02:27	WG1121507
(S) Toluene-d8	103		80.0-120		06/08/2018 02:27	WG1121507
(S) Dibromofluoromethane	97.7		76.0-123		06/08/2018 02:27	WG1121507
(S) 4-Bromofluorobenzene	99.9		80.0-120		06/08/2018 02:27	WG1121507

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity	ND		20000	1	06/08/2018 17:29	WG1121212

Sample Narrative:

L999242-25 WG1121212: Endpoint pH 4.5

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Free Carbon Dioxide	42400	<u>T8</u>	20000	1	06/08/2018 17:29	WG1121212

Sample Narrative:

L999242-25 WG1121212: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Nitrate as (N)	198		100	1	06/06/2018 17:20	WG1120583
Sulfate	ND		5000	1	06/06/2018 17:20	WG1120583

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Methane	ND		10.0	1	06/08/2018 11:07	WG1121601

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/08/2018 02:47	WG1121507
Toluene	ND		1.00	1	06/08/2018 02:47	WG1121507
Ethylbenzene	ND		1.00	1	06/08/2018 02:47	WG1121507
Total Xylenes	ND		3.00	1	06/08/2018 02:47	WG1121507
Methyl tert-butyl ether	ND		1.00	1	06/08/2018 02:47	WG1121507
Naphthalene	ND		5.00	1	06/08/2018 02:47	WG1121507
1,2-Dichloroethane	ND		1.00	1	06/08/2018 02:47	WG1121507
(S) Toluene-d8	102		80.0-120		06/08/2018 02:47	WG1121507
(S) Dibromofluoromethane	96.9		76.0-123		06/08/2018 02:47	WG1121507
(S) 4-Bromofluorobenzene	97.4		80.0-120		06/08/2018 02:47	WG1121507

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity	21100		20000	1	06/08/2018 17:35	WG1121212

Sample Narrative:

L999242-26 WG1121212: Endpoint pH 4.5

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Free Carbon Dioxide	59200	<u>T8</u>	20000	1	06/08/2018 17:35	WG1121212

Sample Narrative:

L999242-26 WG1121212: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Nitrate as (N)	ND		100	1	06/06/2018 17:35	WG1120583
Sulfate	ND		5000	1	06/06/2018 17:35	WG1120583

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Methane	26.6		10.0	1	06/08/2018 11:19	WG1121601

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	472		25.0	25	06/10/2018 19:22	WG1122502
Toluene	514		25.0	25	06/10/2018 19:22	WG1122502
Ethylbenzene	16.8		1.00	1	06/08/2018 03:06	WG1121507
Total Xylenes	1490		75.0	25	06/10/2018 19:22	WG1122502
Methyl tert-butyl ether	255		25.0	25	06/10/2018 19:22	WG1122502
Naphthalene	20.4		5.00	1	06/08/2018 03:06	WG1121507
1,2-Dichloroethane	ND		1.00	1	06/08/2018 03:06	WG1121507
(S) Toluene-d8	98.8		80.0-120		06/08/2018 03:06	WG1121507
(S) Toluene-d8	106		80.0-120		06/10/2018 19:22	WG1122502
(S) Dibromofluoromethane	97.8		76.0-123		06/08/2018 03:06	WG1121507
(S) Dibromofluoromethane	98.1		76.0-123		06/10/2018 19:22	WG1122502
(S) 4-Bromofluorobenzene	100		80.0-120		06/08/2018 03:06	WG1121507
(S) 4-Bromofluorobenzene	108		80.0-120		06/10/2018 19:22	WG1122502

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		50.0	1	06/07/2018 23:15	WG1121507
Benzene	ND		1.00	1	06/07/2018 23:15	WG1121507
Bromodichloromethane	ND		1.00	1	06/07/2018 23:15	WG1121507
Bromoform	ND		1.00	1	06/07/2018 23:15	WG1121507
Bromomethane	ND		5.00	1	06/07/2018 23:15	WG1121507
Carbon disulfide	ND		1.00	1	06/07/2018 23:15	WG1121507
Carbon tetrachloride	ND		1.00	1	06/07/2018 23:15	WG1121507
Chlorobenzene	ND		1.00	1	06/07/2018 23:15	WG1121507
Chlorodibromomethane	ND		1.00	1	06/07/2018 23:15	WG1121507
Chloroethane	ND		5.00	1	06/07/2018 23:15	WG1121507
Chloroform	ND		5.00	1	06/07/2018 23:15	WG1121507
Chloromethane	ND		2.50	1	06/07/2018 23:15	WG1121507
1,2-Dibromo-3-Chloropropane	ND		5.00	1	06/07/2018 23:15	WG1121507
1,2-Dibromoethane	ND		1.00	1	06/07/2018 23:15	WG1121507
1,2-Dichlorobenzene	ND		1.00	1	06/07/2018 23:15	WG1121507
1,3-Dichlorobenzene	ND		1.00	1	06/07/2018 23:15	WG1121507
1,4-Dichlorobenzene	ND		1.00	1	06/07/2018 23:15	WG1121507
1,1-Dichloroethane	ND		1.00	1	06/07/2018 23:15	WG1121507
1,2-Dichloroethane	ND		1.00	1	06/07/2018 23:15	WG1121507
1,1-Dichloroethene	ND		1.00	1	06/07/2018 23:15	WG1121507
cis-1,2-Dichloroethene	ND		1.00	1	06/07/2018 23:15	WG1121507
trans-1,2-Dichloroethene	ND		1.00	1	06/07/2018 23:15	WG1121507
1,2-Dichloropropane	ND		1.00	1	06/07/2018 23:15	WG1121507
cis-1,3-Dichloropropene	ND		1.00	1	06/07/2018 23:15	WG1121507
trans-1,3-Dichloropropene	ND		1.00	1	06/07/2018 23:15	WG1121507
Di-isopropyl ether	ND		1.00	1	06/07/2018 23:15	WG1121507
Ethylbenzene	ND		1.00	1	06/07/2018 23:15	WG1121507
2-Butanone (MEK)	ND		10.0	1	06/07/2018 23:15	WG1121507
2-Hexanone	ND		10.0	1	06/07/2018 23:15	WG1121507
Methylene Chloride	ND		5.00	1	06/07/2018 23:15	WG1121507
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	06/07/2018 23:15	WG1121507
Methyl tert-butyl ether	ND		1.00	1	06/07/2018 23:15	WG1121507
Naphthalene	ND		5.00	1	06/07/2018 23:15	WG1121507
Styrene	ND		1.00	1	06/07/2018 23:15	WG1121507
1,1,2,2-Tetrachloroethane	ND		1.00	1	06/07/2018 23:15	WG1121507
Tetrachloroethene	ND		1.00	1	06/07/2018 23:15	WG1121507
Toluene	ND		1.00	1	06/07/2018 23:15	WG1121507
1,1,1-Trichloroethane	ND		1.00	1	06/07/2018 23:15	WG1121507
1,1,2-Trichloroethane	ND		1.00	1	06/07/2018 23:15	WG1121507
Trichloroethene	ND		1.00	1	06/07/2018 23:15	WG1121507
Vinyl chloride	ND		1.00	1	06/07/2018 23:15	WG1121507
Xylenes, Total	ND		3.00	1	06/07/2018 23:15	WG1121507
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	06/07/2018 23:15	WG1121507
1,2,3-Trimethylbenzene	ND		1.00	1	06/07/2018 23:15	WG1121507
(S) Toluene-d8	98.4		80.0-120		06/07/2018 23:15	WG1121507
(S) Dibromofluoromethane	95.1		76.0-123		06/07/2018 23:15	WG1121507
(S) a,a,a-Trifluorotoluene	101		80.0-120		06/07/2018 23:15	WG1121507
(S) 4-Bromofluorobenzene	96.2		80.0-120		06/07/2018 23:15	WG1121507

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/08/2018 03:26	WG1121507
Toluene	ND		1.00	1	06/08/2018 03:26	WG1121507
Ethylbenzene	ND		1.00	1	06/08/2018 03:26	WG1121507
Total Xylenes	ND		3.00	1	06/08/2018 03:26	WG1121507
Methyl tert-butyl ether	ND		1.00	1	06/08/2018 03:26	WG1121507
Naphthalene	ND		5.00	1	06/08/2018 03:26	WG1121507
1,2-Dichloroethane	ND		1.00	1	06/08/2018 03:26	WG1121507
(S) Toluene-d8	103		80.0-120		06/08/2018 03:26	WG1121507
(S) Dibromofluoromethane	96.4		76.0-123		06/08/2018 03:26	WG1121507
(S) 4-Bromofluorobenzene	97.7		80.0-120		06/08/2018 03:26	WG1121507

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity	31900		20000	1	06/12/2018 22:18	WG1122753

Sample Narrative:

L999242-29 WG1122753: Endpoint pH 4.5

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Free Carbon Dioxide	21200	<u>T8</u>	20000	1	06/12/2018 22:18	WG1122753

Sample Narrative:

L999242-29 WG1122753: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Nitrate as (N)	100		100	1	06/06/2018 17:51	WG1120583
Sulfate	37200		5000	1	06/06/2018 17:51	WG1120583

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Methane	34.6		10.0	1	06/08/2018 11:37	WG1121601

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	3.81		1.00	1	06/08/2018 03:45	WG1121507
Toluene	1.01		1.00	1	06/08/2018 03:45	WG1121507
Ethylbenzene	3.77		1.00	1	06/08/2018 03:45	WG1121507
Total Xylenes	16.0		3.00	1	06/08/2018 03:45	WG1121507
Methyl tert-butyl ether	ND		1.00	1	06/08/2018 03:45	WG1121507
Naphthalene	ND		5.00	1	06/08/2018 03:45	WG1121507
1,2-Dichloroethane	ND		1.00	1	06/08/2018 03:45	WG1121507
(S) Toluene-d8	98.1		80.0-120		06/08/2018 03:45	WG1121507
(S) Dibromofluoromethane	97.7		76.0-123		06/08/2018 03:45	WG1121507
(S) 4-Bromofluorobenzene	96.8		80.0-120		06/08/2018 03:45	WG1121507

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



L999300-01 Original Sample (OS) • Duplicate (DUP)

(OS) L999300-01 06/08/18 17:47 • (DUP) R3316856-1 06/08/18 17:54

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Alkalinity	198000	165000	1	17.8		20

Sample Narrative:

OS: Endpoint pH 4.5
DUP: Endpoint pH 4.5

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

L999300-04 Original Sample (OS) • Duplicate (DUP)

(OS) L999300-04 06/09/18 01:30 • (DUP) R3316856-5 06/09/18 01:38

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Alkalinity	521000	535000	1	2.71		20

Sample Narrative:

OS: Endpoint pH 4.5
DUP: Endpoint pH 4.5

⁶Qc

⁷Gl

⁸Al

⁹Sc

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

(LCS) R3316856-3 06/08/18 18:35 • (LCSD) R3316856-4 06/08/18 19:48

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Alkalinity	100000	110000	107000	110	107	85.0-115			2.73	20

Sample Narrative:

LCS: Endpoint pH 4.5
LCSD: Endpoint pH 4.5



L999273-01 Original Sample (OS) • Duplicate (DUP)

(OS) L999273-01 06/12/18 19:53 • (DUP) R3317437-1 06/12/18 20:03

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Alkalinity	ug/l	ug/l		%		%
Alkalinity	247000	248000	1	0.712		20

Sample Narrative:

OS: Endpoint pH 4.5
 DUP: Endpoint pH 4.5

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L999522-03 Original Sample (OS) • Duplicate (DUP)

(OS) L999522-03 06/12/18 21:40 • (DUP) R3317437-4 06/12/18 21:47

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Alkalinity	ug/l	ug/l		%		%
Alkalinity	36800	37000	1	0.470		20

Sample Narrative:

OS: Endpoint pH 4.5 headspace
 DUP: Endpoint pH 4.5

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

(LCS) R3317437-3 06/12/18 20:12 • (LCSD) R3317437-6 06/12/18 21:55

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Alkalinity	ug/l	ug/l	ug/l	%	%	%			%	%
Alkalinity	100000	104000	106000	104	106	85.0-115			1.70	20

Sample Narrative:

LCS: Endpoint pH 4.5
 LCSD: Endpoint pH 4.5



L999300-01 Original Sample (OS) • Duplicate (DUP)

(OS) L999300-01 06/08/18 17:47 • (DUP) R3316856-2 06/08/18 17:54

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Free Carbon Dioxide	108000	91300	1	16.6		20

Sample Narrative:

OS: Endpoint pH 4.5

DUP: Endpoint pH 4.5

L999300-04 Original Sample (OS) • Duplicate (DUP)

(OS) L999300-04 06/09/18 01:30 • (DUP) R3316856-6 06/09/18 01:38

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Free Carbon Dioxide	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5

DUP: Endpoint pH 4.5

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



L999273-01 Original Sample (OS) • Duplicate (DUP)

(OS) L999273-01 06/12/18 19:53 • (DUP) R3317437-2 06/12/18 20:03

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Free Carbon Dioxide	ug/l	ug/l		%		%
Free Carbon Dioxide	ND	22400	1	20.8	P1	20

Sample Narrative:

OS: Endpoint pH 4.5
DUP: Endpoint pH 4.5

L999522-03 Original Sample (OS) • Duplicate (DUP)

(OS) L999522-03 06/12/18 21:40 • (DUP) R3317437-5 06/12/18 21:47

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Free Carbon Dioxide	ug/l	ug/l		%		%
Free Carbon Dioxide	U	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 headspace
DUP: Endpoint pH 4.5

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



[L999242-03,22,23,24,25,26,29](#)

Method Blank (MB)

(MB) R3316059-1 06/06/18 09:48

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

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L999242-03 Original Sample (OS) • Duplicate (DUP)

(OS) L999242-03 06/06/18 15:01 • (DUP) R3316059-4 06/06/18 15:17

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Nitrate	1410	1410	1	0.312		15
Sulfate	55300	55400	1	0.247		15

L999265-08 Original Sample (OS) • Duplicate (DUP)

(OS) L999265-08 06/06/18 22:59 • (DUP) R3316059-7 06/06/18 23:14

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Nitrate	327	337	1	2.92		15
Sulfate	17000	17000	1	0.0306		15

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

(LCS) R3316059-2 06/06/18 10:04 • (LCSD) R3316059-3 06/06/18 10:19

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Nitrate	8000	8030	8000	100	100	80.0-120			0.429	15
Sulfate	40000	39500	39600	98.8	99.0	80.0-120			0.221	15

L999242-22 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L999242-22 06/06/18 15:32 • (MS) R3316059-5 06/06/18 15:47 • (MSD) R3316059-6 06/06/18 16:03

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Nitrate	5000	ND	4700	4750	92.8	93.7	1	80.0-120			1.01	15
Sulfate	50000	ND	49200	49900	96.4	97.8	1	80.0-120			1.41	15



L999264-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L999264-02 06/07/18 07:35 • (MS) R3316059-8 06/07/18 07:50

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Nitrate	5000	838	5550	94.2	1	80.0-120	
Sulfate	50000	223000	254000	62.2	1	80.0-120	<u>EV</u>

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3316523-1 06/08/18 09:41

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Methane	U		2.91	10.0

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L999166-01 Original Sample (OS) • Duplicate (DUP)

(OS) L999166-01 06/08/18 10:26 • (DUP) R3316523-3 06/08/18 11:10

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Methane	22.2	19.8	1	11.5		20

L999167-01 Original Sample (OS) • Duplicate (DUP)

(OS) L999167-01 06/08/18 10:29 • (DUP) R3316523-4 06/08/18 11:13

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Methane	11.1	9.16	1	19.2	J	20

L999170-01 Original Sample (OS) • Duplicate (DUP)

(OS) L999170-01 06/08/18 10:34 • (DUP) R3316523-5 06/08/18 11:16

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Methane	41.6	44.2	1	6.07		20

Laboratory Control Sample (LCS)

(LCS) R3316523-6 06/08/18 13:41

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Methane	67.8	71.3	105	85.0-115	



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

(LCS) R3316523-2 06/08/18 11:04 • (LCSD) R3316523-6 06/08/18 11:53

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Methane	67.8	76.1	73.9	112	109	85.0-115			2.93	20

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3317471-3 06/07/18 10:34

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.331	1.00
1,2-Dichloroethane	U		0.361	1.00
Ethylbenzene	U		0.384	1.00
Methyl tert-butyl ether	U		0.367	1.00
Naphthalene	U		1.00	5.00
Toluene	U		0.412	1.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	97.8			80.0-120
(S) Dibromofluoromethane	97.8			76.0-123
(S) 4-Bromofluorobenzene	96.4			80.0-120

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

(LCS) R3317471-1 06/07/18 09:15 • (LCSD) R3317471-2 06/07/18 09:35

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Benzene	25.0	26.3	26.5	105	106	70.0-130			1.05	20
1,2-Dichloroethane	25.0	29.5	29.9	118	120	70.0-130			1.44	20
Ethylbenzene	25.0	28.7	27.7	115	111	70.0-130			3.65	20
Methyl tert-butyl ether	25.0	27.6	27.7	110	111	70.0-130			0.260	20
Naphthalene	25.0	22.5	23.9	90.1	95.8	70.0-130			6.10	20
Toluene	25.0	27.3	26.9	109	107	70.0-130			1.55	20
Xylenes, Total	75.0	85.4	84.8	114	113	70.0-130			0.705	20
(S) Toluene-d8				100	101	80.0-120				
(S) Dibromofluoromethane				97.7	98.7	76.0-123				
(S) 4-Bromofluorobenzene				94.2	97.2	80.0-120				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3316743-2 06/07/18 20:44

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		10.0	50.0
Benzene	U		0.331	1.00
Bromodichloromethane	U		0.380	1.00
Bromoform	U		0.469	1.00
Bromomethane	U		0.866	5.00
Carbon disulfide	U		0.275	1.00
Carbon tetrachloride	U		0.379	1.00
Chlorobenzene	U		0.348	1.00
Chlorodibromomethane	U		0.327	1.00
Chloroethane	U		0.453	5.00
Chloroform	U		0.324	5.00
Chloromethane	U		0.276	2.50
1,2-Dibromo-3-Chloropropane	U		1.33	5.00
1,2-Dibromoethane	U		0.381	1.00
1,2-Dichlorobenzene	U		0.349	1.00
1,3-Dichlorobenzene	U		0.220	1.00
1,4-Dichlorobenzene	U		0.274	1.00
1,1-Dichloroethane	U		0.259	1.00
1,2-Dichloroethane	U		0.361	1.00
1,1-Dichloroethene	U		0.398	1.00
cis-1,2-Dichloroethene	U		0.260	1.00
trans-1,2-Dichloroethene	U		0.396	1.00
1,2-Dichloropropane	U		0.306	1.00
cis-1,3-Dichloropropene	U		0.418	1.00
trans-1,3-Dichloropropene	U		0.419	1.00
Di-isopropyl ether	U		0.320	1.00
Ethylbenzene	U		0.384	1.00
2-Hexanone	U		3.82	10.0
2-Butanone (MEK)	U		3.93	10.0
Methylene Chloride	U		1.00	5.00
4-Methyl-2-pentanone (MIBK)	U		2.14	10.0
Methyl tert-butyl ether	U		0.367	1.00
Naphthalene	U		1.00	5.00
Styrene	U		0.307	1.00
1,1,2,2-Tetrachloroethane	U		0.130	1.00
Tetrachloroethene	U		0.372	1.00
Toluene	U		0.412	1.00
1,1,2-Trichlorotrifluoroethane	U		0.303	1.00
1,1,1-Trichloroethane	U		0.319	1.00
1,1,2-Trichloroethane	U		0.383	1.00

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3316743-2 06/07/18 20:44

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Trichloroethene	U		0.398	1.00
1,2,3-Trimethylbenzene	U		0.321	1.00
Vinyl chloride	U		0.259	1.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	97.3			80.0-120
(S) Dibromofluoromethane	99.6			76.0-123
(S) a,a,a-Trifluorotoluene	101			80.0-120
(S) 4-Bromofluorobenzene	97.4			80.0-120

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

Laboratory Control Sample (LCS)

(LCS) R3316743-1 06/07/18 19:46

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Acetone	125	146	117	70.0-130	
Benzene	25.0	27.3	109	70.0-130	
Bromodichloromethane	25.0	29.7	119	70.0-130	
Bromoform	25.0	28.2	113	70.0-130	
Bromomethane	25.0	29.6	118	70.0-130	
Carbon disulfide	25.0	26.5	106	70.0-130	
Carbon tetrachloride	25.0	30.6	122	70.0-130	
Chlorobenzene	25.0	28.8	115	70.0-130	
Chlorodibromomethane	25.0	29.9	119	70.0-130	
Chloroethane	25.0	27.8	111	70.0-130	
Chloroform	25.0	29.7	119	70.0-130	
Chloromethane	25.0	31.6	126	70.0-130	
1,2-Dibromo-3-Chloropropane	25.0	24.7	98.7	70.0-130	
1,2-Dibromoethane	25.0	27.9	111	70.0-130	
1,2-Dichlorobenzene	25.0	28.6	114	70.0-130	
1,3-Dichlorobenzene	25.0	28.8	115	70.0-130	
1,4-Dichlorobenzene	25.0	28.2	113	70.0-130	
1,1-Dichloroethane	25.0	30.2	121	70.0-130	
1,2-Dichloroethane	25.0	31.8	127	70.0-130	
1,1-Dichloroethene	25.0	28.8	115	70.0-130	
cis-1,2-Dichloroethene	25.0	26.7	107	70.0-130	
trans-1,2-Dichloroethene	25.0	27.9	112	70.0-130	
1,2-Dichloropropane	25.0	28.9	115	70.0-130	
cis-1,3-Dichloropropene	25.0	29.3	117	70.0-130	
trans-1,3-Dichloropropene	25.0	29.6	118	70.0-130	

6 Qc

7 Gl

8 Al

9 Sc



Laboratory Control Sample (LCS)

(LCS) R3316743-1 06/07/18 19:46

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Di-isopropyl ether	25.0	31.9	128	70.0-130	
Ethylbenzene	25.0	29.3	117	70.0-130	
2-Hexanone	125	139	111	70.0-130	
2-Butanone (MEK)	125	140	112	70.0-130	
Methylene Chloride	25.0	25.9	103	70.0-130	
4-Methyl-2-pentanone (MIBK)	125	152	121	70.0-130	
Methyl tert-butyl ether	25.0	28.2	113	70.0-130	
Naphthalene	25.0	23.1	92.3	70.0-130	
Styrene	25.0	28.8	115	70.0-130	
1,1,2,2-Tetrachloroethane	25.0	26.3	105	70.0-130	
Tetrachloroethene	25.0	30.6	123	70.0-130	
Toluene	25.0	28.3	113	70.0-130	
1,1,2-Trichlorotrifluoroethane	25.0	26.7	107	70.0-130	
1,1,1-Trichloroethane	25.0	30.6	122	70.0-130	
1,1,2-Trichloroethane	25.0	27.6	110	70.0-130	
Trichloroethene	25.0	28.7	115	70.0-130	
1,2,3-Trimethylbenzene	25.0	28.0	112	70.0-130	
Vinyl chloride	25.0	32.2	129	70.0-130	
Xylenes, Total	75.0	87.7	117	70.0-130	
<i>(S) Toluene-d8</i>			99.3	80.0-120	
<i>(S) Dibromofluoromethane</i>			98.5	76.0-123	
<i>(S) a,a,a-Trifluorotoluene</i>			102	80.0-120	
<i>(S) 4-Bromofluorobenzene</i>			96.2	80.0-120	

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3316892-2 06/10/18 12:10

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.331	1.00
Methyl tert-butyl ether	U		0.367	1.00
Toluene	U		0.412	1.00
Xylenes, Total	U		1.06	3.00
<i>(S) Toluene-d8</i>	106			80.0-120
<i>(S) Dibromofluoromethane</i>	99.6			76.0-123
<i>(S) 4-Bromofluorobenzene</i>	110			80.0-120

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

Laboratory Control Sample (LCS)

(LCS) R3316892-1 06/10/18 10:51

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Benzene	25.0	25.2	101	70.0-130	
Methyl tert-butyl ether	25.0	27.6	111	70.0-130	
Toluene	25.0	27.5	110	70.0-130	
Xylenes, Total	75.0	87.9	117	70.0-130	
<i>(S) Toluene-d8</i>			108	80.0-120	
<i>(S) Dibromofluoromethane</i>			98.6	76.0-123	
<i>(S) 4-Bromofluorobenzene</i>			110	80.0-120	

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3317568-3 06/13/18 10:49

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Benzene	U		0.331	1.00
(S) Toluene-d8	101			80.0-120
(S) Dibromofluoromethane	97.1			76.0-123
(S) 4-Bromofluorobenzene	104			80.0-120

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

(LCS) R3317568-1 06/13/18 09:29 • (LCSD) R3317568-2 06/13/18 09:49

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	25.0	24.0	24.1	96.0	96.4	70.0-130			0.451	20
(S) Toluene-d8				102	103	80.0-120				
(S) Dibromofluoromethane				98.7	97.8	76.0-123				
(S) 4-Bromofluorobenzene				105	104	80.0-120				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Guide to Reading and Understanding Your Laboratory Report

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

Abbreviations and Definitions

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

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Qualifier Description

E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.



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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
 * Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

State Accreditations

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

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

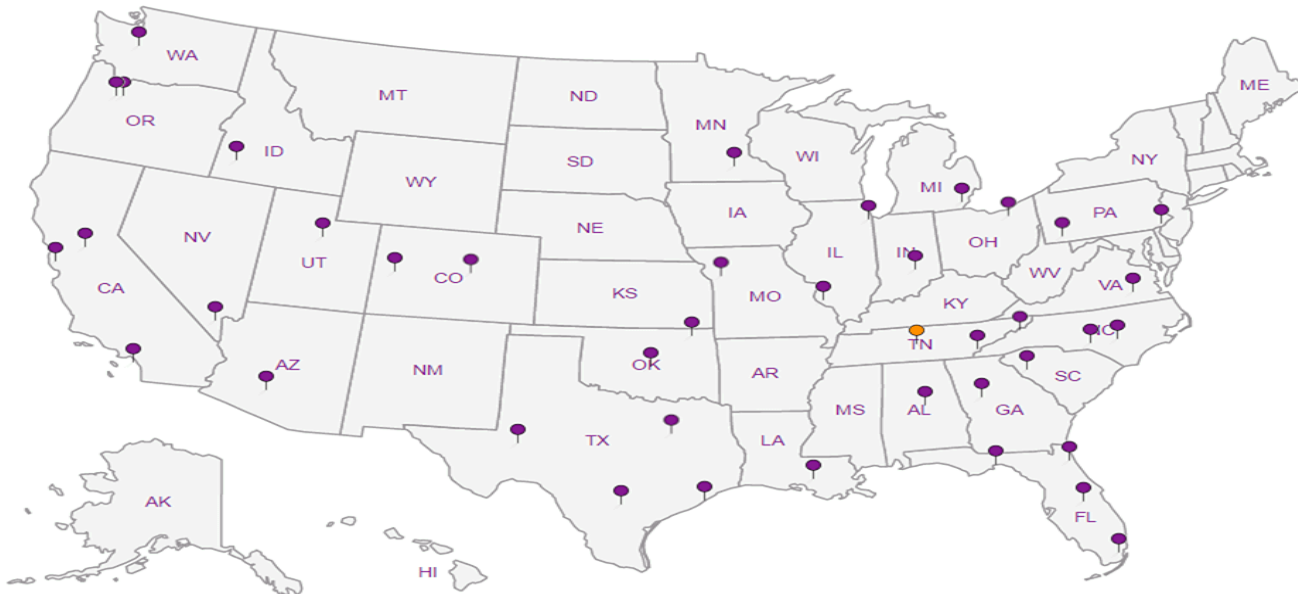
Third Party Federal Accreditations

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

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

Our Locations

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



Kinder Morgan- Atlanta, GA

6600 Peachtree Dunwoody Road
400 Embassy Row - Suite 600
Atlanta GA 30328

Report to:
Bethany Garvey

Project
Description: **Lewis Drive Groundwater**

Phone: **770-604-9182**
Fax:

Client Project #
699858

City/State
Collected: **SC**

Lab Project #
KINCH2MGA-LEWIS12

Collected by (print):
K.S. BG, EH, JM

Site/Facility ID #
Lewis Dr.

P.O. #

Collected by (signature):
Bethany Garvey

Rush? (Lab MUST Be Notified)
 Same Day Five Day
 Next Day 5 Day (Rad Only)
 Two Day 10 Day (Rad Only)
 Three Day

Quote #
Date Results Needed

Immediately
Packed on Ice N Y

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
-----------	-----------	----------	-------	------	------	--------------

MW-29-060518	Grab	GW		6.5.18	0900	3
MW-46-060518		GW			0935	3
MW-22-060518		GW			1210	7
MW-26B-060518		GW			0920	3
MW-26-060518		GW			0940	3
MW-23-060518		GW			0952	3
MW-23B-060518		GW			1002	3
MW-44-060518		GW			1038	3
MW-44B-060518		GW			1045	3
MW-27B-060518		GW		6.5.18	1110	3

* Matrix:
 SS - Soil AIR - Air F - Filter
 GW - Groundwater B - Bioassay
 WW - WasteWater
 DW - Drinking Water
 OT - Other

Remarks: *NITRATE/SULFATE* has a 48hr hold time.

Samples returned via:
 UPS FedEx Courier

Tracking # **4380 6874 1147**

Relinquished by: (Signature)

Bethany Garvey

Date: **6.5.18**
Time: **1650**

Received by: (Signature)

asm

Trip Blank Received: (Yes/No)
 HCL / MeOH
 TBR

Relinquished by: (Signature)

Date: **6.6.18**
Time: **845**

Received by: (Signature)

asm

Temp: **0.6** C
Bottles Received: **112**

Relinquished by: (Signature)

Date: **6/6/18**
Time: **845**

Received for lab by: (Signature)

asm

Date: **6/6/18**
Time: **845**

If preservation required by Login: Date/Time

Hold: Condition: **NCF 1/0**

Analysis / Container / Preservative	Pres Chk
NITRATE,SULFATE 125mlHDPE-NoPres	
ALK,CO2 125mlHDPE-NoPres	
RSK175 40mlAmb HCl	
V8260BTEXMNSC 40mlAmb-HCl	
V8260TCLSC-TB 40mlAmb-NoPres-Bik	

Chain of Custody Page **1** of **3**



12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859



L# **L999242**
F164
 Accnum: **KINCH2MGA**
 Template: **T130277**
 Prelogin: **P655547**
 TSR: **526 - Chris McCord**
 PB: **5-30-186**

Shipped Via: **FedEX Ground**

Remarks	Sample # (lab only)
	-01
	02
	03
	04
	05
	06
	07
	08
	09
	10

Sample Receipt Checklist

COC Seal Present/Intact: Y N
 COC Signed/Accurate: Y N
 Bottles arrive intact: Y N
 Correct bottles used: Y N
 Sufficient volume sent: Y N
 If Applicable
 VOA Zero HeadSpace: Y N
 Preservation Correct/Checked: Y N

Kinder Morgan- Atlanta, GA

6600 Peachtree Dunwoody Road
400 Embassy Row - Suite 600
Atlanta GA 30328

Report to:
Bethany Garvey

Project
Description: **Lewis Drive Groundwater**

Phone: **770-604-9182**
Fax:

Client Project #

699858

City/State
Collected: **SC**

Lab Project #
KINCH2MGA-LEWIS12

Collected by (print):
KS, BG, EY, DM

Site/Facility ID #

Lewis Dr.

P.O. #

Collected by (signature):

Bethany Garvey
Immediately
Packed on Ice N Y

Rush? (Lab MUST Be Notified)

Same Day Five Day
 Next Day 5 Day (Rad Only)
 Two Day 10 Day (Rad Only)
 Three Day

Quote #

Date Results Needed

No. of
Entrs

Billing Information:

Accounts Payable
1000 Windward Concourse
Ste 450
Alpharetta, GA 30005

Email To: bgarvey@ch2m.com;
tom.wiley@ch2m.com; scott.powell@ch2m.com;

Pres
Chk

Analysis / Container / Preservative

Chain of Custody Page 2 of 3



12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859



L# **L999242**

Table #

Acctnum: **KINCH2MGA**

Template: **T130277**

Prelogin: **P655547**

TSR: **526 - Chris McCord**

PB: **5-30-186**

Shipped Via: **FedEX Ground**

Remarks Sample # (lab only)

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Entrs	* NITRATE, SULFATE* 125mlHDPE-NoPres	ALK, CO2 125mlHDPE-NoPres	RSK175 40mlAmb HCl	V8260BTEXMNSC 40mlAmb-HCl	V8260TCLSC-TB 40mlAmb-NoPres-BIK								
MW-27-060518	Grab	GW		6.5.18	1120	3				/									-11
MW-010-060518		GW			1135	3				/									12
EB01-060518		GW			1140	3				/									13
MW-49-060518		GW			1415	3				/									14
MW-63-060518		GW			1425	3				/									15
MW-253-060518		GW			1440	3				/									16
MW-41-060518		GW			1450	3				/									17
MW-37-060518		GW			1510	3				/									18
MW-38-060518		GW			1520	3				/									19
MW-34-060518		GW		6.5.18	1530	3				/									20

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks: *NITRATE/SULFATE* has a 48hr hold time.

Samples returned via:
 UPS FedEx Courier

Tracking # **4380 6874 1147**

pH _____ Temp _____

Flow _____ Other _____

Sample Receipt Checklist:

COC Seal Present/Intact: NP N
COC Signed/Accurate: N N
Bottles arrive intact: N N
Correct bottles used: N N
Sufficient volume sent: N N
If Applicable
VOA Zero Headpace: N N
Preservation Correct/Checked: N N

Relinquished by: (Signature)

Bethany Garvey

Date:

6.5.18

Time:

1650

Received by: (Signature)

Trip Blank Received: Yes No
HCL / MeOH
TBR

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: **9.62** °C
Bottles Received: **112**

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

asm

Date: **6/6/18**
Time: **845**

Hold:

Condition:
NCF / OK

Kinder Morgan- Atlanta, GA

6600 Peachtree Dunwoody Road
400 Embassy Row - Suite 600
Atlanta GA 30328

Billing Information:
Accounts Payable
1000 Windward Concourse
Ste 450
Alpharetta, GA 30005

Pres
Chk

Report to:
Bethany Garvey

Email To: bgarvey@ch2m.com;
tom.wiley@ch2m.com; scott.powell@ch2m.com;

Project
Description: **Lewis Drive Groundwater**

City/State
Collected: **SC**

Phone: **770-604-9182**
Fax:

Client Project #
699858

Lab Project #
KINCH2MGA-LEWIS12

Collected by (print):
KS, EG, EH, JM

Site/Facility ID #
Lewis Dr

P.O. #


Collected by (signature):
Bethany Garvey

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #
Date Results Needed

Immediately
Packed on ice N Y X

No.
of
Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	* NITRATE, SULFATE * 125mlHDPE-NoPres	ALK, CO2 125mlHDPE-NoPres	RSK175 40mlAmb HCl	V8260BTEXMNSC 40mlAmb-HCl	V8260TCLSC-TB 40mlAmb-NoPres-Bik	Analysis / Container / Preservative	Chain of Custody	
MW-39-060518	Grab	GW		6.5.18	1540	3				/			 Chain of Custody Page 2 of 3 12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859 L# L999242 Table # Acctnum: KINCH2MGA Template: T130277 Prelogin: P655547 TSR: 526 - Chris McCord PB: 5-30-18 Shipped Via: FedEX Ground	
MW-01-060518		GW			1340	7	X	X	X	X				21
MW-12-060518		GW			1440	7	X	X	X	X				22
MW-25-060518		GW			1505	7	X	X	X	X				23
MW-42-060518		GW			1522	7	X	X	X	X				24
MW-40-060518		GW			1550	7	X	X	X	X				25
TB01-060518		WW		6.5.18	-	1					X			26
MW-44B-D-060518		GW		6.5.18	1045	3				X				27
MW-28-060518		GW		6.5.18	1625	7	X	X	X	X				28
		GW												29

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks: *NITRATE/SULFATE* has a 48hr hold time.

Samples returned via:
___ UPS ___ FedEx ___ Courier ___

Tracking # **4300 6874 1147**
pH ___ Temp ___
Flow ___ Other ___

Sample Receipt Checklist
COC Seal Present/Intact: ___ NP ___ Y ___ N
COC Signed/Accurate: ___ Y ___ N
Bottles arrive intact: ___ Y ___ N
Correct bottles used: ___ Y ___ N
Sufficient volume sent: ___ Y ___ N
IF Applicable
VOA Zero Headpace: ___ Y ___ N
Preservation Correct/Checked: ___ Y ___ N

Relinquished by: (Signature) <i>Bethany Garvey</i>	Date: 6.5.18	Time: 16:50	Received by: (Signature)	Trip Blank Received: (Yes/No) () HCl/MeOH TBR	Bottles Received: 112	If preservation required by Login: Date/Time
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Hold:
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) <i>AM</i>	Date: 6/6/18	Time: 845	Condition: NCF / OK

June 14, 2018

Kinder Morgan- Atlanta, GA

Sample Delivery Group: L999694
Samples Received: 06/07/2018
Project Number: 699858
Description: Lewis Drive Groundwater
Site: KM-LEWISDR
Report To: Bethany Garvey
6600 Peachtree Dunwoody Road
400 Embassy Row - Suite 600
Atlanta, GA 30328

Entire Report Reviewed By:



Chris McCord
Technical Service Representative

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



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¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

SAMPLE SUMMARY



MW-43B-060618 L999694-01 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by BG / EH				Collected date/time 06/06/18 07:55	Received date/time 06/07/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122001	1	06/09/18 05:16	06/09/18 05:16	BMB

1 Cp

2 Tc

3 Ss

MW-43-060618 L999694-02 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by BG / EH				Collected date/time 06/06/18 08:05	Received date/time 06/07/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122001	1	06/09/18 05:36	06/09/18 05:36	BMB

4 Cn

5 Sr

MW-24-060618 L999694-03 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by BG / EH				Collected date/time 06/06/18 08:20	Received date/time 06/07/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122001	1	06/09/18 05:56	06/09/18 05:56	BMB

6 Qc

7 Gl

MW-24B-060618 L999694-04 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by BG / EH				Collected date/time 06/06/18 08:30	Received date/time 06/07/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122001	1	06/09/18 06:16	06/09/18 06:16	BMB

8 Al

9 Sc

MW-15B-060618 L999694-05 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by BG / EH				Collected date/time 06/06/18 09:00	Received date/time 06/07/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122001	1	06/09/18 06:36	06/09/18 06:36	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1124166	25	06/14/18 02:58	06/14/18 02:58	JHH

MW-14B-060618 L999694-06 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by BG / EH				Collected date/time 06/06/18 09:40	Received date/time 06/07/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122001	1	06/09/18 06:56	06/09/18 06:56	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1124166	1	06/14/18 03:20	06/14/18 03:20	JHH

MW-14-060618 L999694-07 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by BG / EH				Collected date/time 06/06/18 09:50	Received date/time 06/07/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122001	1	06/09/18 07:16	06/09/18 07:16	BMB

MW-13B-060618 L999694-08 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by BG / EH				Collected date/time 06/06/18 10:10	Received date/time 06/07/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122001	1	06/09/18 07:36	06/09/18 07:36	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1124166	10	06/14/18 03:41	06/14/18 03:41	JHH

SAMPLE SUMMARY



MW-13-060618 L999694-09 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by BG / EH				Collected date/time 06/06/18 10:20	Received date/time 06/07/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122001	1	06/09/18 07:56	06/09/18 07:56	BMB

1 Cp

2 Tc

3 Ss

MW-47-060618 L999694-10 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by BG / EH				Collected date/time 06/06/18 10:45	Received date/time 06/07/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122001	1	06/09/18 08:16	06/09/18 08:16	BMB

4 Cn

5 Sr

MW-31-060618 L999694-11 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by BG / EH				Collected date/time 06/06/18 10:55	Received date/time 06/07/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122001	1	06/09/18 08:36	06/09/18 08:36	BMB

6 Qc

7 Gl

MW-33T-060618 L999694-12 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by BG / EH				Collected date/time 06/06/18 11:07	Received date/time 06/07/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122001	1	06/09/18 08:56	06/09/18 08:56	BMB

8 Al

9 Sc

MW-48B-060618 L999694-13 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by BG / EH				Collected date/time 06/06/18 11:25	Received date/time 06/07/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122001	1	06/09/18 09:16	06/09/18 09:16	BMB

MW-48B-D-060618 L999694-14 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by BG / EH				Collected date/time 06/06/18 11:25	Received date/time 06/07/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122001	1	06/09/18 09:36	06/09/18 09:36	BMB

FB02-060618 L999694-15 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by BG / EH				Collected date/time 06/06/18 11:38	Received date/time 06/07/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122001	1	06/09/18 09:56	06/09/18 09:56	BMB

MW-50B-060618 L999694-16 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by BG / EH				Collected date/time 06/06/18 13:13	Received date/time 06/07/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122001	1	06/09/18 10:16	06/09/18 10:16	BMB

SAMPLE SUMMARY



MW-32-060618 L999694-17 GW

Collected by
BG / EH
Collected date/time
06/06/18 13:45
Received date/time
06/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 2320 B-2011	WG1123765	1	06/13/18 17:11	06/13/18 17:11	MCG
Wet Chemistry by Method 4500CO2 D-2011	WG1123765	1	06/13/18 17:11	06/13/18 17:11	MCG
Wet Chemistry by Method 9056A	WG1121161	1	06/07/18 19:04	06/07/18 19:04	DR
Volatile Organic Compounds (GC) by Method RSK175	WG1122650	1	06/11/18 13:27	06/11/18 13:27	MEL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122001	1	06/09/18 10:35	06/09/18 10:35	BMB

- 1
Cp
- 2
Tc
- 3
Ss
- 4
Cn
- 5
Sr
- 6
Qc
- 7
Gl
- 8
Al
- 9
Sc

MW-10-060618 L999694-18 GW

Collected by
BG / EH
Collected date/time
06/06/18 14:05
Received date/time
06/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 2320 B-2011	WG1123765	1	06/13/18 17:17	06/13/18 17:17	MCG
Wet Chemistry by Method 4500CO2 D-2011	WG1123765	1	06/13/18 17:17	06/13/18 17:17	MCG
Wet Chemistry by Method 9056A	WG1121161	1	06/07/18 19:20	06/07/18 19:20	DR
Volatile Organic Compounds (GC) by Method RSK175	WG1122650	1	06/11/18 13:31	06/11/18 13:31	MEL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122001	1	06/09/18 10:55	06/09/18 10:55	BMB

MW-08-060618 L999694-19 GW

Collected by
BG / EH
Collected date/time
06/06/18 14:40
Received date/time
06/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 2320 B-2011	WG1123765	1	06/13/18 17:28	06/13/18 17:28	MCG
Wet Chemistry by Method 4500CO2 D-2011	WG1123765	1	06/13/18 17:28	06/13/18 17:28	MCG
Wet Chemistry by Method 9056A	WG1121161	1	06/07/18 20:06	06/07/18 20:06	DR
Volatile Organic Compounds (GC) by Method RSK175	WG1122650	1	06/11/18 13:34	06/11/18 13:34	MEL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122001	1	06/09/18 11:15	06/09/18 11:15	BMB

MW-30-060618 L999694-20 GW

Collected by
BG / EH
Collected date/time
06/06/18 15:00
Received date/time
06/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122001	1	06/09/18 11:35	06/09/18 11:35	BMB

MW-19-060618 L999694-21 GW

Collected by
BG / EH
Collected date/time
06/06/18 07:47
Received date/time
06/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 2320 B-2011	WG1123765	1	06/13/18 17:34	06/13/18 17:34	MCG
Wet Chemistry by Method 4500CO2 D-2011	WG1123765	1	06/13/18 17:34	06/13/18 17:34	MCG
Wet Chemistry by Method 9056A	WG1121161	1	06/07/18 20:52	06/07/18 20:52	DR
Volatile Organic Compounds (GC) by Method RSK175	WG1122650	1	06/11/18 13:38	06/11/18 13:38	MEL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122034	1	06/08/18 23:56	06/08/18 23:56	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1124100	50	06/14/18 02:15	06/14/18 02:15	JHH

MW-35-060618 L999694-22 GW

Collected by
BG / EH
Collected date/time
06/06/18 09:00
Received date/time
06/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 2320 B-2011	WG1123765	1	06/13/18 17:40	06/13/18 17:40	MCG
Wet Chemistry by Method 4500CO2 D-2011	WG1123765	1	06/13/18 17:40	06/13/18 17:40	MCG
Wet Chemistry by Method 9056A	WG1121161	1	06/07/18 21:07	06/07/18 21:07	DR
Volatile Organic Compounds (GC) by Method RSK175	WG1122995	1	06/12/18 11:34	06/12/18 11:34	BG

SAMPLE SUMMARY



MW-35-060618 L999694-22 GW

Collected by
BG / EH
Collected date/time
06/06/18 09:00
Received date/time
06/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122034	1	06/09/18 00:16	06/09/18 00:16	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1124100	1	06/14/18 02:36	06/14/18 02:36	JHH

1
Cp

2
Tc

3
Ss

MW-15-060618 L999694-23 GW

Collected by
BG / EH
Collected date/time
06/06/18 09:25
Received date/time
06/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 2320 B-2011	WG1123765	1	06/13/18 17:46	06/13/18 17:46	MCG
Wet Chemistry by Method 4500CO2 D-2011	WG1123765	1	06/13/18 17:46	06/13/18 17:46	MCG
Wet Chemistry by Method 9056A	WG1121161	1	06/07/18 21:23	06/07/18 21:23	DR
Volatile Organic Compounds (GC) by Method RSK175	WG1122995	1	06/12/18 11:39	06/12/18 11:39	BG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122034	1	06/09/18 00:36	06/09/18 00:36	JAH

4
Cn

5
Sr

6
Qc

7
Gl

MW-04-060618 L999694-24 GW

Collected by
BG / EH
Collected date/time
06/06/18 11:00
Received date/time
06/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 2320 B-2011	WG1123765	1	06/13/18 18:02	06/13/18 18:02	MCG
Wet Chemistry by Method 4500CO2 D-2011	WG1123765	1	06/13/18 18:02	06/13/18 18:02	MCG
Wet Chemistry by Method 9056A	WG1121161	1	06/07/18 21:38	06/07/18 21:38	DR
Volatile Organic Compounds (GC) by Method RSK175	WG1122995	1	06/12/18 11:42	06/12/18 11:42	BG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122034	1	06/09/18 00:55	06/09/18 00:55	JAH

8
Al

9
Sc

MW-03-060618 L999694-25 GW

Collected by
BG / EH
Collected date/time
06/06/18 11:17
Received date/time
06/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 2320 B-2011	WG1123765	1	06/13/18 18:08	06/13/18 18:08	MCG
Wet Chemistry by Method 4500CO2 D-2011	WG1123765	1	06/13/18 18:08	06/13/18 18:08	MCG
Wet Chemistry by Method 9056A	WG1121333	1	06/07/18 21:32	06/07/18 21:32	MAJ
Volatile Organic Compounds (GC) by Method RSK175	WG1122995	1	06/12/18 11:52	06/12/18 11:52	BG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122034	1	06/09/18 01:14	06/09/18 01:14	JAH

MW-02-060618 L999694-26 GW

Collected by
BG / EH
Collected date/time
06/06/18 14:40
Received date/time
06/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 2320 B-2011	WG1123765	1	06/13/18 18:14	06/13/18 18:14	MCG
Wet Chemistry by Method 4500CO2 D-2011	WG1123765	1	06/13/18 18:14	06/13/18 18:14	MCG
Wet Chemistry by Method 9056A	WG1121333	1	06/07/18 21:49	06/07/18 21:49	MAJ
Volatile Organic Compounds (GC) by Method RSK175	WG1122995	1	06/12/18 12:01	06/12/18 12:01	BG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122034	1	06/09/18 01:33	06/09/18 01:33	JAH

MW-09-060618 L999694-27 GW

Collected by
BG / EH
Collected date/time
06/06/18 15:20
Received date/time
06/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 2320 B-2011	WG1123765	1	06/13/18 18:22	06/13/18 18:22	MCG
Wet Chemistry by Method 4500CO2 D-2011	WG1123765	1	06/13/18 18:22	06/13/18 18:22	MCG
Wet Chemistry by Method 9056A	WG1121333	1	06/07/18 22:38	06/07/18 22:38	MAJ
Volatile Organic Compounds (GC) by Method RSK175	WG1122995	1	06/12/18 12:04	06/12/18 12:04	BG

SAMPLE SUMMARY



MW-09-060618 L999694-27 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122034	1	06/09/18 01:53	06/09/18 01:53	JAH

Collected by: BG / EH
 Collected date/time: 06/06/18 15:20
 Received date/time: 06/07/18 08:45

1 Cp

2 Tc

3 Ss

MW-02B-060618 L999694-28 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122034	1	06/09/18 02:12	06/09/18 02:12	JAH

Collected by: BG / EH
 Collected date/time: 06/06/18 15:10
 Received date/time: 06/07/18 08:45

4 Cn

5 Sr

MW-09B-060618 L999694-29 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122034	1	06/09/18 02:31	06/09/18 02:31	JAH

Collected by: BG / EH
 Collected date/time: 06/06/18 15:27
 Received date/time: 06/07/18 08:45

6 Qc

7 Gl

8 Al

TBO2-060618 L999694-30 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122286	1	06/09/18 20:09	06/09/18 20:09	BMB

Collected by: BG / EH
 Collected date/time: 06/06/18 00:00
 Received date/time: 06/07/18 08:45

9 Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris McCord
Technical Service Representative

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/09/2018 05:16	WG1122001
Toluene	ND		1.00	1	06/09/2018 05:16	WG1122001
Ethylbenzene	ND		1.00	1	06/09/2018 05:16	WG1122001
Total Xylenes	ND		3.00	1	06/09/2018 05:16	WG1122001
Methyl tert-butyl ether	ND		1.00	1	06/09/2018 05:16	WG1122001
Naphthalene	ND		5.00	1	06/09/2018 05:16	WG1122001
1,2-Dichloroethane	ND		1.00	1	06/09/2018 05:16	WG1122001
(S) Toluene-d8	103		80.0-120		06/09/2018 05:16	WG1122001
(S) Dibromofluoromethane	97.2		76.0-123		06/09/2018 05:16	WG1122001
(S) 4-Bromofluorobenzene	102		80.0-120		06/09/2018 05:16	WG1122001

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/09/2018 05:36	WG1122001
Toluene	ND		1.00	1	06/09/2018 05:36	WG1122001
Ethylbenzene	ND		1.00	1	06/09/2018 05:36	WG1122001
Total Xylenes	ND		3.00	1	06/09/2018 05:36	WG1122001
Methyl tert-butyl ether	ND		1.00	1	06/09/2018 05:36	WG1122001
Naphthalene	ND		5.00	1	06/09/2018 05:36	WG1122001
1,2-Dichloroethane	ND		1.00	1	06/09/2018 05:36	WG1122001
(S) Toluene-d8	102		80.0-120		06/09/2018 05:36	WG1122001
(S) Dibromofluoromethane	96.1		76.0-123		06/09/2018 05:36	WG1122001
(S) 4-Bromofluorobenzene	99.2		80.0-120		06/09/2018 05:36	WG1122001

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/09/2018 05:56	WG1122001
Toluene	ND		1.00	1	06/09/2018 05:56	WG1122001
Ethylbenzene	ND		1.00	1	06/09/2018 05:56	WG1122001
Total Xylenes	ND		3.00	1	06/09/2018 05:56	WG1122001
Methyl tert-butyl ether	ND		1.00	1	06/09/2018 05:56	WG1122001
Naphthalene	ND		5.00	1	06/09/2018 05:56	WG1122001
1,2-Dichloroethane	ND		1.00	1	06/09/2018 05:56	WG1122001
(S) Toluene-d8	102		80.0-120		06/09/2018 05:56	WG1122001
(S) Dibromofluoromethane	98.8		76.0-123		06/09/2018 05:56	WG1122001
(S) 4-Bromofluorobenzene	101		80.0-120		06/09/2018 05:56	WG1122001

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/09/2018 06:16	WG1122001
Toluene	ND		1.00	1	06/09/2018 06:16	WG1122001
Ethylbenzene	ND		1.00	1	06/09/2018 06:16	WG1122001
Total Xylenes	ND		3.00	1	06/09/2018 06:16	WG1122001
Methyl tert-butyl ether	ND		1.00	1	06/09/2018 06:16	WG1122001
Naphthalene	ND		5.00	1	06/09/2018 06:16	WG1122001
1,2-Dichloroethane	ND		1.00	1	06/09/2018 06:16	WG1122001
(S) Toluene-d8	102		80.0-120		06/09/2018 06:16	WG1122001
(S) Dibromofluoromethane	97.9		76.0-123		06/09/2018 06:16	WG1122001
(S) 4-Bromofluorobenzene	104		80.0-120		06/09/2018 06:16	WG1122001

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	968		25.0	25	06/14/2018 02:58	WG1124166
Toluene	1990		25.0	25	06/14/2018 02:58	WG1124166
Ethylbenzene	82.8		1.00	1	06/09/2018 06:36	WG1122001
Total Xylenes	791		75.0	25	06/14/2018 02:58	WG1124166
Methyl tert-butyl ether	109		1.00	1	06/09/2018 06:36	WG1122001
Naphthalene	12.8		5.00	1	06/09/2018 06:36	WG1122001
1,2-Dichloroethane	ND		1.00	1	06/09/2018 06:36	WG1122001
(S) Toluene-d8	103		80.0-120		06/09/2018 06:36	WG1122001
(S) Toluene-d8	102		80.0-120		06/14/2018 02:58	WG1124166
(S) Dibromofluoromethane	111		76.0-123		06/09/2018 06:36	WG1122001
(S) Dibromofluoromethane	104		76.0-123		06/14/2018 02:58	WG1124166
(S) 4-Bromofluorobenzene	104		80.0-120		06/09/2018 06:36	WG1122001
(S) 4-Bromofluorobenzene	109		80.0-120		06/14/2018 02:58	WG1124166

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	8.63		1.00	1	06/14/2018 03:20	WG1124166
Toluene	ND		1.00	1	06/14/2018 03:20	WG1124166
Ethylbenzene	ND		1.00	1	06/09/2018 06:56	WG1122001
Total Xylenes	5.77		3.00	1	06/14/2018 03:20	WG1124166
Methyl tert-butyl ether	22.1		1.00	1	06/09/2018 06:56	WG1122001
Naphthalene	ND		5.00	1	06/09/2018 06:56	WG1122001
1,2-Dichloroethane	ND		1.00	1	06/09/2018 06:56	WG1122001
(S) Toluene-d8	101		80.0-120		06/09/2018 06:56	WG1122001
(S) Toluene-d8	101		80.0-120		06/14/2018 03:20	WG1124166
(S) Dibromofluoromethane	72.7	<u>J2</u>	76.0-123		06/09/2018 06:56	WG1122001
(S) Dibromofluoromethane	67.7	<u>J2</u>	76.0-123		06/14/2018 03:20	WG1124166
(S) 4-Bromofluorobenzene	102		80.0-120		06/09/2018 06:56	WG1122001
(S) 4-Bromofluorobenzene	109		80.0-120		06/14/2018 03:20	WG1124166

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/09/2018 07:16	WG1122001
Toluene	ND		1.00	1	06/09/2018 07:16	WG1122001
Ethylbenzene	ND		1.00	1	06/09/2018 07:16	WG1122001
Total Xylenes	ND		3.00	1	06/09/2018 07:16	WG1122001
Methyl tert-butyl ether	ND		1.00	1	06/09/2018 07:16	WG1122001
Naphthalene	ND		5.00	1	06/09/2018 07:16	WG1122001
1,2-Dichloroethane	ND		1.00	1	06/09/2018 07:16	WG1122001
(S) Toluene-d8	101		80.0-120		06/09/2018 07:16	WG1122001
(S) Dibromofluoromethane	95.8		76.0-123		06/09/2018 07:16	WG1122001
(S) 4-Bromofluorobenzene	101		80.0-120		06/09/2018 07:16	WG1122001

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	498		10.0	10	06/14/2018 03:41	WG1124166
Toluene	469		10.0	10	06/14/2018 03:41	WG1124166
Ethylbenzene	47.7		1.00	1	06/09/2018 07:36	WG1122001
Total Xylenes	282		3.00	1	06/09/2018 07:36	WG1122001
Methyl tert-butyl ether	148		1.00	1	06/09/2018 07:36	WG1122001
Naphthalene	8.47		5.00	1	06/09/2018 07:36	WG1122001
1,2-Dichloroethane	ND		1.00	1	06/09/2018 07:36	WG1122001
(S) Toluene-d8	106		80.0-120		06/09/2018 07:36	WG1122001
(S) Toluene-d8	101		80.0-120		06/14/2018 03:41	WG1124166
(S) Dibromofluoromethane	106		76.0-123		06/09/2018 07:36	WG1122001
(S) Dibromofluoromethane	102		76.0-123		06/14/2018 03:41	WG1124166
(S) 4-Bromofluorobenzene	102		80.0-120		06/09/2018 07:36	WG1122001
(S) 4-Bromofluorobenzene	109		80.0-120		06/14/2018 03:41	WG1124166

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	44.2		1.00	1	06/09/2018 07:56	WG1122001
Toluene	86.2		1.00	1	06/09/2018 07:56	WG1122001
Ethylbenzene	4.25		1.00	1	06/09/2018 07:56	WG1122001
Total Xylenes	19.9		3.00	1	06/09/2018 07:56	WG1122001
Methyl tert-butyl ether	ND		1.00	1	06/09/2018 07:56	WG1122001
Naphthalene	ND		5.00	1	06/09/2018 07:56	WG1122001
1,2-Dichloroethane	ND		1.00	1	06/09/2018 07:56	WG1122001
(S) Toluene-d8	103		80.0-120		06/09/2018 07:56	WG1122001
(S) Dibromofluoromethane	96.9		76.0-123		06/09/2018 07:56	WG1122001
(S) 4-Bromofluorobenzene	99.6		80.0-120		06/09/2018 07:56	WG1122001

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/09/2018 08:16	WG1122001
Toluene	ND		1.00	1	06/09/2018 08:16	WG1122001
Ethylbenzene	ND		1.00	1	06/09/2018 08:16	WG1122001
Total Xylenes	ND		3.00	1	06/09/2018 08:16	WG1122001
Methyl tert-butyl ether	ND		1.00	1	06/09/2018 08:16	WG1122001
Naphthalene	ND		5.00	1	06/09/2018 08:16	WG1122001
1,2-Dichloroethane	ND		1.00	1	06/09/2018 08:16	WG1122001
(S) Toluene-d8	102		80.0-120		06/09/2018 08:16	WG1122001
(S) Dibromofluoromethane	95.4		76.0-123		06/09/2018 08:16	WG1122001
(S) 4-Bromofluorobenzene	99.7		80.0-120		06/09/2018 08:16	WG1122001

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/09/2018 08:36	WG1122001
Toluene	ND		1.00	1	06/09/2018 08:36	WG1122001
Ethylbenzene	ND		1.00	1	06/09/2018 08:36	WG1122001
Total Xylenes	ND		3.00	1	06/09/2018 08:36	WG1122001
Methyl tert-butyl ether	ND		1.00	1	06/09/2018 08:36	WG1122001
Naphthalene	ND		5.00	1	06/09/2018 08:36	WG1122001
1,2-Dichloroethane	ND		1.00	1	06/09/2018 08:36	WG1122001
(S) Toluene-d8	102		80.0-120		06/09/2018 08:36	WG1122001
(S) Dibromofluoromethane	95.5		76.0-123		06/09/2018 08:36	WG1122001
(S) 4-Bromofluorobenzene	101		80.0-120		06/09/2018 08:36	WG1122001

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/09/2018 08:56	WG1122001
Toluene	ND		1.00	1	06/09/2018 08:56	WG1122001
Ethylbenzene	ND		1.00	1	06/09/2018 08:56	WG1122001
Total Xylenes	ND		3.00	1	06/09/2018 08:56	WG1122001
Methyl tert-butyl ether	ND		1.00	1	06/09/2018 08:56	WG1122001
Naphthalene	ND		5.00	1	06/09/2018 08:56	WG1122001
1,2-Dichloroethane	ND		1.00	1	06/09/2018 08:56	WG1122001
(S) Toluene-d8	104		80.0-120		06/09/2018 08:56	WG1122001
(S) Dibromofluoromethane	96.4		76.0-123		06/09/2018 08:56	WG1122001
(S) 4-Bromofluorobenzene	104		80.0-120		06/09/2018 08:56	WG1122001

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/09/2018 09:16	WG1122001
Toluene	ND		1.00	1	06/09/2018 09:16	WG1122001
Ethylbenzene	ND		1.00	1	06/09/2018 09:16	WG1122001
Total Xylenes	ND		3.00	1	06/09/2018 09:16	WG1122001
Methyl tert-butyl ether	2.12		1.00	1	06/09/2018 09:16	WG1122001
Naphthalene	ND		5.00	1	06/09/2018 09:16	WG1122001
1,2-Dichloroethane	ND		1.00	1	06/09/2018 09:16	WG1122001
(S) Toluene-d8	103		80.0-120		06/09/2018 09:16	WG1122001
(S) Dibromofluoromethane	96.0		76.0-123		06/09/2018 09:16	WG1122001
(S) 4-Bromofluorobenzene	102		80.0-120		06/09/2018 09:16	WG1122001

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/09/2018 09:36	WG1122001
Toluene	ND		1.00	1	06/09/2018 09:36	WG1122001
Ethylbenzene	ND		1.00	1	06/09/2018 09:36	WG1122001
Total Xylenes	ND		3.00	1	06/09/2018 09:36	WG1122001
Methyl tert-butyl ether	2.11		1.00	1	06/09/2018 09:36	WG1122001
Naphthalene	ND		5.00	1	06/09/2018 09:36	WG1122001
1,2-Dichloroethane	ND		1.00	1	06/09/2018 09:36	WG1122001
(S) Toluene-d8	102		80.0-120		06/09/2018 09:36	WG1122001
(S) Dibromofluoromethane	94.0		76.0-123		06/09/2018 09:36	WG1122001
(S) 4-Bromofluorobenzene	103		80.0-120		06/09/2018 09:36	WG1122001

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/09/2018 09:56	WG1122001
Toluene	ND		1.00	1	06/09/2018 09:56	WG1122001
Ethylbenzene	ND		1.00	1	06/09/2018 09:56	WG1122001
Total Xylenes	ND		3.00	1	06/09/2018 09:56	WG1122001
Methyl tert-butyl ether	ND		1.00	1	06/09/2018 09:56	WG1122001
Naphthalene	ND		5.00	1	06/09/2018 09:56	WG1122001
1,2-Dichloroethane	ND		1.00	1	06/09/2018 09:56	WG1122001
(S) Toluene-d8	103		80.0-120		06/09/2018 09:56	WG1122001
(S) Dibromofluoromethane	97.8		76.0-123		06/09/2018 09:56	WG1122001
(S) 4-Bromofluorobenzene	103		80.0-120		06/09/2018 09:56	WG1122001

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/09/2018 10:16	WG1122001
Toluene	ND		1.00	1	06/09/2018 10:16	WG1122001
Ethylbenzene	ND		1.00	1	06/09/2018 10:16	WG1122001
Total Xylenes	ND		3.00	1	06/09/2018 10:16	WG1122001
Methyl tert-butyl ether	21.8		1.00	1	06/09/2018 10:16	WG1122001
Naphthalene	ND		5.00	1	06/09/2018 10:16	WG1122001
1,2-Dichloroethane	ND		1.00	1	06/09/2018 10:16	WG1122001
(S) Toluene-d8	103		80.0-120		06/09/2018 10:16	WG1122001
(S) Dibromofluoromethane	95.8		76.0-123		06/09/2018 10:16	WG1122001
(S) 4-Bromofluorobenzene	99.6		80.0-120		06/09/2018 10:16	WG1122001

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity	ND		20000	1	06/13/2018 17:11	WG1123765

Sample Narrative:

L999694-17 WG1123765: Endpoint pH 4.5

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Free Carbon Dioxide	ND	<u>T8</u>	20000	1	06/13/2018 17:11	WG1123765

Sample Narrative:

L999694-17 WG1123765: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Nitrate as (N)	774		100	1	06/07/2018 19:04	WG1121161
Sulfate	ND		5000	1	06/07/2018 19:04	WG1121161

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Methane	ND		10.0	1	06/11/2018 13:27	WG1122650

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/09/2018 10:35	WG1122001
Toluene	ND		1.00	1	06/09/2018 10:35	WG1122001
Ethylbenzene	ND		1.00	1	06/09/2018 10:35	WG1122001
Total Xylenes	ND		3.00	1	06/09/2018 10:35	WG1122001
Methyl tert-butyl ether	ND		1.00	1	06/09/2018 10:35	WG1122001
Naphthalene	ND		5.00	1	06/09/2018 10:35	WG1122001
1,2-Dichloroethane	ND		1.00	1	06/09/2018 10:35	WG1122001
(S) Toluene-d8	101		80.0-120		06/09/2018 10:35	WG1122001
(S) Dibromofluoromethane	97.7		76.0-123		06/09/2018 10:35	WG1122001
(S) 4-Bromofluorobenzene	101		80.0-120		06/09/2018 10:35	WG1122001

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity	ND		20000	1	06/13/2018 17:17	WG1123765

Sample Narrative:

L999694-18 WG1123765: Endpoint pH 4.5

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Free Carbon Dioxide	39800	<u>T8</u>	20000	1	06/13/2018 17:17	WG1123765

Sample Narrative:

L999694-18 WG1123765: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Nitrate as (N)	ND		100	1	06/07/2018 19:20	WG1121161
Sulfate	ND		5000	1	06/07/2018 19:20	WG1121161

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Methane	ND		10.0	1	06/11/2018 13:31	WG1122650

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/09/2018 10:55	WG1122001
Toluene	ND		1.00	1	06/09/2018 10:55	WG1122001
Ethylbenzene	ND		1.00	1	06/09/2018 10:55	WG1122001
Total Xylenes	ND		3.00	1	06/09/2018 10:55	WG1122001
Methyl tert-butyl ether	ND		1.00	1	06/09/2018 10:55	WG1122001
Naphthalene	ND		5.00	1	06/09/2018 10:55	WG1122001
1,2-Dichloroethane	ND		1.00	1	06/09/2018 10:55	WG1122001
(S) Toluene-d8	101		80.0-120		06/09/2018 10:55	WG1122001
(S) Dibromofluoromethane	96.5		76.0-123		06/09/2018 10:55	WG1122001
(S) 4-Bromofluorobenzene	102		80.0-120		06/09/2018 10:55	WG1122001

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity	ND		20000	1	06/13/2018 17:28	WG1123765

Sample Narrative:

L999694-19 WG1123765: Endpoint pH 4.5

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Free Carbon Dioxide	ND	<u>T8</u>	20000	1	06/13/2018 17:28	WG1123765

Sample Narrative:

L999694-19 WG1123765: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Nitrate as (N)	ND		100	1	06/07/2018 20:06	WG1121161
Sulfate	ND		5000	1	06/07/2018 20:06	WG1121161

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Methane	ND		10.0	1	06/11/2018 13:34	WG1122650

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/09/2018 11:15	WG1122001
Toluene	ND		1.00	1	06/09/2018 11:15	WG1122001
Ethylbenzene	ND		1.00	1	06/09/2018 11:15	WG1122001
Total Xylenes	ND		3.00	1	06/09/2018 11:15	WG1122001
Methyl tert-butyl ether	ND		1.00	1	06/09/2018 11:15	WG1122001
Naphthalene	ND		5.00	1	06/09/2018 11:15	WG1122001
1,2-Dichloroethane	ND		1.00	1	06/09/2018 11:15	WG1122001
(S) Toluene-d8	104		80.0-120		06/09/2018 11:15	WG1122001
(S) Dibromofluoromethane	96.8		76.0-123		06/09/2018 11:15	WG1122001
(S) 4-Bromofluorobenzene	102		80.0-120		06/09/2018 11:15	WG1122001

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/09/2018 11:35	WG1122001
Toluene	ND		1.00	1	06/09/2018 11:35	WG1122001
Ethylbenzene	ND		1.00	1	06/09/2018 11:35	WG1122001
Total Xylenes	ND		3.00	1	06/09/2018 11:35	WG1122001
Methyl tert-butyl ether	2.58		1.00	1	06/09/2018 11:35	WG1122001
Naphthalene	ND		5.00	1	06/09/2018 11:35	WG1122001
1,2-Dichloroethane	ND		1.00	1	06/09/2018 11:35	WG1122001
(S) Toluene-d8	101		80.0-120		06/09/2018 11:35	WG1122001
(S) Dibromofluoromethane	97.7		76.0-123		06/09/2018 11:35	WG1122001
(S) 4-Bromofluorobenzene	102		80.0-120		06/09/2018 11:35	WG1122001

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity	27700		20000	1	06/13/2018 17:34	WG1123765

Sample Narrative:

L999694-21 WG1123765: Endpoint pH 4.5

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Free Carbon Dioxide	99200	<u>T8</u>	20000	1	06/13/2018 17:34	WG1123765

Sample Narrative:

L999694-21 WG1123765: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Nitrate as (N)	247		100	1	06/07/2018 20:52	WG1121161
Sulfate	24200		5000	1	06/07/2018 20:52	WG1121161

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Methane	25.6		10.0	1	06/11/2018 13:38	WG1122650

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	8.15		1.00	1	06/08/2018 23:56	WG1122034
Toluene	385		50.0	50	06/14/2018 02:15	WG1124100
Ethylbenzene	149		50.0	50	06/14/2018 02:15	WG1124100
Total Xylenes	1260		150	50	06/14/2018 02:15	WG1124100
Methyl tert-butyl ether	ND		1.00	1	06/08/2018 23:56	WG1122034
Naphthalene	ND		250	50	06/14/2018 02:15	WG1124100
1,2-Dichloroethane	1.53		1.00	1	06/08/2018 23:56	WG1122034
(S) Toluene-d8	89.4		80.0-120		06/08/2018 23:56	WG1122034
(S) Toluene-d8	101		80.0-120		06/14/2018 02:15	WG1124100
(S) Dibromofluoromethane	97.5		76.0-123		06/08/2018 23:56	WG1122034
(S) Dibromofluoromethane	106		76.0-123		06/14/2018 02:15	WG1124100
(S) 4-Bromofluorobenzene	100		80.0-120		06/08/2018 23:56	WG1122034
(S) 4-Bromofluorobenzene	108		80.0-120		06/14/2018 02:15	WG1124100

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity	ND		20000	1	06/13/2018 17:40	WG1123765

Sample Narrative:

L999694-22 WG1123765: Endpoint pH 4.5

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Free Carbon Dioxide	33100	<u>T8</u>	20000	1	06/13/2018 17:40	WG1123765

Sample Narrative:

L999694-22 WG1123765: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Nitrate as (N)	1120		100	1	06/07/2018 21:07	WG1121161
Sulfate	ND		5000	1	06/07/2018 21:07	WG1121161

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Methane	ND		10.0	1	06/12/2018 11:34	WG1122995

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/09/2018 00:16	WG1122034
Toluene	ND		1.00	1	06/09/2018 00:16	WG1122034
Ethylbenzene	ND		1.00	1	06/09/2018 00:16	WG1122034
Total Xylenes	ND		3.00	1	06/14/2018 02:36	WG1124100
Methyl tert-butyl ether	ND		1.00	1	06/09/2018 00:16	WG1122034
Naphthalene	ND		5.00	1	06/14/2018 02:36	WG1124100
1,2-Dichloroethane	ND		1.00	1	06/09/2018 00:16	WG1122034
(S) Toluene-d8	101		80.0-120		06/09/2018 00:16	WG1122034
(S) Toluene-d8	102		80.0-120		06/14/2018 02:36	WG1124100
(S) Dibromofluoromethane	96.3		76.0-123		06/09/2018 00:16	WG1122034
(S) Dibromofluoromethane	104		76.0-123		06/14/2018 02:36	WG1124100
(S) 4-Bromofluorobenzene	97.2		80.0-120		06/09/2018 00:16	WG1122034
(S) 4-Bromofluorobenzene	108		80.0-120		06/14/2018 02:36	WG1124100

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity	ND		20000	1	06/13/2018 17:46	WG1123765

Sample Narrative:

L999694-23 WG1123765: Endpoint pH 4.5

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Free Carbon Dioxide	ND	<u>T8</u>	20000	1	06/13/2018 17:46	WG1123765

Sample Narrative:

L999694-23 WG1123765: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Nitrate as (N)	921		100	1	06/07/2018 21:23	WG1121161
Sulfate	ND		5000	1	06/07/2018 21:23	WG1121161

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Methane	ND		10.0	1	06/12/2018 11:39	WG1122995

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	52.2		1.00	1	06/09/2018 00:36	WG1122034
Toluene	81.4		1.00	1	06/09/2018 00:36	WG1122034
Ethylbenzene	4.11		1.00	1	06/09/2018 00:36	WG1122034
Total Xylenes	46.5		3.00	1	06/09/2018 00:36	WG1122034
Methyl tert-butyl ether	63.8		1.00	1	06/09/2018 00:36	WG1122034
Naphthalene	ND		5.00	1	06/09/2018 00:36	WG1122034
1,2-Dichloroethane	ND		1.00	1	06/09/2018 00:36	WG1122034
(S) Toluene-d8	101		80.0-120		06/09/2018 00:36	WG1122034
(S) Dibromofluoromethane	96.7		76.0-123		06/09/2018 00:36	WG1122034
(S) 4-Bromofluorobenzene	96.4		80.0-120		06/09/2018 00:36	WG1122034

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity	ND		20000	1	06/13/2018 18:02	WG1123765

Sample Narrative:

L999694-24 WG1123765: Endpoint pH 4.5

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Free Carbon Dioxide	28200	<u>T8</u>	20000	1	06/13/2018 18:02	WG1123765

Sample Narrative:

L999694-24 WG1123765: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Nitrate as (N)	ND		100	1	06/07/2018 21:38	WG1121161
Sulfate	ND		5000	1	06/07/2018 21:38	WG1121161

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Methane	ND		10.0	1	06/12/2018 11:42	WG1122995

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/09/2018 00:55	WG1122034
Toluene	ND		1.00	1	06/09/2018 00:55	WG1122034
Ethylbenzene	ND		1.00	1	06/09/2018 00:55	WG1122034
Total Xylenes	ND		3.00	1	06/09/2018 00:55	WG1122034
Methyl tert-butyl ether	ND		1.00	1	06/09/2018 00:55	WG1122034
Naphthalene	ND		5.00	1	06/09/2018 00:55	WG1122034
1,2-Dichloroethane	ND		1.00	1	06/09/2018 00:55	WG1122034
(S) Toluene-d8	101		80.0-120		06/09/2018 00:55	WG1122034
(S) Dibromofluoromethane	98.4		76.0-123		06/09/2018 00:55	WG1122034
(S) 4-Bromofluorobenzene	95.0		80.0-120		06/09/2018 00:55	WG1122034

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity	ND		20000	1	06/13/2018 18:08	WG1123765

Sample Narrative:

L999694-25 WG1123765: Endpoint pH 4.5

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Free Carbon Dioxide	ND	<u>T8</u>	20000	1	06/13/2018 18:08	WG1123765

Sample Narrative:

L999694-25 WG1123765: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Nitrate as (N)	648		100	1	06/07/2018 21:32	WG1121333
Sulfate	ND		5000	1	06/07/2018 21:32	WG1121333

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Methane	ND		10.0	1	06/12/2018 11:52	WG1122995

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/09/2018 01:14	WG1122034
Toluene	ND		1.00	1	06/09/2018 01:14	WG1122034
Ethylbenzene	ND		1.00	1	06/09/2018 01:14	WG1122034
Total Xylenes	ND		3.00	1	06/09/2018 01:14	WG1122034
Methyl tert-butyl ether	ND		1.00	1	06/09/2018 01:14	WG1122034
Naphthalene	ND		5.00	1	06/09/2018 01:14	WG1122034
1,2-Dichloroethane	ND		1.00	1	06/09/2018 01:14	WG1122034
(S) Toluene-d8	102		80.0-120		06/09/2018 01:14	WG1122034
(S) Dibromofluoromethane	97.0		76.0-123		06/09/2018 01:14	WG1122034
(S) 4-Bromofluorobenzene	95.8		80.0-120		06/09/2018 01:14	WG1122034

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity	ND		20000	1	06/13/2018 18:14	WG1123765

Sample Narrative:

L999694-26 WG1123765: Endpoint pH 4.5

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Free Carbon Dioxide	ND	<u>T8</u>	20000	1	06/13/2018 18:14	WG1123765

Sample Narrative:

L999694-26 WG1123765: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Nitrate as (N)	ND		100	1	06/07/2018 21:49	WG1121333
Sulfate	ND		5000	1	06/07/2018 21:49	WG1121333

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Methane	10.3		10.0	1	06/12/2018 12:01	WG1122995

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/09/2018 01:33	WG1122034
Toluene	3.19		1.00	1	06/09/2018 01:33	WG1122034
Ethylbenzene	ND		1.00	1	06/09/2018 01:33	WG1122034
Total Xylenes	3.70		3.00	1	06/09/2018 01:33	WG1122034
Methyl tert-butyl ether	1.25		1.00	1	06/09/2018 01:33	WG1122034
Naphthalene	ND		5.00	1	06/09/2018 01:33	WG1122034
1,2-Dichloroethane	ND		1.00	1	06/09/2018 01:33	WG1122034
(S) Toluene-d8	102		80.0-120		06/09/2018 01:33	WG1122034
(S) Dibromofluoromethane	95.7		76.0-123		06/09/2018 01:33	WG1122034
(S) 4-Bromofluorobenzene	95.4		80.0-120		06/09/2018 01:33	WG1122034

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity	ND		20000	1	06/13/2018 18:22	WG1123765

Sample Narrative:

L999694-27 WG1123765: Endpoint pH 4.5

Wet Chemistry by Method 4500CO2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Free Carbon Dioxide	ND	<u>T8</u>	20000	1	06/13/2018 18:22	WG1123765

Sample Narrative:

L999694-27 WG1123765: Endpoint pH 4.5

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Nitrate as (N)	1500		100	1	06/07/2018 22:38	WG1121333
Sulfate	ND		5000	1	06/07/2018 22:38	WG1121333

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Methane	ND		10.0	1	06/12/2018 12:04	WG1122995

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	2.25		1.00	1	06/09/2018 01:53	WG1122034
Toluene	6.06		1.00	1	06/09/2018 01:53	WG1122034
Ethylbenzene	ND		1.00	1	06/09/2018 01:53	WG1122034
Total Xylenes	4.75		3.00	1	06/09/2018 01:53	WG1122034
Methyl tert-butyl ether	3.65		1.00	1	06/09/2018 01:53	WG1122034
Naphthalene	ND		5.00	1	06/09/2018 01:53	WG1122034
1,2-Dichloroethane	ND		1.00	1	06/09/2018 01:53	WG1122034
(S) Toluene-d8	99.5		80.0-120		06/09/2018 01:53	WG1122034
(S) Dibromofluoromethane	95.3		76.0-123		06/09/2018 01:53	WG1122034
(S) 4-Bromofluorobenzene	96.1		80.0-120		06/09/2018 01:53	WG1122034

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/09/2018 02:12	WG1122034
Toluene	ND		1.00	1	06/09/2018 02:12	WG1122034
Ethylbenzene	ND		1.00	1	06/09/2018 02:12	WG1122034
Total Xylenes	ND		3.00	1	06/09/2018 02:12	WG1122034
Methyl tert-butyl ether	ND		1.00	1	06/09/2018 02:12	WG1122034
Naphthalene	ND		5.00	1	06/09/2018 02:12	WG1122034
1,2-Dichloroethane	ND		1.00	1	06/09/2018 02:12	WG1122034
(S) Toluene-d8	98.9		80.0-120		06/09/2018 02:12	WG1122034
(S) Dibromofluoromethane	98.1		76.0-123		06/09/2018 02:12	WG1122034
(S) 4-Bromofluorobenzene	94.0		80.0-120		06/09/2018 02:12	WG1122034

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	17.1		1.00	1	06/09/2018 02:31	WG1122034
Toluene	66.5		1.00	1	06/09/2018 02:31	WG1122034
Ethylbenzene	16.5		1.00	1	06/09/2018 02:31	WG1122034
Total Xylenes	139		3.00	1	06/09/2018 02:31	WG1122034
Methyl tert-butyl ether	3.61		1.00	1	06/09/2018 02:31	WG1122034
Naphthalene	8.09		5.00	1	06/09/2018 02:31	WG1122034
1,2-Dichloroethane	ND		1.00	1	06/09/2018 02:31	WG1122034
(S) Toluene-d8	98.0		80.0-120		06/09/2018 02:31	WG1122034
(S) Dibromofluoromethane	92.4		76.0-123		06/09/2018 02:31	WG1122034
(S) 4-Bromofluorobenzene	97.4		80.0-120		06/09/2018 02:31	WG1122034

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		50.0	1	06/09/2018 20:09	WG1122286
Benzene	ND		1.00	1	06/09/2018 20:09	WG1122286
Bromodichloromethane	ND		1.00	1	06/09/2018 20:09	WG1122286
Bromoform	ND		1.00	1	06/09/2018 20:09	WG1122286
Bromomethane	ND		5.00	1	06/09/2018 20:09	WG1122286
Carbon disulfide	ND		1.00	1	06/09/2018 20:09	WG1122286
Carbon tetrachloride	ND		1.00	1	06/09/2018 20:09	WG1122286
Chlorobenzene	ND		1.00	1	06/09/2018 20:09	WG1122286
Chlorodibromomethane	ND		1.00	1	06/09/2018 20:09	WG1122286
Chloroethane	ND		5.00	1	06/09/2018 20:09	WG1122286
Chloroform	ND		5.00	1	06/09/2018 20:09	WG1122286
Chloromethane	ND		2.50	1	06/09/2018 20:09	WG1122286
1,2-Dibromo-3-Chloropropane	ND		5.00	1	06/09/2018 20:09	WG1122286
1,2-Dibromoethane	ND		1.00	1	06/09/2018 20:09	WG1122286
1,2-Dichlorobenzene	ND		1.00	1	06/09/2018 20:09	WG1122286
1,3-Dichlorobenzene	ND		1.00	1	06/09/2018 20:09	WG1122286
1,4-Dichlorobenzene	ND		1.00	1	06/09/2018 20:09	WG1122286
1,1-Dichloroethane	ND		1.00	1	06/09/2018 20:09	WG1122286
1,2-Dichloroethane	ND		1.00	1	06/09/2018 20:09	WG1122286
1,1-Dichloroethene	ND		1.00	1	06/09/2018 20:09	WG1122286
cis-1,2-Dichloroethene	ND		1.00	1	06/09/2018 20:09	WG1122286
trans-1,2-Dichloroethene	ND		1.00	1	06/09/2018 20:09	WG1122286
1,2-Dichloropropane	ND		1.00	1	06/09/2018 20:09	WG1122286
cis-1,3-Dichloropropene	ND		1.00	1	06/09/2018 20:09	WG1122286
trans-1,3-Dichloropropene	ND		1.00	1	06/09/2018 20:09	WG1122286
Di-isopropyl ether	ND		1.00	1	06/09/2018 20:09	WG1122286
Ethylbenzene	ND		1.00	1	06/09/2018 20:09	WG1122286
2-Butanone (MEK)	ND		10.0	1	06/09/2018 20:09	WG1122286
2-Hexanone	ND		10.0	1	06/09/2018 20:09	WG1122286
Methylene Chloride	ND		5.00	1	06/09/2018 20:09	WG1122286
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	06/09/2018 20:09	WG1122286
Methyl tert-butyl ether	ND		1.00	1	06/09/2018 20:09	WG1122286
Naphthalene	ND		5.00	1	06/09/2018 20:09	WG1122286
Styrene	ND		1.00	1	06/09/2018 20:09	WG1122286
1,1,2,2-Tetrachloroethane	ND		1.00	1	06/09/2018 20:09	WG1122286
Tetrachloroethene	ND		1.00	1	06/09/2018 20:09	WG1122286
Toluene	ND		1.00	1	06/09/2018 20:09	WG1122286
1,1,1-Trichloroethane	ND		1.00	1	06/09/2018 20:09	WG1122286
1,1,2-Trichloroethane	ND		1.00	1	06/09/2018 20:09	WG1122286
Trichloroethene	ND		1.00	1	06/09/2018 20:09	WG1122286
Vinyl chloride	ND		1.00	1	06/09/2018 20:09	WG1122286
Xylenes, Total	ND		3.00	1	06/09/2018 20:09	WG1122286
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	06/09/2018 20:09	WG1122286
1,2,3-Trimethylbenzene	ND		1.00	1	06/09/2018 20:09	WG1122286
(S) Toluene-d8	101		80.0-120		06/09/2018 20:09	WG1122286
(S) Dibromofluoromethane	98.6		76.0-123		06/09/2018 20:09	WG1122286
(S) a,a,a-Trifluorotoluene	104		80.0-120		06/09/2018 20:09	WG1122286
(S) 4-Bromofluorobenzene	101		80.0-120		06/09/2018 20:09	WG1122286

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc



L999694-18 Original Sample (OS) • Duplicate (DUP)

(OS) L999694-18 06/13/18 17:17 • (DUP) R3317829-1 06/13/18 17:22

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Alkalinity	ug/l	ug/l	%			
Alkalinity	ND	0.000	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5
DUP: Endpoint pH 4.5

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

L999802-04 Original Sample (OS) • Duplicate (DUP)

(OS) L999802-04 06/13/18 19:25 • (DUP) R3317829-5 06/13/18 19:33

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Alkalinity	ug/l	ug/l	%			
Alkalinity	74600	74600	1	0.0946		20

Sample Narrative:

OS: Endpoint pH 4.5 headspace
DUP: Endpoint pH 4.5

6 Qc

7 Gl

8 Al

9 Sc

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

(LCS) R3317829-3 06/13/18 17:53 • (LCSD) R3317829-4 06/13/18 19:16

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Alkalinity	ug/l	ug/l	ug/l	%	%	%			%	%
Alkalinity	100000	106000	107000	106	107	85.0-115			0.708	20

Sample Narrative:

LCS: Endpoint pH 4.5
LCSD: Endpoint pH 4.5



L999694-18 Original Sample (OS) • Duplicate (DUP)

(OS) L999694-18 06/13/18 17:17 • (DUP) R3317829-2 06/13/18 17:22

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Free Carbon Dioxide	39800	38500	1	3.43		20

Sample Narrative:

OS: Endpoint pH 4.5

DUP: Endpoint pH 4.5

L999802-04 Original Sample (OS) • Duplicate (DUP)

(OS) L999802-04 06/13/18 19:25 • (DUP) R3317829-6 06/13/18 19:33

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Free Carbon Dioxide	U	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3316219-1 06/07/18 11:18

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

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L999660-02 Original Sample (OS) • Duplicate (DUP)

(OS) L999660-02 06/07/18 16:15 • (DUP) R3316219-4 06/07/18 16:30

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Nitrate	ND	0.000	1	0.000		15
Sulfate	22600	22500	1	0.429		15

L999694-18 Original Sample (OS) • Duplicate (DUP)

(OS) L999694-18 06/07/18 19:20 • (DUP) R3316219-7 06/07/18 19:35

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Nitrate	ND	0.000	1	0.000		15
Sulfate	ND	1260	1	0.000		15

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

(LCS) R3316219-2 06/07/18 11:33 • (LCSD) R3316219-3 06/07/18 11:49

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Nitrate	8000	8090	8060	101	101	80.0-120			0.411	15
Sulfate	40000	39800	39500	99.5	98.9	80.0-120			0.650	15

L999660-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L999660-02 06/07/18 16:15 • (MS) R3316219-5 06/07/18 16:45 • (MSD) R3316219-6 06/07/18 17:01

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Nitrate	5000	ND	4690	4640	93.7	92.9	1	80.0-120			0.937	15
Sulfate	50000	22600	69900	69000	94.7	92.9	1	80.0-120			1.28	15



L999694-18 Original Sample (OS) • Matrix Spike (MS)

(OS) L999694-18 06/07/18 19:20 • (MS) R3316219-8 06/07/18 19:50

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>
Nitrate	5000	ND	4830	96.6	1	80.0-120	
Sulfate	50000	ND	53800	105	1	80.0-120	

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3316378-1 06/07/18 10:04

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

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L999676-01 Original Sample (OS) • Duplicate (DUP)

(OS) L999676-01 06/07/18 19:54 • (DUP) R3316378-4 06/07/18 20:10

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Nitrate	385	411	1	6.68		15
Sulfate	10900	11000	1	0.873		15

L999755-04 Original Sample (OS) • Duplicate (DUP)

(OS) L999755-04 06/07/18 23:27 • (DUP) R3316378-7 06/07/18 23:44

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Nitrate	ND	0.000	1	0.000		15
Sulfate	ND	0.000	1	0.000		15

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

(LCS) R3316378-2 06/07/18 10:20 • (LCSD) R3316378-3 06/07/18 10:37

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Nitrate	8000	7850	8120	98.2	102	80.0-120			3.35	15
Sulfate	40000	41700	40200	104	101	80.0-120			3.70	15

L999676-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L999676-01 06/07/18 19:54 • (MS) R3316378-5 06/07/18 20:27 • (MSD) R3316378-6 06/07/18 20:43

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Nitrate	5000	385	5360	5450	99.6	101	1	80.0-120			1.62	15
Sulfate	50000	10900	60900	60400	100	99.0	1	80.0-120			0.817	15



L999755-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L999755-04 06/07/18 23:27 • (MS) R3316378-8 06/08/18 00:00

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>
Nitrate	5000	ND	4950	99.0	1	80.0-120	
Sulfate	50000	ND	49900	99.7	1	80.0-120	

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3316938-1 06/11/18 10:50

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Methane	U		2.91	10.0

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L1000032-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1000032-01 06/11/18 10:53 • (DUP) R3316938-2 06/11/18 12:07

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Methane	ND	0.000	1	0.000		20

L999606-05 Original Sample (OS) • Duplicate (DUP)

(OS) L999606-05 06/11/18 13:21 • (DUP) R3316938-3 06/11/18 13:48

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Methane	ND	0.000	1	0.000		20

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

(LCS) R3316938-4 06/11/18 13:52 • (LCSD) R3316938-5 06/11/18 13:56

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Methane	67.8	71.5	68.1	105	100	85.0-115			4.96	20



Method Blank (MB)

(MB) R3317283-1 06/12/18 10:57

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Methane	U		2.91	10.0

¹ Cp

² Tc

³ Ss

⁴ Cn

L999694-22 Original Sample (OS) • Duplicate (DUP)

(OS) L999694-22 06/12/18 11:34 • (DUP) R3317283-2 06/12/18 11:58

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Methane	ND	0.000	1	0.000		20

⁵ Sr

⁶ Qc

L999885-03 Original Sample (OS) • Duplicate (DUP)

(OS) L999885-03 06/12/18 13:32 • (DUP) R3317283-3 06/12/18 14:07

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Methane	810	771	1	4.98		20

⁷ Gl

⁸ Al

⁹ Sc

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

(LCS) R3317283-4 06/12/18 14:10 • (LCSD) R3317283-5 06/12/18 14:13

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Methane	67.8	67.8	73.4	100	108	85.0-115			7.88	20



Method Blank (MB)

(MB) R3317633-2 06/09/18 04:57

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.331	1.00
1,2-Dichloroethane	U		0.361	1.00
Ethylbenzene	U		0.384	1.00
Methyl tert-butyl ether	U		0.367	1.00
Naphthalene	U		1.00	5.00
Toluene	U		0.412	1.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	102			80.0-120
(S) Dibromofluoromethane	98.8			76.0-123
(S) 4-Bromofluorobenzene	102			80.0-120

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Laboratory Control Sample (LCS)

(LCS) R3317633-1 06/09/18 04:17

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Benzene	25.0	23.9	95.4	70.0-130	
1,2-Dichloroethane	25.0	25.3	101	70.0-130	
Ethylbenzene	25.0	25.3	101	70.0-130	
Methyl tert-butyl ether	25.0	24.8	99.1	70.0-130	
Naphthalene	25.0	22.1	88.4	70.0-130	
Toluene	25.0	24.2	96.8	70.0-130	
Xylenes, Total	75.0	75.0	100	70.0-130	
(S) Toluene-d8			102	80.0-120	
(S) Dibromofluoromethane			98.0	76.0-123	
(S) 4-Bromofluorobenzene			103	80.0-120	



Method Blank (MB)

(MB) R3317663-2 06/08/18 22:51

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.331	1.00
1,2-Dichloroethane	U		0.361	1.00
Ethylbenzene	U		0.384	1.00
Methyl tert-butyl ether	U		0.367	1.00
Naphthalene	U		1.00	5.00
Toluene	U		0.412	1.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	104			80.0-120
(S) Dibromofluoromethane	94.7			76.0-123
(S) 4-Bromofluorobenzene	97.2			80.0-120

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Laboratory Control Sample (LCS)

(LCS) R3317663-1 06/08/18 22:12

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Benzene	25.0	27.5	110	70.0-130	
1,2-Dichloroethane	25.0	27.0	108	70.0-130	
Ethylbenzene	25.0	29.0	116	70.0-130	
Methyl tert-butyl ether	25.0	27.0	108	70.0-130	
Naphthalene	25.0	22.0	88.2	70.0-130	
Toluene	25.0	27.7	111	70.0-130	
Xylenes, Total	75.0	85.9	115	70.0-130	
(S) Toluene-d8			101	80.0-120	
(S) Dibromofluoromethane			98.4	76.0-123	
(S) 4-Bromofluorobenzene			99.1	80.0-120	



Method Blank (MB)

(MB) R3316703-2 06/09/18 15:19

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		10.0	50.0
Benzene	U		0.331	1.00
Bromodichloromethane	U		0.380	1.00
Bromoform	U		0.469	1.00
Bromomethane	U		0.866	5.00
Carbon disulfide	U		0.275	1.00
Carbon tetrachloride	U		0.379	1.00
Chlorobenzene	U		0.348	1.00
Chlorodibromomethane	U		0.327	1.00
Chloroethane	U		0.453	5.00
Chloroform	U		0.324	5.00
Chloromethane	U		0.276	2.50
1,2-Dibromo-3-Chloropropane	U		1.33	5.00
1,2-Dibromoethane	U		0.381	1.00
1,2-Dichlorobenzene	U		0.349	1.00
1,3-Dichlorobenzene	U		0.220	1.00
1,4-Dichlorobenzene	U		0.274	1.00
1,1-Dichloroethane	U		0.259	1.00
1,2-Dichloroethane	U		0.361	1.00
1,1-Dichloroethene	U		0.398	1.00
cis-1,2-Dichloroethene	U		0.260	1.00
trans-1,2-Dichloroethene	U		0.396	1.00
1,2-Dichloropropane	U		0.306	1.00
cis-1,3-Dichloropropene	U		0.418	1.00
trans-1,3-Dichloropropene	U		0.419	1.00
Di-isopropyl ether	U		0.320	1.00
Ethylbenzene	U		0.384	1.00
2-Hexanone	U		3.82	10.0
2-Butanone (MEK)	U		3.93	10.0
Methylene Chloride	U		1.00	5.00
4-Methyl-2-pentanone (MIBK)	U		2.14	10.0
Methyl tert-butyl ether	U		0.367	1.00
Naphthalene	U		1.00	5.00
Styrene	U		0.307	1.00
1,1,2,2-Tetrachloroethane	U		0.130	1.00
Tetrachloroethene	U		0.372	1.00
Toluene	U		0.412	1.00
1,1,2-Trichlorotrifluoroethane	U		0.303	1.00
1,1,1-Trichloroethane	U		0.319	1.00
1,1,2-Trichloroethane	U		0.383	1.00

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3316703-2 06/09/18 15:19

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Trichloroethene	U		0.398	1.00
1,2,3-Trimethylbenzene	U		0.321	1.00
Vinyl chloride	U		0.259	1.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	104			80.0-120
(S) Dibromofluoromethane	95.0			76.0-123
(S) a,a,a-Trifluorotoluene	103			80.0-120
(S) 4-Bromofluorobenzene	103			80.0-120

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

Laboratory Control Sample (LCS)

(LCS) R3316703-1 06/09/18 14:39

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	125	136	109	70.0-130	
Benzene	25.0	22.5	89.8	70.0-130	
Bromodichloromethane	25.0	22.9	91.7	70.0-130	
Bromoform	25.0	26.6	106	70.0-130	
Bromomethane	25.0	19.8	79.3	70.0-130	
Carbon disulfide	25.0	23.3	93.3	70.0-130	
Carbon tetrachloride	25.0	25.1	100	70.0-130	
Chlorobenzene	25.0	23.9	95.8	70.0-130	
Chlorodibromomethane	25.0	24.6	98.4	70.0-130	
Chloroethane	25.0	22.8	91.2	70.0-130	
Chloroform	25.0	23.4	93.6	70.0-130	
Chloromethane	25.0	27.6	111	70.0-130	
1,2-Dibromo-3-Chloropropane	25.0	19.5	77.9	70.0-130	
1,2-Dibromoethane	25.0	23.3	93.4	70.0-130	
1,2-Dichlorobenzene	25.0	22.1	88.5	70.0-130	
1,3-Dichlorobenzene	25.0	22.9	91.5	70.0-130	
1,4-Dichlorobenzene	25.0	22.6	90.4	70.0-130	
1,1-Dichloroethane	25.0	23.9	95.5	70.0-130	
1,2-Dichloroethane	25.0	23.4	93.4	70.0-130	
1,1-Dichloroethene	25.0	25.2	101	70.0-130	
cis-1,2-Dichloroethene	25.0	21.7	86.9	70.0-130	
trans-1,2-Dichloroethene	25.0	22.4	89.7	70.0-130	
1,2-Dichloropropane	25.0	24.1	96.3	70.0-130	
cis-1,3-Dichloropropene	25.0	23.1	92.3	70.0-130	
trans-1,3-Dichloropropene	25.0	23.4	93.6	70.0-130	

7 Gl

8 Al

9 Sc



Laboratory Control Sample (LCS)

(LCS) R3316703-1 06/09/18 14:39

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Di-isopropyl ether	25.0	26.3	105	70.0-130	
Ethylbenzene	25.0	23.9	95.4	70.0-130	
2-Hexanone	125	129	104	70.0-130	
2-Butanone (MEK)	125	135	108	70.0-130	
Methylene Chloride	25.0	21.1	84.3	70.0-130	
4-Methyl-2-pentanone (MIBK)	125	137	110	70.0-130	
Methyl tert-butyl ether	25.0	23.3	93.2	70.0-130	
Naphthalene	25.0	20.4	81.6	70.0-130	
Styrene	25.0	26.2	105	70.0-130	
1,1,2,2-Tetrachloroethane	25.0	21.4	85.5	70.0-130	
Tetrachloroethene	25.0	24.5	98.0	70.0-130	
Toluene	25.0	23.1	92.4	70.0-130	
1,1,2-Trichlorotrifluoroethane	25.0	25.3	101	70.0-130	
1,1,1-Trichloroethane	25.0	24.6	98.6	70.0-130	
1,1,2-Trichloroethane	25.0	23.5	94.2	70.0-130	
Trichloroethene	25.0	23.7	95.0	70.0-130	
1,2,3-Trimethylbenzene	25.0	22.5	90.0	70.0-130	
Vinyl chloride	25.0	26.3	105	70.0-130	
Xylenes, Total	75.0	71.1	94.8	70.0-130	
<i>(S) Toluene-d8</i>			101	80.0-120	
<i>(S) Dibromofluoromethane</i>			96.8	76.0-123	
<i>(S) a,a,a-Trifluorotoluene</i>			102	80.0-120	
<i>(S) 4-Bromofluorobenzene</i>			98.5	80.0-120	

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3317867-3 06/13/18 23:21

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Ethylbenzene	U		0.384	1.00
Naphthalene	U		1.00	5.00
Toluene	U		0.412	1.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	101			80.0-120
(S) Dibromofluoromethane	104			76.0-123
(S) 4-Bromofluorobenzene	106			80.0-120

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

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

(LCS) R3317867-1 06/13/18 22:16 • (LCSD) R3317867-2 06/13/18 22:38

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Ethylbenzene	25.0	25.1	24.4	100	97.7	70.0-130			2.75	20
Naphthalene	25.0	23.6	24.4	94.4	97.6	70.0-130			3.40	20
Toluene	25.0	24.0	23.1	96.1	92.5	70.0-130			3.84	20
Xylenes, Total	75.0	77.4	74.5	103	99.3	70.0-130			3.82	20
(S) Toluene-d8				99.8	101	80.0-120				
(S) Dibromofluoromethane				103	103	76.0-123				
(S) 4-Bromofluorobenzene				105	110	80.0-120				

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3317869-3 06/13/18 23:21

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.331	1.00
Toluene	U		0.412	1.00
Xylenes, Total	U		1.06	3.00
<i>(S) Toluene-d8</i>	101			80.0-120
<i>(S) Dibromofluoromethane</i>	104			76.0-123
<i>(S) 4-Bromofluorobenzene</i>	106			80.0-120

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

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

(LCS) R3317869-1 06/13/18 22:16 • (LCSD) R3317869-2 06/13/18 22:38

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Benzene	25.0	27.2	25.6	109	102	70.0-130			6.02	20
Toluene	25.0	24.0	23.1	96.1	92.5	70.0-130			3.84	20
Xylenes, Total	75.0	77.4	74.5	103	99.3	70.0-130			3.82	20
<i>(S) Toluene-d8</i>				99.8	101	80.0-120				
<i>(S) Dibromofluoromethane</i>				103	103	76.0-123				
<i>(S) 4-Bromofluorobenzene</i>				105	110	80.0-120				

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Guide to Reading and Understanding Your Laboratory Report

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

Abbreviations and Definitions

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

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Qualifier Description

J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
T8	Sample(s) received past/too close to holding time expiration.



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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
 * Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

State Accreditations

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

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

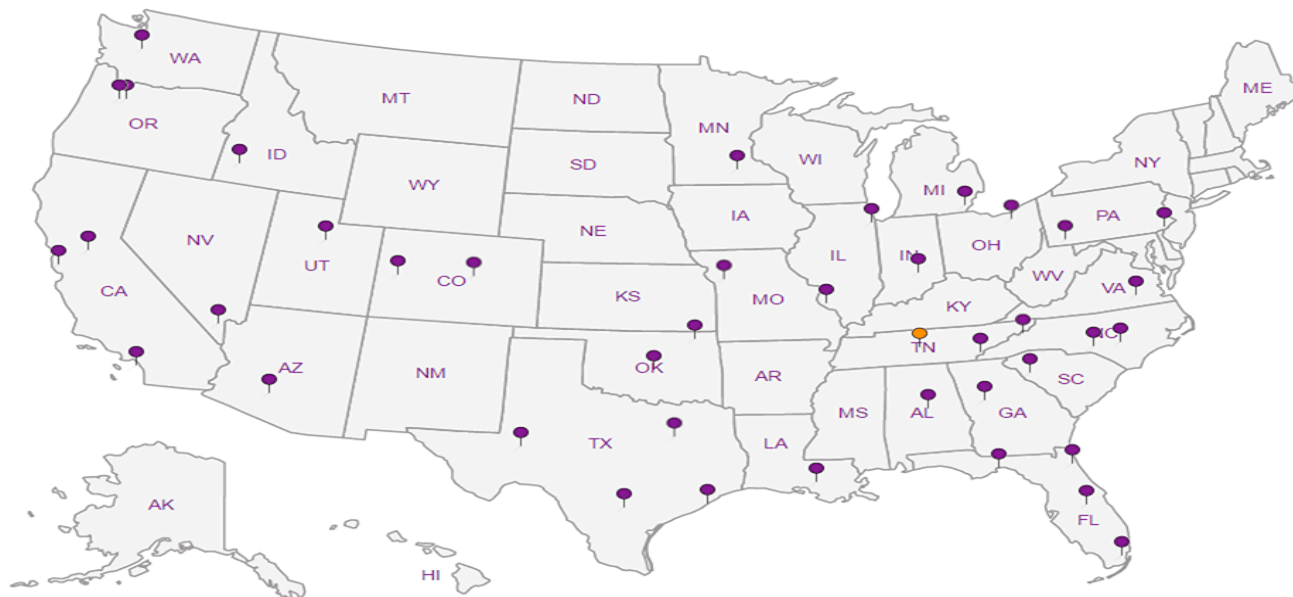
Third Party Federal Accreditations

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

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

Our Locations

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



Kinder Morgan- Atlanta, GA

6600 Peachtree Dunwoody Road
400 Embassy Row - Suite 600
Atlanta, GA 30328

Report to:
Bethany Garvey

Billing Information:
Accounts Payable
1000 Windward Concourse
Ste 450
Alpharetta, GA 30005

Email To: bgarvey@ch2m.com;
tom.wiley@ch2m.com; scott.powell@ch2m.com;

Pres
Chk

Project
Description: **Lewis Drive Groundwater**

City/State
Collected: **SC**

Phone: **770-604-9182**
Fax:

Client Project #

699858

Lab Project #
KINCH2MGA-LEWIS12

Collected by (print):
BG/EH

Site/Facility ID #

Km-Lewis.Dr

P.O. #

Collected by (signature):

Bethany Garvey
Immediately
Packed on Ice **N** Y **X**



Rush? (Lab MUST Be Notified)
 Same Day Five Day
 Next Day 5 Day (Rad Only)
 Two Day 10 Day (Rad Only)
 Three Day

Quote #

Date Results Needed

No.
of
Cnts

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cnts
mW-43B-060618	Grab	GW		6.6.18	0755	3
mW-43-060618		GW			0805	3
mW-24-060618		GW			0820	3
mW-24B-060618		GW			0830	3
mW-15B-060618		GW			0900	3
mW-14B-060618		GW			0940	3
mW-14-060618		GW			0950	3
mW-13B-060618		GW			1010	3
mW-13-060618		GW			1020	3
mW-47-060618		GW		6.6.18	1045	3

Analysis / Container / Preservative		Chain of Custody	Page ___ of ___
NITRATE,SULFATE 125mlHDPE-NoPres	ALK,CO2 125mlHDPE-NoPres	 12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859  L# 999694 Table # Acctnum: KINCH2MGA Template: T130277 PrelogIn: P655547 TSR: 526 - Chris McCord PB: 5-30-186 Shipped Via: FedEX Ground	
RSK175 40mlAmb HCl	V8260BTEXMNSC 40mlAmb-HCl		
	V8260TCLSC-TB 40mlAmb-NoPres-Bik		

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks: *NITRATE/SULFATE* has a 48hr hold time.

Samples returned via:
 UPS FedEx Courier

Tracking # **4380 0874 1158**

pH _____ Temp _____
Flow _____ Other _____

Sample Receipt Checklist
 CDC Seal Present/Intact: NP Y N
 CDC Signed/Accurate: Y N
 Bottles arrive intact: Y N
 Correct bottles used: Y N
 Sufficient volume sent: Y N
 If Applicable
 VOA Zero Headspace: Y N
 Preservation Correct/Checked: Y N

Relinquished by: (Signature)

Bethany Garvey

Date:

6.6.18

Time:

11:30

Received by: (Signature)

[Signature]

Trip Blank Received: Yes/No
HCL/MeOH
TBR

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

[Signature]

Temp: **22** °C
Bottles Received: **124**

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date:

Time:




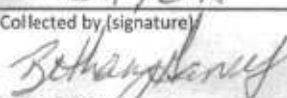
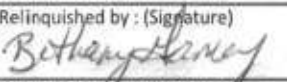
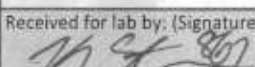
Received for lab by: (Signature)

[Signature]

Date: **6/7/18** Time: **8:45**

Hold:

Condition:
NCF / OK

Kinder Morgan- Atlanta, GA		Billing Information:		Accounts Payable 1000 Windward Concourse Ste 450 Alpharetta, GA 30005		Pres Chk		Analysis / Container / Preservative				Chain of Custody Page ___ of ___	
6600 Peachtree Dunwoody Road 400 Embassy Row - Suite 600 Atlanta GA 30328		Report to: Bethany Garvey		Email To: bgarvey@ch2m.com; tom.wiley@ch2m.com; scott.powell@ch2m.com;								 LAB SCIENCES a subsidiary of  12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859 	
Project Description: Lewis Drive Groundwater		City/State Collected: SC		Client Project # 699858		Lab Project # KINCH2MGA-LEWIS12		*NITRATE,SULFATE* 125mlHDPE-NoPres				L# 999694	
Phone: 770-604-9182		Site/Facility ID # Km-LewisDr		P.O. #		Quote #		ALK, CO2 125mlHDPE-NoPres				Table #	
Collected by (print): BG/EH		Rush? (Lab MUST Be Notified)		Date Results Needed		No. of Cntrs		RSK175 40mlAmb HCl				Acctnum: KINCH2MGA	
Collected by (signature): 		<input type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day						V8260BTEXMNSC 40mlAmb-HCl				Template: T130277	
Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>								V8260TCLC-TB 40mlAmb-NoPres-Bik				Prelogin: P655547	
Sample ID		Comp/Grab	Matrix *	Depth	Date	Time							TSR: 526 - Chris McCord
MW-31-060618		Grab	GW		6.6.18	1055							PB: 5-30-18
MW-33T-060618			GW			1107							Shipped Via: FedEX Ground
MW-48B-060618			GW			1125							Remarks
MW-48B-D-060618			GW			1125							Sample # (lab only)
FB42-060618			GW			1138							-11
MW-50B-060618			GW			1313							-12
MW-32-060618			GW			1345	X	X	X	X			-13
MW-10-060618			GW			1405	X	X	X	X			-14
MW-08-060618			GW			1440	X	X	X	X			-15
MW-30-060618			GW		6.6.18	1500							-16
* Matrix:		Remarks: *NITRATE/SULFATE* has a 48hr hold time.		pH _____ Temp _____		Flow _____ Other _____		Sample Receipt Checklist					
SS - Soil AIR - Air F - Filter								COC Seal Present/Intact: <input type="checkbox"/> NP <input checked="" type="checkbox"/> Y <input type="checkbox"/> N					
GW - Groundwater B - Bioassay								COC Signed/Accurate: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N					
WW - WasteWater								Bottles arrive intact: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N					
DW - Drinking Water								Correct bottles used: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N					
OT - Other _____								Sufficient volume sent: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N					
Samples returned via:		Tracking # 4380 6874 1158						If Applicable					
<input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier _____								VOA Zero HeadSpace: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N					
Relinquished by: (Signature) 		Date: 6.6.18	Time: 11630	Received by: (Signature)		Trip Blank Received: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		HCl / MeOH TBR				Preservation Correct/Checked: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N	
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)		Temp: 4°C		Bottles Received: 124		If preservation required by Login: Date/Time			
Relinquished by: (Signature)		Date:	Time:	Received for lab by: (Signature) 		Date: 6/7/18		Time: 845		Hold:		Condition: NCF 10	

Kinder Morgan- Atlanta, GA

6600 Peachtree Dunwoody Road
400 Embassy Row - Suite 600
Atlanta GA 30328

Report to:
Bethany Garvey

Project
Description: **Lewis Drive Groundwater**

Phone: 770-604-9182
Fax:

Client Project #
699858

Collected by (print):
EH, BA, KS, JM

Site/Facility ID #
KM-Lewis Dr.

Collected by (signature):
Bethany Garvey

Rush? (Lab MUST Be Notified)
 Same Day Five Day
 Next Day 5 Day (Rad Only)
 Two Day 10 Day (Rad Only)
 Three Day

Immediately
Packed on Ice N Y X

City/State
Collected: **SC**

Lab Project #
KINCH2MGA-LEWIS12

P.O. #

Quote #
Date Results Needed

Pres
Chk

Analysis / Container / Preservative

Chain of Custody Page ___ of ___



17065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859



L# **999694**

Table #

Acctnum: **KINCH2MGA**

Template: **T130277**

Prelogin: **P655547**

TSR: **526 - Chris McCord**

PB: **5-30-186**

Shipped Via: **FedEX Ground**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	*NITRATE,SULFATE* 125mlHDPE-NoPres	ALK,CO2 125mlHDPE-NoPres	RSK175 40mlAmb HCl	V8260BTEXMNSC 40mlAmb-HCl	V8260TCLSC-TB 40mlAmb-NoPres-Bik	Remarks	Sample # (lab only)
MW-19-060618	Grab	GW		6/6/18	0747	7	/	/	/	/			-21
MW-35-060618		GW			0900	7	/	/	/	/			-22
MW-15-060618		GW			0925	7	/	/	/	/			-23
MW-04-060618		GW			1100	7	/	/	/	/			-24
MW-03-060618		GW			1117	7	/	/	/	/			-25
MW-02-060618		GW			1440	7	/	/	/	/			-26
MW-09-060618		GW			1520	7	/	/	/	/			-27
MW-02B-060618		GW			1510	3				X			-28
MW-09B-060618		GW			1527	3				X			-29
TB02-060618		GW		6/6/18	-	1					X		-30

* Matrix:
 SS - Soil AIR - Air F - Filter
 GW - Groundwater B - Bioassay
 WW - WasteWater
 DW - Drinking Water
 OT - Other

Remarks: *NITRATE/SULFATE* has a 48hr hold time.

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
 UPS FedEx Courier

Tracking # **4380 0874 1158**

Sample Receipt Checklist
 COC Seal Present/Intact: N
 COC Signed/Accurate: N
 Bottles arrive intact: N
 Correct bottles used: N
 Sufficient volume sent: N
 If Applicable
 VOA Zero Headspace: N
 Preservation Correct/Checked: N

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Trip Blank Received: Yes/No

HCl/MeOH
TBR

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: **29.0** °C

Bottles Received: **124**

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Date: **6/7/18**

Time: **845**

Hold:

Condition:
NCF **(OK)**

June 20, 2018

Kinder Morgan- Atlanta, GA

Sample Delivery Group: L1000343
Samples Received: 06/08/2018
Project Number: 699858
Description: Lewis Drive Groundwater
Site: KM-LEWIS DR
Report To: Bethany Garvey
6600 Peachtree Dunwoody Road
400 Embassy Row - Suite 600
Atlanta, GA 30328

Entire Report Reviewed By:



Chris McCord
Technical Service Representative

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



Cp: Cover Page	1	1 Cp
Tc: Table of Contents	2	
Ss: Sample Summary	3	2 Tc
Cn: Case Narrative	5	
Sr: Sample Results	6	3 Ss
MW-45-060718 L1000343-01	6	
MW-45B-060718 L1000343-02	7	4 Cn
MW-21-060718 L1000343-03	8	5 Sr
MW-17B-060718 L1000343-04	9	
MW-17B-D-060718 L1000343-05	10	6 Qc
FB03-060718 L1000343-06	11	
MW-05-060718 L1000343-07	12	7 Gl
MW-06-060718 L1000343-08	13	8 Al
MW-06B-060718 L1000343-09	14	
MW-36-060718 L1000343-10	15	
MW-36B-060718 L1000343-26	16	9 Sc
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Volatile Organic Compounds (GC/MS) by Method 8260B	18	
Gl: Glossary of Terms	23	
Al: Accreditations & Locations	24	
Sc: Sample Chain of Custody	25	

SAMPLE SUMMARY



MW-45-060718 L1000343-01 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by BG/EH				Collected date/time 06/07/18 08:00	Received date/time 06/08/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122619	1	06/11/18 08:35	06/11/18 08:35	RAS

1
Cp

2
Tc

3
Ss

MW-45B-060718 L1000343-02 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by BG/EH				Collected date/time 06/07/18 08:10	Received date/time 06/08/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122619	1	06/11/18 08:57	06/11/18 08:57	RAS

4
Cn

5
Sr

MW-21-060718 L1000343-03 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by BG/EH				Collected date/time 06/07/18 08:20	Received date/time 06/08/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122619	1	06/11/18 09:19	06/11/18 09:19	RAS

6
Qc

7
Gl

MW-17B-060718 L1000343-04 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by BG/EH				Collected date/time 06/07/18 08:35	Received date/time 06/08/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122619	20	06/11/18 09:40	06/11/18 09:40	RAS
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1124866	500	06/15/18 00:48	06/15/18 00:48	LRL

8
Al

9
Sc

MW-17B-D-060718 L1000343-05 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by BG/EH				Collected date/time 06/07/18 08:35	Received date/time 06/08/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122619	20	06/11/18 10:02	06/11/18 10:02	RAS
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1124866	500	06/15/18 01:08	06/15/18 01:08	LRL

FB03-060718 L1000343-06 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by BG/EH				Collected date/time 06/07/18 08:55	Received date/time 06/08/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122619	1	06/11/18 10:23	06/11/18 10:23	RAS
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1124866	1	06/15/18 01:28	06/15/18 01:28	LRL

MW-05-060718 L1000343-07 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by BG/EH				Collected date/time 06/07/18 09:10	Received date/time 06/08/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122619	1	06/11/18 10:44	06/11/18 10:44	RAS
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1124866	1	06/15/18 01:48	06/15/18 01:48	LRL

MW-06-060718 L1000343-08 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by BG/EH				Collected date/time 06/07/18 09:20	Received date/time 06/08/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122619	1	06/11/18 11:06	06/11/18 11:06	RAS

SAMPLE SUMMARY



MW-06B-060718 L1000343-09 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by BG/EH				Collected date/time 06/07/18 09:30	Received date/time 06/08/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122619	1	06/11/18 11:28	06/11/18 11:28	RAS

1 Cp

2 Tc

3 Ss

MW-36-060718 L1000343-10 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by BG/EH				Collected date/time 06/07/18 10:15	Received date/time 06/08/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122619	1	06/11/18 11:50	06/11/18 11:50	RAS
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1124866	10	06/15/18 02:08	06/15/18 02:08	LRL

4 Cn

5 Sr

6 Qc

MW-36B-060718 L1000343-26 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by BG/EH				Collected date/time 06/07/18 10:25	Received date/time 06/08/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122609	1	06/11/18 04:16	06/11/18 04:16	DWR

7 Gl

8 Al

TB03-060718 L1000343-27 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by BG/EH				Collected date/time 06/07/18 00:00	Received date/time 06/08/18 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1122609	1	06/10/18 22:09	06/10/18 22:09	DWR

9 Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris McCord
Technical Service Representative

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/11/2018 08:35	WG1122619
Toluene	ND		1.00	1	06/11/2018 08:35	WG1122619
Ethylbenzene	ND		1.00	1	06/11/2018 08:35	WG1122619
Total Xylenes	ND		3.00	1	06/11/2018 08:35	WG1122619
Methyl tert-butyl ether	ND		1.00	1	06/11/2018 08:35	WG1122619
Naphthalene	ND		5.00	1	06/11/2018 08:35	WG1122619
1,2-Dichloroethane	ND		1.00	1	06/11/2018 08:35	WG1122619
(S) Toluene-d8	102		80.0-120		06/11/2018 08:35	WG1122619
(S) Dibromofluoromethane	101		76.0-123		06/11/2018 08:35	WG1122619
(S) 4-Bromofluorobenzene	103		80.0-120		06/11/2018 08:35	WG1122619

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/11/2018 08:57	WG1122619
Toluene	1.94		1.00	1	06/11/2018 08:57	WG1122619
Ethylbenzene	ND		1.00	1	06/11/2018 08:57	WG1122619
Total Xylenes	ND		3.00	1	06/11/2018 08:57	WG1122619
Methyl tert-butyl ether	ND		1.00	1	06/11/2018 08:57	WG1122619
Naphthalene	ND		5.00	1	06/11/2018 08:57	WG1122619
1,2-Dichloroethane	ND		1.00	1	06/11/2018 08:57	WG1122619
(S) Toluene-d8	102		80.0-120		06/11/2018 08:57	WG1122619
(S) Dibromofluoromethane	101		76.0-123		06/11/2018 08:57	WG1122619
(S) 4-Bromofluorobenzene	104		80.0-120		06/11/2018 08:57	WG1122619

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/11/2018 09:19	WG1122619
Toluene	ND		1.00	1	06/11/2018 09:19	WG1122619
Ethylbenzene	ND		1.00	1	06/11/2018 09:19	WG1122619
Total Xylenes	ND		3.00	1	06/11/2018 09:19	WG1122619
Methyl tert-butyl ether	ND		1.00	1	06/11/2018 09:19	WG1122619
Naphthalene	ND		5.00	1	06/11/2018 09:19	WG1122619
1,2-Dichloroethane	ND		1.00	1	06/11/2018 09:19	WG1122619
(S) Toluene-d8	103		80.0-120		06/11/2018 09:19	WG1122619
(S) Dibromofluoromethane	99.2		76.0-123		06/11/2018 09:19	WG1122619
(S) 4-Bromofluorobenzene	102		80.0-120		06/11/2018 09:19	WG1122619

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	8910		500	500	06/15/2018 00:48	WG1124866
Toluene	20200		500	500	06/15/2018 00:48	WG1124866
Ethylbenzene	1250		20.0	20	06/11/2018 09:40	WG1122619
Total Xylenes	9130		60.0	20	06/11/2018 09:40	WG1122619
Methyl tert-butyl ether	1230		20.0	20	06/11/2018 09:40	WG1122619
Naphthalene	206		100	20	06/11/2018 09:40	WG1122619
1,2-Dichloroethane	ND		20.0	20	06/11/2018 09:40	WG1122619
(S) Toluene-d8	108		80.0-120		06/11/2018 09:40	WG1122619
(S) Toluene-d8	101		80.0-120		06/15/2018 00:48	WG1124866
(S) Dibromofluoromethane	97.2		76.0-123		06/11/2018 09:40	WG1122619
(S) Dibromofluoromethane	98.6		76.0-123		06/15/2018 00:48	WG1124866
(S) 4-Bromofluorobenzene	102		80.0-120		06/11/2018 09:40	WG1122619
(S) 4-Bromofluorobenzene	99.4		80.0-120		06/15/2018 00:48	WG1124866

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	9630		500	500	06/15/2018 01:08	WG1124866
Toluene	21000		500	500	06/15/2018 01:08	WG1124866
Ethylbenzene	1200		20.0	20	06/11/2018 10:02	WG1122619
Total Xylenes	8850		60.0	20	06/11/2018 10:02	WG1122619
Methyl tert-butyl ether	1230		20.0	20	06/11/2018 10:02	WG1122619
Naphthalene	223		100	20	06/11/2018 10:02	WG1122619
1,2-Dichloroethane	ND		20.0	20	06/11/2018 10:02	WG1122619
(S) Toluene-d8	108		80.0-120		06/11/2018 10:02	WG1122619
(S) Toluene-d8	100		80.0-120		06/15/2018 01:08	WG1124866
(S) Dibromofluoromethane	95.6		76.0-123		06/11/2018 10:02	WG1122619
(S) Dibromofluoromethane	97.6		76.0-123		06/15/2018 01:08	WG1124866
(S) 4-Bromofluorobenzene	101		80.0-120		06/11/2018 10:02	WG1122619
(S) 4-Bromofluorobenzene	100		80.0-120		06/15/2018 01:08	WG1124866

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/15/2018 01:28	WG1124866
Toluene	ND		1.00	1	06/15/2018 01:28	WG1124866
Ethylbenzene	ND		1.00	1	06/11/2018 10:23	WG1122619
Total Xylenes	ND		3.00	1	06/11/2018 10:23	WG1122619
Methyl tert-butyl ether	ND		1.00	1	06/11/2018 10:23	WG1122619
Naphthalene	ND		5.00	1	06/11/2018 10:23	WG1122619
1,2-Dichloroethane	ND		1.00	1	06/11/2018 10:23	WG1122619
(S) Toluene-d8	103		80.0-120		06/11/2018 10:23	WG1122619
(S) Toluene-d8	102		80.0-120		06/15/2018 01:28	WG1124866
(S) Dibromofluoromethane	99.8		76.0-123		06/11/2018 10:23	WG1122619
(S) Dibromofluoromethane	98.3		76.0-123		06/15/2018 01:28	WG1124866
(S) 4-Bromofluorobenzene	104		80.0-120		06/11/2018 10:23	WG1122619
(S) 4-Bromofluorobenzene	99.9		80.0-120		06/15/2018 01:28	WG1124866

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/11/2018 10:44	WG1122619
Toluene	ND		1.00	1	06/15/2018 01:48	WG1124866
Ethylbenzene	ND		1.00	1	06/11/2018 10:44	WG1122619
Total Xylenes	ND		3.00	1	06/11/2018 10:44	WG1122619
Methyl tert-butyl ether	ND		1.00	1	06/11/2018 10:44	WG1122619
Naphthalene	ND		5.00	1	06/11/2018 10:44	WG1122619
1,2-Dichloroethane	ND		1.00	1	06/11/2018 10:44	WG1122619
(S) Toluene-d8	103		80.0-120		06/11/2018 10:44	WG1122619
(S) Toluene-d8	98.2		80.0-120		06/15/2018 01:48	WG1124866
(S) Dibromofluoromethane	101		76.0-123		06/11/2018 10:44	WG1122619
(S) Dibromofluoromethane	97.7		76.0-123		06/15/2018 01:48	WG1124866
(S) 4-Bromofluorobenzene	103		80.0-120		06/11/2018 10:44	WG1122619
(S) 4-Bromofluorobenzene	104		80.0-120		06/15/2018 01:48	WG1124866

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/11/2018 11:06	WG1122619
Toluene	ND		1.00	1	06/11/2018 11:06	WG1122619
Ethylbenzene	ND		1.00	1	06/11/2018 11:06	WG1122619
Total Xylenes	ND		3.00	1	06/11/2018 11:06	WG1122619
Methyl tert-butyl ether	ND		1.00	1	06/11/2018 11:06	WG1122619
Naphthalene	ND		5.00	1	06/11/2018 11:06	WG1122619
1,2-Dichloroethane	ND		1.00	1	06/11/2018 11:06	WG1122619
(S) Toluene-d8	104		80.0-120		06/11/2018 11:06	WG1122619
(S) Dibromofluoromethane	96.0		76.0-123		06/11/2018 11:06	WG1122619
(S) 4-Bromofluorobenzene	104		80.0-120		06/11/2018 11:06	WG1122619

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/11/2018 11:28	WG1122619
Toluene	4.69		1.00	1	06/11/2018 11:28	WG1122619
Ethylbenzene	ND		1.00	1	06/11/2018 11:28	WG1122619
Total Xylenes	ND		3.00	1	06/11/2018 11:28	WG1122619
Methyl tert-butyl ether	ND		1.00	1	06/11/2018 11:28	WG1122619
Naphthalene	ND		5.00	1	06/11/2018 11:28	WG1122619
1,2-Dichloroethane	ND		1.00	1	06/11/2018 11:28	WG1122619
(S) Toluene-d8	104		80.0-120		06/11/2018 11:28	WG1122619
(S) Dibromofluoromethane	97.7		76.0-123		06/11/2018 11:28	WG1122619
(S) 4-Bromofluorobenzene	104		80.0-120		06/11/2018 11:28	WG1122619

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	184		10.0	10	06/15/2018 02:08	WG1124866
Toluene	208		10.0	10	06/15/2018 02:08	WG1124866
Ethylbenzene	ND		1.00	1	06/11/2018 11:50	WG1122619
Total Xylenes	134		3.00	1	06/11/2018 11:50	WG1122619
Methyl tert-butyl ether	2.06		1.00	1	06/11/2018 11:50	WG1122619
Naphthalene	ND		5.00	1	06/11/2018 11:50	WG1122619
1,2-Dichloroethane	ND		1.00	1	06/11/2018 11:50	WG1122619
(S) Toluene-d8	101		80.0-120		06/11/2018 11:50	WG1122619
(S) Toluene-d8	100		80.0-120		06/15/2018 02:08	WG1124866
(S) Dibromofluoromethane	94.8		76.0-123		06/11/2018 11:50	WG1122619
(S) Dibromofluoromethane	98.7		76.0-123		06/15/2018 02:08	WG1124866
(S) 4-Bromofluorobenzene	104		80.0-120		06/11/2018 11:50	WG1122619
(S) 4-Bromofluorobenzene	101		80.0-120		06/15/2018 02:08	WG1124866

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	06/11/2018 04:16	WG1122609
Toluene	ND		1.00	1	06/11/2018 04:16	WG1122609
Ethylbenzene	ND		1.00	1	06/11/2018 04:16	WG1122609
Total Xylenes	ND		3.00	1	06/11/2018 04:16	WG1122609
Methyl tert-butyl ether	ND		1.00	1	06/11/2018 04:16	WG1122609
Naphthalene	ND		5.00	1	06/11/2018 04:16	WG1122609
1,2-Dichloroethane	ND		1.00	1	06/11/2018 04:16	WG1122609
(S) Toluene-d8	103		80.0-120		06/11/2018 04:16	WG1122609
(S) Dibromofluoromethane	103		76.0-123		06/11/2018 04:16	WG1122609
(S) 4-Bromofluorobenzene	112		80.0-120		06/11/2018 04:16	WG1122609

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND	J4	50.0	1	06/10/2018 22:09	WG1122609
Benzene	ND		1.00	1	06/10/2018 22:09	WG1122609
Bromodichloromethane	ND		1.00	1	06/10/2018 22:09	WG1122609
Bromoform	ND		1.00	1	06/10/2018 22:09	WG1122609
Bromomethane	ND		5.00	1	06/10/2018 22:09	WG1122609
Carbon disulfide	ND		1.00	1	06/10/2018 22:09	WG1122609
Carbon tetrachloride	ND		1.00	1	06/10/2018 22:09	WG1122609
Chlorobenzene	ND		1.00	1	06/10/2018 22:09	WG1122609
Chlorodibromomethane	ND		1.00	1	06/10/2018 22:09	WG1122609
Chloroethane	ND		5.00	1	06/10/2018 22:09	WG1122609
Chloroform	ND		5.00	1	06/10/2018 22:09	WG1122609
Chloromethane	ND		2.50	1	06/10/2018 22:09	WG1122609
1,2-Dibromo-3-Chloropropane	ND		5.00	1	06/10/2018 22:09	WG1122609
1,2-Dibromoethane	ND		1.00	1	06/10/2018 22:09	WG1122609
1,2-Dichlorobenzene	ND		1.00	1	06/10/2018 22:09	WG1122609
1,3-Dichlorobenzene	ND		1.00	1	06/10/2018 22:09	WG1122609
1,4-Dichlorobenzene	ND		1.00	1	06/10/2018 22:09	WG1122609
1,1-Dichloroethane	ND		1.00	1	06/10/2018 22:09	WG1122609
1,2-Dichloroethane	ND		1.00	1	06/10/2018 22:09	WG1122609
1,1-Dichloroethene	ND		1.00	1	06/10/2018 22:09	WG1122609
cis-1,2-Dichloroethene	ND		1.00	1	06/10/2018 22:09	WG1122609
trans-1,2-Dichloroethene	ND	J3	1.00	1	06/10/2018 22:09	WG1122609
1,2-Dichloropropane	ND		1.00	1	06/10/2018 22:09	WG1122609
cis-1,3-Dichloropropene	ND		1.00	1	06/10/2018 22:09	WG1122609
trans-1,3-Dichloropropene	ND		1.00	1	06/10/2018 22:09	WG1122609
Di-isopropyl ether	ND		1.00	1	06/10/2018 22:09	WG1122609
Ethylbenzene	ND		1.00	1	06/10/2018 22:09	WG1122609
2-Butanone (MEK)	ND		10.0	1	06/10/2018 22:09	WG1122609
2-Hexanone	ND		10.0	1	06/10/2018 22:09	WG1122609
Methylene Chloride	ND		5.00	1	06/10/2018 22:09	WG1122609
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	06/10/2018 22:09	WG1122609
Methyl tert-butyl ether	ND		1.00	1	06/10/2018 22:09	WG1122609
Naphthalene	ND		5.00	1	06/10/2018 22:09	WG1122609
Styrene	ND		1.00	1	06/10/2018 22:09	WG1122609
1,1,2,2-Tetrachloroethane	ND		1.00	1	06/10/2018 22:09	WG1122609
Tetrachloroethene	ND		1.00	1	06/10/2018 22:09	WG1122609
Toluene	ND		1.00	1	06/10/2018 22:09	WG1122609
1,1,1-Trichloroethane	ND		1.00	1	06/10/2018 22:09	WG1122609
1,1,2-Trichloroethane	ND		1.00	1	06/10/2018 22:09	WG1122609
Trichloroethene	ND		1.00	1	06/10/2018 22:09	WG1122609
Vinyl chloride	ND		1.00	1	06/10/2018 22:09	WG1122609
Xylenes, Total	ND		3.00	1	06/10/2018 22:09	WG1122609
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	06/10/2018 22:09	WG1122609
1,2,3-Trimethylbenzene	ND		1.00	1	06/10/2018 22:09	WG1122609
(S) Toluene-d8	98.5		80.0-120		06/10/2018 22:09	WG1122609
(S) Dibromofluoromethane	100		76.0-123		06/10/2018 22:09	WG1122609
(S) a,a,a-Trifluorotoluene	97.6		80.0-120		06/10/2018 22:09	WG1122609
(S) 4-Bromofluorobenzene	108		80.0-120		06/10/2018 22:09	WG1122609

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3316983-3 06/10/18 19:43

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		10.0	50.0
Benzene	U		0.331	1.00
Bromodichloromethane	U		0.380	1.00
Bromoform	U		0.469	1.00
Bromomethane	U		0.866	5.00
Carbon disulfide	0.276	U	0.275	1.00
Carbon tetrachloride	U		0.379	1.00
Chlorobenzene	U		0.348	1.00
Chlorodibromomethane	U		0.327	1.00
Chloroethane	U		0.453	5.00
Chloroform	U		0.324	5.00
Chloromethane	U		0.276	2.50
1,2-Dibromo-3-Chloropropane	U		1.33	5.00
1,2-Dibromoethane	U		0.381	1.00
1,2-Dichlorobenzene	U		0.349	1.00
1,3-Dichlorobenzene	U		0.220	1.00
1,4-Dichlorobenzene	U		0.274	1.00
1,1-Dichloroethane	U		0.259	1.00
1,2-Dichloroethane	U		0.361	1.00
1,1-Dichloroethene	U		0.398	1.00
cis-1,2-Dichloroethene	U		0.260	1.00
trans-1,2-Dichloroethene	U		0.396	1.00
1,2-Dichloropropane	U		0.306	1.00
cis-1,3-Dichloropropene	U		0.418	1.00
trans-1,3-Dichloropropene	U		0.419	1.00
Di-isopropyl ether	U		0.320	1.00
Ethylbenzene	U		0.384	1.00
2-Hexanone	U		3.82	10.0
2-Butanone (MEK)	U		3.93	10.0
Methylene Chloride	U		1.00	5.00
4-Methyl-2-pentanone (MIBK)	U		2.14	10.0
Methyl tert-butyl ether	U		0.367	1.00
Naphthalene	U		1.00	5.00
Styrene	U		0.307	1.00
1,1,2,2-Tetrachloroethane	U		0.130	1.00
Tetrachloroethene	U		0.372	1.00
Toluene	U		0.412	1.00
1,1,2-Trichlorotrifluoroethane	U		0.303	1.00
1,1,1-Trichloroethane	U		0.319	1.00
1,1,2-Trichloroethane	U		0.383	1.00

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3316983-3 06/10/18 19:43

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Trichloroethene	U		0.398	1.00
1,2,3-Trimethylbenzene	U		0.321	1.00
Vinyl chloride	U		0.259	1.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	100			80.0-120
(S) Dibromofluoromethane	101			76.0-123
(S) a,a,a-Trifluorotoluene	100			80.0-120
(S) 4-Bromofluorobenzene	111			80.0-120

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

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

(LCS) R3316983-1 06/10/18 18:43 • (LCSD) R3316983-4 06/10/18 20:07

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Acetone	125	240	198	192	158	70.0-130	J4	J4	18.9	23.9
Benzene	25.0	25.9	25.6	104	102	70.0-130			1.35	20
Bromodichloromethane	25.0	24.0	22.8	95.8	91.3	70.0-130			4.90	20
Bromoform	25.0	20.9	22.3	83.8	89.3	70.0-130			6.36	20
Bromomethane	25.0	24.4	24.6	97.6	98.4	70.0-130			0.775	20
Carbon disulfide	25.0	27.8	28.0	111	112	70.0-130			0.546	20
Carbon tetrachloride	25.0	20.8	20.9	83.2	83.7	70.0-130			0.533	20
Chlorobenzene	25.0	22.8	21.1	91.4	84.3	70.0-130			8.06	20
Chlorodibromomethane	25.0	20.8	19.3	83.1	77.4	70.0-130			7.11	20
Chloroethane	25.0	26.2	26.2	105	105	70.0-130			0.0308	20
Chloroform	25.0	23.3	22.3	93.3	89.2	70.0-130			4.51	20
Chloromethane	25.0	26.8	26.9	107	107	70.0-130			0.114	20
1,2-Dibromo-3-Chloropropane	25.0	21.4	21.2	85.7	84.8	70.0-130			1.01	20
1,2-Dibromoethane	25.0	22.0	20.8	87.9	83.1	70.0-130			5.53	20
1,2-Dichlorobenzene	25.0	23.9	23.7	95.5	94.8	70.0-130			0.707	20
1,3-Dichlorobenzene	25.0	24.2	22.9	96.7	91.5	70.0-130			5.47	20
1,4-Dichlorobenzene	25.0	22.5	20.9	90.2	83.7	70.0-130			7.43	20
1,1-Dichloroethane	25.0	24.0	23.9	95.9	95.8	70.0-130			0.161	20
1,2-Dichloroethane	25.0	24.9	24.1	99.5	96.5	70.0-130			3.00	20
1,1-Dichloroethene	25.0	26.1	26.1	104	104	70.0-130			0.195	20
cis-1,2-Dichloroethene	25.0	22.4	22.4	89.6	89.8	70.0-130			0.260	20
trans-1,2-Dichloroethene	25.0	27.8	21.5	111	86.0	70.0-130		J3	25.5	20
1,2-Dichloropropane	25.0	28.9	27.7	115	111	70.0-130			4.18	20
cis-1,3-Dichloropropene	25.0	22.4	21.2	89.5	85.0	70.0-130			5.17	20
trans-1,3-Dichloropropene	25.0	23.9	22.6	95.6	90.5	70.0-130			5.55	20

7 Gl

8 Al

9 Sc



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

(LCS) R3316983-1 06/10/18 18:43 • (LCSD) R3316983-4 06/10/18 20:07

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Di-isopropyl ether	25.0	25.8	25.4	103	102	70.0-130			1.35	20
Ethylbenzene	25.0	22.1	20.4	88.6	81.7	70.0-130			8.04	20
2-Hexanone	125	126	125	101	99.9	70.0-130			0.807	20
2-Butanone (MEK)	125	139	150	111	120	70.0-130			7.71	20
Methylene Chloride	25.0	30.9	29.9	124	120	70.0-130			3.35	20
4-Methyl-2-pentanone (MIBK)	125	130	126	104	101	70.0-130			2.63	20
Methyl tert-butyl ether	25.0	22.9	21.4	91.5	85.8	70.0-130			6.44	20
Naphthalene	25.0	25.5	22.1	102	88.2	70.0-130			14.6	20
Styrene	25.0	23.4	23.8	93.6	95.2	70.0-130			1.76	20
1,1,2,2-Tetrachloroethane	25.0	22.9	23.9	91.8	95.7	70.0-130			4.17	20
Tetrachloroethene	25.0	22.4	20.6	89.5	82.6	70.0-130			8.00	20
Toluene	25.0	23.7	22.9	94.9	91.6	70.0-130			3.54	20
1,1,2-Trichlorotrifluoroethane	25.0	25.8	26.0	103	104	70.0-130			0.910	20
1,1,1-Trichloroethane	25.0	22.0	21.9	88.0	87.5	70.0-130			0.551	20
1,1,2-Trichloroethane	25.0	23.4	21.4	93.7	85.5	70.0-130			9.11	20
Trichloroethene	25.0	22.9	21.6	91.5	86.5	70.0-130			5.71	20
1,2,3-Trimethylbenzene	25.0	23.4	22.0	93.6	87.9	70.0-130			6.20	20
Vinyl chloride	25.0	23.4	23.5	93.5	94.0	70.0-130			0.503	20
Xylenes, Total	75.0	69.6	64.8	92.8	86.4	70.0-130			7.14	20
<i>(S) Toluene-d8</i>				101	99.3	80.0-120				
<i>(S) Dibromofluoromethane</i>				95.6	99.9	76.0-123				
<i>(S) a,a,a-Trifluorotoluene</i>				96.1	93.5	80.0-120				
<i>(S) 4-Bromofluorobenzene</i>				101	105	80.0-120				

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3318032-3 06/11/18 08:14

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.331	1.00
1,2-Dichloroethane	U		0.361	1.00
Ethylbenzene	U		0.384	1.00
Methyl tert-butyl ether	U		0.367	1.00
Naphthalene	U		1.00	5.00
Toluene	U		0.412	1.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	103			80.0-120
(S) Dibromofluoromethane	99.6			76.0-123
(S) 4-Bromofluorobenzene	103			80.0-120

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

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

(LCS) R3318032-1 06/11/18 06:47 • (LCSD) R3318032-2 06/11/18 07:09

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Benzene	25.0	26.0	25.3	104	101	70.0-130			2.59	20
1,2-Dichloroethane	25.0	24.5	23.7	98.1	94.7	70.0-130			3.51	20
Ethylbenzene	25.0	26.4	25.6	106	102	70.0-130			2.97	20
Methyl tert-butyl ether	25.0	26.3	25.5	105	102	70.0-130			3.05	20
Naphthalene	25.0	24.8	23.6	99.1	94.3	70.0-130			5.00	20
Toluene	25.0	24.9	24.2	99.5	96.9	70.0-130			2.62	20
Xylenes, Total	75.0	80.5	77.9	107	104	70.0-130			3.28	20
(S) Toluene-d8				102	103	80.0-120				
(S) Dibromofluoromethane				98.6	99.2	76.0-123				
(S) 4-Bromofluorobenzene				102	105	80.0-120				



Method Blank (MB)

(MB) R3318198-3 06/14/18 22:10

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.331	1.00
Toluene	U		0.412	1.00
(S) Toluene-d8	99.2			80.0-120
(S) Dibromofluoromethane	98.2			76.0-123
(S) 4-Bromofluorobenzene	101			80.0-120

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

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

(LCS) R3318198-1 06/14/18 21:10 • (LCSD) R3318198-2 06/14/18 21:30

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Benzene	25.0	23.1	23.8	92.3	95.2	70.0-130			3.12	20
Toluene	25.0	23.8	24.1	95.0	96.5	70.0-130			1.57	20
(S) Toluene-d8				99.7	100	80.0-120				
(S) Dibromofluoromethane				97.9	96.1	76.0-123				
(S) 4-Bromofluorobenzene				103	102	80.0-120				

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Guide to Reading and Understanding Your Laboratory Report

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

Abbreviations and Definitions

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

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 GI

8 AI

9 Sc

Qualifier Description

J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.



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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
 * Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

State Accreditations

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

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

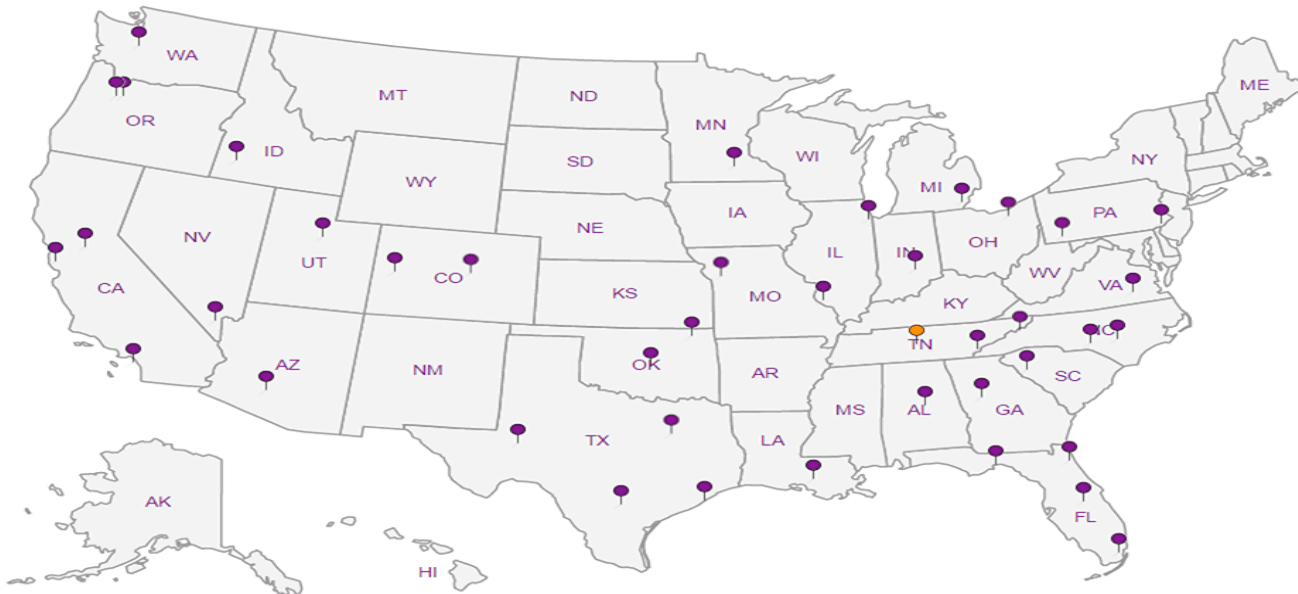
Third Party Federal Accreditations

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

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

Our Locations

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



Kinder Morgan- Atlanta, GA

6600 Peachtree Dunwoody Road
400 Embassy Row - Suite 600
Atlanta GA 30328

Report to:
Bethany Garvey

Billing Information:

Accounts Payable
1000 Windward Concourse
Ste 450
Alpharetta, GA 30005

Email To: bgarvey@ch2m.com;
tom.wiley@ch2m.com; scott.powell@ch2m.com;

Project
Description: **Lewis Drive Groundwater**

Phone: **770-604-9182**
Fax:

Client Project #
699858

City/State
Collected: **SC**

Lab Project #
KINCH2MGA-LEWIS12

Collected by (print):
BG/EH

Site/Facility ID #
KM-Lewis Dr

P.O. #

Collected by (signature):
Bethany Garvey

Rush? (Lab MUST Be Notified)

Quote #

Immediately
Packed on Ice N Y X

Same Day Five Day
Next Day 5 Day (Rad Only)
Two Day 10 Day (Rad Only)
Three Day

Date Results Needed

No. of
Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
MW-45-060718	Grab	GW		6-7-18	0800	3
MW-45B-060718		GW			0810	3
MW-21-060718		GW			0820	3
MW-17B-060718		GW			0835	3
MW-17B-D-060718		GW			0835	3
FB03-060718		GW			0855	3
MW-45-060718		GW			0910	3
MW-06-060718		GW			0920	3
MW-06B-060718		GW			0930	3
MW-36-060718		GW		6-7-18	1015	3

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks: *NITRATE/SULFATE* has a 48hr hold time.

Samples returned via:
 UPS FedEx Courier

Tracking # **4380 6874 1149**

Relinquished by: (Signature)
Bethany Garvey

Date: **6-7-18**
Time: **1700**

Received by: (Signature)

Trip Blank Received: Yes No
HCL/MeOH
TBR

Relinquished by: (Signature)

Date:
Time:

Received by: (Signature)

Temp: **0.83** °C
Bottles Received: **78**

Relinquished by: (Signature)

Date:
Time:

Received for lab by: (Signature)
Sam

Date: **6/8/18** Time: **0845**

Sample Receipt Checklist

COC Seal Present/Intact:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
COC Signed/Accurate:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Bottles arrive intact:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Correct bottles used:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Sufficient volume sent:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
If Applicable	
VGA Zero Headspace:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Preservation Correct/Checked:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N

If preservation required by Login: Date/Time

Hold:
Condition: **NCF** / OK

Analysis / Container / Preservative

NITRATE,SULFATE 125mlHDPE-NoPres
ALK,CO2 125mlHDPE-NoPres
RSK175 40mlAmb HCl
V8260BTEXMNSC 40mlAmb-HCl
V8260TCLSC-TB 40mlAmb-NoPres-Bik

Chain of Custody Page of



12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859



L# **L1000343**

D030

Acctnum: **KINCH2MGA**

Template: **T130277**

Prelogin: **P655547**

TSR: **526 - Chris McCord**

PB: **530186**

Shipped Via: **FedEx Ground**

Remarks Sample # (lab only)

-01
-02
-03
-04
-05
-06
-07
-08
-09
-10

Kinder Morgan- Atlanta, GA

6600 Peachtree Dunwoody Road
400 Embassy Row - Suite 600
Atlanta, GA 30328

Billing Information:
Accounts Payable
1000 Windward Concourse
Ste 450
Alpharetta, GA 30005

Pres
Chk

Report to:
Bethany Garvey

Email To: bgarvey@ch2m.com;
tom.wiley@ch2m.com; scott.powell@ch2m.com;

Project
Description: **Lewis Drive Groundwater**

City/State
Collected: **SC**

Phone: **770-604-9182**
Fax:

Client Project #

699858

Lab Project #
KINCH2MGA-LEWIS12

Collected by (print):

JM/KS

Site/Facility ID #

KM-Lewis Dr

P.O. #

Collected by (signature):

[Signature]

Rush? (Lab MUST Be Notified)

Same Day Five Day
 Next Day 5 Day (Rad Only)
 Two Day 10 Day (Rad Only)
 Three Day

Date Results Needed

Immediately
Packed on Ice N Y

No.
of
Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
SW-11-060718	Grab	GW		6-7-18	0830	
SW-10-060718		GW			0845	
FP-01-060718		SW			0855	
FP-02-060718					0905	
SW-09-060718					0915	
SW-08-060718					0920	
SW-13-060718					0925	
FP-03-060718					1020	
SW-01-060718					1105	
SW-07-060718		SW		6-7-18	1115	

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks: *NITRATE/SULFATE* has a 48hr hold time.

Samples returned via:
 UPS FedEx Courier

Tracking # **4380 6874 1169**

Relinquished by: (Signature)

[Signature]

Date:

6-7-18

Time:

1700

Received by: (Signature)

[Signature]

Trip Blank Received: Yes / No
HCL / MeOH
TBR

Temp: **0183** °C
Bottles Received: **78**

Relinquished by: (Signature)

[Signature]

Date:

6/8/18

Time:

0845

Received for lab by: (Signature)

[Signature]

Date: **6/8/18** Time: **0845**

Sample Receipt Checklist

COC Seal Present/Intact:	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
COC Signed/Accurate:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Bottles arrive intact:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Correct bottles used:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Sufficient volume sent:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
If Applicable	
VOA Zero Headspace:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Preservation Correct/Checked:	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N

If preservation required by Login: Date/Time

Hold:

Condition:
 NCF / OK

Analysis / Container / Preservative

NITRATE,SULFATE 125mlHDPE-NoPres
ALK,CO2 125mlHDPE-NoPres
RSK175 40mlAmb HCl
V8260BTEXMNSC 40mlAmb-HCl
V8260TCLSC-TB 40mlAmb-NoPres-Blk

Chain of Custody Page ___ of ___



12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-3858
Phone: 800-767-5859
Fax: 615-758-5859



L # **U000343**

Table #

Acctnum: **KINCH2MGA**

Template: **T130277**

Prelogin: **P655547**

TSR: **526 - Chris McCord**

PB: **530-186**

Shipped Via: **FedEX Ground**

Remarks Sample # (lab only)

-11
-12
-13
-14
-15
-16
-17
-18
-19
-20

Kinder Morgan- Atlanta, GA

6600 Peachtree Dunwoody Road
400 Embassy Row - Suite 600
Atlanta GA 30328

Report to:
Bethany Garvey

Billing Information:
Accounts Payable
1000 Windward Concourse
Ste 450
Alpharetta, GA 30005

Email To: bgarvey@ch2m.com;
tom.wiley@ch2m.com; scott.powell@ch2m.com;

Project
Description: **Lewis Drive Groundwater**

City/State
Collected: **SC**

Phone: **770-604-9182**
Fax:

Client Project #
699858

Lab Project #
KINCH2MGA-LEWIS12

Collected by (print):
DN/KS

Site/Facility ID #
KM-Lewis.DF

P.O. #

Collected by (signature):
VS

Rush? (Lab MUST Be Notified)
 Same Day Five Day
 Next Day 5 Day (Rad Only)
 Two Day 10 Day (Rad Only)
 Three Day

Quote #
Date Results Needed

Immediately Packed on Ice **N** **Y** **X**

No. of Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
SW-12-060718	Grab	GW		6-7-18	1045	
SW-03-060718		GW			1055	
SW-02-060718		SW			1125	
SW-04-060718		SW			1135	
SW-14-060718		SW		6-7-18	1150	

Analysis / Container / Preservative									
NITRATE,SULFATE 125mlHDPE-NoPres	ALK,CO2 125mlHDPE-NoPres	RSK175 40mlAmb HCl	V8260BTEXMNSC 40mlAmb-HCl	V8260TCLSC-TB 40mlAmb-NoPres-Bik					



12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859



L # **L1000743**

Table #

Acctnum: **KINCH2MGA**
Template: **T130277**
Prelogin: **P655547**
TSR: **526 - Chris McCord**
PB: **5-30-18**

Shipped Via: **FedEX Ground**

Remarks	Sample # (lab only)
	-21
	-20
	-18
	-24
	-15

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks: *NITRATE/SULFATE* has a 48hr hold time.

Samples returned via:
 UPS FedEx Courier

pH _____ Temp _____
Flow _____ Other _____

Tracking # **4360 6874 1169**

Sample Receipt Checklist

COC Seal Present/Intact:	<input type="checkbox"/> NP	<input checked="" type="checkbox"/> N
COC Signed/Accurate:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
Bottles arrive intact:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
Correct bottles used:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
Sufficient volume sent:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
If Applicable		
VOA Zero Headspace:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
Preservation Correct/Checked:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N

Relinquished by: (Signature)
Bethany Garvey

Relinquished by: (Signature)

Relinquished by: (Signature)

Date: **6-7-18** Time: **1700**

Date: Time:

Date: Time:

Received by: (Signature)

Received by: (Signature)

Received for lab by: (Signature)
Heum

Trip Blank Received: Yes No
HCl/MeOH
TBR

Temp: **0.83** °C Bottles Received: **78**

Date: **6/8/18** Time: **0845**

Hold: Condition: **OK** / **OK**

Appendix D

Operation and Maintenance Logs



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance Maintenance Log <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Discharge Permit and Expiration Date
4/2/2018 1020	Scott Shroyer		Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Site Maintenance	Frequency	Conditions Good?	Repaired/Replaced?	Scheduled	Comment
Inspect condition of Brown's Creek.	Each visit	Yes / No	Yes / No		
Perform air monitoring near Cupboard Creek.	Each visit	Yes / No	Yes / No		
Activate and inspect condition of receiver auto drain.	Each visit	Yes / No	Yes / No		
...	...				
...	...				

Equipment Maintenance	Frequency	Conditions Good?	Repaired/Replaced?	Scheduled	Comment
Inspect receiver tank and discharge lines.	Monthly	Yes / No	Yes / No		
Inspect condensate system components. Drain and clean as needed.	Monthly	Yes / No	Yes / No		
Inspect the two fire extinguishers for signs of deterioration. Shake contents.	Monthly	Yes / No	Yes / No		
Coordinate with Airite to performed quarterly and annual PM on both machines.	Quarterly	Yes / No	Yes / No		
Inspect various building components detailed in Section X.X.X.	Semi-Annually	Yes / No	Yes / No		
Test relief valve on receiver tank for proper operation.	Annually	Yes / No	Yes / No		
Inspect flow meters per Section X.X.X. Verify calibration.	Annually	Yes / No	Yes / No		
Calibrate EAD	Annually	Yes / No	Yes / No		

NOTE: Please check the manufacturer's instructions for the specific maintenance schedule and instructions.

Additional Comments: → clean compressor air intake filter screens



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 1 of 4 Lewis Drive, Belton, South Carolina
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
4/12/2018 10:20 1500	SCOTT SHERMAN	_____	Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Exterior Components	(Units)	Optimal Level	Max Level	Arrival	Departure
System Operating	(Yes/No)	NA	NA	Yes	Yes
Air Compressor 1 Run Time	(hours)	NA	NA	6736:08	6739:22
Air Compressor 1 Load Time	(hours)	NA	NA	4043:20	4046:15
Air Compressor 1 Discharge Temp	(F)	60 - 100	110	—	186
Air Compressor 1 Pressure	(psig)	90 - 110	100	—	114
Air Compressor 2 Run Time	(hours)	NA	NA	4701:50	4705:59
Air Compressor 2 Load Time	(hours)	NA	NA	3675:02	3678:44
Air Compressor 2 Temp	(F)	60 - 100	110	182	188
Air Compressor 2 Pressure	(psig)	90 - 110	100	106	113
Receiver Tank Pressure	(psig)	90 - 110	100	112	115
Receiver Tank Temperature	(F)	60 - 100	110	N/A	N/A
Interior Manifold	(Units)	Optimal Level	Max Level	Arrival	Departure
Manifold Pressure	(psig)	90 - 110	100	106	106
Manifold Temperature	(F)	60 - 100	110	82	91
Manifold Flow Rate	(scfm)	TBD	TBD	890.6	1615
Horizontal Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
HAS-1 Target Flow Rate	(scfm)	TBD	TBD	275.0	450.0
HAS-1 Actual Flow Rate	(scfm)	TBD	TBD	338.1	457.7
HAS-1 Valve Position	(%)	TBD	TBD	0	46.9
HAS-1 Pressure	(psig)	10 - 20	30	23	24
HAS-2 Target Flow Rate	(scfm)	TBD	TBD	200.0	350.0
HAS-2 Actual Flow Rate	(scfm)	TBD	TBD	199.4	351.8
HAS-2 Valve Position	(%)	TBD	TBD	13.6	28.3
HAS-2 Pressure	(psig)	10 - 20	30	21	25
HAS-3 Target Flow Rate	(scfm)	TBD	TBD	150.0	225.0
HAS-3 Actual Flow Rate	(scfm)	TBD	TBD	148.4	222.3
HAS-3 Valve Position	(%)	TBD	TBD	25.2	27.8
HAS-3 Pressure	(psig)	10 - 20	30	16	19

Parts Needed:	
Parts Installed:	

Notes (include alarms since previous visit):



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 2 of 4 <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
4/2/2018 1500	Scott Smith		Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Vertical Wells	(Units)	Optimal Level	Max Level	Arrival	Departure	
VAS-01 Flow Rate	(scfm)	TBD	TBD		9.0	
VAS-01 Pressure	(psig)	10 - 20	30		22	
VAS-02 Flow Rate	(scfm)	TBD	TBD		9.9	
VAS-02 Pressure	(psig)	10 - 20	30		15	
VAS-03 Flow Rate	(scfm)	TBD	TBD		10.2	
VAS-03 Pressure	(psig)	10 - 20	30		12	
VAS-04 Flow Rate	(scfm)	TBD	TBD		10.3	
VAS-04 Pressure	(psig)	10 - 20	30		1	
VAS-05 Flow Rate	(scfm)	TBD	TBD		9.8	
VAS-05 Pressure	(psig)	10 - 20	30		5	
VAS-06 Flow Rate	(scfm)	TBD	TBD		9.5	
VAS-06 Pressure	(psig)	10 - 20	30		10	
VAS-07 Flow Rate	(scfm)	TBD	TBD		7.0	
VAS-07 Pressure	(psig)	10 - 20	30		20	
VAS-08 Flow Rate	(scfm)	TBD	TBD		10.3	
VAS-08 Pressure	(psig)	10 - 20	30		21	
VAS-09 Flow Rate	(scfm)	TBD	TBD		9.8	
VAS-09 Pressure	(psig)	10 - 20	30		7	
VAS-10 Flow Rate	(scfm)	TBD	TBD		10.5	
VAS-10 Pressure	(psig)	10 - 20	30		11	
VAS-11 Flow Rate	(scfm)	TBD	TBD		9.1	
VAS-11 Pressure	(psig)	10 - 20	30		10	
VAS-12 Flow Rate	(scfm)	TBD	TBD		9.8	
VAS-12 Pressure	(psig)	10 - 20	30		9	
VAS-13 Flow Rate	(scfm)	TBD	TBD			
VAS-13 Pressure	(psig)	10 - 20	30			
VAS-14 Flow Rate	(scfm)	TBD	TBD			
VAS-14 Pressure	(psig)	10 - 20	30			
VAS-15 Flow Rate	(scfm)	TBD	TBD			
VAS-15 Pressure	(psig)	10 - 20	30			
VAS-16 Flow Rate	(scfm)	TBD	TBD			
VAS-16 Pressure	(psig)	10 - 20	30			
VAS-17 Flow Rate	(scfm)	TBD	TBD			
VAS-17 Pressure	(psig)	10 - 20	30			



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 3 of 4 <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
4/2/2013 10:20	1500 SCOTT SMITH	_____	Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Vertical Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
VAS-18 Flow Rate	(scfm)	TBD	TBD		
VAS-18 Pressure	(psig)	10 - 20	30		
VAS-19 Flow Rate	(scfm)	TBD	TBD		
VAS-19 Pressure	(psig)	10 - 20	30		
VAS-20 Flow Rate	(scfm)	TBD	TBD		8.0
VAS-20 Pressure	(psig)	10 - 20	30		20
VAS-21 Flow Rate	(scfm)	TBD	TBD		7.5
VAS-21 Pressure	(psig)	10 - 20	30		21
VAS-22 Flow Rate	(scfm)	TBD	TBD	8.4	9.5
VAS-22 Pressure	(psig)	10 - 20	30	22	21
VAS-23 Flow Rate	(scfm)	TBD	TBD	7.0	9.0
VAS-23 Pressure	(psig)	10 - 20	30	18	18
VAS-24 Flow Rate	(scfm)	TBD	TBD	11.3	10.5
VAS-24 Pressure	(psig)	10 - 20	30	22	23
VAS-25 Flow Rate	(scfm)	TBD	TBD		9.1
VAS-25 Pressure	(psig)	10 - 20	30		19
VAS-26 Flow Rate	(scfm)	TBD	TBD		9.3
VAS-26 Pressure	(psig)	10 - 20	30		26
VAS-27 Flow Rate	(scfm)	TBD	TBD		10.1
VAS-27 Pressure	(psig)	10 - 20	30		31
VAS-28 Flow Rate	(scfm)	TBD	TBD		9.4
VAS-28 Pressure	(psig)	10 - 20	30		13
VAS-29 Flow Rate	(scfm)	TBD	TBD		9.4
VAS-29 Pressure	(psig)	10 - 20	30		12
VAS-30 Flow Rate	(scfm)	TBD	TBD		9.6
VAS-30 Pressure	(psig)	10 - 20	30		8
VAS-31 Flow Rate	(scfm)	TBD	TBD		10.3
VAS-31 Pressure	(psig)	10 - 20	30		23
VAS-32 Flow Rate	(scfm)	TBD	TBD	12.4	16.7
VAS-32 Pressure	(psig)	10 - 20	30	15	17
VAS-33 Flow Rate	(scfm)	TBD	TBD	11.4	10.0
VAS-33 Pressure	(psig)	10 - 20	30	17	16
VAS-34 Flow Rate	(scfm)	TBD	TBD	8.9	9.5
VAS-34 Pressure	(psig)	10 - 20	30	18	18



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 4 of 4 <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
4/24/18 10:20 1500	Scott Smith		Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Vertical Wells	(Units)	Optimal Level	Max Level	Arrival	Departure	
VAS-35 Flow Rate	(scfm)	TBD	TBD		3.9	
VAS-35 Pressure	(psig)	10 - 20	30		22	
VAS-36 Flow Rate	(scfm)	TBD	TBD		10.2	
VAS-36 Pressure	(psig)	10 - 20	30		17	
VAS-37 Flow Rate	(scfm)	TBD	TBD		9.5	
VAS-37 Pressure	(psig)	10 - 20	30		11	
VAS-38 Flow Rate	(scfm)	TBD	TBD		10.1	
VAS-38 Pressure	(psig)	10 - 20	30		9	
VAS-39 Flow Rate	(scfm)	TBD	TBD		10.4	
VAS-39 Pressure	(psig)	10 - 20	30		14	
VAS-40 Flow Rate	(scfm)	TBD	TBD		2.9	
VAS-40 Pressure	(psig)	10 - 20	30		25	
VAS-41 Flow Rate	(scfm)	TBD	TBD		6.6	-
VAS-41 Pressure	(psig)	20-Oct	30		8	-
VAS-42 Flow Rate	(scfm)	TBD	TBD		6.6	10.0
VAS-42 Pressure	(psig)	10 - 20	30		9	12
VAS-43 Flow Rate	(scfm)	TBD	TBD	3.4		
VAS-43 Pressure	(psig)	10 - 20	30	32		
VAS-44 Flow Rate	(scfm)	TBD	TBD	2.3		
VAS-44 Pressure	(psig)	10 - 20	30	33		
VAS-45 Flow Rate	(scfm)	TBD	TBD	4.3		
VAS-45 Pressure	(psig)	10 - 20	30	8		
Brown's Creek Aerators	(Units)	Optimal Level	Max Level	Arrival	Departure	
BCA-01 Flow Rate	(scfm)	TBD	TBD	9.8	14.3	
BCA-01 Pressure	(psig)	0 - 5	5	11	16	
BCA-02 Flow Rate	(scfm)	TBD	TBD	10.1	14.2	
BCA-02 Pressure	(psig)	0 - 5	5	11	16	
Bedrock Wells	(Units)	Optimal Level	Max Level	Arrival	Departure	
BRS-01 Flow Rate	(scfm)	TBD	TBD			
BRS-01 Pressure	(psig)	10 - 20	30			
BRS-02 Flow Rate	(scfm)	TBD	TBD			
BRS-02 Pressure	(psig)	10 - 20	30			
BRS-03 Flow Rate	(scfm)	TBD	TBD			
BRS-03 Pressure	(psig)	10 - 20	30			



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance Maintenance Log <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Discharge Permit and Expiration Date
4/9/2018 1000	SCOTT SIMPSON		Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Site Maintenance	Frequency	Conditions Good?	Repaired/Replaced?	Scheduled	Comment
Inspect condition of Brown's Creek.	Each visit	Yes / No	Yes / No		
Perform air monitoring near Cupboard Creek.	Each visit	Yes / No	Yes / No		
Activate and inspect condition of receiver auto drain.	Each visit	Yes / No	Yes / No		
...	...				
...	...				

Equipment Maintenance	Frequency	Conditions Good?	Repaired/Replaced?	Scheduled	Comment
Inspect receiver tank and discharge lines.	Monthly	Yes / No	Yes / No		
Inspect condensate system components. Drain and clean as needed.	Monthly	Yes / No	Yes / No		
Inspect the two fire extinguishers for signs of deterioration. Shake contents.	Monthly	Yes / No	Yes / No		
Coordinate with Airite to performed quarterly and annual PM on both machines.	Quarterly	Yes / No	Yes / No		
Inspect various building components detailed in Section X.X.X.	Semi-Annually	Yes / No	Yes / No		
Test relief valve on receiver tank for proper operation.	Annually	Yes / No	Yes / No		
Inspect flow meters per Section X.X.X. Verify calibration.	Annually	Yes / No	Yes / No		
Calibrate EAD	Annually	Yes / No	Yes / No		

NOTE: Please check the manufacturer's instructions for the specific maintenance schedule and instructions.

Additional Comments:



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 1 of 4 <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
4/9/2018 1000 B/D	SCOTT SULLAIR	—	Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Exterior Components	(Units)	Optimal Level	Max Level	Arrival	Departure
System Operating	(Yes/No)	NA	NA	Yes	Yes
Air Compressor 1 Run Time	(hours)	NA	NA	6:02:22	6:05:29
Air Compressor 1 Load Time	(hours)	NA	NA	4:08:23	4:11:27
Air Compressor 1 Discharge Temp	(F)	60 - 100	110	182	183
Air Compressor 1 Pressure	(psig)	90 - 110	100	112	104
Air Compressor 2 Run Time	(hours)	NA	NA	4:08:59	4:12:06
Air Compressor 2 Load Time	(hours)	NA	NA	3:31:01	3:33:53
Air Compressor 2 Temp	(F)	60 - 100	110	180	182
Air Compressor 2 Pressure	(psig)	90 - 110	100	114	105
Receiver Tank Pressure	(psig)	90 - 110	100	120	112
Receiver Tank Temperature	(F)	60 - 100	110	N/A	N/A
Interior Manifold	(Units)	Optimal Level	Max Level	Arrival	Departure
Manifold Pressure	(psig)	90 - 110	100	112	105
Manifold Temperature	(F)	60 - 100	110	62	70
Manifold Flow Rate	(scfm)	TBD	TBD	147.8	167.1
Horizontal Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
HAS-1 Target Flow Rate	(scfm)	TBD	TBD	456.0	525.0
HAS-1 Actual Flow Rate	(scfm)	TBD	TBD	444.0	521.2
HAS-1 Valve Position	(%)	TBD	TBD	10.4	28.8
HAS-1 Pressure	(psig)	10 - 20	30	25	27
HAS-2 Target Flow Rate	(scfm)	TBD	TBD	350.0	502.0
HAS-2 Actual Flow Rate	(scfm)	TBD	TBD	344.6	500.5
HAS-2 Valve Position	(%)	TBD	TBD	30.1	80.0
HAS-2 Pressure	(psig)	10 - 20	30	27	31
HAS-3 Target Flow Rate	(scfm)	TBD	TBD	225.0	262.5
HAS-3 Actual Flow Rate	(scfm)	TBD	TBD	237.6	265.0
HAS-3 Valve Position	(%)	TBD	TBD	22.1	25.7
HAS-3 Pressure	(psig)	10 - 20	30	20	21

Parts Needed:	
Parts Installed:	

Notes (include alarms since previous visit):

→ ALL vertical wells adjusted to ~ 10 scfm following data collection.



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 2 of 4 <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
4/9/2018 1000 1510	SCOTT SWIBA	_____	Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Vertical Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
VAS-01 Flow Rate	(scfm)	TBD	TBD		16.2
VAS-01 Pressure	(psig)	10 - 20	30		23
VAS-02 Flow Rate	(scfm)	TBD	TBD		11.0
VAS-02 Pressure	(psig)	10 - 20	30		17
VAS-03 Flow Rate	(scfm)	TBD	TBD		8.9
VAS-03 Pressure	(psig)	10 - 20	30		17
VAS-04 Flow Rate	(scfm)	TBD	TBD		10.9
VAS-04 Pressure	(psig)	10 - 20	30		4
VAS-05 Flow Rate	(scfm)	TBD	TBD		
VAS-05 Pressure	(psig)	10 - 20	30		
VAS-06 Flow Rate	(scfm)	TBD	TBD		
VAS-06 Pressure	(psig)	10 - 20	30		
VAS-07 Flow Rate	(scfm)	TBD	TBD		
VAS-07 Pressure	(psig)	10 - 20	30		
VAS-08 Flow Rate	(scfm)	TBD	TBD		
VAS-08 Pressure	(psig)	10 - 20	30		
VAS-09 Flow Rate	(scfm)	TBD	TBD		
VAS-09 Pressure	(psig)	10 - 20	30		
VAS-10 Flow Rate	(scfm)	TBD	TBD		
VAS-10 Pressure	(psig)	10 - 20	30		
VAS-11 Flow Rate	(scfm)	TBD	TBD		11.8
VAS-11 Pressure	(psig)	10 - 20	30		9
VAS-12 Flow Rate	(scfm)	TBD	TBD		9.9
VAS-12 Pressure	(psig)	10 - 20	30		13
VAS-13 Flow Rate	(scfm)	TBD	TBD		10.6
VAS-13 Pressure	(psig)	10 - 20	30		20
VAS-14 Flow Rate	(scfm)	TBD	TBD		11.8
VAS-14 Pressure	(psig)	10 - 20	30		12
VAS-15 Flow Rate	(scfm)	TBD	TBD		12.4
VAS-15 Pressure	(psig)	10 - 20	30		7
VAS-16 Flow Rate	(scfm)	TBD	TBD		8.2
VAS-16 Pressure	(psig)	10 - 20	30		18
VAS-17 Flow Rate	(scfm)	TBD	TBD		9.2
VAS-17 Pressure	(psig)	10 - 20	30		18



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 3 of 4 <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
4/9/2018 1000 1310	SCOTT SIMMONS		Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Vertical Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
VAS-18 Flow Rate	(scfm)	TBD	TBD	T	12.1
VAS-18 Pressure	(psig)	10 - 20	30		2
VAS-19 Flow Rate	(scfm)	TBD	TBD	T	5.3
VAS-19 Pressure	(psig)	10 - 20	30		21
VAS-20 Flow Rate	(scfm)	TBD	TBD	T	-
VAS-20 Pressure	(psig)	10 - 20	30		-
VAS-21 Flow Rate	(scfm)	TBD	TBD	T	-
VAS-21 Pressure	(psig)	10 - 20	30		-
VAS-22 Flow Rate	(scfm)	TBD	TBD	10.3	10.3
VAS-22 Pressure	(psig)	10 - 20	30	22	22
VAS-23 Flow Rate	(scfm)	TBD	TBD	9.8	9.7
VAS-23 Pressure	(psig)	10 - 20	30	20	20
VAS-24 Flow Rate	(scfm)	TBD	TBD	15.3	9.6
VAS-24 Pressure	(psig)	10 - 20	30	24	22
VAS-25 Flow Rate	(scfm)	TBD	TBD	T	T
VAS-25 Pressure	(psig)	10 - 20	30	T	T
VAS-26 Flow Rate	(scfm)	TBD	TBD		
VAS-26 Pressure	(psig)	10 - 20	30		
VAS-27 Flow Rate	(scfm)	TBD	TBD	T	T
VAS-27 Pressure	(psig)	10 - 20	30		
VAS-28 Flow Rate	(scfm)	TBD	TBD	T	T
VAS-28 Pressure	(psig)	10 - 20	30		
VAS-29 Flow Rate	(scfm)	TBD	TBD	T	T
VAS-29 Pressure	(psig)	10 - 20	30		
VAS-30 Flow Rate	(scfm)	TBD	TBD	T	T
VAS-30 Pressure	(psig)	10 - 20	30		
VAS-31 Flow Rate	(scfm)	TBD	TBD	T	T
VAS-31 Pressure	(psig)	10 - 20	30		
VAS-32 Flow Rate	(scfm)	TBD	TBD	13.1	9.1
VAS-32 Pressure	(psig)	10 - 20	30	18	15
VAS-33 Flow Rate	(scfm)	TBD	TBD	12.5	9.8
VAS-33 Pressure	(psig)	10 - 20	30	18	17
VAS-34 Flow Rate	(scfm)	TBD	TBD	10.6	10.0
VAS-34 Pressure	(psig)	10 - 20	30	20	9



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 4 of 4 <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
4/9/2018 1000 1310	Scott Smith		Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Vertical Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
VAS-35 Flow Rate	(scfm)	TBD	TBD		
VAS-35 Pressure	(psig)	10 - 20	30		
VAS-36 Flow Rate	(scfm)	TBD	TBD		
VAS-36 Pressure	(psig)	10 - 20	30		
VAS-37 Flow Rate	(scfm)	TBD	TBD		
VAS-37 Pressure	(psig)	10 - 20	30		
VAS-38 Flow Rate	(scfm)	TBD	TBD		
VAS-38 Pressure	(psig)	10 - 20	30		
VAS-39 Flow Rate	(scfm)	TBD	TBD		
VAS-39 Pressure	(psig)	10 - 20	30		
VAS-40 Flow Rate	(scfm)	TBD	TBD		
VAS-40 Pressure	(psig)	10 - 20	30		
VAS-41 Flow Rate	(scfm)	TBD	TBD	9.9	9.9
VAS-41 Pressure	(psig)	20-Oct	30	13	13
VAS-42 Flow Rate	(scfm)	TBD	TBD	11.4	16.5
VAS-42 Pressure	(psig)	10 - 20	30	14	13
VAS-43 Flow Rate	(scfm)	TBD	TBD	1.7	2.8
VAS-43 Pressure	(psig)	10 - 20	30	34	34
VAS-44 Flow Rate	(scfm)	TBD	TBD	1.6	1.9
VAS-44 Pressure	(psig)	10 - 20	30	36	36
VAS-45 Flow Rate	(scfm)	TBD	TBD	9.8	9.8
VAS-45 Pressure	(psig)	10 - 20	30	18	17
Brown's Creek Aerators	(Units)	Optimal Level	Max Level	Arrival	Departure
BCA-01 Flow Rate	(scfm)	TBD	TBD	14.4	14.4
BCA-01 Pressure	(psig)	0 - 5	5	18	19
BCA-02 Flow Rate	(scfm)	TBD	TBD	14.7	14.4
BCA-02 Pressure	(psig)	0 - 5	5	19	19
Bedrock Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
BRS-01 Flow Rate	(scfm)	TBD	TBD		
BRS-01 Pressure	(psig)	10 - 20	30		
BRS-02 Flow Rate	(scfm)	TBD	TBD		
BRS-02 Pressure	(psig)	10 - 20	30		
BRS-03 Flow Rate	(scfm)	TBD	TBD		
BRS-03 Pressure	(psig)	10 - 20	30		



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance Maintenance Log <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Discharge Permit and Expiration Date
4/11/18 1015	SCOTT SMIDA		Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Site Maintenance	Frequency	Conditions Good?	Repaired/Replaced?	Scheduled	Comment
Inspect condition of Brown's Creek.	Each visit	Yes / No	Yes / No		
Perform air monitoring near Cupboard Creek.	Each visit	Yes / No	Yes / No		
Activate and inspect condition of receiver auto drain.	Each visit	Yes / No	Yes / No		
...	...				
...	...				
Equipment Maintenance	Frequency	Conditions Good?	Repaired/Replaced?	Scheduled	Comment
Inspect receiver tank and discharge lines.	Monthly	Yes / No	Yes / No		
Inspect condensate system components. Drain and clean as needed.	Monthly	Yes / No	Yes / No		
Inspect the two fire extinguishers for signs of deterioration. Shake contents.	Monthly	Yes / No	Yes / No		
Coordinate with Airite to performed quarterly and annual PM on both machines.	Quarterly	Yes / No	Yes / No		
Inspect various building components detailed in Section X.X.X.	Semi-Annually	Yes / No	Yes / No		
Test relief valve on receiver tank for proper operation.	Annually	Yes / No	Yes / No		
Inspect flow meters per Section X.X.X. Verify calibration.	Annually	Yes / No	Yes / No		
Calibrate EAD	Annually	Yes / No	Yes / No		

NOTE: Please check the manufacturer's instructions for the specific maintenance schedule and instructions.

Additional Comments:

→ drain storage tank containment stormwater after determining not contaminated (no visible steam or odor)

→ clean air compressor inlet filters



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 1 of 4 <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
4/16/18 10:15 14:40 16:30	SCOTT SIMON	_____	Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Exterior Components	(Units)	Optimal Level	Max Level	Arrival	ACT 2 only	Departure
System Operating	(Yes/No)	NA	NA	Yes	Yes	Yes
Air Compressor 1 Run Time	(hours)	NA	NA	7070:45	---	7072:57
Air Compressor 1 Load Time	(hours)	NA	NA	4376:43	---	4378:53
Air Compressor 1 Discharge Temp	(F)	60 - 100	110	182	---	182
Air Compressor 1 Pressure	(psig)	90 - 110	100	105	---	106
Air Compressor 2 Run Time	(hours)	NA	NA	5037:22	5041:34	5043:21
Air Compressor 2 Load Time	(hours)	NA	NA	3999:09	4003:21	4005:04
Air Compressor 2 Temp	(F)	60 - 100	110	180	181	181
Air Compressor 2 Pressure	(psig)	90 - 110	100	106	78	105
Receiver Tank Pressure	(psig)	90 - 110	100	112	34	112
Receiver Tank Temperature	(F)	60 - 100	110	---	---	---
Interior Manifold	(Units)	Optimal Level	Max Level	Arrival		Departure
Manifold Pressure	(psig)	90 - 110	100	114	28	105
Manifold Temperature	(F)	60 - 100	110	66	66	70
Manifold Flow Rate	(scfm)	TBD	TBD	1597	1080	1629
Horizontal Wells	(Units)	Optimal Level	Max Level	Arrival		Departure
HAS-1 Target Flow Rate	(scfm)	TBD	TBD	525.0	475.0	450
HAS-1 Actual Flow Rate	(scfm)	TBD	TBD	527.3	303.6	446.2
HAS-1 Valve Position	(%)	TBD	TBD	4.7	80.3	45.3
HAS-1 Pressure	(psig)	10 - 20	30	27	20	23
HAS-2 Target Flow Rate	(scfm)	TBD	TBD	503.0	502.0	502.0
HAS-2 Actual Flow Rate	(scfm)	TBD	TBD	502.9	207.7	501.9
HAS-2 Valve Position	(%)	TBD	TBD	41.3	94.9	39.7
HAS-2 Pressure	(psig)	10 - 20	30	31	23	30
HAS-3 Target Flow Rate	(scfm)	TBD	TBD	262.5	262.5	262.5
HAS-3 Actual Flow Rate	(scfm)	TBD	TBD	262.1	267.0	265.7
HAS-3 Valve Position	(%)	TBD	TBD	26.6	52.1	27.9
HAS-3 Pressure	(psig)	10 - 20	30	20	22	20

Parts Needed:	
Parts Installed:	

Notes (include alarms since previous visit):



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 2 of 4 <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
4/16/18 10:5 1440 1630	SCOTT SHAWA		Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Vertical Wells	(Units)	Optimal Level	Max Level	Arrival	Actual	Departure			
VAS-01 Flow Rate	(scfm)	TBD	TBD	↓	8.7	↓			
VAS-01 Pressure	(psig)	10 - 20	30						
VAS-02 Flow Rate	(scfm)	TBD	TBD						
VAS-02 Pressure	(psig)	10 - 20	30						
VAS-03 Flow Rate	(scfm)	TBD	TBD						
VAS-03 Pressure	(psig)	10 - 20	30						
VAS-04 Flow Rate	(scfm)	TBD	TBD						
VAS-04 Pressure	(psig)	10 - 20	30						
VAS-05 Flow Rate	(scfm)	TBD	TBD					16.2	
VAS-05 Pressure	(psig)	10 - 20	30					6	
VAS-06 Flow Rate	(scfm)	TBD	TBD					12.5	
VAS-06 Pressure	(psig)	10 - 20	30					↑	
VAS-07 Flow Rate	(scfm)	TBD	TBD					12.5	
VAS-07 Pressure	(psig)	10 - 20	30					18	
VAS-08 Flow Rate	(scfm)	TBD	TBD					12.2	
VAS-08 Pressure	(psig)	10 - 20	30					21	
VAS-09 Flow Rate	(scfm)	TBD	TBD					16.3	
VAS-09 Pressure	(psig)	10 - 20	30					8	
VAS-10 Flow Rate	(scfm)	TBD	TBD					11.9	
VAS-10 Pressure	(psig)	10 - 20	30					12	
VAS-11 Flow Rate	(scfm)	TBD	TBD						
VAS-11 Pressure	(psig)	10 - 20	30						
VAS-12 Flow Rate	(scfm)	TBD	TBD						
VAS-12 Pressure	(psig)	10 - 20	30						
VAS-13 Flow Rate	(scfm)	TBD	TBD					8.7	
VAS-13 Pressure	(psig)	10 - 20	30					13	
VAS-14 Flow Rate	(scfm)	TBD	TBD					8.7	
VAS-14 Pressure	(psig)	10 - 20	30					10	
VAS-15 Flow Rate	(scfm)	TBD	TBD					8.8	
VAS-15 Pressure	(psig)	10 - 20	30					5	
VAS-16 Flow Rate	(scfm)	TBD	TBD					8.4	
VAS-16 Pressure	(psig)	10 - 20	30					12	
VAS-17 Flow Rate	(scfm)	TBD	TBD					8.4	
VAS-17 Pressure	(psig)	10 - 20	30					11	



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 3 of 4 <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
4/16/18 10:15	1440 16:30 SCOTT SWIDA	_____	Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Vertical Wells	(Units)	Optimal Level	Max Level	Arrival	ACBL only	Departure
VAS-18 Flow Rate	(scfm)	TBD	TBD	T	9.3	T
VAS-18 Pressure	(psig)	10 - 20	30		2	
VAS-19 Flow Rate	(scfm)	TBD	TBD		15.1	
VAS-19 Pressure	(psig)	10 - 20	30		11	
VAS-20 Flow Rate	(scfm)	TBD	TBD		4.6	
VAS-20 Pressure	(psig)	10 - 20	30		19	
VAS-21 Flow Rate	(scfm)	TBD	TBD		3.9	
VAS-21 Pressure	(psig)	10 - 20	30	↓	21	↓
VAS-22 Flow Rate	(scfm)	TBD	TBD	11.0	4.4	10.9
VAS-22 Pressure	(psig)	10 - 20	30	23	20	22
VAS-23 Flow Rate	(scfm)	TBD	TBD	10.8	5.3	10.3
VAS-23 Pressure	(psig)	10 - 20	30	21	19	20
VAS-24 Flow Rate	(scfm)	TBD	TBD	8.7	4.2	8.0
VAS-24 Pressure	(psig)	10 - 20	30	24	20	25
VAS-25 Flow Rate	(scfm)	TBD	TBD	T	3.3	
VAS-25 Pressure	(psig)	10 - 20	30		21	
VAS-26 Flow Rate	(scfm)	TBD	TBD		1.5	
VAS-26 Pressure	(psig)	10 - 20	30		23	
VAS-27 Flow Rate	(scfm)	TBD	TBD		1.5	
VAS-27 Pressure	(psig)	10 - 20	30		22	
VAS-28 Flow Rate	(scfm)	TBD	TBD		8.0	
VAS-28 Pressure	(psig)	10 - 20	30		15	
VAS-29 Flow Rate	(scfm)	TBD	TBD		7.7	
VAS-29 Pressure	(psig)	10 - 20	30		11	
VAS-30 Flow Rate	(scfm)	TBD	TBD		10.3	
VAS-30 Pressure	(psig)	10 - 20	30		8	
VAS-31 Flow Rate	(scfm)	TBD	TBD	↓	5.0	↓
VAS-31 Pressure	(psig)	10 - 20	30		20	
VAS-32 Flow Rate	(scfm)	TBD	TBD	8.6	4.1	8.0
VAS-32 Pressure	(psig)	10 - 20	30	20	13	15
VAS-33 Flow Rate	(scfm)	TBD	TBD	9.5	4.7	8.5
VAS-33 Pressure	(psig)	10 - 20	30	17	15	18
VAS-34 Flow Rate	(scfm)	TBD	TBD	10.0	4.1	9.0
VAS-34 Pressure	(psig)	10 - 20	30	20	18	20



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 4 of 4 <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
4/16/18 10:15 1440 1630	Scott Smith		Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Vertical Wells	(Units)	Optimal Level	Max Level	Arrival	Acft? early	Departure
VAS-35 Flow Rate	(scfm)	TBD	TBD			10.1
VAS-35 Pressure	(psig)	10 - 20	30			23
VAS-36 Flow Rate	(scfm)	TBD	TBD			12.0
VAS-36 Pressure	(psig)	10 - 20	30			17
VAS-37 Flow Rate	(scfm)	TBD	TBD			16.5
VAS-37 Pressure	(psig)	10 - 20	30			12
VAS-38 Flow Rate	(scfm)	TBD	TBD			10.7
VAS-38 Pressure	(psig)	10 - 20	30			11
VAS-39 Flow Rate	(scfm)	TBD	TBD			10.1
VAS-39 Pressure	(psig)	10 - 20	30			15
VAS-40 Flow Rate	(scfm)	TBD	TBD			6.2
VAS-40 Pressure	(psig)	10 - 20	30			25
VAS-41 Flow Rate	(scfm)	TBD	TBD	10.6		7.8
VAS-41 Pressure	(psig)	20-Oct	30	12		12
VAS-42 Flow Rate	(scfm)	TBD	TBD	10.7	8.0	10.6
VAS-42 Pressure	(psig)	10 - 20	30	15	13	14
VAS-43 Flow Rate	(scfm)	TBD	TBD	5.2	—	3.6
VAS-43 Pressure	(psig)	10 - 20	30	33	—	33
VAS-44 Flow Rate	(scfm)	TBD	TBD	2.9	—	2.5
VAS-44 Pressure	(psig)	10 - 20	30	34	—	36
VAS-45 Flow Rate	(scfm)	TBD	TBD	11.5	—	11.2
VAS-45 Pressure	(psig)	10 - 20	30	14	—	16
Brown's Creek Aerators	(Units)	Optimal Level	Max Level	Arrival		Departure
BCA-01 Flow Rate	(scfm)	TBD	TBD	14.8	16.9	14.7
BCA-01 Pressure	(psig)	0 - 5	5	19	15	20
BCA-02 Flow Rate	(scfm)	TBD	TBD	15.1	10.8	15.0
BCA-02 Pressure	(psig)	0 - 5	5	19	13	19
Bedrock Wells	(Units)	Optimal Level	Max Level	Arrival		Departure
BRS-01 Flow Rate	(scfm)	TBD	TBD			
BRS-01 Pressure	(psig)	10 - 20	30			
BRS-02 Flow Rate	(scfm)	TBD	TBD			
BRS-02 Pressure	(psig)	10 - 20	30			
BRS-03 Flow Rate	(scfm)	TBD	TBD			
BRS-03 Pressure	(psig)	10 - 20	30			



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance Maintenance Log <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Discharge Permit and Expiration Date
4/23/18 0900	T. HALL		Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Site Maintenance	Frequency	Conditions Good?	Repaired/Replaced?	Scheduled	Comment
Inspect condition of Brown's Creek.	Each visit	Yes / No	Yes / No	YES	
Perform air monitoring near Cupboard Creek.	Each visit	Yes / No	Yes / No	NO	NO AIR MONITOR
Activate and inspect condition of receiver auto drain.	Each visit	Yes / No	Yes / No		
...	...				
...	...				

Equipment Maintenance	Frequency	Conditions Good?	Repaired/Replaced?	Scheduled	Comment
Inspect receiver tank and discharge lines.	Monthly	Yes / No	Yes / No		
Inspect condensate system components. Drain and clean as needed.	Monthly	Yes / No	Yes / No		
Inspect the two fire extinguishers for signs of deterioration. Shake contents.	Monthly	Yes / No	Yes / No		
Coordinate with Airite to performed quarterly and annual PM on both machines.	Quarterly	Yes / No	Yes / No		
Inspect various building components detailed in Section X.X.X.	Semi-Annually	Yes / No	Yes / No		
Test relief valve on receiver tank for proper operation.	Annually	Yes / No	Yes / No		
Inspect flow meters per Section X.X.X. Verify calibration.	Annually	Yes / No	Yes / No		
Calibrate EAD	Annually	Yes / No	Yes / No		

NOTE: Please check the manufacturer's instructions for the specific maintenance schedule and instructions.

Additional Comments: VAS-19 had HI FLOW ARM. REDUCED FLOW TO 11.3 AT 1400 WITH VALVE.



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 1 of 4 Lewis Drive, Belton, South Carolina
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
4/23/18/0900	T. HALL		Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Exterior Components	(Units)	Optimal Level	Max Level	Arrival	Departure
System Operating	(Yes/No)	NA	NA	YES	YES
Air Compressor 1 Run Time	(hours)	NA	NA	7233	7237
Air Compressor 1 Load Time	(hours)	NA	NA	4539	4543
Air Compressor 1 Discharge Temp	(F)	60 - 100	110	182°	183°
Air Compressor 1 Pressure	(psig)	90 - 110	100	104	104
Air Compressor 2 Run Time	(hours)	NA	NA	5204	5208
Air Compressor 2 Load Time	(hours)	NA	NA	4165	4169
Air Compressor 2 Temp	(F)	60 - 100	110	182°	182
Air Compressor 2 Pressure	(psig)	90 - 110	100	104°	105
Receiver Tank Pressure	(psig)	90 - 110	100	115 PSI	112
Receiver Tank Temperature	(F)	60 - 100	110		
Interior Manifold	(Units)	Optimal Level	Max Level	Arrival	Departure
Manifold Pressure	(psig)	90 - 110	100	110	106
Manifold Temperature	(F)	60 - 100	110	68°F	74°F
Manifold Flow Rate	(scfm)	TBD	TBD	1659	1627
Horizontal Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
HAS-1 Target Flow Rate	(scfm)	TBD	TBD	450	450
HAS-1 Actual Flow Rate	(scfm)	TBD	TBD	443.3	437.5
HAS-1 Valve Position	(%)	TBD	TBD	84.1	86.3
HAS-1 Pressure	(psig)	10 - 20	30	25	25
HAS-2 Target Flow Rate	(scfm)	TBD	TBD	502	502
HAS-2 Actual Flow Rate	(scfm)	TBD	TBD	502.7	500.5
HAS-2 Valve Position	(%)	TBD	TBD	50.6	52.5
HAS-2 Pressure	(psig)	10 - 20	30	30	30
HAS-3 Target Flow Rate	(scfm)	TBD	TBD	262.5	262.5
HAS-3 Actual Flow Rate	(scfm)	TBD	TBD	263.7	261.6
HAS-3 Valve Position	(%)	TBD	TBD	26.6	27.1
HAS-3 Pressure	(psig)	10 - 20	30	20	20

Parts Needed:	
Parts Installed:	

Notes (include alarms since previous visit):



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 2 of 4 <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
4/27/18	T. Mall		Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHED3020469 Air Permit Exempt

Vertical Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
VAS-01 Flow Rate	(scfm)	TBD	TBD	12.3	10.6
VAS-01 Pressure	(psig)	10 - 20	30	8.5 20	22
VAS-02 Flow Rate	(scfm)	TBD	TBD	8.5	8.2
VAS-02 Pressure	(psig)	10 - 20	30	20 18	18
VAS-03 Flow Rate	(scfm)	TBD	TBD	9.5	8.7
VAS-03 Pressure	(psig)	10 - 20	30	20 16	22
VAS-04 Flow Rate	(scfm)	TBD	TBD	10.2	10.1
VAS-04 Pressure	(psig)	10 - 20	30	18 2	2
VAS-05 Flow Rate	(scfm)	TBD	TBD	10.1	10.0
VAS-05 Pressure	(psig)	10 - 20	30	7	8
VAS-06 Flow Rate	(scfm)	TBD	TBD	12.0	12.5
VAS-06 Pressure	(psig)	10 - 20	30	15 15	12
VAS-07 Flow Rate	(scfm)	TBD	TBD	10.6	10.3
VAS-07 Pressure	(psig)	10 - 20	30	18	17
VAS-08 Flow Rate	(scfm)	TBD	TBD	10.7	10.9
VAS-08 Pressure	(psig)	10 - 20	30	20	20
VAS-09 Flow Rate	(scfm)	TBD	TBD	9.7	9.5
VAS-09 Pressure	(psig)	10 - 20	30	8	8
VAS-10 Flow Rate	(scfm)	TBD	TBD	10.9	11.2
VAS-10 Pressure	(psig)	10 - 20	30	12	14
VAS-11 Flow Rate	(scfm)	TBD	TBD	9.3	9.2
VAS-11 Pressure	(psig)	10 - 20	30	11 11	9.0
VAS-12 Flow Rate	(scfm)	TBD	TBD	10.5	9.2
VAS-12 Pressure	(psig)	10 - 20	30	11 11	15
VAS-13 Flow Rate	(scfm)	TBD	TBD	10.0	7.9
VAS-13 Pressure	(psig)	10 - 20	30	18 18	20
VAS-14 Flow Rate	(scfm)	TBD	TBD	9.6	9.1
VAS-14 Pressure	(psig)	10 - 20	30	12 12	15
VAS-15 Flow Rate	(scfm)	TBD	TBD	10.5	9.5
VAS-15 Pressure	(psig)	10 - 20	30	5 5	10
VAS-16 Flow Rate	(scfm)	TBD	TBD	11.2	6.6
VAS-16 Pressure	(psig)	10 - 20	30	15 15	18
VAS-17 Flow Rate	(scfm)	TBD	TBD	9.7	8.0
VAS-17 Pressure	(psig)	10 - 20	30	15 15	18



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 3 of 4 Lewis Drive, Belton, South Carolina
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
4/23/18	T. HALL		Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHED3020469 Air Permit Exempt

Vertical Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
VAS-18 Flow Rate	(scfm)	TBD	TBD	10.9	10.6
VAS-18 Pressure	(psig)	10 - 20	30	0	0
VAS-19 Flow Rate	(scfm)	TBD	TBD	26.1	23.8
VAS-19 Pressure	(psig)	10 - 20	30	14	15
VAS-20 Flow Rate	(scfm)	TBD	TBD	6.2	5.2
VAS-20 Pressure	(psig)	10 - 20	30	20	24
VAS-21 Flow Rate	(scfm)	TBD	TBD	5.9	3.2
VAS-21 Pressure	(psig)	10 - 20	30	22	24
VAS-22 Flow Rate	(scfm)	TBD	TBD	10.6	10.6
VAS-22 Pressure	(psig)	10 - 20	30	23	23
VAS-23 Flow Rate	(scfm)	TBD	TBD	10.2	10.2
VAS-23 Pressure	(psig)	10 - 20	30	20	20
VAS-24 Flow Rate	(scfm)	TBD	TBD	8.6	8.8
VAS-24 Pressure	(psig)	10 - 20	30	23	22
VAS-25 Flow Rate	(scfm)	TBD	TBD	7.5	3.2
VAS-25 Pressure	(psig)	10 - 20	30	24	28
VAS-26 Flow Rate	(scfm)	TBD	TBD	4.1	1.2
VAS-26 Pressure	(psig)	10 - 20	30	31	32
VAS-27 Flow Rate	(scfm)	TBD	TBD	6.5	4.2
VAS-27 Pressure	(psig)	10 - 20	30	33	34
VAS-28 Flow Rate	(scfm)	TBD	TBD	9.5	6.9
VAS-28 Pressure	(psig)	10 - 20	30	17	20
VAS-29 Flow Rate	(scfm)	TBD	TBD	10.6	9.9
VAS-29 Pressure	(psig)	10 - 20	30	15	17
VAS-30 Flow Rate	(scfm)	TBD	TBD	11.9	11.7
VAS-30 Pressure	(psig)	10 - 20	30	8	10
VAS-31 Flow Rate	(scfm)	TBD	TBD	10.8	10.2
VAS-31 Pressure	(psig)	10 - 20	30	28	28
VAS-32 Flow Rate	(scfm)	TBD	TBD	8.6	8.5
VAS-32 Pressure	(psig)	10 - 20	30	15	15
VAS-33 Flow Rate	(scfm)	TBD	TBD	9.5	9.5
VAS-33 Pressure	(psig)	10 - 20	30	17	17
VAS-34 Flow Rate	(scfm)	TBD	TBD	10.0	10.1
VAS-34 Pressure	(psig)	10 - 20	30	19	19



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 4 of 4 Lewis Drive, Belton, South Carolina
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
4/23/18 0900	T. HALL		Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Vertical Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
VAS-35 Flow Rate	(scfm)	TBD	TBD	6.6	8.0
VAS-35 Pressure	(psig)	10 - 20	30	23	23
VAS-36 Flow Rate	(scfm)	TBD	TBD	11.1	11.3
VAS-36 Pressure	(psig)	10 - 20	30	19	17
VAS-37 Flow Rate	(scfm)	TBD	TBD	10.8	10.9
VAS-37 Pressure	(psig)	10 - 20	30	12	12
VAS-38 Flow Rate	(scfm)	TBD	TBD	10.8	10.5
VAS-38 Pressure	(psig)	10 - 20	30	11	11
VAS-39 Flow Rate	(scfm)	TBD	TBD	10.2	10.1
VAS-39 Pressure	(psig)	10 - 20	30	15	15
VAS-40 Flow Rate	(scfm)	TBD	TBD	4.5	5.3
VAS-40 Pressure	(psig)	10 - 20	30	26	27
VAS-41 Flow Rate	(scfm)	TBD	TBD	9.9	9.7
VAS-41 Pressure	(psig)	20-Oct	30	12	13
VAS-42 Flow Rate	(scfm)	TBD	TBD	10.6	10.5
VAS-42 Pressure	(psig)	10 - 20	30	14	13 13
VAS-43 Flow Rate	(scfm)	TBD	TBD	4.2	3.7
VAS-43 Pressure	(psig)	10 - 20	30	31	32
VAS-44 Flow Rate	(scfm)	TBD	TBD	3.1	2.1
VAS-44 Pressure	(psig)	10 - 20	30	32	33
VAS-45 Flow Rate	(scfm)	TBD	TBD	11.3	11.2
VAS-45 Pressure	(psig)	10 - 20	30	15	16
Brown's Creek Aerators	(Units)	Optimal Level	Max Level	Arrival	Departure
BCA-01 Flow Rate	(scfm)	TBD	TBD	15.0	15.0
BCA-01 Pressure	(psig)	0 - 5	5	19	19
BCA-02 Flow Rate	(scfm)	TBD	TBD	15.0	15.0
BCA-02 Pressure	(psig)	0 - 5	5	19	19
Bedrock Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
BRS-01 Flow Rate	(scfm)	TBD	TBD		
BRS-01 Pressure	(psig)	10 - 20	30		
BRS-02 Flow Rate	(scfm)	TBD	TBD		
BRS-02 Pressure	(psig)	10 - 20	30		
BRS-03 Flow Rate	(scfm)	TBD	TBD		
BRS-03 Pressure	(psig)	10 - 20	30		



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance Maintenance Log <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Discharge Permit and Expiration Date
5/2/2018 1435	SCOTT SMITH		Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Site Maintenance	Frequency	Conditions Good?	Repaired/Replaced?	Scheduled	Comment
Inspect condition of Brown's Creek.	Each visit	Yes / No	Yes / No		
Perform air monitoring near Cupboard Creek.	Each visit	Yes / No	Yes / No		
Activate and inspect condition of receiver auto drain.	Each visit	Yes / No	Yes / No		
...	...				
...	...				

Equipment Maintenance	Frequency	Conditions Good?	Repaired/Replaced?	Scheduled	Comment
Inspect receiver tank and discharge lines.	Monthly	Yes / No	Yes / No		
Inspect condensate system components. Drain and clean as needed.	Monthly	Yes / No	Yes / No		
Inspect the two fire extinguishers for signs of deterioration. Shake contents.	Monthly	Yes / No	Yes / No		
Coordinate with Airite to performed quarterly and annual PM on both machines.	Quarterly	Yes / No	Yes / No		
Inspect various building components detailed in Section X.X.X.	Semi-Annually	Yes / No	Yes / No		
Test relief valve on receiver tank for proper operation.	Annually	Yes / No	Yes / No		
Inspect flow meters per Section X.X.X. Verify calibration.	Annually	Yes / No	Yes / No		
Calibrate EAD	Annually	Yes / No	Yes / No		

NOTE: Please check the manufacturer's instructions for the specific maintenance schedule and instructions.

Additional Comments:



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 1 of 4 <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
5/2/2019 1435	Swati Smia		Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Exterior Components	(Units)	Optimal Level	Max Level	Arrival	Departure
System Operating	(Yes/No)	NA	NA	yes	yes
Air Compressor 1 Run Time	(hours)	NA	NA		7455:11
Air Compressor 1 Load Time	(hours)	NA	NA		4757:51
Air Compressor 1 Discharge Temp	(F)	60 - 100	110		186 / 181
Air Compressor 1 Pressure	(psig)	90 - 110	100		104
Air Compressor 2 Run Time	(hours)	NA	NA		5425:53
Air Compressor 2 Load Time	(hours)	NA	NA		4387:03
Air Compressor 2 Temp	(F)	60 - 100	110		200 / 190
Air Compressor 2 Pressure	(psig)	90 - 110	100		104
Receiver Tank Pressure	(psig)	90 - 110	100		110
Receiver Tank Temperature	(F)	60 - 100	110		N/A
Interior Manifold	(Units)	Optimal Level	Max Level	Arrival	Departure
Manifold Pressure	(psig)	90 - 110	100		104
Manifold Temperature	(F)	60 - 100	110		96
Manifold Flow Rate	(scfm)	TBD	TBD		1942
Horizontal Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
HAS-1 Target Flow Rate	(scfm)	TBD	TBD		475.0
HAS-1 Actual Flow Rate	(scfm)	TBD	TBD		480.9
HAS-1 Valve Position	(%)	TBD	TBD		65.3
HAS-1 Pressure	(psig)	10 - 20	30		23
HAS-2 Target Flow Rate	(scfm)	TBD	TBD		582.0
HAS-2 Actual Flow Rate	(scfm)	TBD	TBD		499.0
HAS-2 Valve Position	(%)	TBD	TBD		39.6
HAS-2 Pressure	(psig)	10 - 20	30		24
HAS-3 Target Flow Rate	(scfm)	TBD	TBD		262.5
HAS-3 Actual Flow Rate	(scfm)	TBD	TBD		261.4
HAS-3 Valve Position	(%)	TBD	TBD		31.5
HAS-3 Pressure	(psig)	10 - 20	30		18

Parts Needed:	
Parts Installed:	

Notes (include alarms since previous visit):
* After cleaning inlet filter



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 2 of 4 <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
5/2/18 1435	Scott Sumner		Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Vertical Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
VAS-01 Flow Rate	(scfm)	TBD	TBD		
VAS-01 Pressure	(psig)	10 - 20	30		
VAS-02 Flow Rate	(scfm)	TBD	TBD		
VAS-02 Pressure	(psig)	10 - 20	30		
VAS-03 Flow Rate	(scfm)	TBD	TBD		
VAS-03 Pressure	(psig)	10 - 20	30		
VAS-04 Flow Rate	(scfm)	TBD	TBD		
VAS-04 Pressure	(psig)	10 - 20	30		
VAS-05 Flow Rate	(scfm)	TBD	TBD		
VAS-05 Pressure	(psig)	10 - 20	30		
VAS-06 Flow Rate	(scfm)	TBD	TBD		
VAS-06 Pressure	(psig)	10 - 20	30		
VAS-07 Flow Rate	(scfm)	TBD	TBD		
VAS-07 Pressure	(psig)	10 - 20	30		
VAS-08 Flow Rate	(scfm)	TBD	TBD		
VAS-08 Pressure	(psig)	10 - 20	30		
VAS-09 Flow Rate	(scfm)	TBD	TBD		
VAS-09 Pressure	(psig)	10 - 20	30		
VAS-10 Flow Rate	(scfm)	TBD	TBD		
VAS-10 Pressure	(psig)	10 - 20	30		
VAS-11 Flow Rate	(scfm)	TBD	TBD		
VAS-11 Pressure	(psig)	10 - 20	30		
VAS-12 Flow Rate	(scfm)	TBD	TBD		
VAS-12 Pressure	(psig)	10 - 20	30		
VAS-13 Flow Rate	(scfm)	TBD	TBD		11.2
VAS-13 Pressure	(psig)	10 - 20	30		15
VAS-14 Flow Rate	(scfm)	TBD	TBD		7.4
VAS-14 Pressure	(psig)	10 - 20	30		10
VAS-15 Flow Rate	(scfm)	TBD	TBD		
VAS-15 Pressure	(psig)	10 - 20	30		
VAS-16 Flow Rate	(scfm)	TBD	TBD		10.1
VAS-16 Pressure	(psig)	10 - 20	30		17
VAS-17 Flow Rate	(scfm)	TBD	TBD		10.5
VAS-17 Pressure	(psig)	10 - 20	30		4



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 3 of 4 <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
5/2/2018 1435	SCOTT SMITH		Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Vertical Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
VAS-18 Flow Rate	(scfm)	TBD	TBD		9.4
VAS-18 Pressure	(psig)	10 - 20	30		0
VAS-19 Flow Rate	(scfm)	TBD	TBD		9.7
VAS-19 Pressure	(psig)	10 - 20	30		6
VAS-20 Flow Rate	(scfm)	TBD	TBD		5.5
VAS-20 Pressure	(psig)	10 - 20	30		21
VAS-21 Flow Rate	(scfm)	TBD	TBD		5.4
VAS-21 Pressure	(psig)	10 - 20	30		20
VAS-22 Flow Rate	(scfm)	TBD	TBD		10.2
VAS-22 Pressure	(psig)	10 - 20	30		22
VAS-23 Flow Rate	(scfm)	TBD	TBD		9.7
VAS-23 Pressure	(psig)	10 - 20	30		19
VAS-24 Flow Rate	(scfm)	TBD	TBD		8.6
VAS-24 Pressure	(psig)	10 - 20	30		21
VAS-25 Flow Rate	(scfm)	TBD	TBD		7.5
VAS-25 Pressure	(psig)	10 - 20	30		21
VAS-26 Flow Rate	(scfm)	TBD	TBD		4.2
VAS-26 Pressure	(psig)	10 - 20	30		31
VAS-27 Flow Rate	(scfm)	TBD	TBD		7.8
VAS-27 Pressure	(psig)	10 - 20	30		30
VAS-28 Flow Rate	(scfm)	TBD	TBD		9.2
VAS-28 Pressure	(psig)	10 - 20	30		14
VAS-29 Flow Rate	(scfm)	TBD	TBD		10.1
VAS-29 Pressure	(psig)	10 - 20	30		12
VAS-30 Flow Rate	(scfm)	TBD	TBD		10.8
VAS-30 Pressure	(psig)	10 - 20	30		5
VAS-31 Flow Rate	(scfm)	TBD	TBD		9.0
VAS-31 Pressure	(psig)	10 - 20	30		25
VAS-32 Flow Rate	(scfm)	TBD	TBD		9.0
VAS-32 Pressure	(psig)	10 - 20	30		15
VAS-33 Flow Rate	(scfm)	TBD	TBD		9.4
VAS-33 Pressure	(psig)	10 - 20	30		15
VAS-34 Flow Rate	(scfm)	TBD	TBD		9.4
VAS-34 Pressure	(psig)	10 - 20	30		18



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 4 of 4 <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
5/21/18 1435	Scott Smith		Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Vertical Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
VAS-35 Flow Rate	(scfm)	TBD	TBD		
VAS-35 Pressure	(psig)	10 - 20	30		
VAS-36 Flow Rate	(scfm)	TBD	TBD		
VAS-36 Pressure	(psig)	10 - 20	30		
VAS-37 Flow Rate	(scfm)	TBD	TBD		
VAS-37 Pressure	(psig)	10 - 20	30		
VAS-38 Flow Rate	(scfm)	TBD	TBD		
VAS-38 Pressure	(psig)	10 - 20	30		
VAS-39 Flow Rate	(scfm)	TBD	TBD		
VAS-39 Pressure	(psig)	10 - 20	30		
VAS-40 Flow Rate	(scfm)	TBD	TBD		
VAS-40 Pressure	(psig)	10 - 20	30		
VAS-41 Flow Rate	(scfm)	TBD	TBD		
VAS-41 Pressure	(psig)	20-Oct	30		
VAS-42 Flow Rate	(scfm)	TBD	TBD		9.5
VAS-42 Pressure	(psig)	10 - 20	30		1'
VAS-43 Flow Rate	(scfm)	TBD	TBD		
VAS-43 Pressure	(psig)	10 - 20	30		
VAS-44 Flow Rate	(scfm)	TBD	TBD		
VAS-44 Pressure	(psig)	10 - 20	30		
VAS-45 Flow Rate	(scfm)	TBD	TBD		
VAS-45 Pressure	(psig)	10 - 20	30		
Brown's Creek Aerators	(Units)	Optimal Level	Max Level	Arrival	Departure
BCA-01 Flow Rate	(scfm)	TBD	TBD		14.7
BCA-01 Pressure	(psig)	0 - 5	5		17
BCA-02 Flow Rate	(scfm)	TBD	TBD		15.0
BCA-02 Pressure	(psig)	0 - 5	5		17
Bedrock Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
BRS-01 Flow Rate	(scfm)	TBD	TBD		
BRS-01 Pressure	(psig)	10 - 20	30		
BRS-02 Flow Rate	(scfm)	TBD	TBD		
BRS-02 Pressure	(psig)	10 - 20	30		
BRS-03 Flow Rate	(scfm)	TBD	TBD		
BRS-03 Pressure	(psig)	10 - 20	30		



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance Maintenance Log <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Discharge Permit and Expiration Date
<i>5/7/2018 10:30</i>	<i>Scott Smith</i>	<i>[Signature]</i>	Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Site Maintenance	Frequency	Conditions Good?	Repaired/Replaced?	Scheduled	Comment
Inspect condition of Brown's Creek.	Each visit	<input checked="" type="checkbox"/> Yes / No	Yes / No		<i>Beaver Dam in Culvert</i>
Perform air monitoring near Cupboard Creek.	Each visit	Yes / <input checked="" type="checkbox"/> No	Yes / No		
Activate and inspect condition of receiver auto drain.	Each visit	<input checked="" type="checkbox"/> Yes / No	Yes / No		
...	...				
...	...				

Equipment Maintenance	Frequency	Conditions Good?	Repaired/Replaced?	Scheduled	Comment
Inspect receiver tank and discharge lines.	Monthly	<input checked="" type="checkbox"/> Yes / No	Yes / No		
Inspect condensate system components. Drain and clean as needed.	Monthly	<input checked="" type="checkbox"/> Yes / No	Yes / No		
Inspect the two fire extinguishers for signs of deterioration. Shake contents.	Monthly	<input checked="" type="checkbox"/> Yes / No	Yes / No		
Coordinate with Airite to performed quarterly and annual PM on both machines.	Quarterly	Yes / <input checked="" type="checkbox"/> No	Yes / No	<i>June</i>	
Inspect various building components detailed in Section X.X.X.	Semi-Annually	Yes / <input checked="" type="checkbox"/> No	Yes / No		
Test relief valve on receiver tank for proper operation.	Annually	Yes / <input checked="" type="checkbox"/> No	Yes / No		
Inspect flow meters per Section X.X.X. Verify calibration.	Annually	Yes / <input checked="" type="checkbox"/> No	Yes / No		
Calibrate EAD	Annually	Yes / <input checked="" type="checkbox"/> No	Yes / No		

NOTE: Please check the manufacturer's instructions for the specific maintenance schedule and instructions.

Additional Comments: *→ cleaned compressor air intake filters*
→ inspect auto drain



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 1 of 4 Lewis Drive, Belton, South Carolina
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
5/1/2018 1030	Scott Smiot		Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Exterior Components	(Units)	Optimal Level	Max Level	Arrival	Departure
System Operating	(Yes/No)	NA	NA	YES	
Air Compressor 1 Run Time	(hours)	NA	NA	7576:48	
Air Compressor 1 Load Time	(hours)	NA	NA	4877:22	
Air Compressor 1 Discharge Temp	(F)	60 - 100	110	185	
Air Compressor 1 Pressure	(psig)	90 - 110	100	95	
Air Compressor 2 Run Time	(hours)	NA	NA	5547:10	
Air Compressor 2 Load Time	(hours)	NA	NA	4508:28	
Air Compressor 2 Temp	(F)	60 - 100	110	199	
Air Compressor 2 Pressure	(psig)	90 - 110	100	160	
Receiver Tank Pressure	(psig)	90 - 110	100	105	
Receiver Tank Temperature	(F)	60 - 100	110	N/A	
Interior Manifold	(Units)	Optimal Level	Max Level	Arrival	Departure
Manifold Pressure	(psig)	90 - 110	100	100	
Manifold Temperature	(F)	60 - 100	110	99	
Manifold Flow Rate	(scfm)	TBD	TBD	1775	
Horizontal Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
HAS-1 Target Flow Rate	(scfm)	TBD	TBD	525.0	
HAS-1 Actual Flow Rate	(scfm)	TBD	TBD	505.6	
HAS-1 Valve Position	(%)	TBD	TBD	58.9	
HAS-1 Pressure	(psig)	10 - 20	30	22	
HAS-2 Target Flow Rate	(scfm)	TBD	TBD	502.0	
HAS-2 Actual Flow Rate	(scfm)	TBD	TBD	499.0	
HAS-2 Valve Position	(%)	TBD	TBD	35.8	
HAS-2 Pressure	(psig)	10 - 20	30	26	
HAS-3 Target Flow Rate	(scfm)	TBD	TBD	262.5	
HAS-3 Actual Flow Rate	(scfm)	TBD	TBD	270.0	
HAS-3 Valve Position	(%)	TBD	TBD	32.3	
HAS-3 Pressure	(psig)	10 - 20	30	18	

Parts Needed:	
Parts Installed:	

Notes (include alarms since previous visit):
→ VAS well flows adjusted to 10 SCFM target after Ache collected



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 2 of 4 <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
5/7/2019 1630	Scott Smith	_____	Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Vertical Wells	(Units)	Optimal Level	Max Level	Arrival	Departure	
VAS-01 Flow Rate	(scfm)	TBD	TBD			
VAS-01 Pressure	(psig)	10 - 20	30			
VAS-02 Flow Rate	(scfm)	TBD	TBD			
VAS-02 Pressure	(psig)	10 - 20	30			
VAS-03 Flow Rate	(scfm)	TBD	TBD			
VAS-03 Pressure	(psig)	10 - 20	30			
VAS-04 Flow Rate	(scfm)	TBD	TBD			
VAS-04 Pressure	(psig)	10 - 20	30			
VAS-05 Flow Rate	(scfm)	TBD	TBD		9.6	
VAS-05 Pressure	(psig)	10 - 20	30		4	
VAS-06 Flow Rate	(scfm)	TBD	TBD		10.7	
VAS-06 Pressure	(psig)	10 - 20	30		8	
VAS-07 Flow Rate	(scfm)	TBD	TBD		10.9	
VAS-07 Pressure	(psig)	10 - 20	30		17	
VAS-08 Flow Rate	(scfm)	TBD	TBD		10.5	
VAS-08 Pressure	(psig)	10 - 20	30		20	
VAS-09 Flow Rate	(scfm)	TBD	TBD		9.0	
VAS-09 Pressure	(psig)	10 - 20	30	7		
VAS-10 Flow Rate	(scfm)	TBD	TBD	11.4		
VAS-10 Pressure	(psig)	10 - 20	30	10		
VAS-11 Flow Rate	(scfm)	TBD	TBD			
VAS-11 Pressure	(psig)	10 - 20	30			
VAS-12 Flow Rate	(scfm)	TBD	TBD			
VAS-12 Pressure	(psig)	10 - 20	30			
VAS-13 Flow Rate	(scfm)	TBD	TBD			
VAS-13 Pressure	(psig)	10 - 20	30			
VAS-14 Flow Rate	(scfm)	TBD	TBD			
VAS-14 Pressure	(psig)	10 - 20	30			
VAS-15 Flow Rate	(scfm)	TBD	TBD			
VAS-15 Pressure	(psig)	10 - 20	30			
VAS-16 Flow Rate	(scfm)	TBD	TBD			
VAS-16 Pressure	(psig)	10 - 20	30			
VAS-17 Flow Rate	(scfm)	TBD	TBD			
VAS-17 Pressure	(psig)	10 - 20	30			



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 3 of 4 <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
5/12/18 1630	Scott Powell		Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Vertical Wells	(Units)	Optimal Level	Max Level	Arrival	Departure	
VAS-18 Flow Rate	(scfm)	TBD	TBD			
VAS-18 Pressure	(psig)	10 - 20	30			
VAS-19 Flow Rate	(scfm)	TBD	TBD			
VAS-19 Pressure	(psig)	10 - 20	30			
VAS-20 Flow Rate	(scfm)	TBD	TBD			
VAS-20 Pressure	(psig)	10 - 20	30			
VAS-21 Flow Rate	(scfm)	TBD	TBD			
VAS-21 Pressure	(psig)	10 - 20	30		9.9	
VAS-22 Flow Rate	(scfm)	TBD	TBD		21	
VAS-22 Pressure	(psig)	10 - 20	30		9.8	
VAS-23 Flow Rate	(scfm)	TBD	TBD		19	
VAS-23 Pressure	(psig)	10 - 20	30		8.3	
VAS-24 Flow Rate	(scfm)	TBD	TBD		22	
VAS-24 Pressure	(psig)	10 - 20	30			
VAS-25 Flow Rate	(scfm)	TBD	TBD			
VAS-25 Pressure	(psig)	10 - 20	30			
VAS-26 Flow Rate	(scfm)	TBD	TBD			
VAS-26 Pressure	(psig)	10 - 20	30			
VAS-27 Flow Rate	(scfm)	TBD	TBD			
VAS-27 Pressure	(psig)	10 - 20	30			
VAS-28 Flow Rate	(scfm)	TBD	TBD			
VAS-28 Pressure	(psig)	10 - 20	30			
VAS-29 Flow Rate	(scfm)	TBD	TBD			
VAS-29 Pressure	(psig)	10 - 20	30			
VAS-30 Flow Rate	(scfm)	TBD	TBD			
VAS-30 Pressure	(psig)	10 - 20	30			
VAS-31 Flow Rate	(scfm)	TBD	TBD			
VAS-31 Pressure	(psig)	10 - 20	30			
VAS-32 Flow Rate	(scfm)	TBD	TBD		9.4	
VAS-32 Pressure	(psig)	10 - 20	30		14	
VAS-33 Flow Rate	(scfm)	TBD	TBD		9.7	
VAS-33 Pressure	(psig)	10 - 20	30		16	
VAS-34 Flow Rate	(scfm)	TBD	TBD		9.2	
VAS-34 Pressure	(psig)	10 - 20	30		18	



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 4 of 4 <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
5/7/2018 1430	SGT Smith		Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Vertical Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
VAS-35 Flow Rate	(scfm)	TBD	TBD	7.6	
VAS-35 Pressure	(psig)	10 - 20	30	21	
VAS-36 Flow Rate	(scfm)	TBD	TBD	10.8	
VAS-36 Pressure	(psig)	10 - 20	30	15	
VAS-37 Flow Rate	(scfm)	TBD	TBD	10.5	
VAS-37 Pressure	(psig)	10 - 20	30	10	
VAS-38 Flow Rate	(scfm)	TBD	TBD	9.4	
VAS-38 Pressure	(psig)	10 - 20	30	9	
VAS-39 Flow Rate	(scfm)	TBD	TBD	7.0	
VAS-39 Pressure	(psig)	10 - 20	30	12	
VAS-40 Flow Rate	(scfm)	TBD	TBD	6.4	
VAS-40 Pressure	(psig)	10 - 20	30	24	
VAS-41 Flow Rate	(scfm)	TBD	TBD	9.4	
VAS-41 Pressure	(psig)	20-Oct	30	11	
VAS-42 Flow Rate	(scfm)	TBD	TBD	9.3	
VAS-42 Pressure	(psig)	10 - 20	30	11	
VAS-43 Flow Rate	(scfm)	TBD	TBD	2.7	
VAS-43 Pressure	(psig)	10 - 20	30	33	
VAS-44 Flow Rate	(scfm)	TBD	TBD	2.2	
VAS-44 Pressure	(psig)	10 - 20	30	31	
VAS-45 Flow Rate	(scfm)	TBD	TBD	10.0	
VAS-45 Pressure	(psig)	10 - 20	30	12	
Brown's Creek Aerators	(Units)	Optimal Level	Max Level	Arrival	Departure
BCA-01 Flow Rate	(scfm)	TBD	TBD	14.7	
BCA-01 Pressure	(psig)	0 - 5	5	17	
BCA-02 Flow Rate	(scfm)	TBD	TBD	14.9	
BCA-02 Pressure	(psig)	0 - 5	5	18	
Bedrock Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
BRS-01 Flow Rate	(scfm)	TBD	TBD		
BRS-01 Pressure	(psig)	10 - 20	30		
BRS-02 Flow Rate	(scfm)	TBD	TBD		
BRS-02 Pressure	(psig)	10 - 20	30		
BRS-03 Flow Rate	(scfm)	TBD	TBD		
BRS-03 Pressure	(psig)	10 - 20	30		



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance Maintenance Log <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Discharge Permit and Expiration Date
5/14/2018 1300	Tyler Hall		Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Site Maintenance	Frequency	Conditions Good?	Repaired/Replaced?	Scheduled	Comment
Inspect condition of Brown's Creek.	Each visit	Yes / No	Yes / No	yes	
Perform air monitoring near Cupboard Creek.	Each visit	Yes / No	Yes / No	no	No Air Monitor
Activate and inspect condition of receiver auto drain.	Each visit	Yes / No	Yes / No	yes	
...	...				
...	...				

Equipment Maintenance	Frequency	Conditions Good?	Repaired/Replaced?	Scheduled	Comment
Inspect receiver tank and discharge lines.	Monthly	Yes / No	Yes / No		
Inspect condensate system components. Drain and clean as needed.	Monthly	Yes / No	Yes / No		
Inspect the two fire extinguishers for signs of deterioration. Shake contents.	Monthly	Yes / No	Yes / No		
Coordinate with Airrite to performed quarterly and annual PM on both machines.	Quarterly	Yes / No	Yes / No		
Inspect various building components detailed in Section X.X.X.	Semi-Annually	Yes / No	Yes / No		
Test relief valve on receiver tank for proper operation.	Annually	Yes / No	Yes / No		
Inspect flow meters per Section X.X.X. Verify calibration.	Annually	Yes / No	Yes / No		
Calibrate EAD	Annually	Yes / No	Yes / No		

NOTE: Please check the manufacturer's instructions for the specific maintenance schedule and instructions.

Additional Comments:



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 1 of 4 <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
5/14/2018 1300	Tyler Hall		Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Exterior Components	(Units)	Optimal Level	Max Level	Arrival	Departure
System Operating	(Yes/No)	NA	NA	yes	
Air Compressor 1 Run Time	(hours)	NA	NA	7728	
Air Compressor 1 Load Time	(hours)	NA	NA	5028.5	
Air Compressor 1 Discharge Temp	(F)	60 - 100	110	184	
Air Compressor 1 Pressure	(psig)	90 - 110	100	104	
Air Compressor 2 Run Time	(hours)	NA	NA	5698	
Air Compressor 2 Load Time	(hours)	NA	NA	4659:5	
Air Compressor 2 Temp	(F)	60 - 100	110	195	
Air Compressor 2 Pressure	(psig)	90 - 110	100	104	
Receiver Tank Pressure	(psig)	90 - 110	100	111	
Receiver Tank Temperature	(F)	60 - 100	110		
Interior Manifold	(Units)	Optimal Level	Max Level	Arrival	Departure
Manifold Pressure	(psig)	90 - 110	100	105	
Manifold Temperature	(F)	60 - 100	110	100	
Manifold Flow Rate	(scfm)	TBD	TBD	1656	
Horizontal Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
HAS-1 Target Flow Rate	(scfm)	TBD	TBD	525	
HAS-1 Actual Flow Rate	(scfm)	TBD	TBD	528.3	
HAS-1 Valve Position	(%)	TBD	TBD	38.2	
HAS-1 Pressure	(psig)	10 - 20	30	26	
HAS-2 Target Flow Rate	(scfm)	TBD	TBD	502	
HAS-2 Actual Flow Rate	(scfm)	TBD	TBD	501.2	
HAS-2 Valve Position	(%)	TBD	TBD	33.1	
HAS-2 Pressure	(psig)	10 - 20	30	28	
HAS-3 Target Flow Rate	(scfm)	TBD	TBD	262.5	
HAS-3 Actual Flow Rate	(scfm)	TBD	TBD	265.1	
HAS-3 Valve Position	(%)	TBD	TBD	29.6	
HAS-3 Pressure	(psig)	10 - 20	30	20	

Parts Needed:	
Parts Installed:	

Notes (include alarms since previous visit):



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 2 of 4 <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
5/14/2018 1300	Tyler Hall		Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Vertical Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
VAS-01 Flow Rate	(scfm)	TBD	TBD	8.9	
VAS-01 Pressure	(psig)	10 - 20	30	28	
VAS-02 Flow Rate	(scfm)	TBD	TBD	6.5	
VAS-02 Pressure	(psig)	10 - 20	30	24	
VAS-03 Flow Rate	(scfm)	TBD	TBD	8.2	
VAS-03 Pressure	(psig)	10 - 20	30	20	
VAS-04 Flow Rate	(scfm)	TBD	TBD	8.7	
VAS-04 Pressure	(psig)	10 - 20	30	16	
VAS-05 Flow Rate	(scfm)	TBD	TBD	9.2	
VAS-05 Pressure	(psig)	10 - 20	30	20	
VAS-06 Flow Rate	(scfm)	TBD	TBD	9.6	
VAS-06 Pressure	(psig)	10 - 20	30	20	
VAS-07 Flow Rate	(scfm)	TBD	TBD	10.1	
VAS-07 Pressure	(psig)	10 - 20	30	21	
VAS-08 Flow Rate	(scfm)	TBD	TBD	10.8	
VAS-08 Pressure	(psig)	10 - 20	30	24	
VAS-09 Flow Rate	(scfm)	TBD	TBD	8.8	
VAS-09 Pressure	(psig)	10 - 20	30	22	
VAS-10 Flow Rate	(scfm)	TBD	TBD	9.8	
VAS-10 Pressure	(psig)	10 - 20	30	20	
VAS-11 Flow Rate	(scfm)	TBD	TBD	7.7	
VAS-11 Pressure	(psig)	10 - 20	30	20	
VAS-12 Flow Rate	(scfm)	TBD	TBD	9	
VAS-12 Pressure	(psig)	10 - 20	30	20	
VAS-13 Flow Rate	(scfm)	TBD	TBD		
VAS-13 Pressure	(psig)	10 - 20	30		
VAS-14 Flow Rate	(scfm)	TBD	TBD		
VAS-14 Pressure	(psig)	10 - 20	30		
VAS-15 Flow Rate	(scfm)	TBD	TBD		
VAS-15 Pressure	(psig)	10 - 20	30		
VAS-16 Flow Rate	(scfm)	TBD	TBD		
VAS-16 Pressure	(psig)	10 - 20	30		
VAS-17 Flow Rate	(scfm)	TBD	TBD		
VAS-17 Pressure	(psig)	10 - 20	30		



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 3 of 4 <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
5/14/2018 1300	Tyler Hall		Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Vertical Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
VAS-18 Flow Rate	(scfm)	TBD	TBD		
VAS-18 Pressure	(psig)	10 - 20	30		
VAS-19 Flow Rate	(scfm)	TBD	TBD		
VAS-19 Pressure	(psig)	10 - 20	30		
VAS-20 Flow Rate	(scfm)	TBD	TBD	4.9	
VAS-20 Pressure	(psig)	10 - 20	30	24	
VAS-21 Flow Rate	(scfm)	TBD	TBD	6	
VAS-21 Pressure	(psig)	10 - 20	30	24	
VAS-22 Flow Rate	(scfm)	TBD	TBD	9.1	
VAS-22 Pressure	(psig)	10 - 20	30	22	
VAS-23 Flow Rate	(scfm)	TBD	TBD	9	
VAS-23 Pressure	(psig)	10 - 20	30	22	
VAS-24 Flow Rate	(scfm)	TBD	TBD	6.8	
VAS-24 Pressure	(psig)	10 - 20	30	22	
VAS-25 Flow Rate	(scfm)	TBD	TBD	6.9	
VAS-25 Pressure	(psig)	10 - 20	30	24	
VAS-26 Flow Rate	(scfm)	TBD	TBD	4.6	
VAS-26 Pressure	(psig)	10 - 20	30	25	
VAS-27 Flow Rate	(scfm)	TBD	TBD	7.2	
VAS-27 Pressure	(psig)	10 - 20	30	37	
VAS-28 Flow Rate	(scfm)	TBD	TBD	9.1	
VAS-28 Pressure	(psig)	10 - 20	30	20	
VAS-29 Flow Rate	(scfm)	TBD	TBD	9	
VAS-29 Pressure	(psig)	10 - 20	30	20	
VAS-30 Flow Rate	(scfm)	TBD	TBD	10.6	
VAS-30 Pressure	(psig)	10 - 20	30	20	
VAS-31 Flow Rate	(scfm)	TBD	TBD	9.9	
VAS-31 Pressure	(psig)	10 - 20	30	24	
VAS-32 Flow Rate	(scfm)	TBD	TBD	8.8	
VAS-32 Pressure	(psig)	10 - 20	30	18	
VAS-33 Flow Rate	(scfm)	TBD	TBD	7.5	
VAS-33 Pressure	(psig)	10 - 20	30	18	
VAS-34 Flow Rate	(scfm)	TBD	TBD	7.9	
VAS-34 Pressure	(psig)	10 - 20	30	22	



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 4 of 4 <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
5/14/2018 1300	Tyler Hall		Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Vertical Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
VAS-35 Flow Rate	(scfm)	TBD	TBD		
VAS-35 Pressure	(psig)	10 - 20	30		
VAS-36 Flow Rate	(scfm)	TBD	TBD		
VAS-36 Pressure	(psig)	10 - 20	30		
VAS-37 Flow Rate	(scfm)	TBD	TBD		
VAS-37 Pressure	(psig)	10 - 20	30		
VAS-38 Flow Rate	(scfm)	TBD	TBD		
VAS-38 Pressure	(psig)	10 - 20	30		
VAS-39 Flow Rate	(scfm)	TBD	TBD		
VAS-39 Pressure	(psig)	10 - 20	30		
VAS-40 Flow Rate	(scfm)	TBD	TBD		
VAS-40 Pressure	(psig)	10 - 20	30		
VAS-41 Flow Rate	(scfm)	TBD	TBD		
VAS-41 Pressure	(psig)	20-Oct	30		
VAS-42 Flow Rate	(scfm)	TBD	TBD	9.4	
VAS-42 Pressure	(psig)	10 - 20	30	20	
VAS-43 Flow Rate	(scfm)	TBD	TBD		
VAS-43 Pressure	(psig)	10 - 20	30		
VAS-44 Flow Rate	(scfm)	TBD	TBD		
VAS-44 Pressure	(psig)	10 - 20	30		
VAS-45 Flow Rate	(scfm)	TBD	TBD	10.1	
VAS-45 Pressure	(psig)	10 - 20	30	22	
Brown's Creek Aerators	(Units)	Optimal Level	Max Level	Arrival	Departure
BCA-01 Flow Rate	(scfm)	TBD	TBD	14	
BCA-01 Pressure	(psig)	0 - 5	5	20	
BCA-02 Flow Rate	(scfm)	TBD	TBD	14.1	
BCA-02 Pressure	(psig)	0 - 5	5	22	
Bedrock Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
BRS-01 Flow Rate	(scfm)	TBD	TBD		
BRS-01 Pressure	(psig)	10 - 20	30		
BRS-02 Flow Rate	(scfm)	TBD	TBD		
BRS-02 Pressure	(psig)	10 - 20	30		
BRS-03 Flow Rate	(scfm)	TBD	TBD		
BRS-03 Pressure	(psig)	10 - 20	30		



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 1 of 4 <i>Lewis Drive, Belton, South Carolina</i>	
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL		
Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
5/21/18 130	T. HALL		Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SC#183050-069 Air Permit Exempt
Exterior Components	(Units)	Optimal Level	Max Level	Arrival	Departure
System Operating	(Yes/No)	NA	NA	YES	
Air Compressor 1 Run Time	(hours)	NA	NA	7897	
Air Compressor 1 Load Time	(hours)	NA	NA	5197	
Air Compressor 1 Discharge Temp	(F)	60 - 100	110	184	
Air Compressor 1 Pressure	(psig)	90 - 110	100	102	
Air Compressor 2 Run Time	(hours)	NA	NA	5867.25	
Air Compressor 2 Load Time	(hours)	NA	NA	4828.5	
Air Compressor 2 Temp	(F)	60 - 100	110	201	
Air Compressor 2 Pressure	(psig)	90 - 110	100	103 103	
Receiver Tank Pressure	(psig)	90 - 110	100	110	
Receiver Tank Temperature	(F)	60 - 100	110		
Interior Manifold	(Units)	Optimal Level	Max Level	Arrival	Departure
Manifold Pressure	(psig)	90 - 110	100	108	
Manifold Temperature	(F)	60 - 100	110	100	
Manifold Flow Rate	(scfm)	TBD	TBD	1757	
Horizontal Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
HAS-1 Target Flow Rate	(scfm)	TBD	TBD	525	
HAS-1 Actual Flow Rate	(scfm)	TBD	TBD	521	
HAS-1 Valve Position	(%)	TBD	TBD	50.7	
HAS-1 Pressure	(psig)	10 - 20	30	26	
HAS-2 Target Flow Rate	(scfm)	TBD	TBD	502	
HAS-2 Actual Flow Rate	(scfm)	TBD	TBD	499.8	
HAS-2 Valve Position	(%)	TBD	TBD	41.5	
HAS-2 Pressure	(psig)	10 - 20	30	29	
HAS-3 Target Flow Rate	(scfm)	TBD	TBD	262.5	
HAS-3 Actual Flow Rate	(scfm)	TBD	TBD	262.1	
HAS-3 Valve Position	(%)	TBD	TBD	31	
HAS-3 Pressure	(psig)	10 - 20	30	20	
Parts Needed:					
Parts Installed:					
Notes (include alarms since previous visit):					



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 2 of 4 Lewis Drive, Belton, South Carolina
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
			Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020400 Air Permit Exempt

Vertical Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
VAS-01 Flow Rate	(scfm)	TBD	TBD	10.2	
VAS-01 Pressure	(psig)	10 - 20	30	30	
VAS-02 Flow Rate	(scfm)	TBD	TBD	5.9	
VAS-02 Pressure	(psig)	10 - 20	30	24	
VAS-03 Flow Rate	(scfm)	TBD	TBD	8.4	
VAS-03 Pressure	(psig)	10 - 20	30	22	
VAS-04 Flow Rate	(scfm)	TBD	TBD	9.3	
VAS-04 Pressure	(psig)	10 - 20	30	20	
VAS-05 Flow Rate	(scfm)	TBD	TBD	9.7	
VAS-05 Pressure	(psig)	10 - 20	30	22	
VAS-06 Flow Rate	(scfm)	TBD	TBD	9.7	
VAS-06 Pressure	(psig)	10 - 20	30	20	
VAS-07 Flow Rate	(scfm)	TBD	TBD	10.4	
VAS-07 Pressure	(psig)	10 - 20	30	22	
VAS-08 Flow Rate	(scfm)	TBD	TBD	10.6	
VAS-08 Pressure	(psig)	10 - 20	30	22	
VAS-09 Flow Rate	(scfm)	TBD	TBD	8.7	
VAS-09 Pressure	(psig)	10 - 20	30	22	
VAS-10 Flow Rate	(scfm)	TBD	TBD	11.7	
VAS-10 Pressure	(psig)	10 - 20	30	22	
VAS-11 Flow Rate	(scfm)	TBD	TBD	8.3	
VAS-11 Pressure	(psig)	10 - 20	30	20	
VAS-12 Flow Rate	(scfm)	TBD	TBD	9.7	
VAS-12 Pressure	(psig)	10 - 20	30	20	
VAS-13 Flow Rate	(scfm)	TBD	TBD		
VAS-13 Pressure	(psig)	10 - 20	30		
VAS-14 Flow Rate	(scfm)	TBD	TBD		
VAS-14 Pressure	(psig)	10 - 20	30		
VAS-15 Flow Rate	(scfm)	TBD	TBD		
VAS-15 Pressure	(psig)	10 - 20	30		
VAS-16 Flow Rate	(scfm)	TBD	TBD		
VAS-16 Pressure	(psig)	10 - 20	30		
VAS-17 Flow Rate	(scfm)	TBD	TBD		
VAS-17 Pressure	(psig)	10 - 20	30		



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 3 of 4 Lewis Drive, Belton, South Carolina		
Lewis Drive	Belton, SC	Bill Weidner/PAL	YOUNG BROSHT/ATL			
Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits	
			Air Compressors Condensate Treatment	Sullair TS-20-200 Berk Quik Pure 250	LIC Permit To Operate: SCHEDULED Air Permit Exempt	
Vertical Wells	(Units)	Optimal Level	Max Level	Arrival	Departure	
VAS-18 Flow Rate	(scfm)	TBD	TBD			
VAS-18 Pressure	(psig)	10 - 20	30			
VAS-19 Flow Rate	(scfm)	TBD	TBD			
VAS-19 Pressure	(psig)	10 - 20	30			
VAS-20 Flow Rate	(scfm)	TBD	TBD			
VAS-20 Pressure	(psig)	10 - 20	30	5.4		MOVE ALL UP ONE ROW
VAS-21 Flow Rate	(scfm)	TBD	TBD	22		
VAS-21 Pressure	(psig)	10 - 20	30	6.3		
VAS-22 Flow Rate	(scfm)	TBD	TBD	22		
VAS-22 Pressure	(psig)	10 - 20	30	10.1		
VAS-23 Flow Rate	(scfm)	TBD	TBD	22		
VAS-23 Pressure	(psig)	10 - 20	30	9.9		
VAS-24 Flow Rate	(scfm)	TBD	TBD	22		
VAS-24 Pressure	(psig)	10 - 20	30	7.8		
VAS-25 Flow Rate	(scfm)	TBD	TBD	22		
VAS-25 Pressure	(psig)	10 - 20	30	7.3		
VAS-26 Flow Rate	(scfm)	TBD	TBD	28		
VAS-26 Pressure	(psig)	10 - 20	30	5.5		
VAS-27 Flow Rate	(scfm)	TBD	TBD	30		
VAS-27 Pressure	(psig)	10 - 20	30	6.8		
VAS-28 Flow Rate	(scfm)	TBD	TBD	38		
VAS-28 Pressure	(psig)	10 - 20	30	9.4		
VAS-29 Flow Rate	(scfm)	TBD	TBD	20		
VAS-29 Pressure	(psig)	10 - 20	30	9.7		
VAS-30 Flow Rate	(scfm)	TBD	TBD	21		
VAS-30 Pressure	(psig)	10 - 20	30	11.0		
VAS-31 Flow Rate	(scfm)	TBD	TBD	20		
VAS-31 Pressure	(psig)	10 - 20	30	9.9		
VAS-32 Flow Rate	(scfm)	TBD	TBD	30		
VAS-32 Pressure	(psig)	10 - 20	30	9.6		
VAS-33 Flow Rate	(scfm)	TBD	TBD	20		
VAS-33 Pressure	(psig)	10 - 20	30	5.7		
VAS-34 Flow Rate	(scfm)	TBD	TBD	20		
VAS-34 Pressure	(psig)	10 - 20	30	8.1		

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Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 4 of 4 <i>Lewis Drive, Belton, South Carolina</i>		
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL			
Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits	
			Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt	
Vertical Wells		(Units)	Optimal Level	Max Level	Arrival	Departure
VAS-35 Flow Rate	(scfm)	TBD	TBD			
VAS-35 Pressure	(psig)	10 - 20	30			
VAS-36 Flow Rate	(scfm)	TBD	TBD			
VAS-36 Pressure	(psig)	10 - 20	30			
VAS-37 Flow Rate	(scfm)	TBD	TBD			
VAS-37 Pressure	(psig)	10 - 20	30			
VAS-38 Flow Rate	(scfm)	TBD	TBD			
VAS-38 Pressure	(psig)	10 - 20	30			
VAS-39 Flow Rate	(scfm)	TBD	TBD			
VAS-39 Pressure	(psig)	10 - 20	30			
VAS-40 Flow Rate	(scfm)	TBD	TBD			
VAS-40 Pressure	(psig)	10 - 20	30			
VAS-41 Flow Rate	(scfm)	TBD	TBD			
VAS-41 Pressure	(psig)	20-Oct	30			
VAS-42 Flow Rate	(scfm)	TBD	TBD	9.3		
VAS-42 Pressure	(psig)	10 - 20	30	20		
VAS-43 Flow Rate	(scfm)	TBD	TBD			
VAS-43 Pressure	(psig)	10 - 20	30			
VAS-44 Flow Rate	(scfm)	TBD	TBD			
VAS-44 Pressure	(psig)	10 - 20	30			
VAS-45 Flow Rate	(scfm)	TBD	TBD	10.2		
VAS-45 Pressure	(psig)	10 - 20	30	24		
Brown's Creek Aerators		(Units)	Optimal Level	Max Level	Arrival	Departure
BCA-01 Flow Rate	(scfm)	TBD	TBD		14.8	
BCA-01 Pressure	(psig)	0 - 5	5		24	
BCA-02 Flow Rate	(scfm)	TBD	TBD		14.9	
BCA-02 Pressure	(psig)	0 - 5	5		24	
Bedrock Wells		(Units)	Optimal Level	Max Level	Arrival	Departure
BRS-01 Flow Rate	(scfm)	TBD	TBD			
BRS-01 Pressure	(psig)	10 - 20	30			
BRS-02 Flow Rate	(scfm)	TBD	TBD			
BRS-02 Pressure	(psig)	10 - 20	30			
BRS-03 Flow Rate	(scfm)	TBD	TBD			
BRS-03 Pressure	(psig)	10 - 20	30			



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 1 of 4 Lewis Drive, Belton, South Carolina
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
5/29/18 1230	T. LAM		Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	IIC Permit To Operate: SCHED 102040 Air Permit Exempt

Exterior Components	(Units)	Optimal Level	Max Level	Arrival	Departure
System Operating	(Yes/No)	NA	NA	YES	
Air Compressor 1 Run Time	(hours)	NA	NA	8090	
Air Compressor 1 Load Time	(hours)	NA	NA	5390.5	
Air Compressor 1 Discharge Temp	(F)	60 - 100	110	144	
Air Compressor 1 Pressure	(psig)	90 - 110	100	103	
Air Compressor 2 Run Time	(hours)	NA	NA	6060.4	
Air Compressor 2 Load Time	(hours)	NA	NA	5021.5	
Air Compressor 2 Temp	(F)	60 - 100	110	201	
Air Compressor 2 Pressure	(psig)	90 - 110	100	104	
Receiver Tank Pressure	(psig)	90 - 110	100	111	
Receiver Tank Temperature	(F)	60 - 100	110		

Interior Manifold	(Units)	Optimal Level	Max Level	Arrival	Departure
Manifold Pressure	(psig)	90 - 110	100	108	
Manifold Temperature	(F)	60 - 100	110	102	
Manifold Flow Rate	(scfm)	TBD	TBD	1690	

Horizontal Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
HAS-1 Target Flow Rate	(scfm)	TBD	TBD	525	
HAS-1 Actual Flow Rate	(scfm)	TBD	TBD	525.3	
HAS-1 Valve Position	(%)	TBD	TBD	49.3	
HAS-1 Pressure	(psig)	10 - 20	30	26	
HAS-2 Target Flow Rate	(scfm)	TBD	TBD	502	
HAS-2 Actual Flow Rate	(scfm)	TBD	TBD	501.9	
HAS-2 Valve Position	(%)	TBD	TBD	40.7	
HAS-2 Pressure	(psig)	10 - 20	30	29	
HAS-3 Target Flow Rate	(scfm)	TBD	TBD	262.5	
HAS-3 Actual Flow Rate	(scfm)	TBD	TBD	262.4	
HAS-3 Valve Position	(%)	TBD	TBD	32.2	
HAS-3 Pressure	(psig)	10 - 20	30	20	

Parts Needed:	
Parts Installed:	

Notes (include alarms since previous visit):



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 2 of 4 <i>Lewis Drive, Belton, South Carolina</i>	
Lewis Drive	Belton, SC	Bill Waldron/PAL	Scott Powell/ATL		
Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
			Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHED3020469 Air Permit Exempt
Vertical Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
VAS-01 Flow Rate	(scfm)	TBD	TBD		
VAS-01 Pressure	(psig)	10 - 20	30		
VAS-02 Flow Rate	(scfm)	TBD	TBD		
VAS-02 Pressure	(psig)	10 - 20	30		
VAS-03 Flow Rate	(scfm)	TBD	TBD		
VAS-03 Pressure	(psig)	10 - 20	30		
VAS-04 Flow Rate	(scfm)	TBD	TBD		
VAS-04 Pressure	(psig)	10 - 20	30		
VAS-05 Flow Rate	(scfm)	TBD	TBD		
VAS-05 Pressure	(psig)	10 - 20	30		
VAS-06 Flow Rate	(scfm)	TBD	TBD		
VAS-06 Pressure	(psig)	10 - 20	30		
VAS-07 Flow Rate	(scfm)	TBD	TBD		
VAS-07 Pressure	(psig)	10 - 20	30		
VAS-08 Flow Rate	(scfm)	TBD	TBD	11.6	
VAS-08 Pressure	(psig)	10 - 20	30	24	
VAS-09 Flow Rate	(scfm)	TBD	TBD		
VAS-09 Pressure	(psig)	10 - 20	30		
VAS-10 Flow Rate	(scfm)	TBD	TBD		
VAS-10 Pressure	(psig)	10 - 20	30		
VAS-11 Flow Rate	(scfm)	TBD	TBD		
VAS-11 Pressure	(psig)	10 - 20	30		
VAS-12 Flow Rate	(scfm)	TBD	TBD		
VAS-12 Pressure	(psig)	10 - 20	30		
VAS-13 Flow Rate	(scfm)	TBD	TBD		
VAS-13 Pressure	(psig)	10 - 20	30		
VAS-14 Flow Rate	(scfm)	TBD	TBD		
VAS-14 Pressure	(psig)	10 - 20	30		
VAS-15 Flow Rate	(scfm)	TBD	TBD		
VAS-15 Pressure	(psig)	10 - 20	30		
VAS-16 Flow Rate	(scfm)	TBD	TBD		
VAS-16 Pressure	(psig)	10 - 20	30		
VAS-17 Flow Rate	(scfm)	TBD	TBD		
VAS-17 Pressure	(psig)	10 - 20	30		



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 3 of 4 <i>Lewis Drive, Belton, South Carolina</i>		
Lewis Drive	Belton, SC	Bill Waldron/PAL	Scott Powell/ATL			
Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits	
			Air Compressors Condensate Treatment	Subair 15-20-200 Baker (4000 Series 300)	100. Internal to Operator: SC-15-20-200-01 Air Permit Expires:	
Vertical Wells		(Units)	Optimal Level	Max Level	Arrival	Departure
VAS-18 Flow Rate		(scfm)	TBD	TBD		
VAS-18 Pressure		(psig)	10 - 20	30		
VAS-19 Flow Rate		(scfm)	TBD	TBD		
VAS-19 Pressure		(psig)	10 - 20	30		
VAS-20 Flow Rate		(scfm)	TBD	TBD		
VAS-20 Pressure		(psig)	10 - 20	30		
VAS-21 Flow Rate		(scfm)	TBD	TBD		
VAS-21 Pressure		(psig)	10 - 20	30		
VAS-22 Flow Rate		(scfm)	TBD	TBD	10.2	
VAS-22 Pressure		(psig)	10 - 20	30	23	
VAS-23 Flow Rate		(scfm)	TBD	TBD	9.5	
VAS-23 Pressure		(psig)	10 - 20	30	22	
VAS-24 Flow Rate		(scfm)	TBD	TBD	7.7	
VAS-24 Pressure		(psig)	10 - 20	30	22	
VAS-25 Flow Rate		(scfm)	TBD	TBD		
VAS-25 Pressure		(psig)	10 - 20	30		
VAS-26 Flow Rate		(scfm)	TBD	TBD		
VAS-26 Pressure		(psig)	10 - 20	30		
VAS-27 Flow Rate		(scfm)	TBD	TBD		
VAS-27 Pressure		(psig)	10 - 20	30		
VAS-28 Flow Rate		(scfm)	TBD	TBD		
VAS-28 Pressure		(psig)	10 - 20	30		
VAS-29 Flow Rate		(scfm)	TBD	TBD		
VAS-29 Pressure		(psig)	10 - 20	30		
VAS-30 Flow Rate		(scfm)	TBD	TBD		
VAS-30 Pressure		(psig)	10 - 20	30		
VAS-31 Flow Rate		(scfm)	TBD	TBD		
VAS-31 Pressure		(psig)	10 - 20	30		
VAS-32 Flow Rate		(scfm)	TBD	TBD	8.1	
VAS-32 Pressure		(psig)	10 - 20	30	8.0 17	
VAS-33 Flow Rate		(scfm)	TBD	TBD	8.0	
VAS-33 Pressure		(psig)	10 - 20	30	18	
VAS-34 Flow Rate		(scfm)	TBD	TBD	7.9	
VAS-34 Pressure		(psig)	10 - 20	30	20	



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 4 of 4 Lewis Drive, Belton, South Carolina		
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL			
Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits	
			Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt	
Vertical Wells		(Units)	Optimal Level	Max Level	Arrival	Departure
VAS-35 Flow Rate		(scfm)	TBD	TBD	7.0	
VAS-35 Pressure		(psig)	10 - 20	30	27	
VAS-36 Flow Rate		(scfm)	TBD	TBD	11.2	
VAS-36 Pressure		(psig)	10 - 20	30	16	
VAS-37 Flow Rate		(scfm)	TBD	TBD	10.7	
VAS-37 Pressure		(psig)	10 - 20	30	12	
VAS-38 Flow Rate		(scfm)	TBD	TBD	9.2	
VAS-38 Pressure		(psig)	10 - 20	30	10	
VAS-39 Flow Rate		(scfm)	TBD	TBD	8.7	
VAS-39 Pressure		(psig)	10 - 20	30	15	
VAS-40 Flow Rate		(scfm)	TBD	TBD	5.3	
VAS-40 Pressure		(psig)	10 - 20	30	26	
VAS-41 Flow Rate		(scfm)	TBD	TBD		
VAS-41 Pressure		(psig)	20-Oct	30		
VAS-42 Flow Rate		(scfm)	TBD	TBD	9.1	
VAS-42 Pressure		(psig)	10 - 20	30	14	
VAS-43 Flow Rate		(scfm)	TBD	TBD		
VAS-43 Pressure		(psig)	10 - 20	30		
VAS-44 Flow Rate		(scfm)	TBD	TBD		
VAS-44 Pressure		(psig)	10 - 20	30		
VAS-45 Flow Rate		(scfm)	TBD	TBD	9.3	
VAS-45 Pressure		(psig)	10 - 20	30	16	
Brown's Creek Aerators		(Units)	Optimal Level	Max Level	Arrival	Departure
BCA-01 Flow Rate		(scfm)	TBD	TBD	14.6	
BCA-01 Pressure		(psig)	0 - 5	5	18	
BCA-02 Flow Rate		(scfm)	TBD	TBD	15.0	
BCA-02 Pressure		(psig)	0 - 5	5	18	
Bedrock Wells		(Units)	Optimal Level	Max Level	Arrival	Departure
BRS-01 Flow Rate		(scfm)	TBD	TBD		
BRS-01 Pressure		(psig)	10 - 20	30		
BRS-02 Flow Rate		(scfm)	TBD	TBD		
BRS-02 Pressure		(psig)	10 - 20	30		
BRS-03 Flow Rate		(scfm)	TBD	TBD		
BRS-03 Pressure		(psig)	10 - 20	30		



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance Maintenance Log <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Discharge Permit and Expiration Date
6/6/2018 12:30	Scott Smith	—	Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Site Maintenance	Frequency	Conditions Good?	Repaired/Replaced?	Scheduled	Comment
Inspect condition of Brown's Creek.	Each visit	Yes / No	Yes / No		
Perform air monitoring near Cupboard Creek.	Each visit	Yes / No	Yes / No		
Activate and inspect condition of receiver auto drain.	Each visit	Yes / No	Yes / No		
...	...				
...	...				

Equipment Maintenance	Frequency	Conditions Good?	Repaired/Replaced?	Scheduled	Comment
Inspect receiver tank and discharge lines.	Monthly	Yes / No	Yes / No		
Inspect condensate system components. Drain and clean as needed.	Monthly	Yes / No	Yes / No		
Inspect the two fire extinguishers for signs of deterioration. Shake contents.	Monthly	Yes / No	Yes / No		
Coordinate with Airite to performed quarterly and annual PM on both machines.	Quarterly	Yes / No	Yes / No	6/19/18	
Inspect various building components detailed in Section X.X.X.	Semi-Annually	Yes / No	Yes / No		
Test relief valve on receiver tank for proper operation.	Annually	Yes / No	Yes / No		
Inspect flow meters per Section X.X.X. Verify calibration.	Annually	Yes / No	Yes / No		
Calibrate EAD	Annually	Yes / No	Yes / No		

NOTE: Please check the manufacturer's instructions for the specific maintenance schedule and instructions.

Additional Comments: → clean inlet air filters on both AC#1 + AC#2



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 1 of 4 Lewis Drive, Belton, South Carolina
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
6/6/2018 1230	Scott Smith	_____	Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Exterior Components	(Units)	Optimal Level	Max Level	Arrival	Departure
System Operating	(Yes/No)	NA	NA	Yes	
Air Compressor 1 Run Time	(hours)	NA	NA	0270:44	
Air Compressor 1 Load Time	(hours)	NA	NA	5570:13	
Air Compressor 1 Discharge Temp	(F)	60 - 100	110	185	
Air Compressor 1 Pressure	(psig)	90 - 110	100	103	
Air Compressor 2 Run Time	(hours)	NA	NA	6241:09	
Air Compressor 2 Load Time	(hours)	NA	NA	5201:07	
Air Compressor 2 Temp	(F)	60 - 100	110	195	
Air Compressor 2 Pressure	(psig)	90 - 110	100	104	
Receiver Tank Pressure	(psig)	90 - 110	100	110	
Receiver Tank Temperature	(F)	60 - 100	110	N/A	
Interior Manifold	(Units)	Optimal Level	Max Level	Arrival	Departure
Manifold Pressure	(psig)	90 - 110	100	104	
Manifold Temperature	(F)	60 - 100	110	101	
Manifold Flow Rate	(scfm)	TBD	TBD	1686	
Horizontal Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
HAS-1 Target Flow Rate	(scfm)	TBD	TBD	525.0	
HAS-1 Actual Flow Rate	(scfm)	TBD	TBD	526.0	
HAS-1 Valve Position	(%)	TBD	TBD	83.3	
HAS-1 Pressure	(psig)	10 - 20	30	26	
HAS-2 Target Flow Rate	(scfm)	TBD	TBD	582.0	
HAS-2 Actual Flow Rate	(scfm)	TBD	TBD	500.3	
HAS-2 Valve Position	(%)	TBD	TBD	41.2	
HAS-2 Pressure	(psig)	10 - 20	30	28	
HAS-3 Target Flow Rate	(scfm)	TBD	TBD	262.5	
HAS-3 Actual Flow Rate	(scfm)	TBD	TBD	261.9	
HAS-3 Valve Position	(%)	TBD	TBD	52.3	
HAS-3 Pressure	(psig)	10 - 20	30	20	

Parts Needed:	
Parts Installed:	

Notes (include alarms since previous visit):
→ 5/30/18 @ 2130 shutdown, power outage. Restart 5/31/18 @ 0815



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 2 of 4 <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
6/6/2018 1230	Scott Smith	_____	Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Vertical Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
VAS-01 Flow Rate	(scfm)	TBD	TBD		
VAS-01 Pressure	(psig)	10 - 20	30		
VAS-02 Flow Rate	(scfm)	TBD	TBD		
VAS-02 Pressure	(psig)	10 - 20	30		
VAS-03 Flow Rate	(scfm)	TBD	TBD		
VAS-03 Pressure	(psig)	10 - 20	30		
VAS-04 Flow Rate	(scfm)	TBD	TBD		
VAS-04 Pressure	(psig)	10 - 20	30		
VAS-05 Flow Rate	(scfm)	TBD	TBD		
VAS-05 Pressure	(psig)	10 - 20	30		
VAS-06 Flow Rate	(scfm)	TBD	TBD		
VAS-06 Pressure	(psig)	10 - 20	30		
VAS-07 Flow Rate	(scfm)	TBD	TBD		
VAS-07 Pressure	(psig)	10 - 20	30		
VAS-08 Flow Rate	(scfm)	TBD	TBD		
VAS-08 Pressure	(psig)	10 - 20	30		
VAS-09 Flow Rate	(scfm)	TBD	TBD		
VAS-09 Pressure	(psig)	10 - 20	30		
VAS-10 Flow Rate	(scfm)	TBD	TBD		
VAS-10 Pressure	(psig)	10 - 20	30		
VAS-11 Flow Rate	(scfm)	TBD	TBD		
VAS-11 Pressure	(psig)	10 - 20	30		
VAS-12 Flow Rate	(scfm)	TBD	TBD		
VAS-12 Pressure	(psig)	10 - 20	30		
VAS-13 Flow Rate	(scfm)	TBD	TBD		
VAS-13 Pressure	(psig)	10 - 20	30		
VAS-14 Flow Rate	(scfm)	TBD	TBD		
VAS-14 Pressure	(psig)	10 - 20	30		
VAS-15 Flow Rate	(scfm)	TBD	TBD		
VAS-15 Pressure	(psig)	10 - 20	30		
VAS-16 Flow Rate	(scfm)	TBD	TBD		
VAS-16 Pressure	(psig)	10 - 20	30		
VAS-17 Flow Rate	(scfm)	TBD	TBD		
VAS-17 Pressure	(psig)	10 - 20	30		



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 3 of 4 <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
6/6/2018 12:0	Scott Smith	—	Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Vertical Wells	(Units)	Optimal Level	Max Level	Arrival	Departure	
VAS-18 Flow Rate	(scfm)	TBD	TBD			
VAS-18 Pressure	(psig)	10 - 20	30			
VAS-19 Flow Rate	(scfm)	TBD	TBD			
VAS-19 Pressure	(psig)	10 - 20	30			
VAS-20 Flow Rate	(scfm)	TBD	TBD			
VAS-20 Pressure	(psig)	10 - 20	30			
VAS-21 Flow Rate	(scfm)	TBD	TBD			
VAS-21 Pressure	(psig)	10 - 20	30			
VAS-22 Flow Rate	(scfm)	TBD	TBD		9.1	
VAS-22 Pressure	(psig)	10 - 20	30		22	
VAS-23 Flow Rate	(scfm)	TBD	TBD		8.9	
VAS-23 Pressure	(psig)	10 - 20	30		20	
VAS-24 Flow Rate	(scfm)	TBD	TBD		7.2	
VAS-24 Pressure	(psig)	10 - 20	30		23	
VAS-25 Flow Rate	(scfm)	TBD	TBD			
VAS-25 Pressure	(psig)	10 - 20	30			
VAS-26 Flow Rate	(scfm)	TBD	TBD			
VAS-26 Pressure	(psig)	10 - 20	30			
VAS-27 Flow Rate	(scfm)	TBD	TBD			
VAS-27 Pressure	(psig)	10 - 20	30			
VAS-28 Flow Rate	(scfm)	TBD	TBD			
VAS-28 Pressure	(psig)	10 - 20	30			
VAS-29 Flow Rate	(scfm)	TBD	TBD			
VAS-29 Pressure	(psig)	10 - 20	30			
VAS-30 Flow Rate	(scfm)	TBD	TBD			
VAS-30 Pressure	(psig)	10 - 20	30			
VAS-31 Flow Rate	(scfm)	TBD	TBD			
VAS-31 Pressure	(psig)	10 - 20	30			
VAS-32 Flow Rate	(scfm)	TBD	TBD	9.1		
VAS-32 Pressure	(psig)	10 - 20	30	15		
VAS-33 Flow Rate	(scfm)	TBD	TBD	8.4		
VAS-33 Pressure	(psig)	10 - 20	30	15		
VAS-34 Flow Rate	(scfm)	TBD	TBD	7.1		
VAS-34 Pressure	(psig)	10 - 20	30	19		



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 4 of 4 <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
6/16/2018 12:30	Scott Snelgrove	_____	Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Vertical Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
VAS-35 Flow Rate	(scfm)	TBD	TBD	6.0	
VAS-35 Pressure	(psig)	10 - 20	30	22	
VAS-36 Flow Rate	(scfm)	TBD	TBD	11.1	
VAS-36 Pressure	(psig)	10 - 20	30	17	
VAS-37 Flow Rate	(scfm)	TBD	TBD	11.0	
VAS-37 Pressure	(psig)	10 - 20	30	11	
VAS-38 Flow Rate	(scfm)	TBD	TBD	9.5	
VAS-38 Pressure	(psig)	10 - 20	30	10	
VAS-39 Flow Rate	(scfm)	TBD	TBD	8.9	
VAS-39 Pressure	(psig)	10 - 20	30	13	
VAS-40 Flow Rate	(scfm)	TBD	TBD	5.4	
VAS-40 Pressure	(psig)	10 - 20	30	25	
VAS-41 Flow Rate	(scfm)	TBD	TBD	—	
VAS-41 Pressure	(psig)	20-Oct	30	—	
VAS-42 Flow Rate	(scfm)	TBD	TBD	8.8	
VAS-42 Pressure	(psig)	10 - 20	30	12	
VAS-43 Flow Rate	(scfm)	TBD	TBD	—	
VAS-43 Pressure	(psig)	10 - 20	30	—	
VAS-44 Flow Rate	(scfm)	TBD	TBD	—	
VAS-44 Pressure	(psig)	10 - 20	30	—	
VAS-45 Flow Rate	(scfm)	TBD	TBD	—	
VAS-45 Pressure	(psig)	10 - 20	30	—	
Brown's Creek Aerators	(Units)	Optimal Level	Max Level	Arrival	Departure
BCA-01 Flow Rate	(scfm)	TBD	TBD	14.6	
BCA-01 Pressure	(psig)	0 - 5	5	18	
BCA-02 Flow Rate	(scfm)	TBD	TBD	14.7	
BCA-02 Pressure	(psig)	0 - 5	5	18	
Bedrock Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
BRS-01 Flow Rate	(scfm)	TBD	TBD		
BRS-01 Pressure	(psig)	10 - 20	30		
BRS-02 Flow Rate	(scfm)	TBD	TBD		
BRS-02 Pressure	(psig)	10 - 20	30		
BRS-03 Flow Rate	(scfm)	TBD	TBD		
BRS-03 Pressure	(psig)	10 - 20	30		



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 1 of 4 <i>Lewis Drive, Belton, South Carolina</i>		
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL			
Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits	
6/11/18 11:00	T. HALL		Air Compressors Condensate Treatment	Sullair T5-20-200 Beko Qwik Pure 350	Ill. Permit to Operate: SC11001020469 Air Permit Exempt	
Exterior Components		(Units)	Optimal Level	Max Level	Arrival	Departure
System Operating		(Yes/No)	NA	NA	YES	
Air Compressor 1 Run Time		(hours)	NA	NA	8389.1	
Air Compressor 1 Load Time		(hours)	NA	NA	5688.4	
Air Compressor 1 Discharge Temp		(F)	60 - 100	110	183	
Air Compressor 1 Pressure		(psig)	90 - 110	100	104	
Air Compressor 2 Run Time		(hours)	NA	NA	6359.4	
Air Compressor 2 Load Time		(hours)	NA	NA	5319.5	
Air Compressor 2 Temp		(F)	60 - 100	110	191	
Air Compressor 2 Pressure		(psig)	90 - 110	100	104	
Receiver Tank Pressure		(psig)	90 - 110	100	111	
Receiver Tank Temperature		(F)	60 - 100	110		
Interior Manifold		(Units)	Optimal Level	Max Level	Arrival	Departure
Manifold Pressure		(psig)	90 - 110	100	105	
Manifold Temperature		(F)	60 - 100	110	102	
Manifold Flow Rate		(scfm)	TBD	TBD	1627	
Horizontal Wells		(Units)	Optimal Level	Max Level	Arrival	Departure
HAS-1 Target Flow Rate		(scfm)	TBD	TBD	525	
HAS-1 Actual Flow Rate		(scfm)	TBD	TBD	523.1	
HAS-1 Valve Position		(%)	TBD	TBD	78.9	
HAS-1 Pressure		(psig)	10 - 20	30	28	
HAS-2 Target Flow Rate		(scfm)	TBD	TBD	502	
HAS-2 Actual Flow Rate		(scfm)	TBD	TBD	502.9	
HAS-2 Valve Position		(%)	TBD	TBD	58.5	
HAS-2 Pressure		(psig)	10 - 20	30	29	
HAS-3 Target Flow Rate		(scfm)	TBD	TBD	262.5	
HAS-3 Actual Flow Rate		(scfm)	TBD	TBD	264.8	
HAS-3 Valve Position		(%)	TBD	TBD	30.6	
HAS-3 Pressure		(psig)	10 - 20	30	20	
Parts Needed:						
Parts Installed:						
Notes (Include alarms since previous visit):						



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 3 of 4 <i>Lewis Drive, Belton, South Carolina</i>		
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL			
Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits	
6/11/18 11:06	T. HALL		Air Compressors Condensate Treatment	Sullair T5-20-200 Beko Qwik Pure 350	IIC Permit To Operate: SCFD 10.0449 Air Permit Exempt	
Vertical Wells	(Units)	Optimal Level	Max Level	Arrival	Departure	
VAS-18 Flow Rate	(scfm)	TBD	TBD			
VAS-18 Pressure	(psig)	10 - 20	30			
VAS-19 Flow Rate	(scfm)	TBD	TBD			
VAS-19 Pressure	(psig)	10 - 20	30			
VAS-20 Flow Rate	(scfm)	TBD	TBD			
VAS-20 Pressure	(psig)	10 - 20	30			
VAS-21 Flow Rate	(scfm)	TBD	TBD			
VAS-21 Pressure	(psig)	10 - 20	30			
VAS-22 Flow Rate	(scfm)	TBD	TBD	9.6		
VAS-22 Pressure	(psig)	10 - 20	30	24		
VAS-23 Flow Rate	(scfm)	TBD	TBD	9.4		
VAS-23 Pressure	(psig)	10 - 20	30	22		
VAS-24 Flow Rate	(scfm)	TBD	TBD	7.6		
VAS-24 Pressure	(psig)	10 - 20	30	24		
VAS-25 Flow Rate	(scfm)	TBD	TBD			
VAS-25 Pressure	(psig)	10 - 20	30			
VAS-26 Flow Rate	(scfm)	TBD	TBD			
VAS-26 Pressure	(psig)	10 - 20	30			
VAS-27 Flow Rate	(scfm)	TBD	TBD			
VAS-27 Pressure	(psig)	10 - 20	30			
VAS-28 Flow Rate	(scfm)	TBD	TBD			
VAS-28 Pressure	(psig)	10 - 20	30			
VAS-29 Flow Rate	(scfm)	TBD	TBD			
VAS-29 Pressure	(psig)	10 - 20	30			
VAS-30 Flow Rate	(scfm)	TBD	TBD			
VAS-30 Pressure	(psig)	10 - 20	30			
VAS-31 Flow Rate	(scfm)	TBD	TBD			
VAS-31 Pressure	(psig)	10 - 20	30			
VAS-32 Flow Rate	(scfm)	TBD	TBD	9.2		
VAS-32 Pressure	(psig)	10 - 20	30	16		
VAS-33 Flow Rate	(scfm)	TBD	TBD	8.5		
VAS-33 Pressure	(psig)	10 - 20	30	18		
VAS-34 Flow Rate	(scfm)	TBD	TBD	7.4		
VAS-34 Pressure	(psig)	10 - 20	30	20		



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 4 of 4 Lewis Drive, Belton, South Carolina		
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL			
Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits	
6/11/18 11:00	T. Hall		Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHED03020469 Air Permit Exempt	
Vertical Wells	(Units)	Optimal Level	Max Level	Arrival	Departure	
VAS-35 Flow Rate	(scfm)	TBD	TBD			
VAS-35 Pressure	(psig)	10 - 20	30			
VAS-36 Flow Rate	(scfm)	TBD	TBD			
VAS-36 Pressure	(psig)	10 - 20	30			
VAS-37 Flow Rate	(scfm)	TBD	TBD			
VAS-37 Pressure	(psig)	10 - 20	30			
VAS-38 Flow Rate	(scfm)	TBD	TBD			
VAS-38 Pressure	(psig)	10 - 20	30			
VAS-39 Flow Rate	(scfm)	TBD	TBD			
VAS-39 Pressure	(psig)	10 - 20	30			
VAS-40 Flow Rate	(scfm)	TBD	TBD			
VAS-40 Pressure	(psig)	10 - 20	30			
VAS-41 Flow Rate	(scfm)	TBD	TBD	8.7		
VAS-41 Pressure	(psig)	20-Oct	30	1.0		
VAS-42 Flow Rate	(scfm)	TBD	TBD	4.0		
VAS-42 Pressure	(psig)	10 - 20	30	14		
VAS-43 Flow Rate	(scfm)	TBD	TBD	3.6		
VAS-43 Pressure	(psig)	10 - 20	30	31		
VAS-44 Flow Rate	(scfm)	TBD	TBD	3.6		
VAS-44 Pressure	(psig)	10 - 20	30	34		
VAS-45 Flow Rate	(scfm)	TBD	TBD	9.7		
VAS-45 Pressure	(psig)	10 - 20	30	18		
Brown's Creek Aerators	(Units)	Optimal Level	Max Level	Arrival	Departure	
BCA-01 Flow Rate	(scfm)	TBD	TBD	14.9		
BCA-01 Pressure	(psig)	0 - 5	5	18		
BCA-02 Flow Rate	(scfm)	TBD	TBD	15.1		
BCA-02 Pressure	(psig)	0 - 5	5	18		
Bedrock Wells	(Units)	Optimal Level	Max Level	Arrival	Departure	
BRS-01 Flow Rate	(scfm)	TBD	TBD			
BRS-01 Pressure	(psig)	10 - 20	30			
BRS-02 Flow Rate	(scfm)	TBD	TBD			
BRS-02 Pressure	(psig)	10 - 20	30			
BRS-03 Flow Rate	(scfm)	TBD	TBD			
BRS-03 Pressure	(psig)	10 - 20	30			



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance Maintenance Log <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Discharge Permit and Expiration Date
6/19/2018 1000	Scott Swain	—	Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Site Maintenance	Frequency	Conditions Good?	Repaired/Replaced?	Scheduled	Comment
Inspect condition of Brown's Creek.	Each visit	Yes / No	Yes / No		
Perform air monitoring near Cupboard Creek.	Each visit	Yes / No	Yes / No		
Activate and inspect condition of receiver auto drain.	Each visit	Yes / No	Yes / No		
...	...				
...	...				

Equipment Maintenance	Frequency	Conditions Good?	Repaired/Replaced?	Scheduled	Comment
Inspect receiver tank and discharge lines.	Monthly	Yes / No	Yes / No		
Inspect condensate system components. Drain and clean as needed.	Monthly	Yes / No	Yes / No		
Inspect the two fire extinguishers for signs of deterioration. Shake contents.	Monthly	Yes / No	Yes / No		
Coordinate with Airite to performed quarterly and annual PM on both machines.	Quarterly	Yes / No	Yes / No		
Inspect various building components detailed in Section X.X.X.	Semi-Annually	Yes / No	Yes / No		
Test relief valve on receiver tank for proper operation.	Annually	Yes / No	Yes / No		
Inspect flow meters per Section X.X.X. Verify calibration.	Annually	Yes / No	Yes / No		
Calibrate EAD	Annually	Yes / No	Yes / No		

NOTE: Please check the manufacturer's instructions for the specific maintenance schedule and instructions.

Additional Comments: → Clean inlet air filters

→ Airite completes additional troubleshooting / double checks to be certain air end of AEA1 requires replacement.



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 1 of 4 <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
6/19/2019 1000	Scott Smith	_____	Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Exterior Components	(Units)	Optimal Level	Max Level	Arrival	Departure
System Operating	(Yes/No)	NA	NA	yes	
Air Compressor 1 Run Time	(hours)	NA	NA	8580:20	
Air Compressor 1 Load Time	(hours)	NA	NA	5879:49	
Air Compressor 1 Discharge Temp	(F)	60 - 100	110	186	
Air Compressor 1 Pressure	(psig)	90 - 110	100	104	
Air Compressor 2 Run Time	(hours)	NA	NA	6550:44	
Air Compressor 2 Load Time	(hours)	NA	NA	5511:03	
Air Compressor 2 Temp	(F)	60 - 100	110	197	
Air Compressor 2 Pressure	(psig)	90 - 110	100	104	
Receiver Tank Pressure	(psig)	90 - 110	100	110	
Receiver Tank Temperature	(F)	60 - 100	110	N/A	
Interior Manifold	(Units)	Optimal Level	Max Level	Arrival	Departure
Manifold Pressure	(psig)	90 - 110	100	104	
Manifold Temperature	(F)	60 - 100	110	110	
Manifold Flow Rate	(scfm)	TBD	TBD	1645	
Horizontal Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
HAS-1 Target Flow Rate	(scfm)	TBD	TBD	525.0	
HAS-1 Actual Flow Rate	(scfm)	TBD	TBD	522.7	
HAS-1 Valve Position	(%)	TBD	TBD	77.3	
HAS-1 Pressure	(psig)	10 - 20	30	26	
HAS-2 Target Flow Rate	(scfm)	TBD	TBD	502.0	
HAS-2 Actual Flow Rate	(scfm)	TBD	TBD	495.3	
HAS-2 Valve Position	(%)	TBD	TBD	50.5	
HAS-2 Pressure	(psig)	10 - 20	30	20	
HAS-3 Target Flow Rate	(scfm)	TBD	TBD	262.5	
HAS-3 Actual Flow Rate	(scfm)	TBD	TBD	257.0	
HAS-3 Valve Position	(%)	TBD	TBD	30.5	
HAS-3 Pressure	(psig)	10 - 20	30	19.5	

Parts Needed:	
Parts Installed:	

Notes (include alarms since previous visit):
→ All operating wells adjusted to ~ 10 scfm after data collected.



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 2 of 4 <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
6/19/2018 1600	SCOTT SMITH		Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Vertical Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
VAS-01 Flow Rate	(scfm)	TBD	TBD		
VAS-01 Pressure	(psig)	10 - 20	30		
VAS-02 Flow Rate	(scfm)	TBD	TBD		
VAS-02 Pressure	(psig)	10 - 20	30		
VAS-03 Flow Rate	(scfm)	TBD	TBD		
VAS-03 Pressure	(psig)	10 - 20	30		
VAS-04 Flow Rate	(scfm)	TBD	TBD		
VAS-04 Pressure	(psig)	10 - 20	30		
VAS-05 Flow Rate	(scfm)	TBD	TBD		
VAS-05 Pressure	(psig)	10 - 20	30		
VAS-06 Flow Rate	(scfm)	TBD	TBD		
VAS-06 Pressure	(psig)	10 - 20	30		
VAS-07 Flow Rate	(scfm)	TBD	TBD		
VAS-07 Pressure	(psig)	10 - 20	30		
VAS-08 Flow Rate	(scfm)	TBD	TBD		
VAS-08 Pressure	(psig)	10 - 20	30		
VAS-09 Flow Rate	(scfm)	TBD	TBD		
VAS-09 Pressure	(psig)	10 - 20	30		
VAS-10 Flow Rate	(scfm)	TBD	TBD		
VAS-10 Pressure	(psig)	10 - 20	30		
VAS-11 Flow Rate	(scfm)	TBD	TBD		
VAS-11 Pressure	(psig)	10 - 20	30		
VAS-12 Flow Rate	(scfm)	TBD	TBD		
VAS-12 Pressure	(psig)	10 - 20	30		
VAS-13 Flow Rate	(scfm)	TBD	TBD		
VAS-13 Pressure	(psig)	10 - 20	30		
VAS-14 Flow Rate	(scfm)	TBD	TBD		
VAS-14 Pressure	(psig)	10 - 20	30		
VAS-15 Flow Rate	(scfm)	TBD	TBD		
VAS-15 Pressure	(psig)	10 - 20	30		
VAS-16 Flow Rate	(scfm)	TBD	TBD		
VAS-16 Pressure	(psig)	10 - 20	30		
VAS-17 Flow Rate	(scfm)	TBD	TBD		
VAS-17 Pressure	(psig)	10 - 20	30		



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 3 of 4 <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
6/19/18 1066	SCOTT SIMMONS	_____	Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Vertical Wells	(Units)	Optimal Level	Max Level	Arrival	Departure	
VAS-18 Flow Rate	(scfm)	TBD	TBD			
VAS-18 Pressure	(psig)	10 - 20	30			
VAS-19 Flow Rate	(scfm)	TBD	TBD			
VAS-19 Pressure	(psig)	10 - 20	30			
VAS-20 Flow Rate	(scfm)	TBD	TBD			
VAS-20 Pressure	(psig)	10 - 20	30			
VAS-21 Flow Rate	(scfm)	TBD	TBD			
VAS-21 Pressure	(psig)	10 - 20	30			
VAS-22 Flow Rate	(scfm)	TBD	TBD		9.4	
VAS-22 Pressure	(psig)	10 - 20	30		22	
VAS-23 Flow Rate	(scfm)	TBD	TBD		9.6	
VAS-23 Pressure	(psig)	10 - 20	30		20	
VAS-24 Flow Rate	(scfm)	TBD	TBD		6.3	
VAS-24 Pressure	(psig)	10 - 20	30		24	
VAS-25 Flow Rate	(scfm)	TBD	TBD			
VAS-25 Pressure	(psig)	10 - 20	30			
VAS-26 Flow Rate	(scfm)	TBD	TBD			
VAS-26 Pressure	(psig)	10 - 20	30			
VAS-27 Flow Rate	(scfm)	TBD	TBD			
VAS-27 Pressure	(psig)	10 - 20	30			
VAS-28 Flow Rate	(scfm)	TBD	TBD			
VAS-28 Pressure	(psig)	10 - 20	30			
VAS-29 Flow Rate	(scfm)	TBD	TBD			
VAS-29 Pressure	(psig)	10 - 20	30			
VAS-30 Flow Rate	(scfm)	TBD	TBD			
VAS-30 Pressure	(psig)	10 - 20	30			
VAS-31 Flow Rate	(scfm)	TBD	TBD			
VAS-31 Pressure	(psig)	10 - 20	30			
VAS-32 Flow Rate	(scfm)	TBD	TBD	8.7		
VAS-32 Pressure	(psig)	10 - 20	30	16		
VAS-33 Flow Rate	(scfm)	TBD	TBD	6.8		
VAS-33 Pressure	(psig)	10 - 20	30	18		
VAS-34 Flow Rate	(scfm)	TBD	TBD	6.4		
VAS-34 Pressure	(psig)	10 - 20	30	19		



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 4 of 4 <i>Lewis Drive, Belton, South Carolina</i>
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
6/19/2018 1:00	Scott CM DA	—	Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt

Vertical Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
VAS-35 Flow Rate	(scfm)	TBD	TBD		
VAS-35 Pressure	(psig)	10 - 20	30		
VAS-36 Flow Rate	(scfm)	TBD	TBD		
VAS-36 Pressure	(psig)	10 - 20	30		
VAS-37 Flow Rate	(scfm)	TBD	TBD		
VAS-37 Pressure	(psig)	10 - 20	30		
VAS-38 Flow Rate	(scfm)	TBD	TBD		
VAS-38 Pressure	(psig)	10 - 20	30		
VAS-39 Flow Rate	(scfm)	TBD	TBD		
VAS-39 Pressure	(psig)	10 - 20	30		
VAS-40 Flow Rate	(scfm)	TBD	TBD		
VAS-40 Pressure	(psig)	10 - 20	30		
VAS-41 Flow Rate	(scfm)	TBD	TBD	8.6	
VAS-41 Pressure	(psig)	20-Oct	30	11	
VAS-42 Flow Rate	(scfm)	TBD	TBD	8.7	
VAS-42 Pressure	(psig)	10 - 20	30	12	
VAS-43 Flow Rate	(scfm)	TBD	TBD	3.1	
VAS-43 Pressure	(psig)	10 - 20	30	33	
VAS-44 Flow Rate	(scfm)	TBD	TBD	2.3	
VAS-44 Pressure	(psig)	10 - 20	30	36	
VAS-45 Flow Rate	(scfm)	TBD	TBD	9.7	
VAS-45 Pressure	(psig)	10 - 20	30	17	
Brown's Creek Aerators	(Units)	Optimal Level	Max Level	Arrival	Departure
BCA-01 Flow Rate	(scfm)	TBD	TBD	15.2	
BCA-01 Pressure	(psig)	0 - 5	5	19	
BCA-02 Flow Rate	(scfm)	TBD	TBD	15.1	
BCA-02 Pressure	(psig)	0 - 5	5	18	
Bedrock Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
BRS-01 Flow Rate	(scfm)	TBD	TBD		
BRS-01 Pressure	(psig)	10 - 20	30		
BRS-02 Flow Rate	(scfm)	TBD	TBD		
BRS-02 Pressure	(psig)	10 - 20	30		
BRS-03 Flow Rate	(scfm)	TBD	TBD		
BRS-03 Pressure	(psig)	10 - 20	30		



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 1 of 4 Lewis Drive, Belton, South Carolina		
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL			
Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits	
6/26/18 6/26/18 10:30	T. HAN		Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt	
Exterior Components		(Units)	Optimal Level	Max Level	Arrival	Departure
System Operating		(Yes/No)	NA	NA	YES	YES
Air Compressor 1 Run Time		(hours)	NA	NA	8:00	8731
Air Compressor 1 Load Time		(hours)	NA	NA	5:30	6030.6
Air Compressor 1 Discharge Temp		(F)	60 - 100	110	150	182
Air Compressor 1 Pressure		(psig)	90 - 110	100	100	71
Air Compressor 2 Run Time		(hours)	NA	NA	6:00	6702
Air Compressor 2 Load Time		(hours)	NA	NA	5:20	5662
Air Compressor 2 Temp		(F)	60 - 100	110	120	192
Air Compressor 2 Pressure		(psig)	90 - 110	100	100	73
Receiver Tank Pressure		(psig)	90 - 110	100	110	80
Receiver Tank Temperature		(F)	60 - 100	110		-
Interior Manifold		(Units)	Optimal Level	Max Level	Arrival	Departure
Manifold Pressure		(psig)	90 - 110	100	100	75
Manifold Temperature		(F)	60 - 100	110	100	100
Manifold Flow Rate		(scfm)	TBD	TBD	100	1785
Horizontal Wells		(Units)	Optimal Level	Max Level	Arrival	Departure
HAS-1 Target Flow Rate		(scfm)	TBD	TBD	525	525
HAS-1 Actual Flow Rate		(scfm)	TBD	TBD	525	522.9
HAS-1 Valve Position		(%)	TBD	TBD	71.8	71.8
HAS-1 Pressure		(psig)	10 - 20	30	26	26
HAS-2 Target Flow Rate		(scfm)	TBD	TBD	502	502
HAS-2 Actual Flow Rate		(scfm)	TBD	TBD	502	504
HAS-2 Valve Position		(%)	TBD	TBD	36.1	36.1
HAS-2 Pressure		(psig)	10 - 20	30	28	28
HAS-3 Target Flow Rate		(scfm)	TBD	TBD	262.5	262.5
HAS-3 Actual Flow Rate		(scfm)	TBD	TBD	262.5	261.7
HAS-3 Valve Position		(%)	TBD	TBD	28.5	28.5
HAS-3 Pressure		(psig)	10 - 20	30	20	20
Parts Needed:						
Parts Installed:						
Notes (Include alarms since previous visit):						



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 2 of 4 <i>Lewis Drive, Belton, South Carolina</i>		
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL			
Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits	
6/26/18/1030	J. HALL		Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt	
Vertical Wells	(Units)	Optimal Level	Max Level	Arrival	Departure	
VAS-01 Flow Rate	(scfm)	TBD	TBD			
VAS-01 Pressure	(psig)	10 - 20	30			
VAS-02 Flow Rate	(scfm)	TBD	TBD			
VAS-02 Pressure	(psig)	10 - 20	30			
VAS-03 Flow Rate	(scfm)	TBD	TBD			
VAS-03 Pressure	(psig)	10 - 20	30			
VAS-04 Flow Rate	(scfm)	TBD	TBD			
VAS-04 Pressure	(psig)	10 - 20	30			
VAS-05 Flow Rate	(scfm)	TBD	TBD			
VAS-05 Pressure	(psig)	10 - 20	30			
VAS-06 Flow Rate	(scfm)	TBD	TBD			
VAS-06 Pressure	(psig)	10 - 20	30			
VAS-07 Flow Rate	(scfm)	TBD	TBD			
VAS-07 Pressure	(psig)	10 - 20	30			
VAS-08 Flow Rate	(scfm)	TBD	TBD			
VAS-08 Pressure	(psig)	10 - 20	30			
VAS-09 Flow Rate	(scfm)	TBD	TBD			
VAS-09 Pressure	(psig)	10 - 20	30			
VAS-10 Flow Rate	(scfm)	TBD	TBD			
VAS-10 Pressure	(psig)	10 - 20	30			
VAS-11 Flow Rate	(scfm)	TBD	TBD			
VAS-11 Pressure	(psig)	10 - 20	30			
VAS-12 Flow Rate	(scfm)	TBD	TBD			
VAS-12 Pressure	(psig)	10 - 20	30			
VAS-13 Flow Rate	(scfm)	TBD	TBD			
VAS-13 Pressure	(psig)	10 - 20	30		13.4	
VAS-14 Flow Rate	(scfm)	TBD	TBD		15	
VAS-14 Pressure	(psig)	10 - 20	30		9.3	
VAS-15 Flow Rate	(scfm)	TBD	TBD		7.2	
VAS-15 Pressure	(psig)	10 - 20	30		14.7	
VAS-16 Flow Rate	(scfm)	TBD	TBD		1.0	
VAS-16 Pressure	(psig)	10 - 20	30		14.1	
VAS-17 Flow Rate	(scfm)	TBD	TBD		18	
VAS-17 Pressure	(psig)	10 - 20	30		9.3	
					8	



Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 3 of 4 Lewis Drive, Belton, South Carolina		
Lewis Drive	Belton, SC	Bill Waldron/PAL	Scott Powell/ATL			
Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits	
6/26/18/1070	T. HALL		Air Compressors Condensate Treatment	Sullair TS-20-200 Beko Qwik Pure 350	LIC Permit To Operate: SC-HEC020469 Air Permit Exempt	
Vertical Wells	(Units)	Optimal Level	Max Level	Arrival	Departure	
VAS-18 Flow Rate	(scfm)	TBD	TBD		8.5	
VAS-18 Pressure	(psig)	10 - 20	30		0	
VAS-19 Flow Rate	(scfm)	TBD	TBD		9.6	
VAS-19 Pressure	(psig)	10 - 20	30		6	
VAS-20 Flow Rate	(scfm)	TBD	TBD		5.3	
VAS-20 Pressure	(psig)	10 - 20	30		24	
VAS-21 Flow Rate	(scfm)	TBD	TBD		6.9	
VAS-21 Pressure	(psig)	10 - 20	30		6.9	
VAS-22 Flow Rate	(scfm)	TBD	TBD		9.9	
VAS-22 Pressure	(psig)	10 - 20	30		9.9	
VAS-23 Flow Rate	(scfm)	TBD	TBD		9.2	
VAS-23 Pressure	(psig)	10 - 20	30		9.2	
VAS-24 Flow Rate	(scfm)	TBD	TBD		10.4	
VAS-24 Pressure	(psig)	10 - 20	30		24	
VAS-25 Flow Rate	(scfm)	TBD	TBD		7.7	
VAS-25 Pressure	(psig)	10 - 20	30		24	
VAS-26 Flow Rate	(scfm)	TBD	TBD		4.4	
VAS-26 Pressure	(psig)	10 - 20	30		30	
VAS-27 Flow Rate	(scfm)	TBD	TBD		6.9	
VAS-27 Pressure	(psig)	10 - 20	30		32	
VAS-28 Flow Rate	(scfm)	TBD	TBD		9.1	
VAS-28 Pressure	(psig)	10 - 20	30		15	
VAS-29 Flow Rate	(scfm)	TBD	TBD		8.9	
VAS-29 Pressure	(psig)	10 - 20	30		15	
VAS-30 Flow Rate	(scfm)	TBD	TBD		11.1	
VAS-30 Pressure	(psig)	10 - 20	30		6	
VAS-31 Flow Rate	(scfm)	TBD	TBD		10.3	
VAS-31 Pressure	(psig)	10 - 20	30		23	
VAS-32 Flow Rate	(scfm)	TBD	TBD		10.5	
VAS-32 Pressure	(psig)	10 - 20	30		17	
VAS-33 Flow Rate	(scfm)	TBD	TBD		12.5	
VAS-33 Pressure	(psig)	10 - 20	30		20	
VAS-34 Flow Rate	(scfm)	TBD	TBD		7.0	
VAS-34 Pressure	(psig)	10 - 20	30		18	

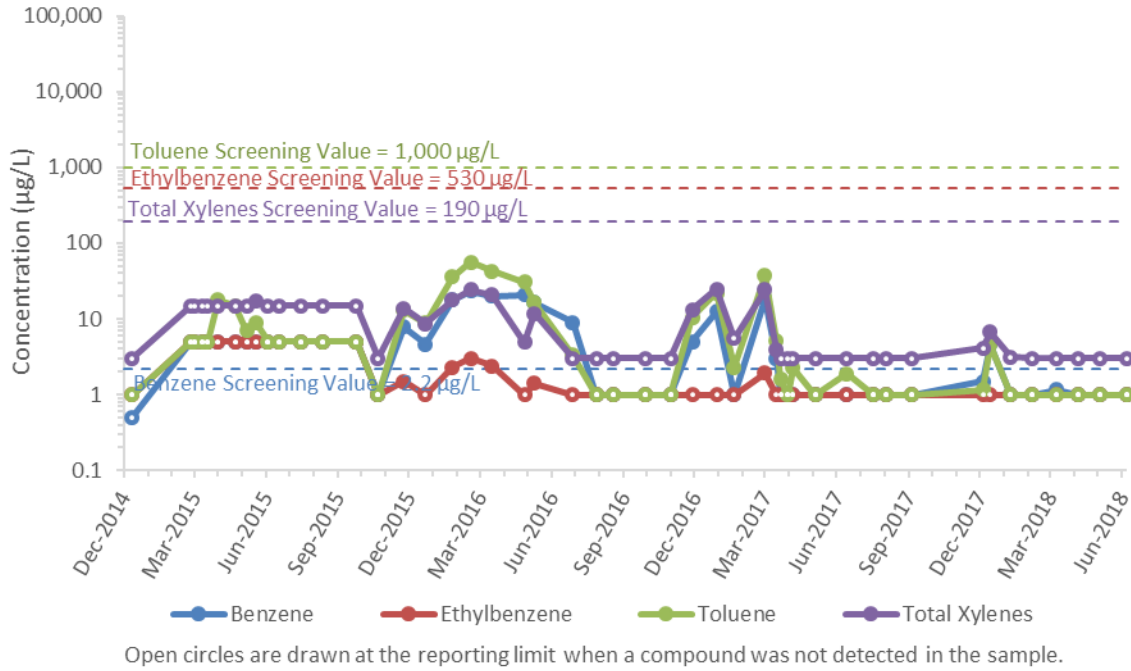


Site Name	Site Location	Project Manager	Project Engineer	Biosparging Operation and Maintenance System Data Log 4 of 4 <i>Lewis Drive, Belton, South Carolina</i>		
Lewis Drive	Belton, SC	Bill Waldron/RAL	Scott Powell/ATL			
Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits	
6/26/18 10:50	T. H. Hall		Air Compressors Condensate Treatment	Sulair TS-20-200 Beko Qwik Pure 350	UIC Permit To Operate: SCHE03020469 Air Permit Exempt	
Vertical Wells		(Units)	Optimal Level	Max Level	Arrival	Departure
VAS-35 Flow Rate		(scfm)	TBD	TBD	2.6	4.6
VAS-35 Pressure		(psig)	10 - 20	30	2.4	2.4
VAS-36 Flow Rate		(scfm)	TBD	TBD	10.4	10.4
VAS-36 Pressure		(psig)	10 - 20	30	18	18
VAS-37 Flow Rate		(scfm)	TBD	TBD	10.5	10.5
VAS-37 Pressure		(psig)	10 - 20	30	12	12
VAS-38 Flow Rate		(scfm)	TBD	TBD	9.3	9.3
VAS-38 Pressure		(psig)	10 - 20	30	11	11
VAS-39 Flow Rate		(scfm)	TBD	TBD	8.6	8.6
VAS-39 Pressure		(psig)	10 - 20	30	15	15
VAS-40 Flow Rate		(scfm)	TBD	TBD	4.5	4.5
VAS-40 Pressure		(psig)	10 - 20	30	28	28
VAS-41 Flow Rate		(scfm)	TBD	TBD	28	28
VAS-41 Pressure		(psig)	20-Oct	30		
VAS-42 Flow Rate		(scfm)	TBD	TBD	5.8	
VAS-42 Pressure		(psig)	10 - 20	30		
VAS-43 Flow Rate		(scfm)	TBD	TBD		9.8
VAS-43 Pressure		(psig)	10 - 20	30		15
VAS-44 Flow Rate		(scfm)	TBD	TBD		
VAS-44 Pressure		(psig)	10 - 20	30		
VAS-45 Flow Rate		(scfm)	TBD	TBD	10	10
VAS-45 Pressure		(psig)	10 - 20	30	18	18
Brown's Creek Aerators		(Units)	Optimal Level	Max Level	Arrival	Departure
BCA-01 Flow Rate		(scfm)	TBD	TBD	14.4	14.4
BCA-01 Pressure		(psig)	0 - 5	5	18	18
BCA-02 Flow Rate		(scfm)	TBD	TBD	14.1	14.1
BCA-02 Pressure		(psig)	0 - 5	5	18	18
Bedrock Wells		(Units)	Optimal Level	Max Level	Arrival	Departure
BRS-01 Flow Rate		(scfm)	TBD	TBD		
BRS-01 Pressure		(psig)	10 - 20	30		
BRS-02 Flow Rate		(scfm)	TBD	TBD		
BRS-02 Pressure		(psig)	10 - 20	30		
BRS-03 Flow Rate		(scfm)	TBD	TBD		
BRS-03 Pressure		(psig)	10 - 20	30		

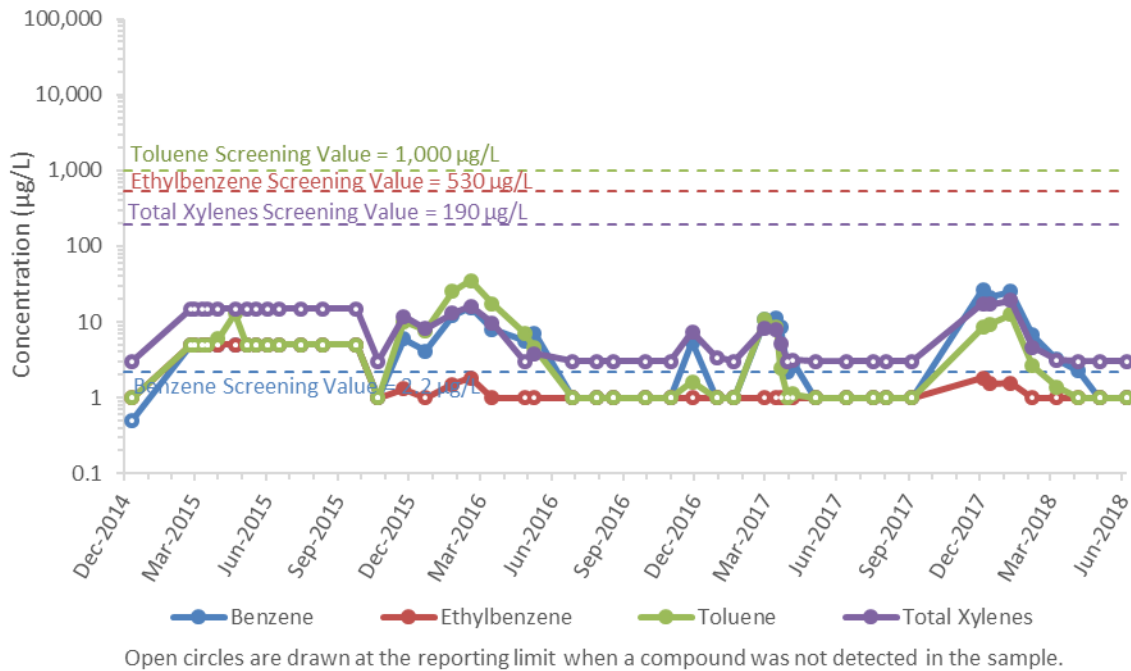
Appendix E

Surface Water Analytical Trends

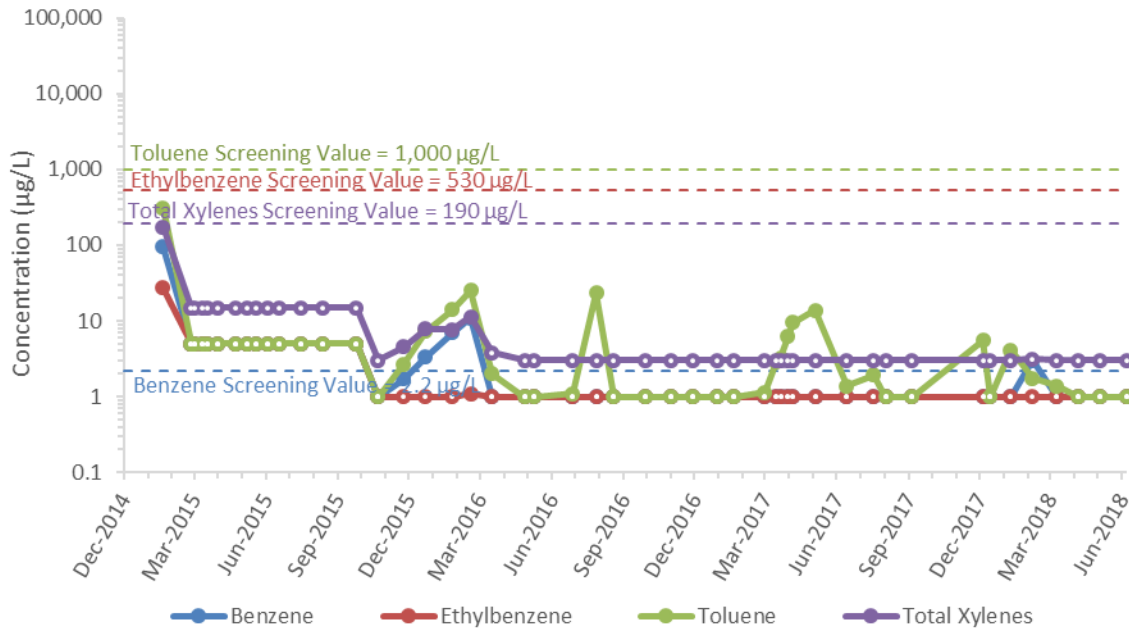
SW-01



SW-02

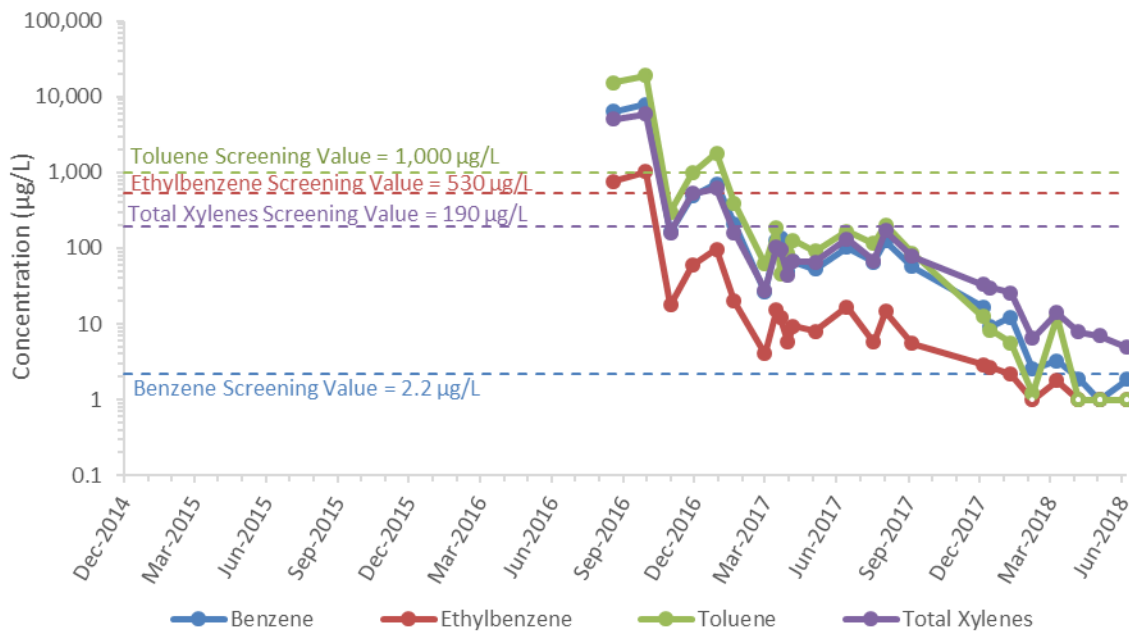


SW-04



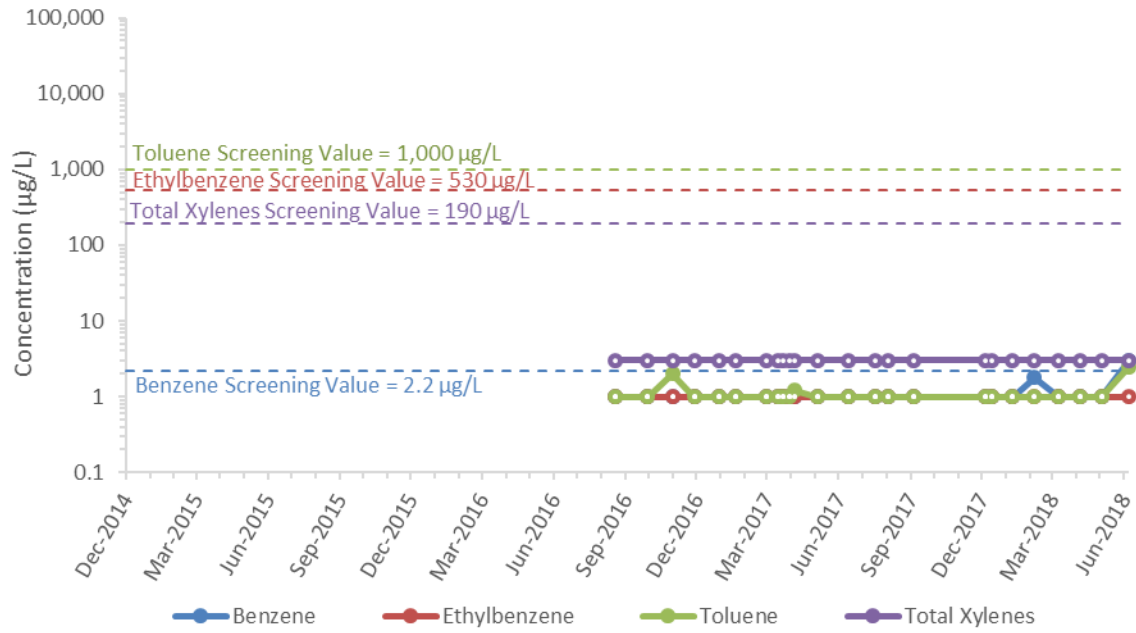
Open circles are drawn at the reporting limit when a compound was not detected in the sample.

SW-12



Open circles are drawn at the reporting limit when a compound was not detected in the sample.

SW-13

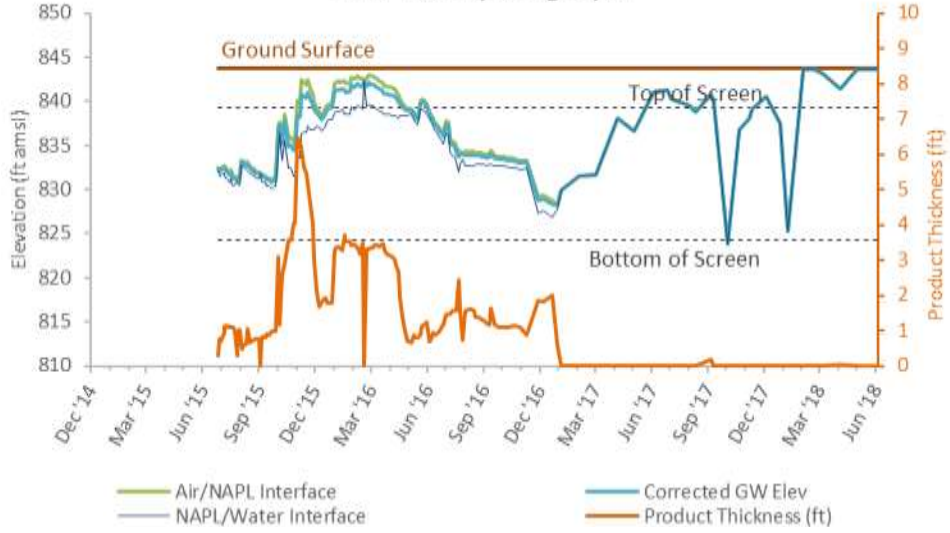


Open circles are drawn at the reporting limit when a compound was not detected in the sample.

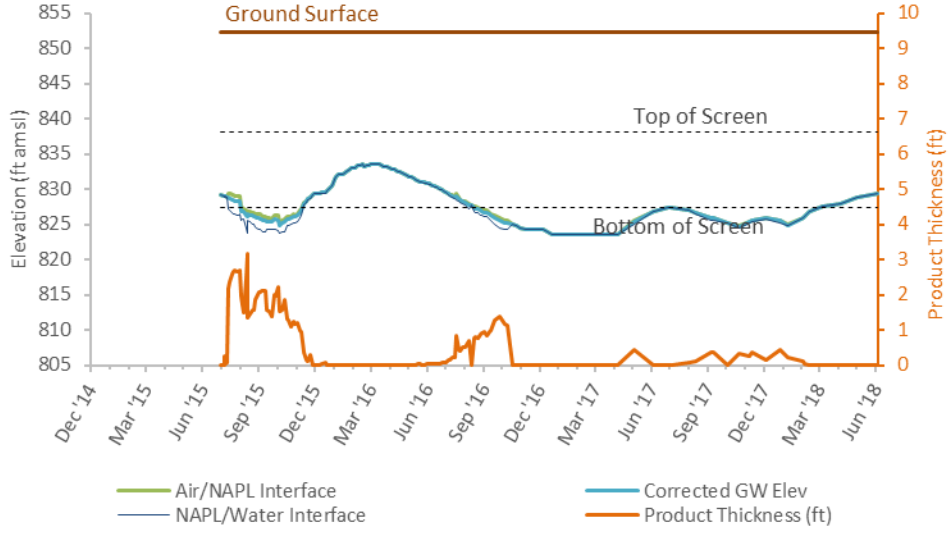
Appendix F

Product Thickness Trends

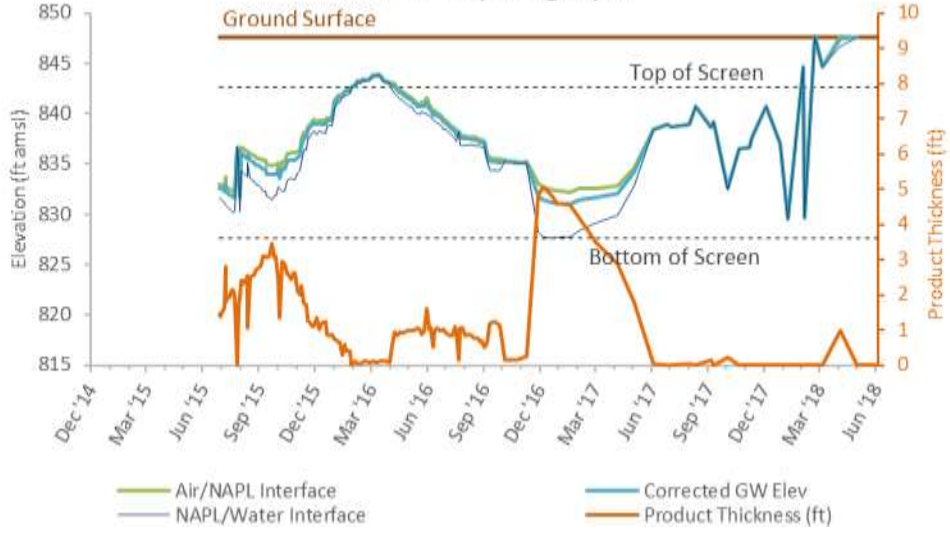
MW-09 Hydrograph

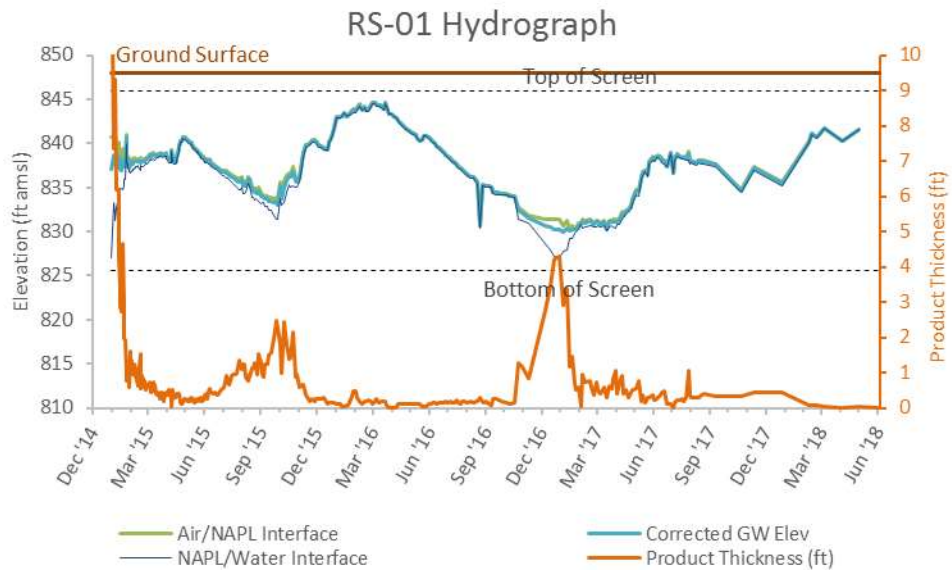
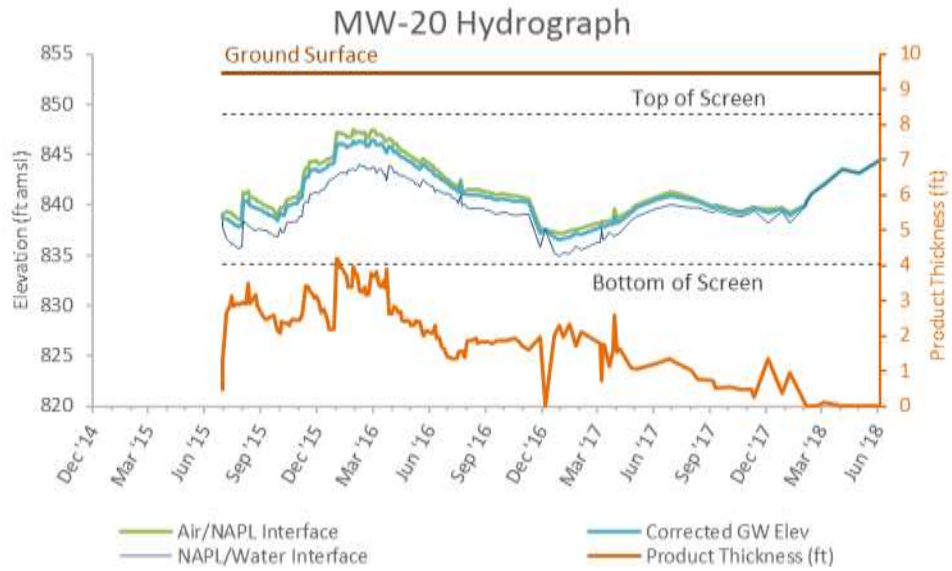
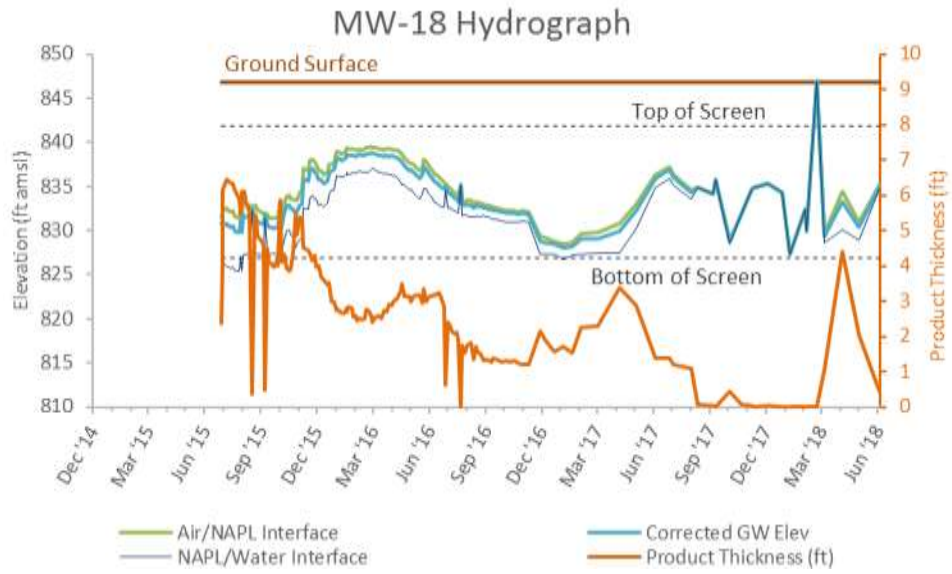


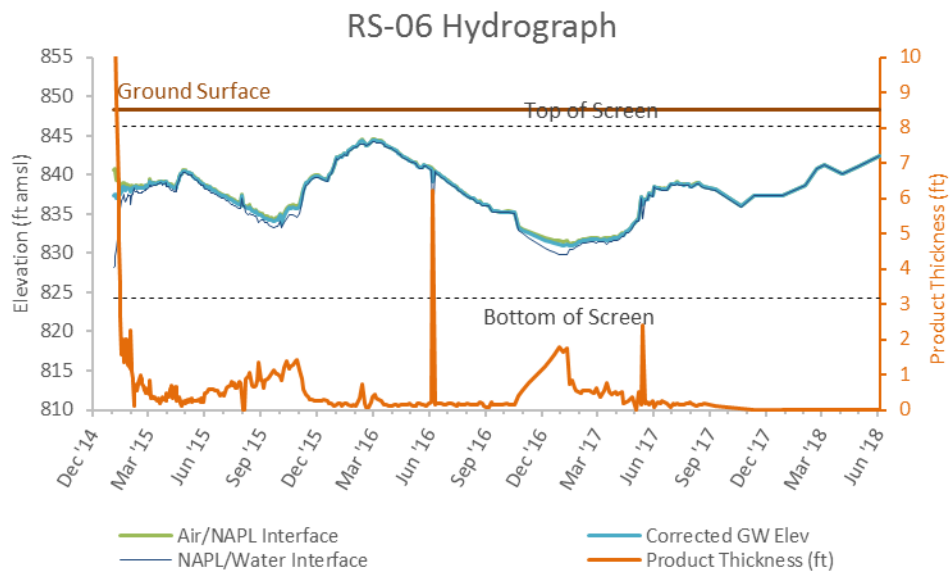
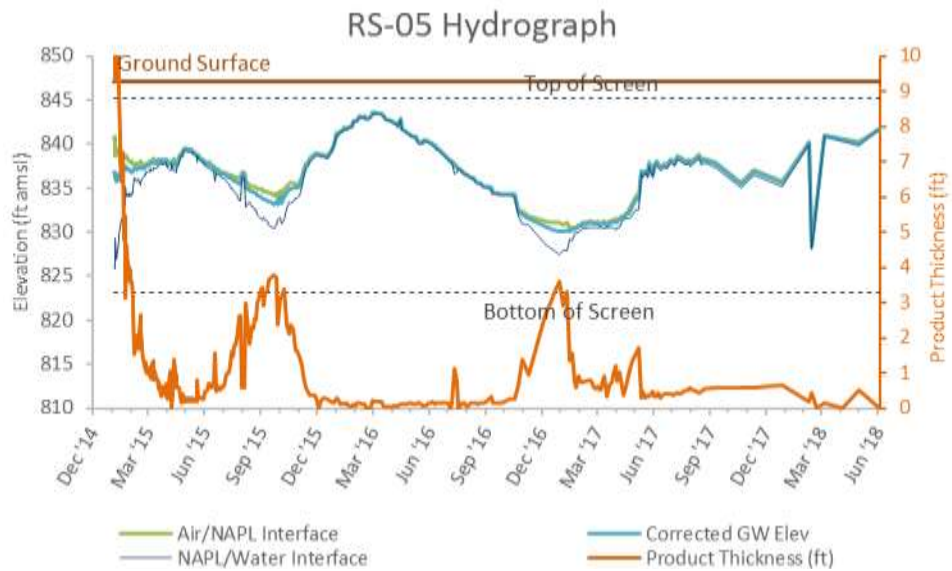
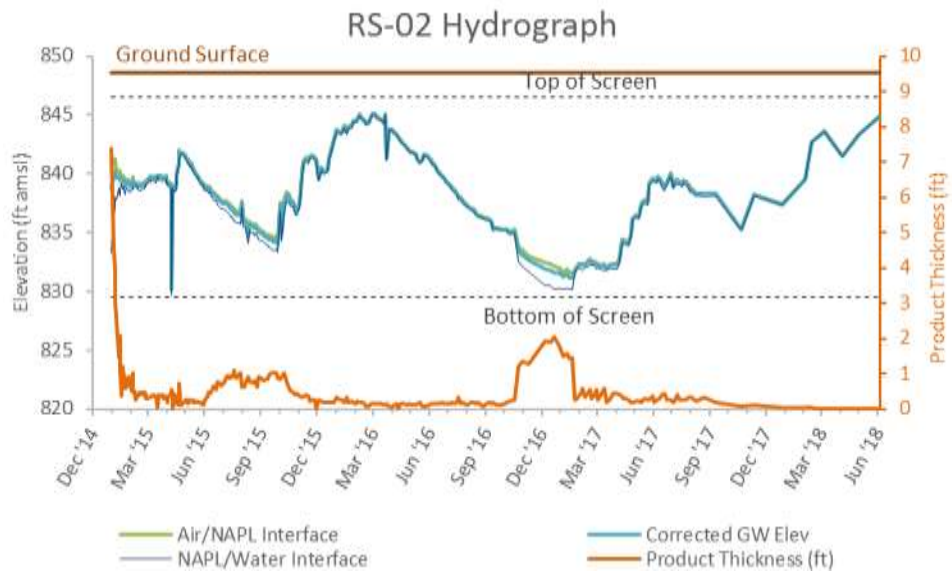
MW-11 Hydrograph



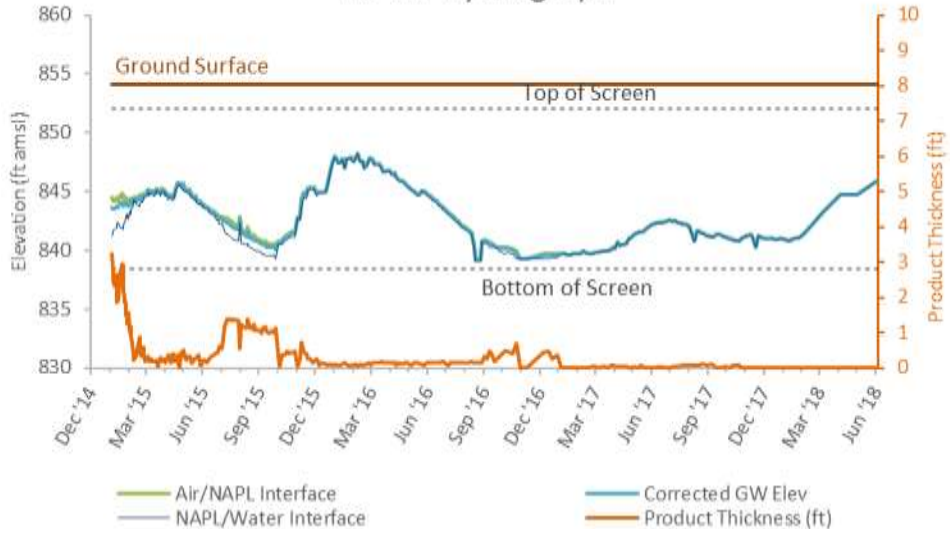
MW-16 Hydrograph



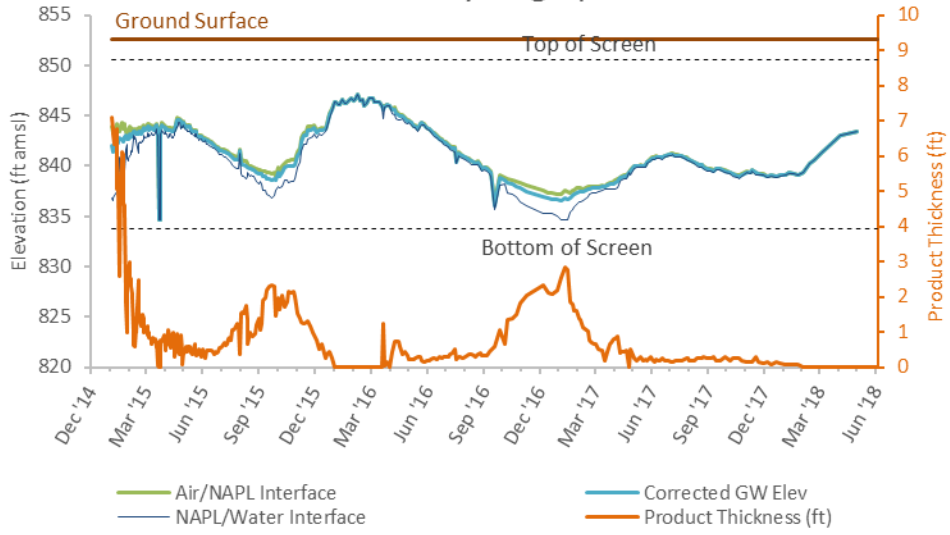




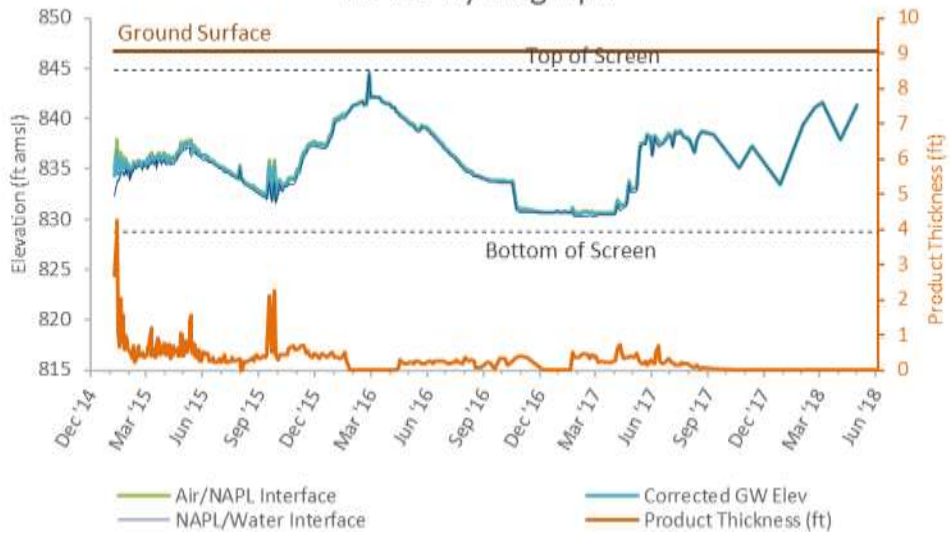
RS-07 Hydrograph



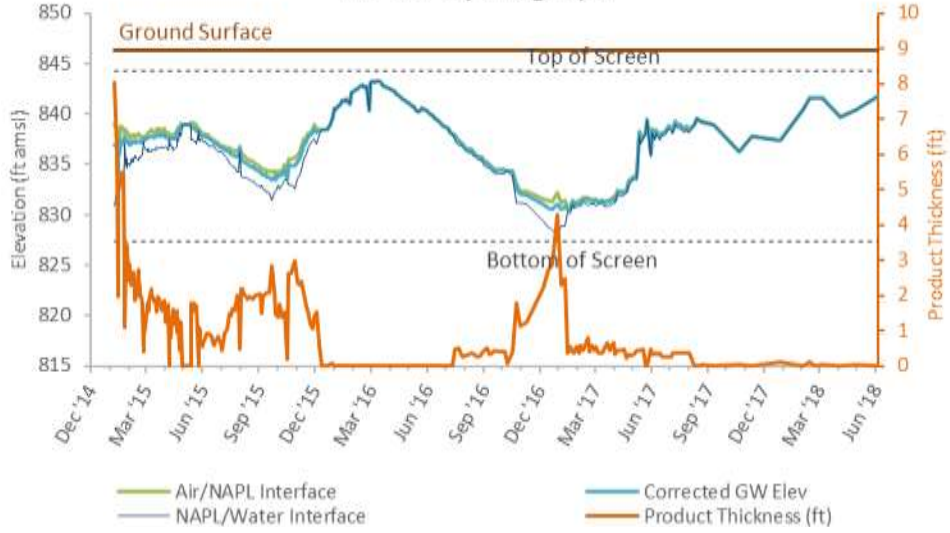
RS-08 Hydrograph



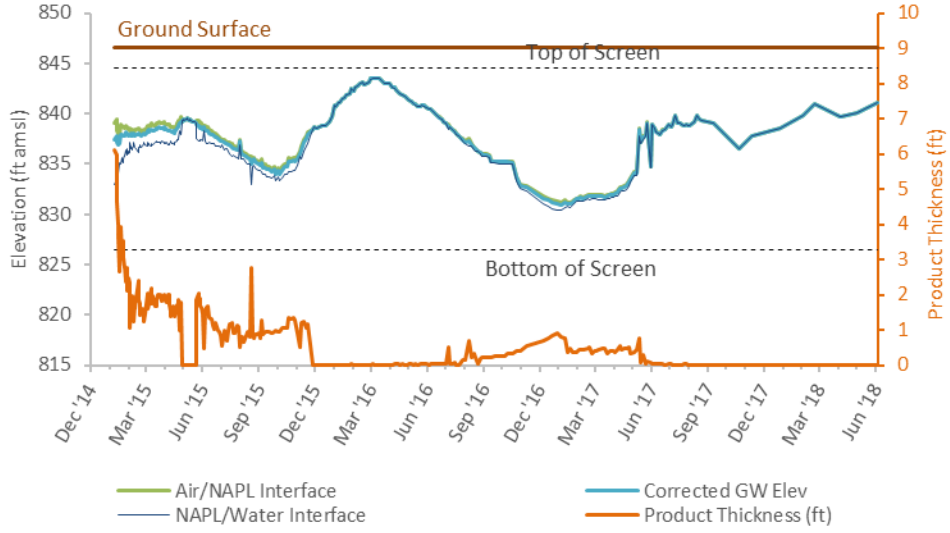
RS-09 Hydrograph



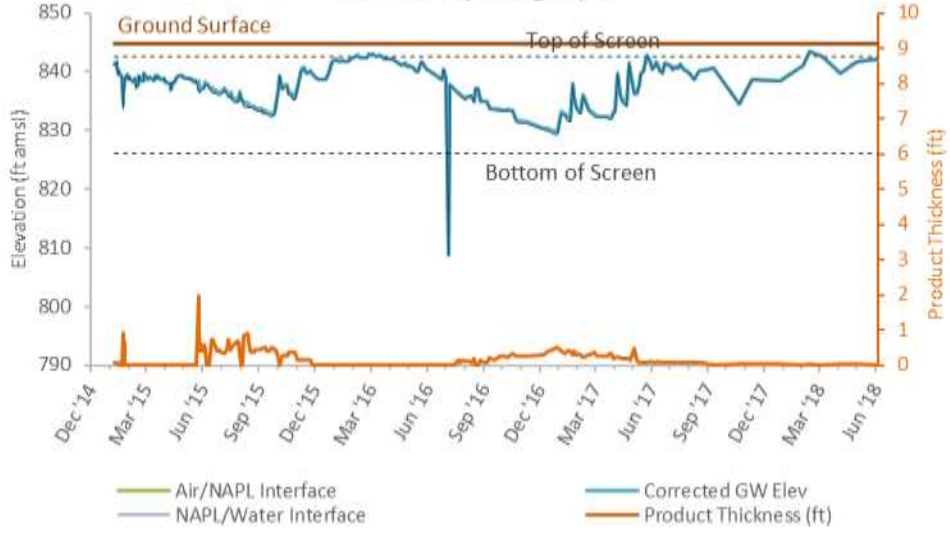
RS-10 Hydrograph



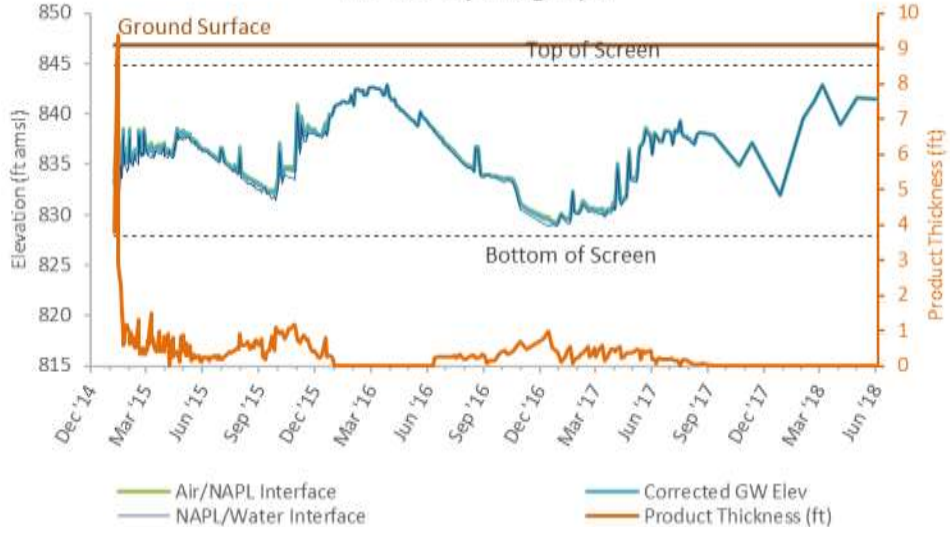
RS-12 Hydrograph



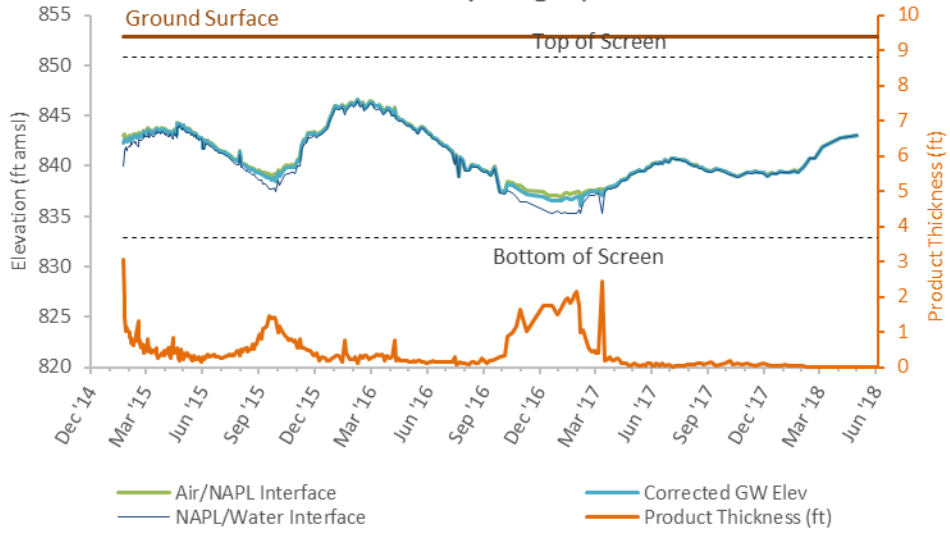
RS-14 Hydrograph



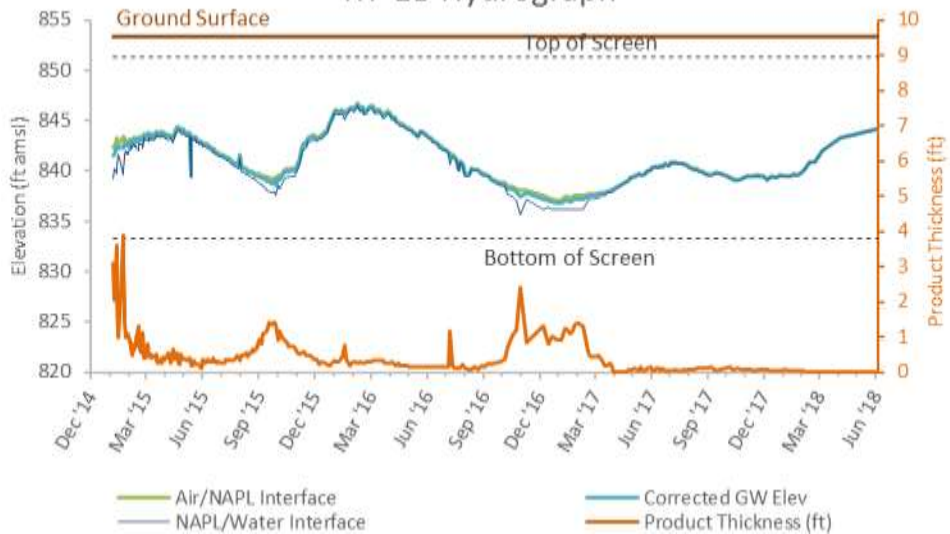
RS-18 Hydrograph



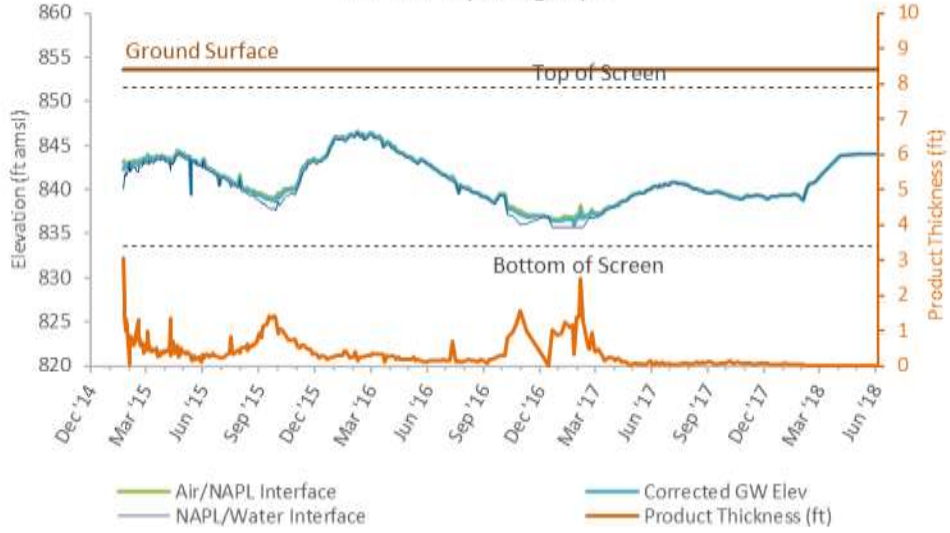
RT-1A Hydrograph



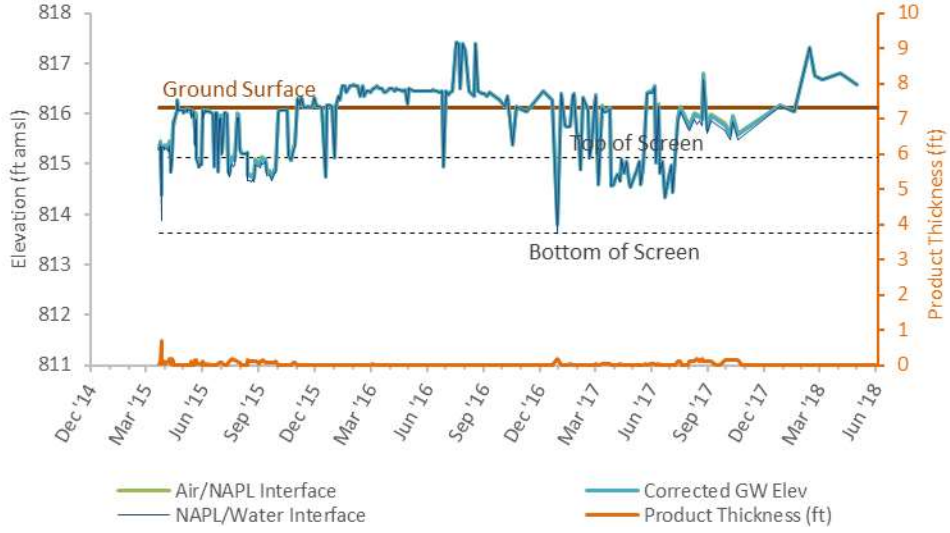
RT-1B Hydrograph



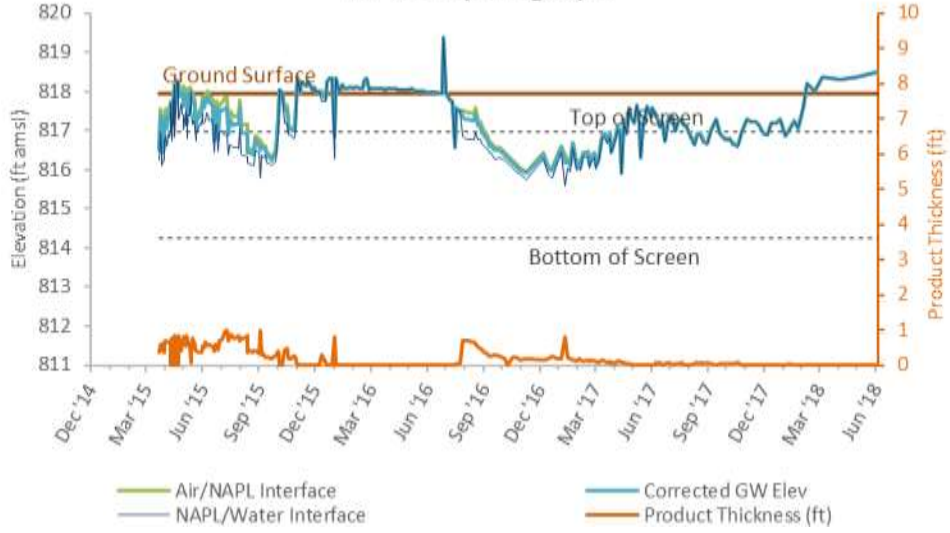
RT-1C Hydrograph



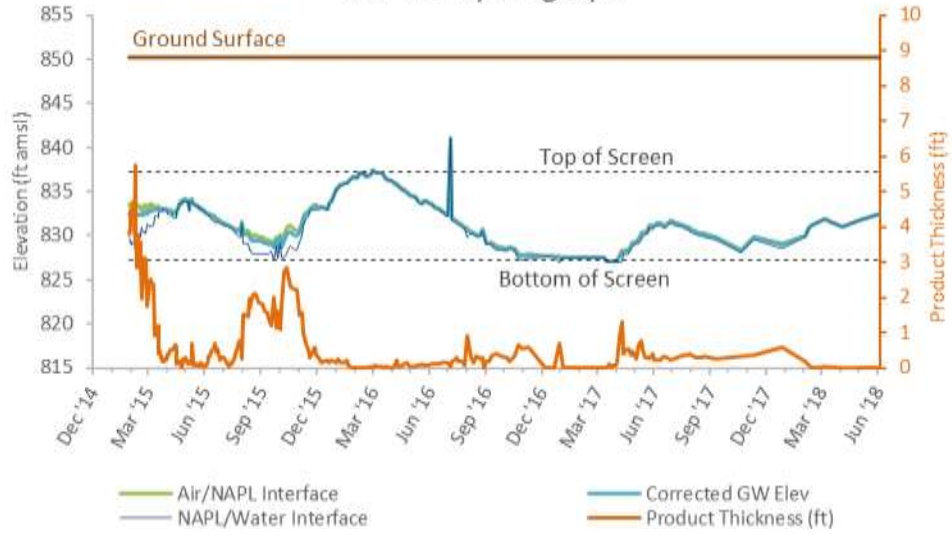
RT-2K Hydrograph



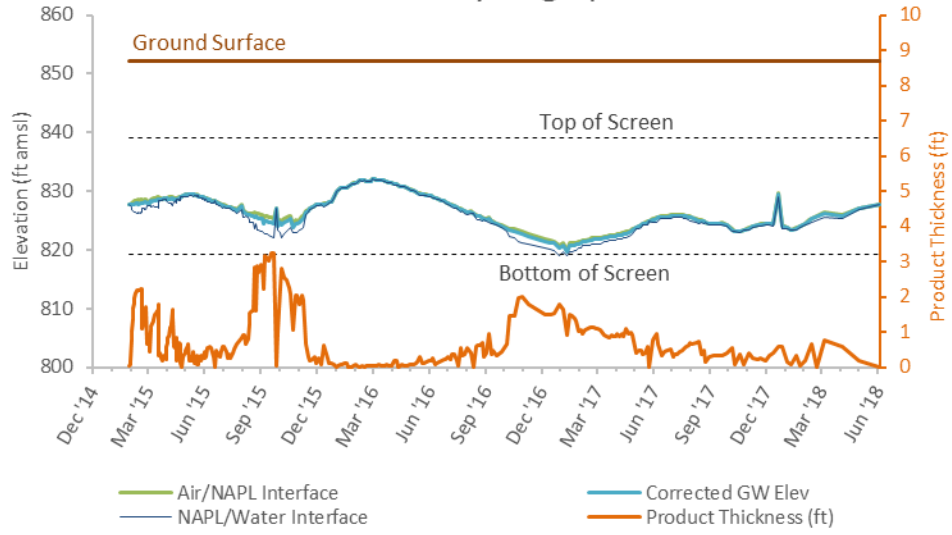
RT-2L Hydrograph



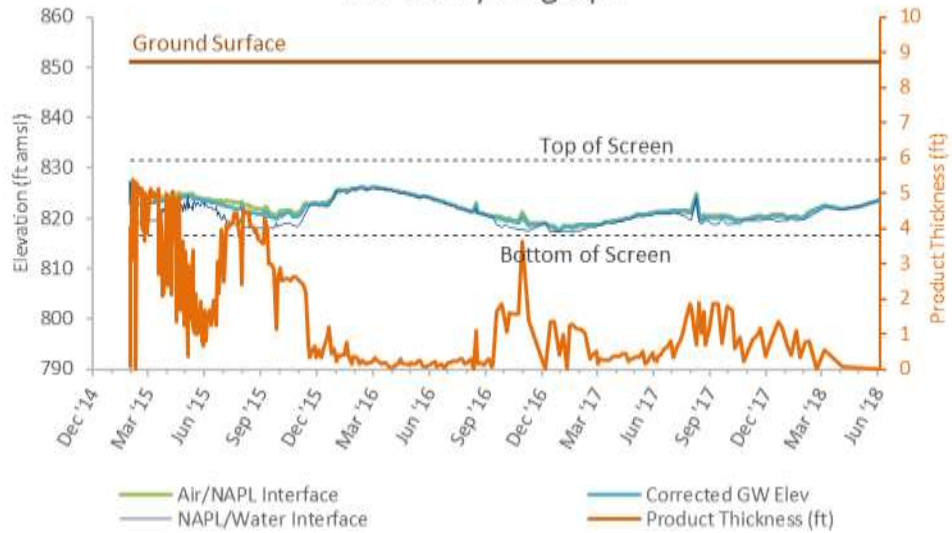
RW-02 Hydrograph



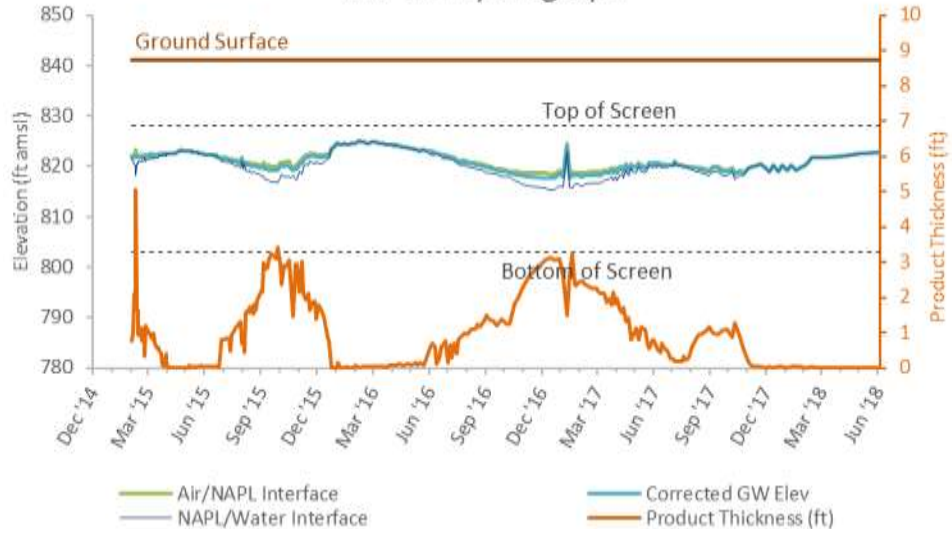
RW-04 Hydrograph



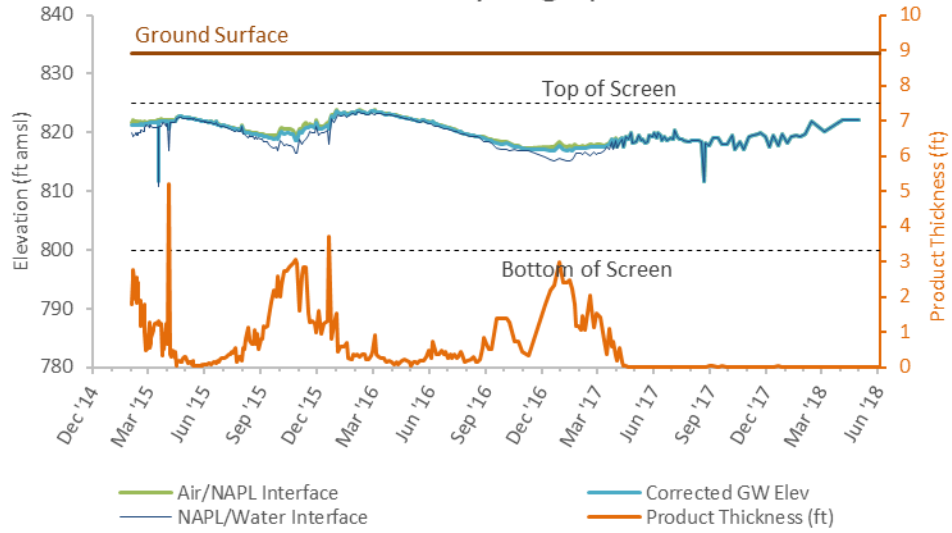
RW-05 Hydrograph



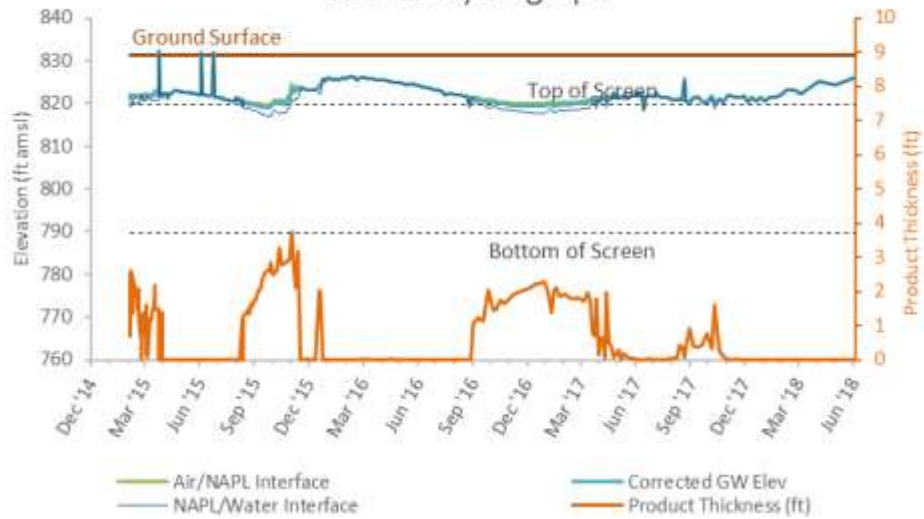
RW-07 Hydrograph

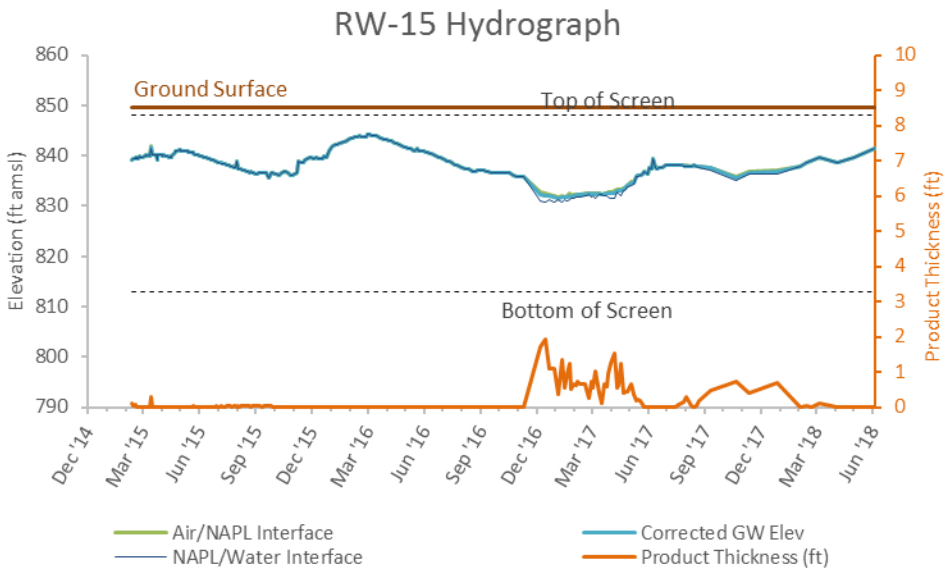
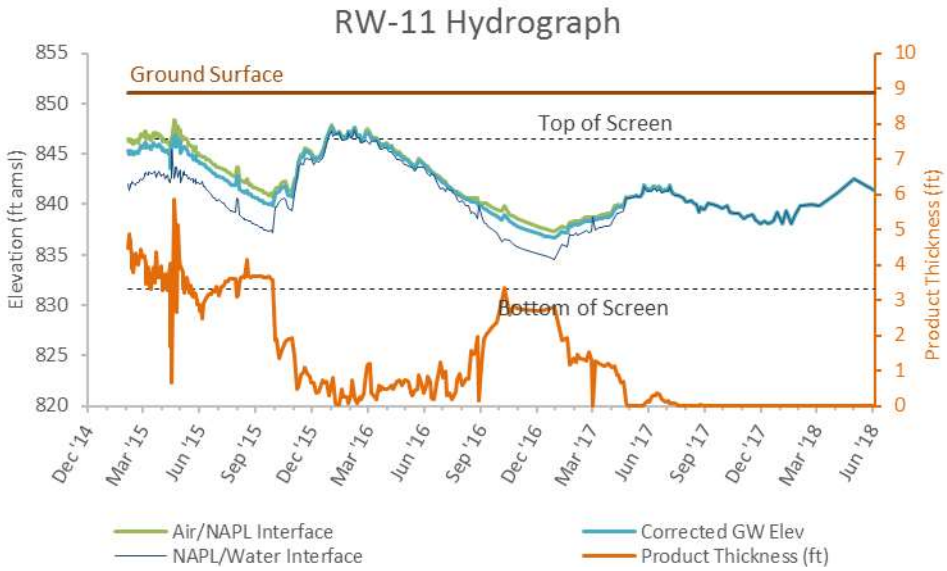
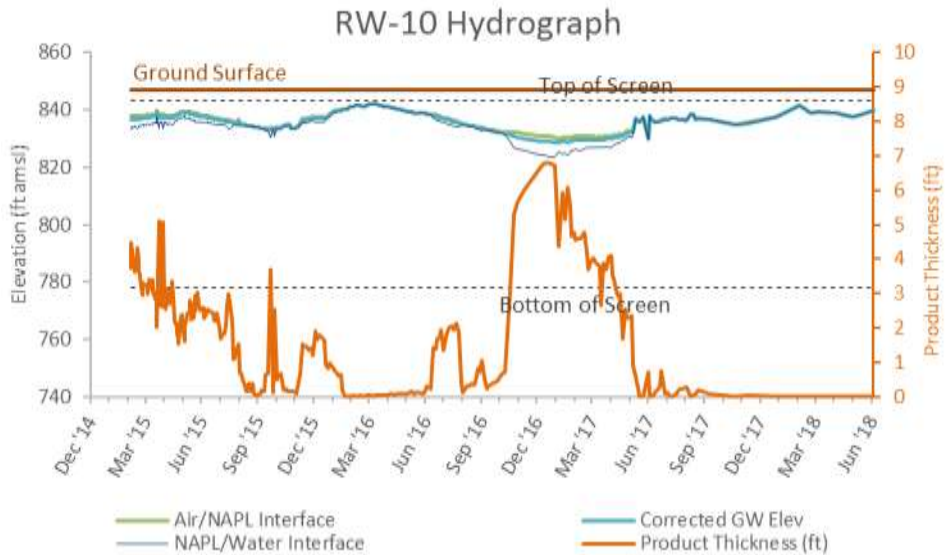


RW-08 Hydrograph

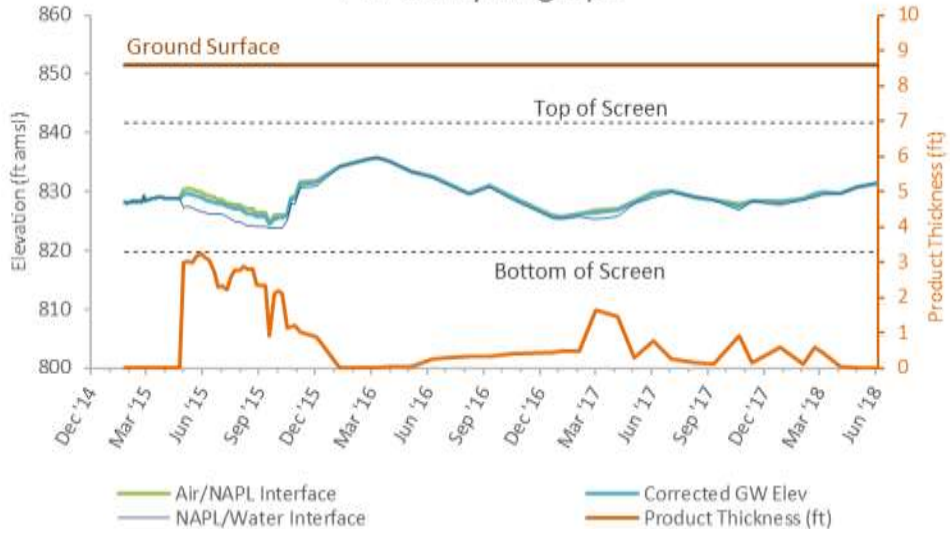


RW-09 Hydrograph

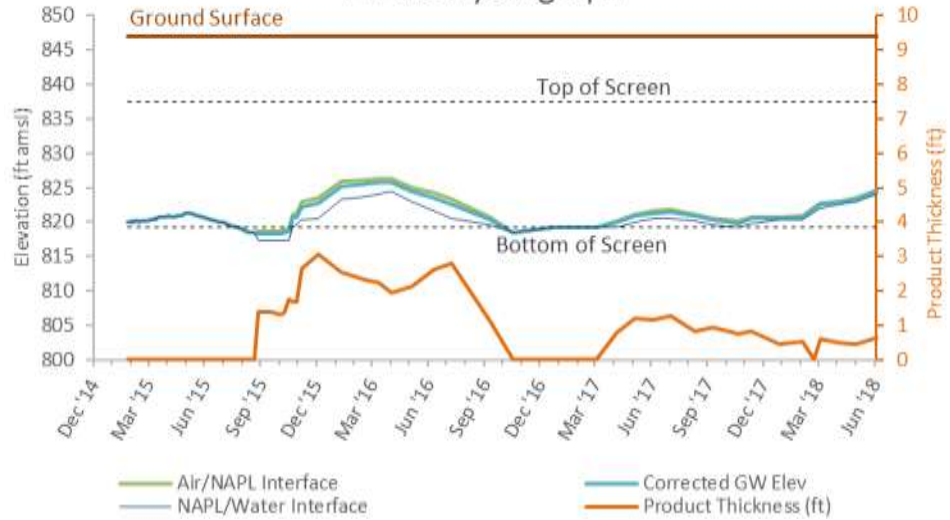




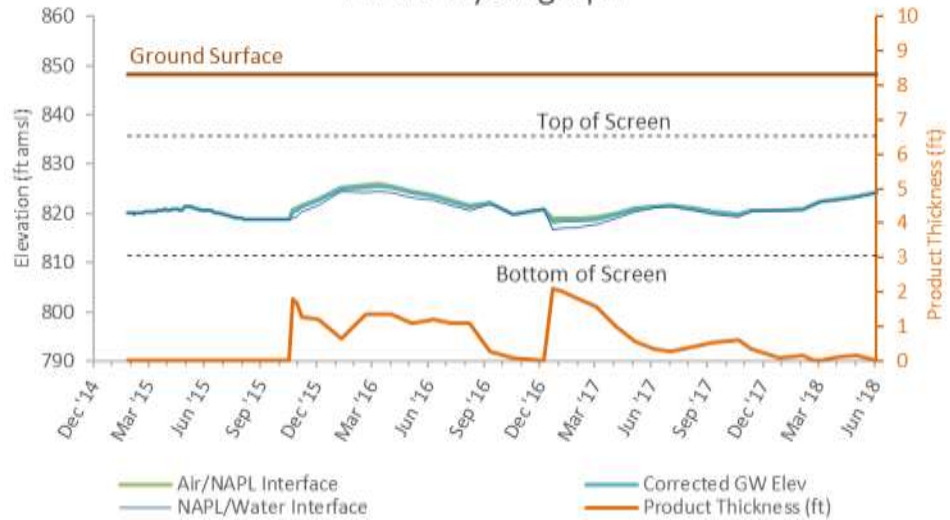
TW-28 Hydrograph



TW-42 Hydrograph



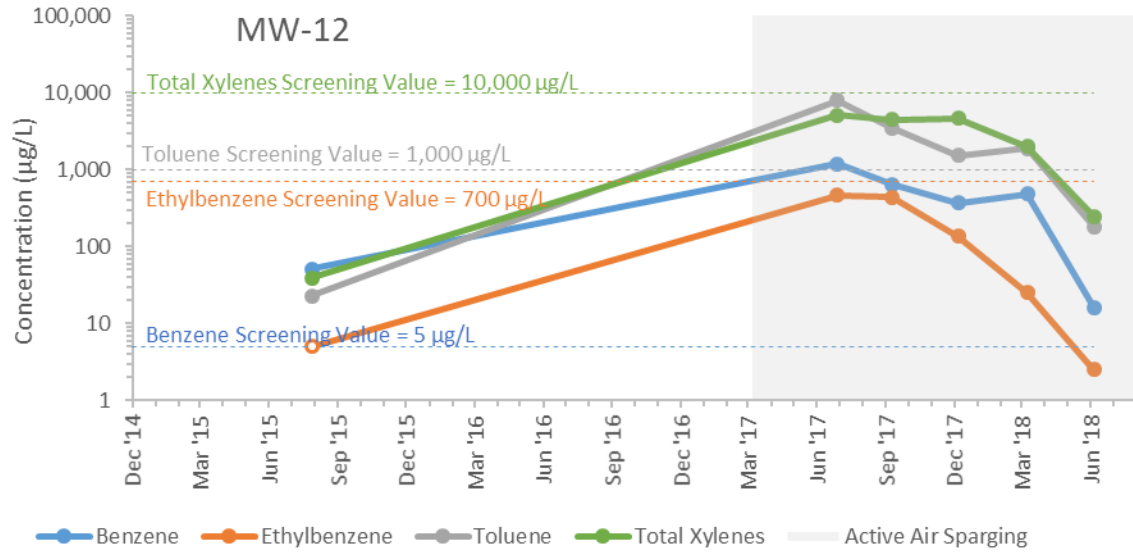
TW-45 Hydrograph



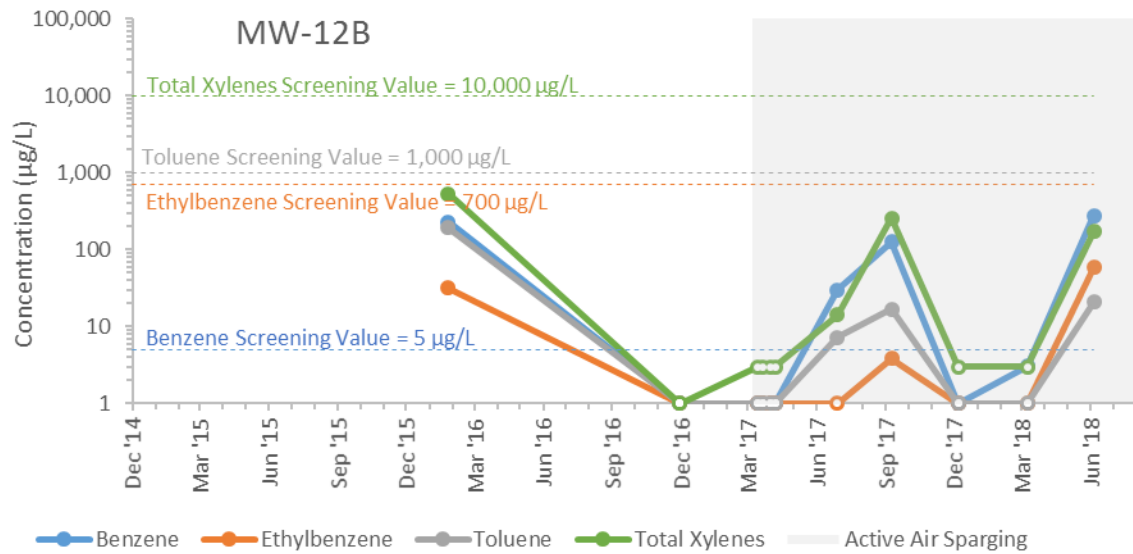
Appendix G

Groundwater Analytical Trends

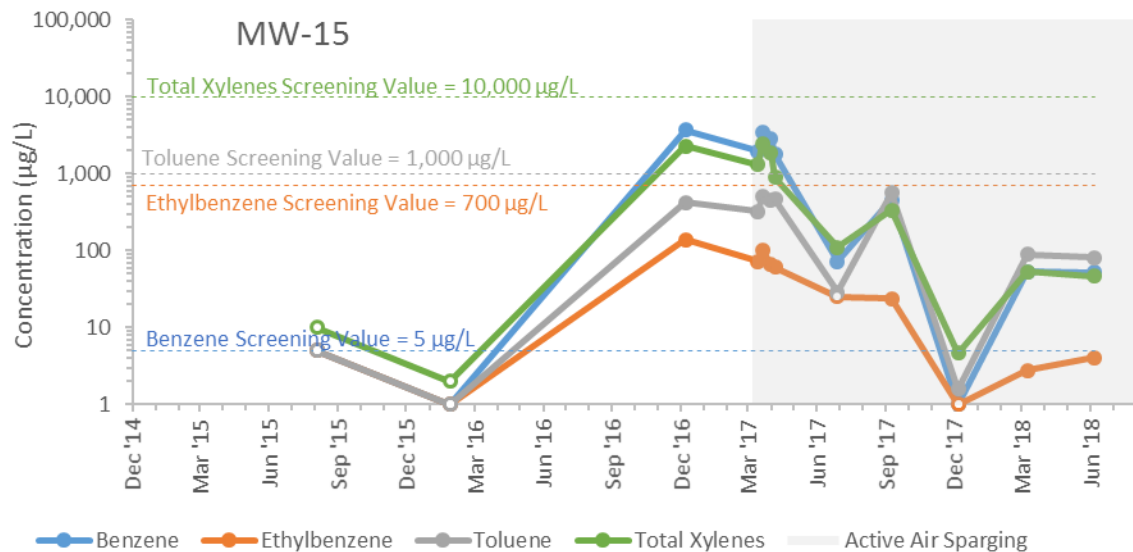
Brown's Creek Monitoring Well Trends:



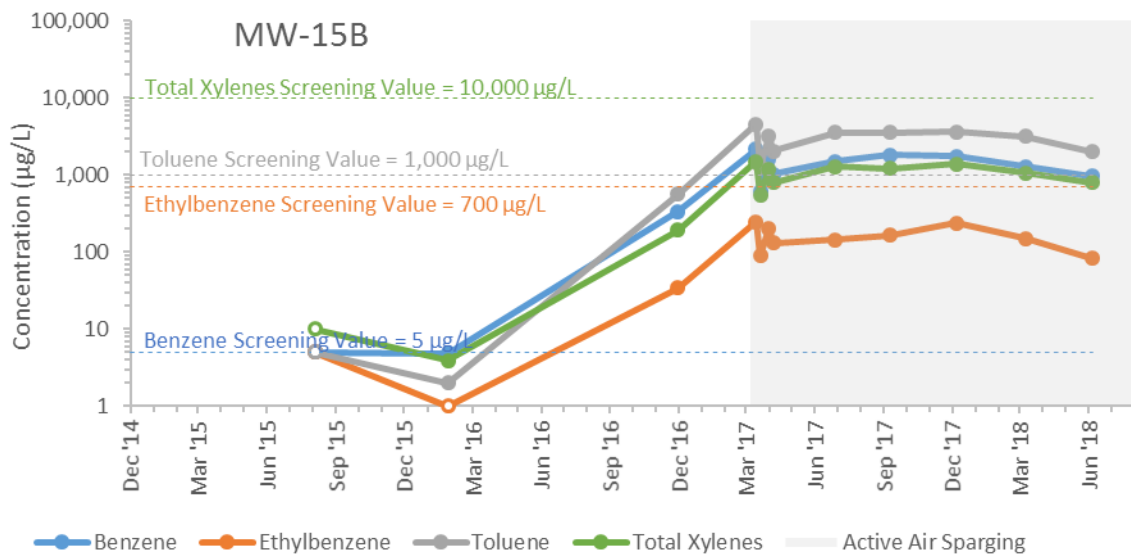
Note: Open circles denote that the compound was not detected; non-detects are plotted at the reporting limit.



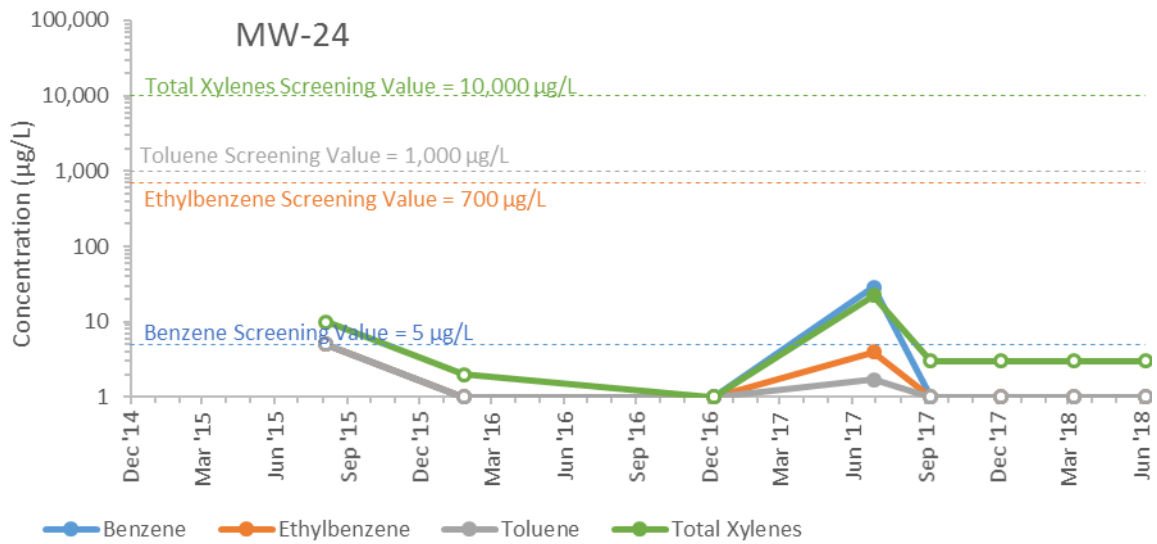
Note: Open circles denote that the compound was not detected; non-detects are plotted at the reporting limit.



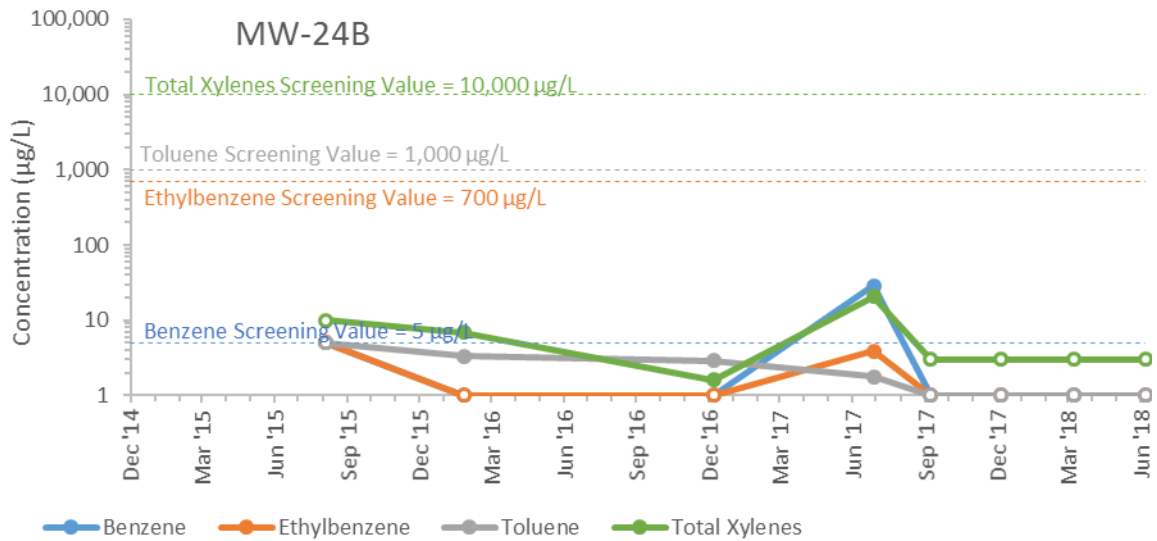
Note: Open circles denote that the compound was not detected; non-detects are plotted at the reporting limit.



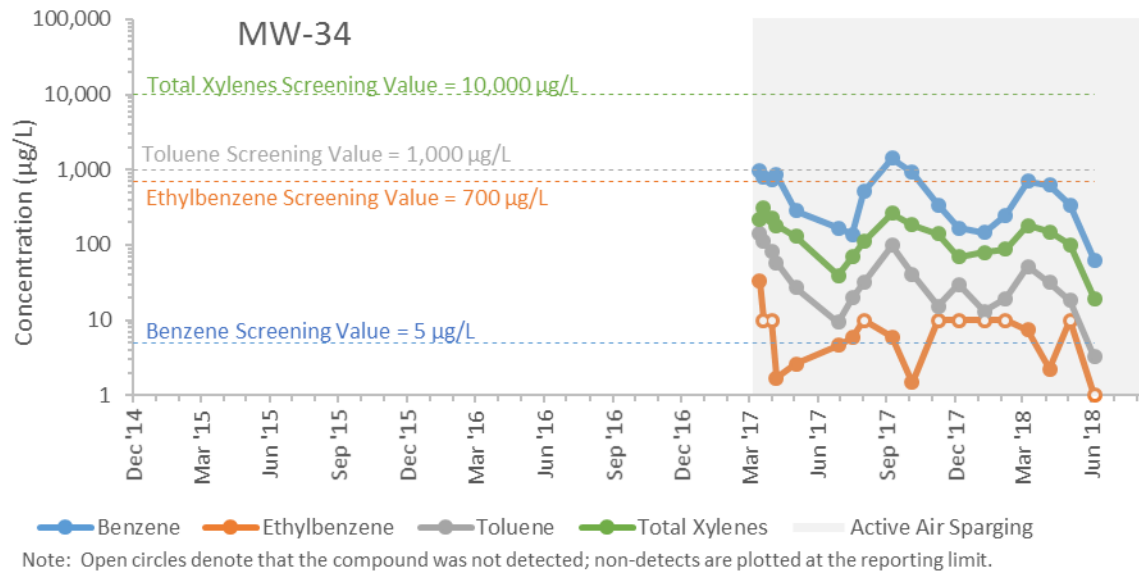
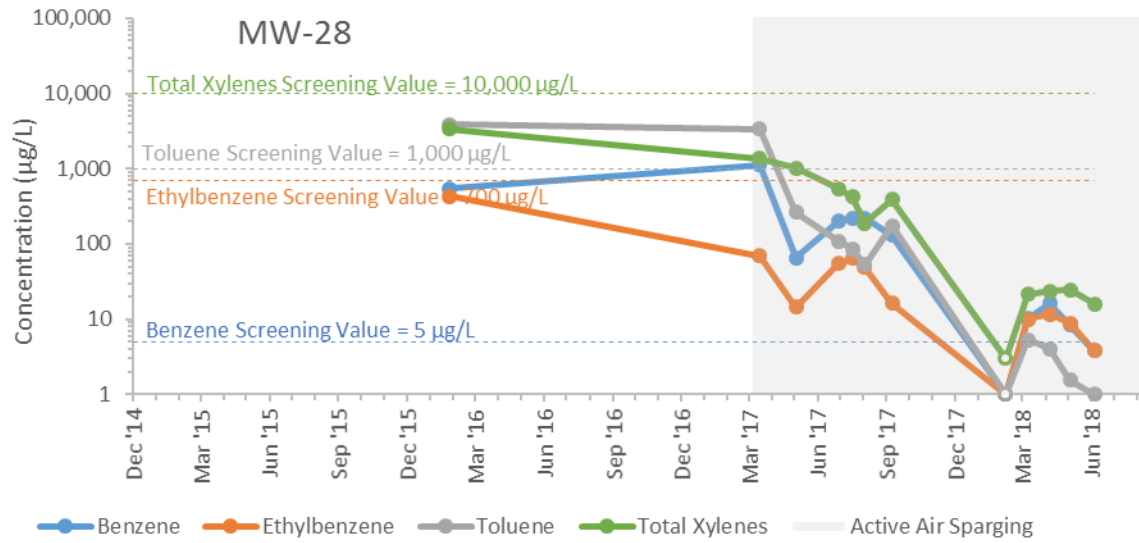
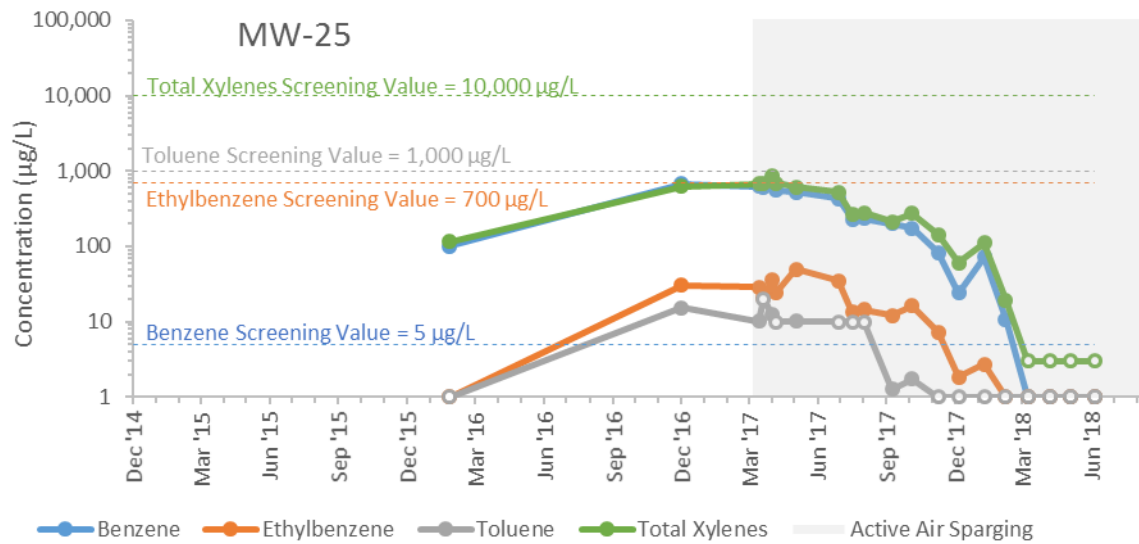
Note: Open circles denote that the compound was not detected; non-detects are plotted at the reporting limit.

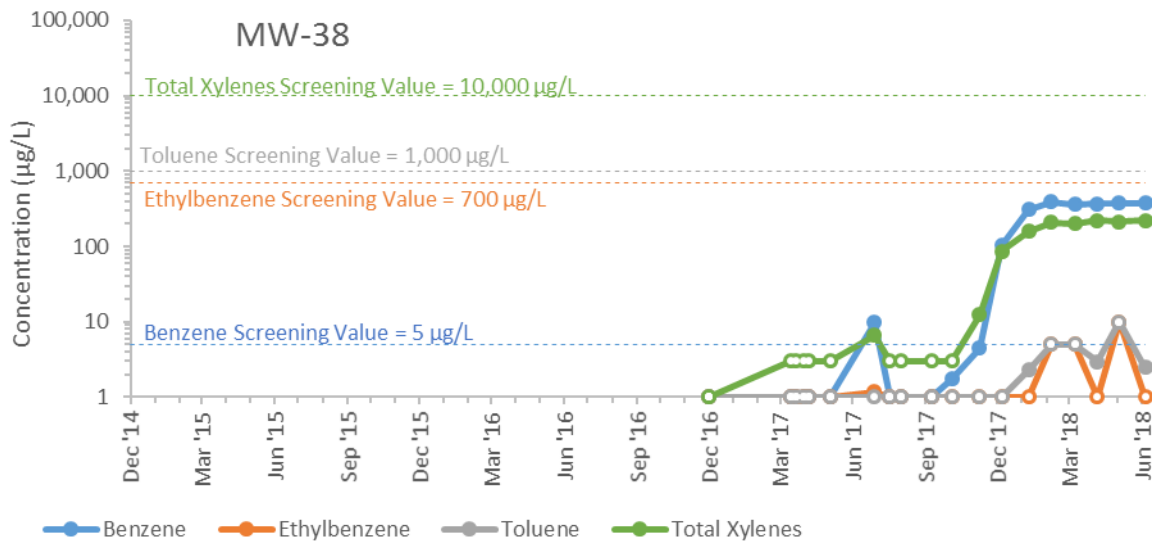


Note: Open circles denote that the compound was not detected; non-detects are plotted at the reporting limit.

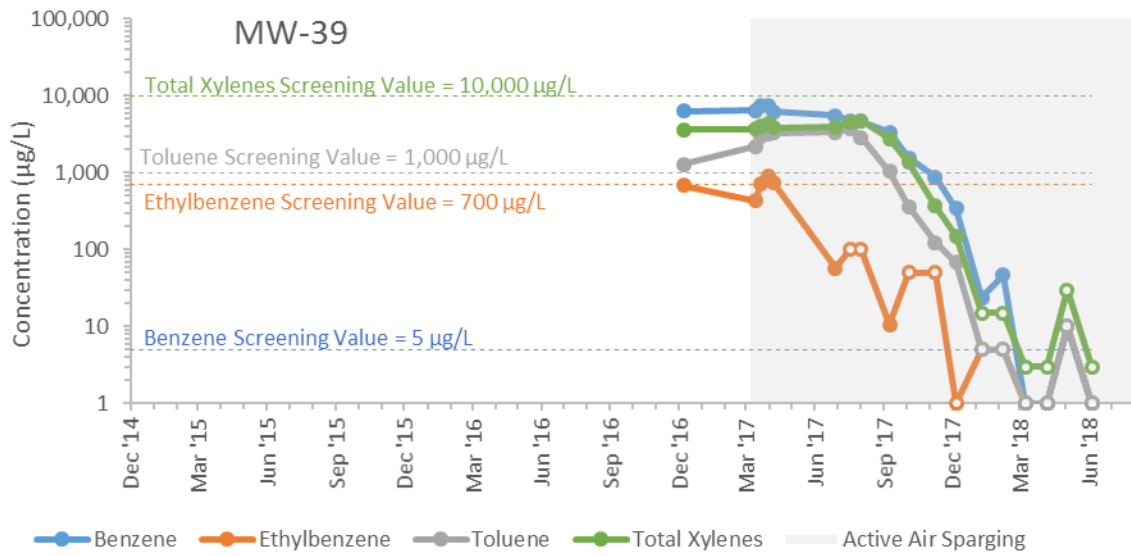


Note: Open circles denote that the compound was not detected; non-detects are plotted at the reporting limit.

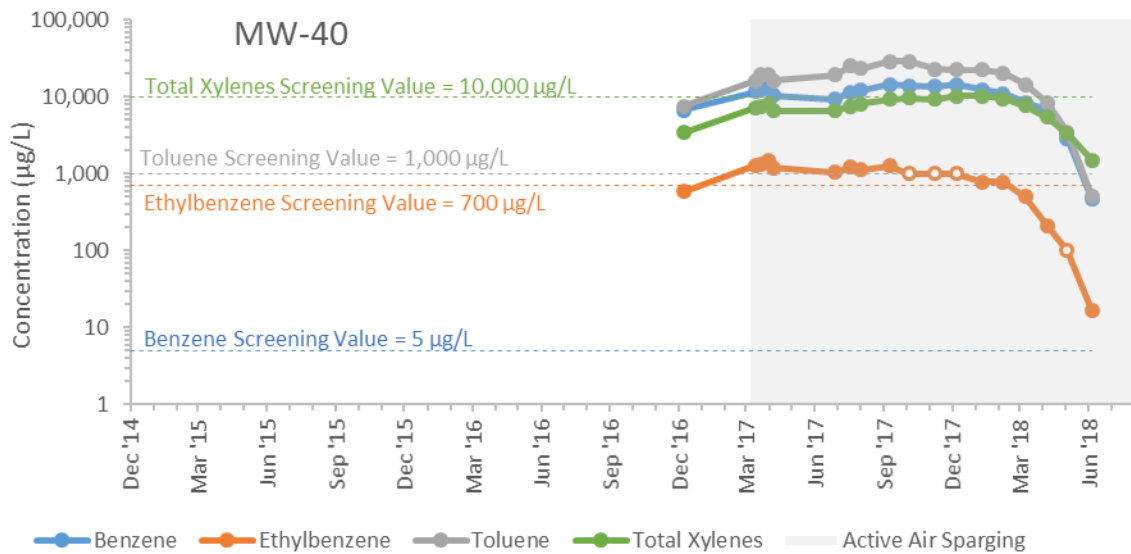




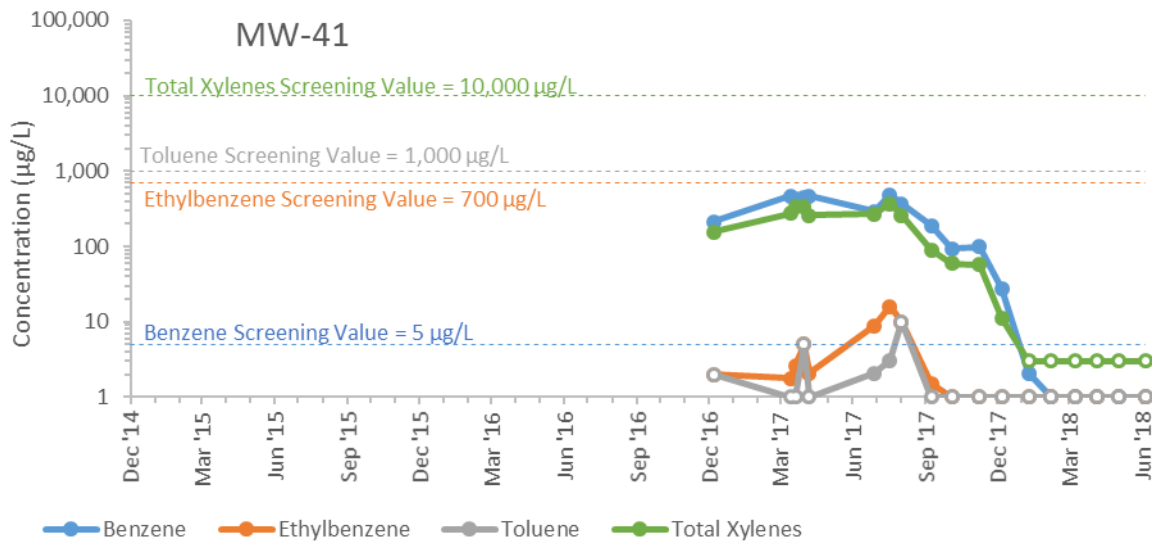
Note: Open circles denote that the compound was not detected; non-detects are plotted at the reporting limit.



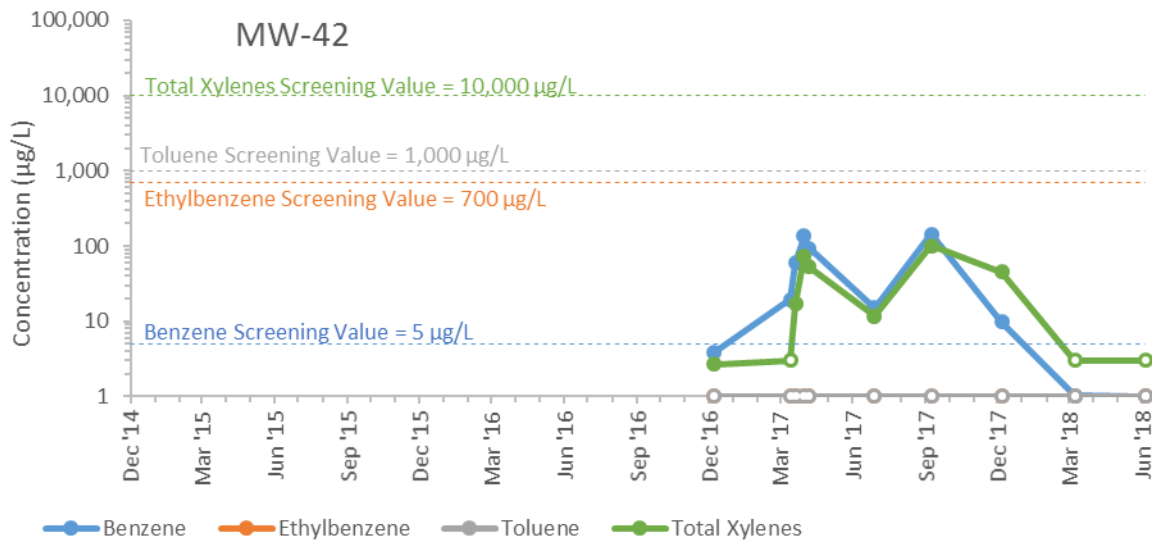
Note: Open circles denote that the compound was not detected; non-detects are plotted at the reporting limit.



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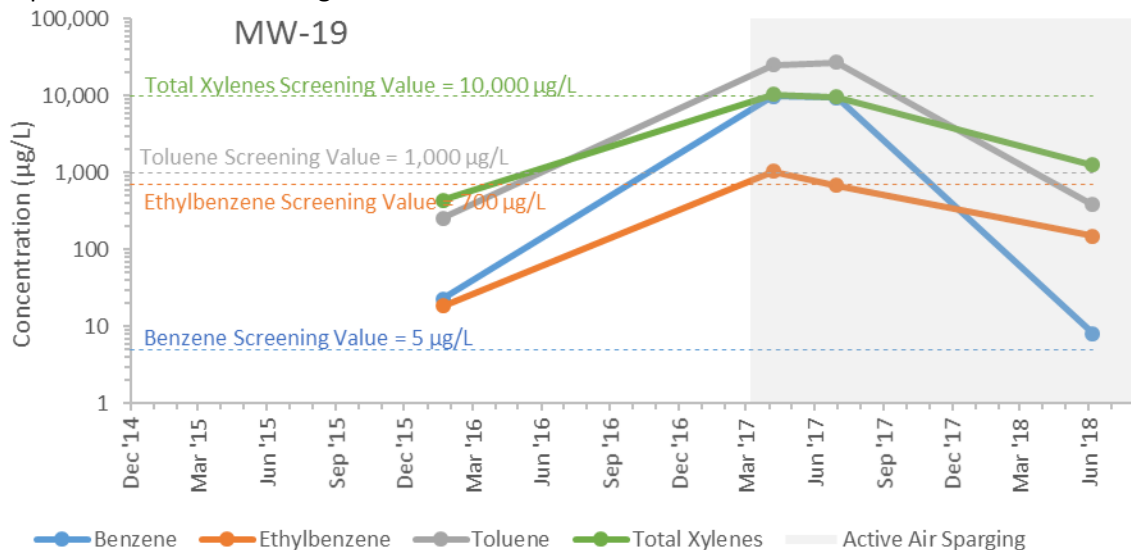


Note: Open circles denote that the compound was not detected; non-detects are plotted at the reporting limit.

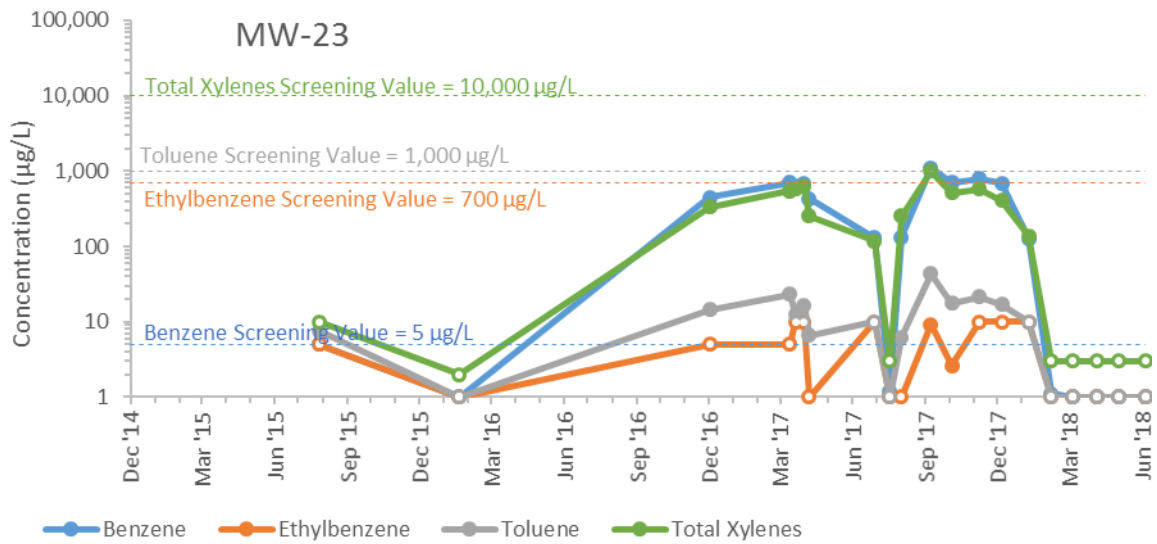


Note: Open circles denote that the compound was not detected; non-detects are plotted at the reporting limit.

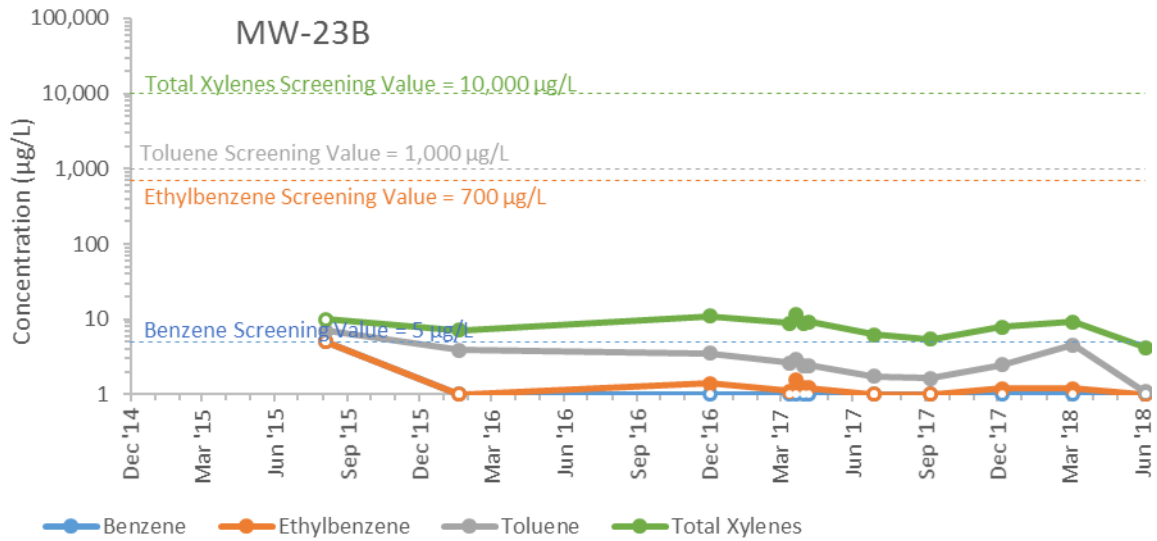
Cupboard Creek Monitoring Well Trend



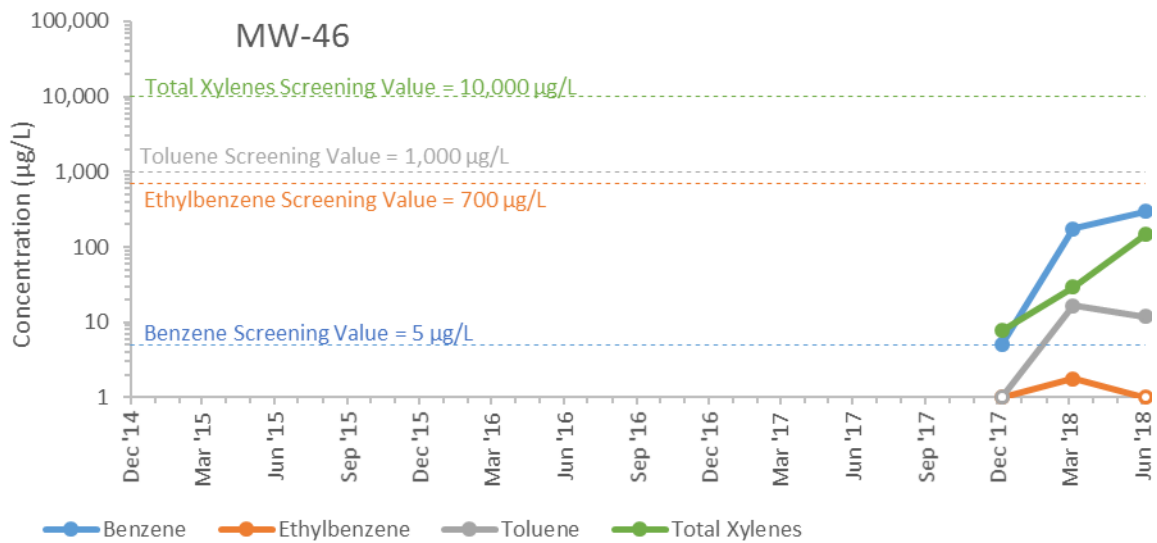
Note: Open circles denote that the compound was not detected; non-detects are plotted at the reporting limit.



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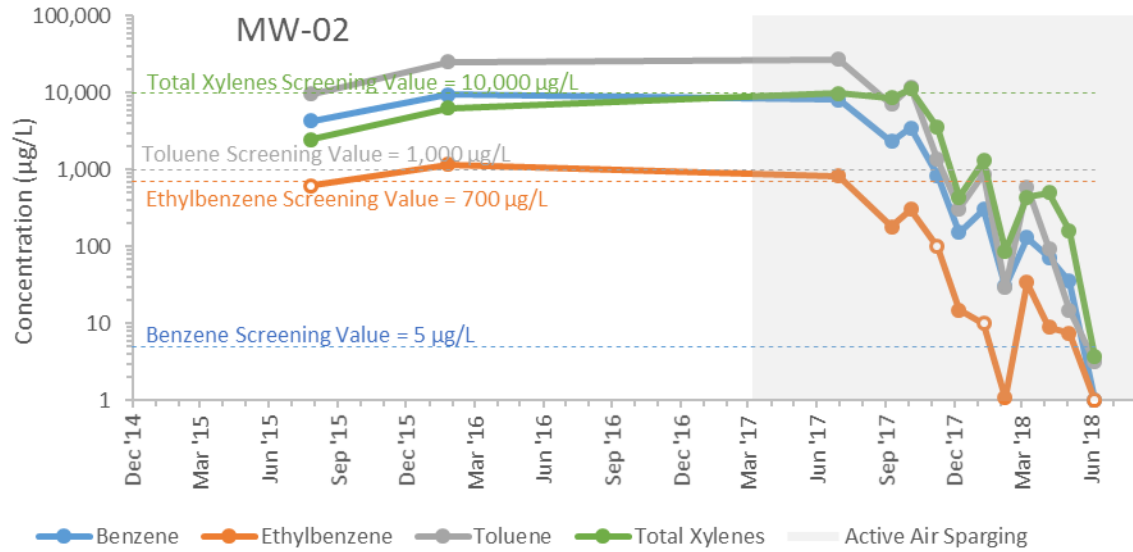


Note: Open circles denote that the compound was not detected; non-detects are plotted at the reporting limit.

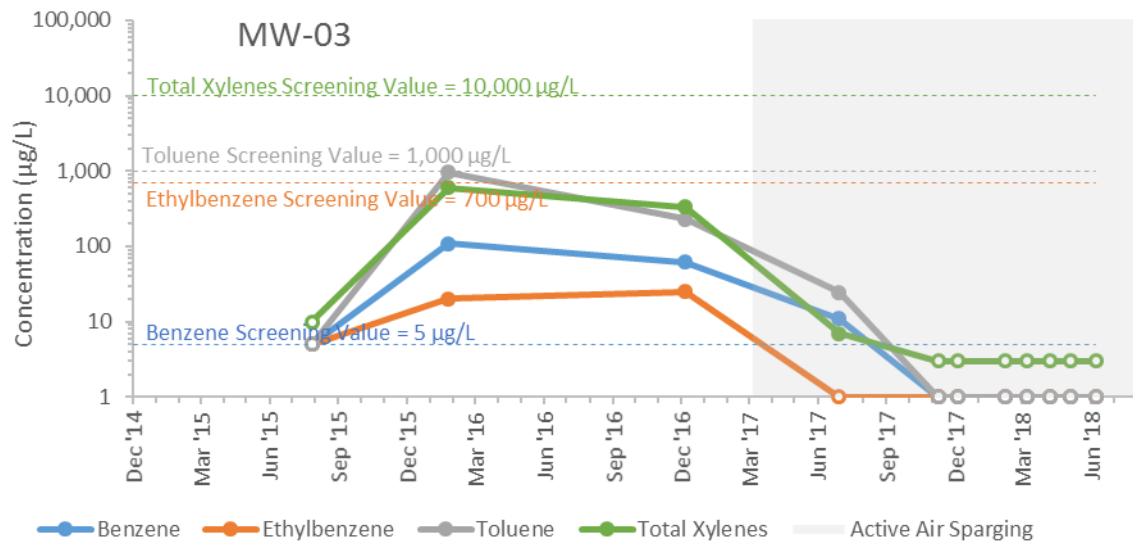


Note: Open circles denote that the compound was not detected; non-detects are plotted at the reporting limit.

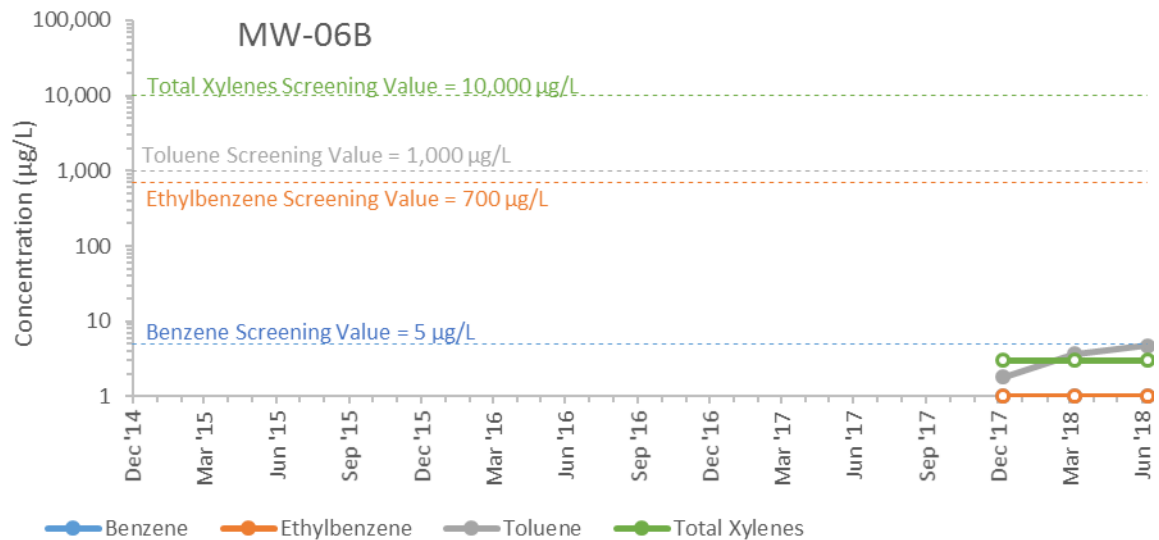
Hayfield Monitoring Well Trends:



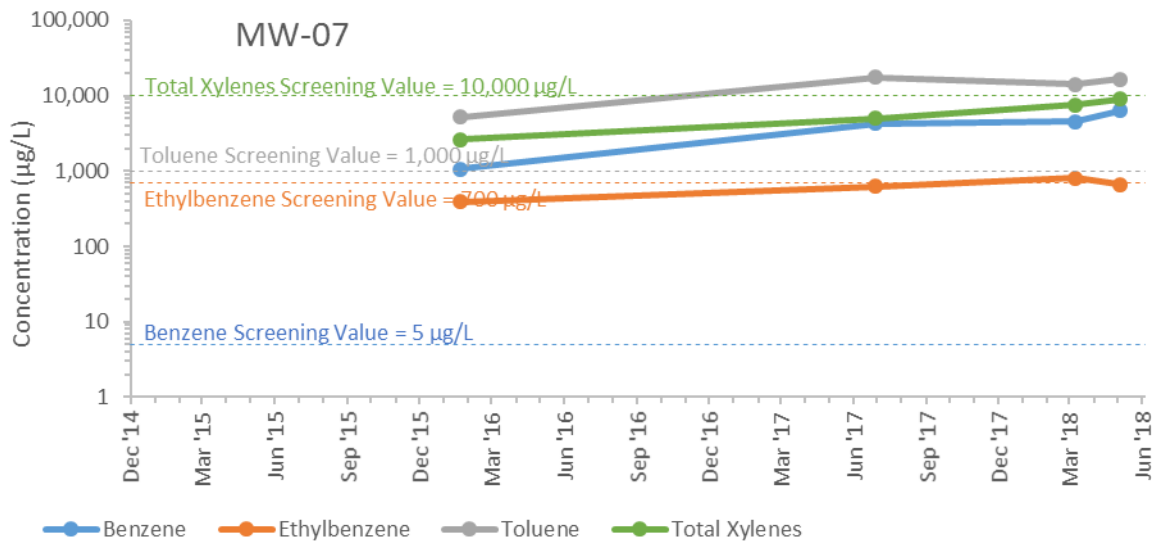
Note: Open circles denote that the compound was not detected; non-detects are plotted at the reporting limit.



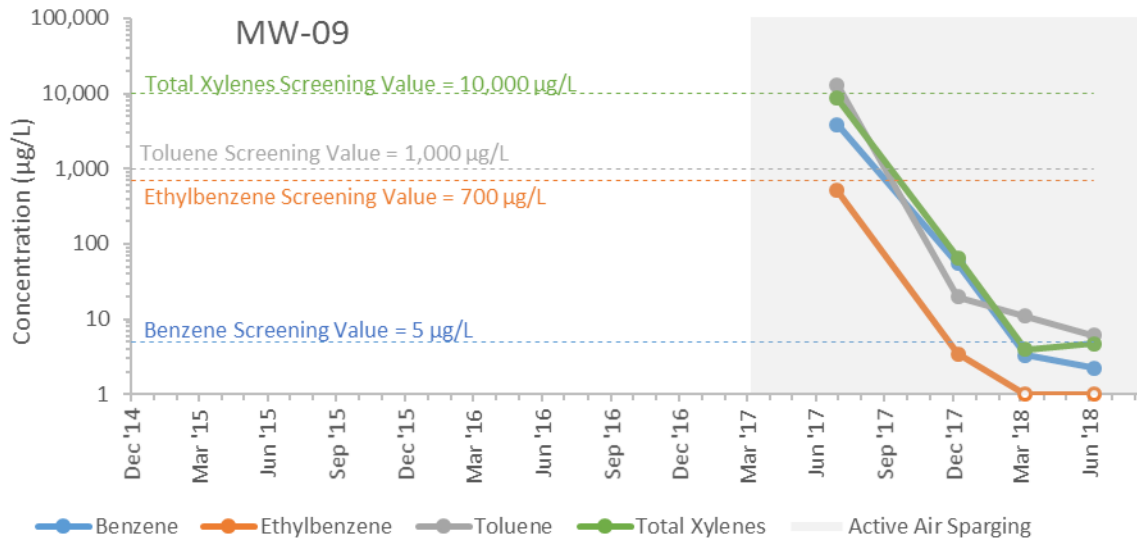
Note: Open circles denote that the compound was not detected; non-detects are plotted at the reporting limit.



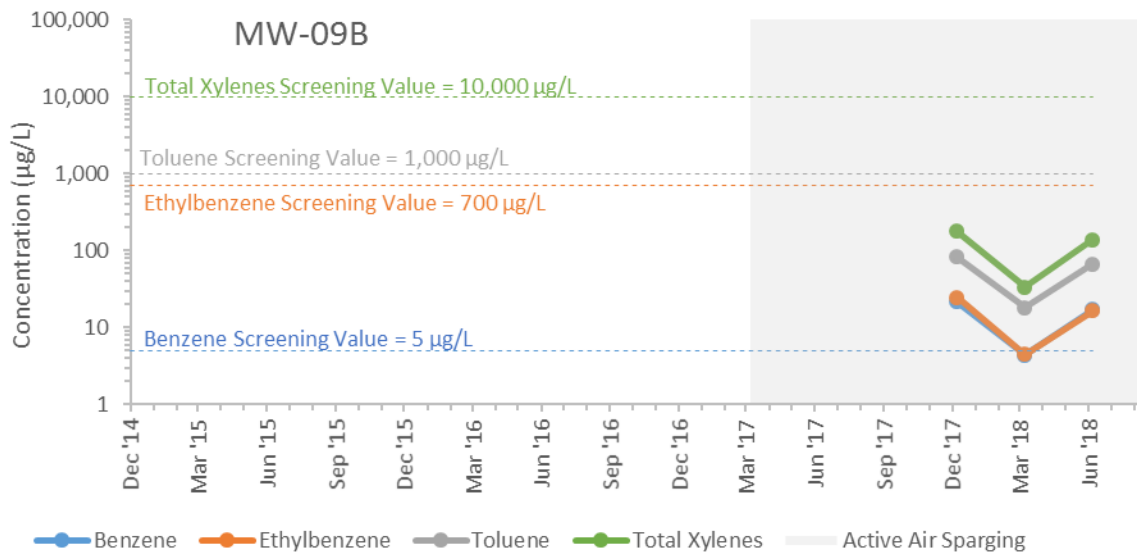
Note: Open circles denote that the compound was not detected; non-detects are plotted at the reporting limit.



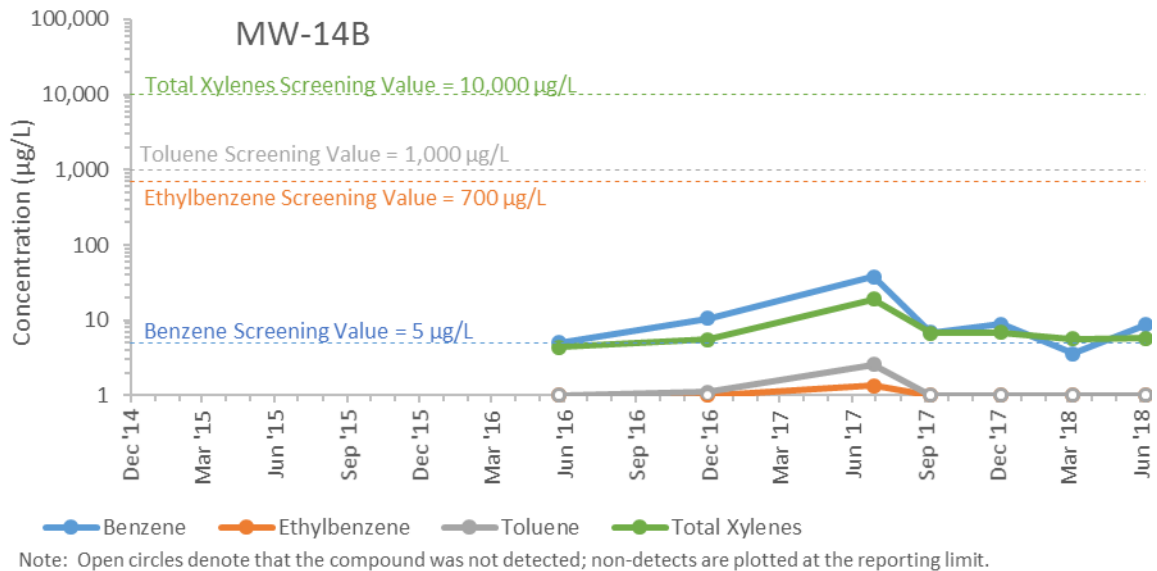
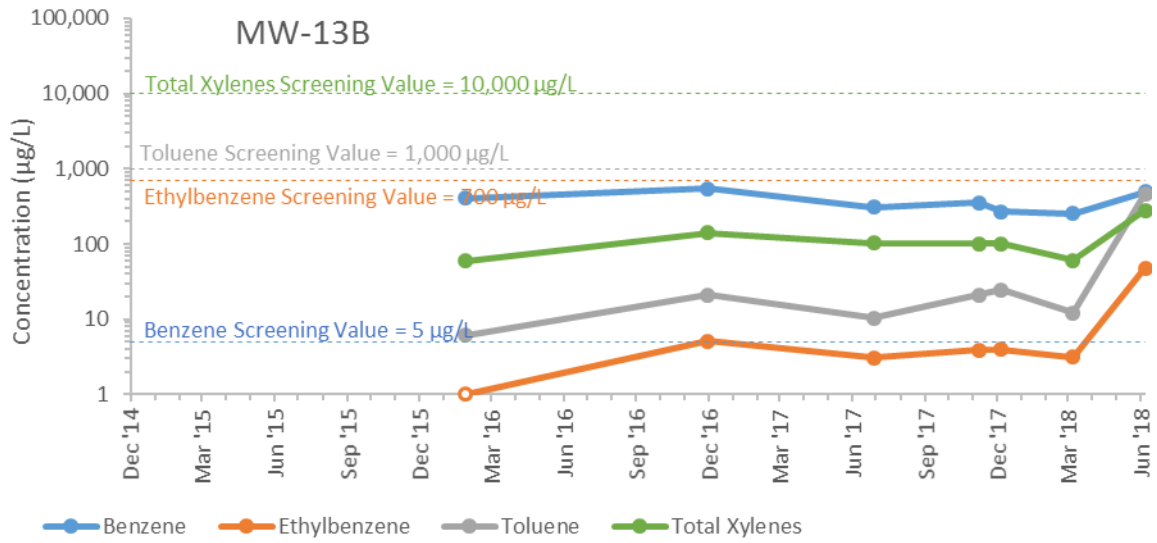
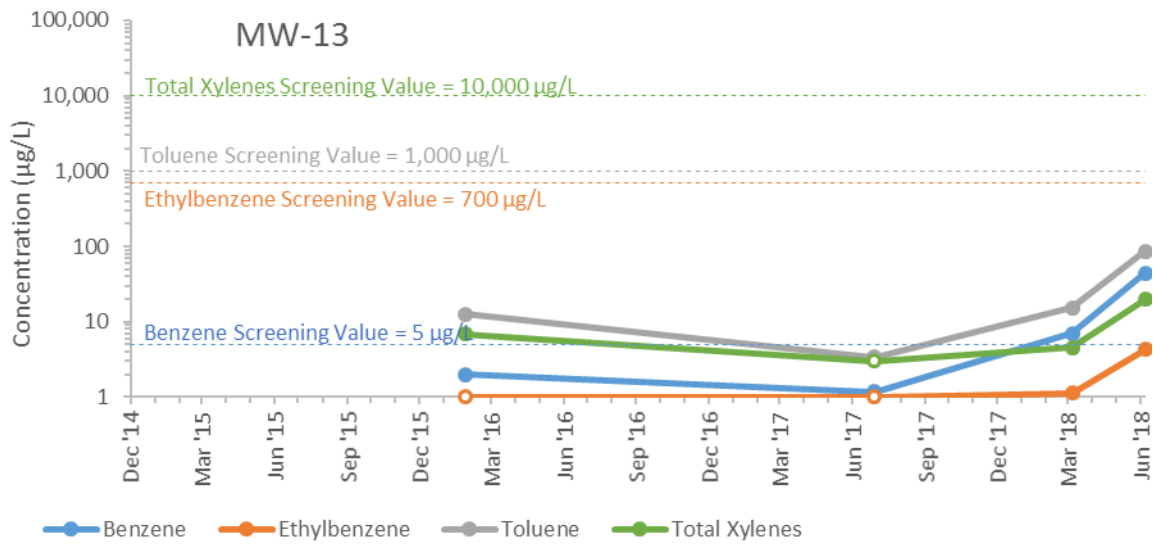
Note: Open circles denote that the compound was not detected; non-detects are plotted at the reporting limit.

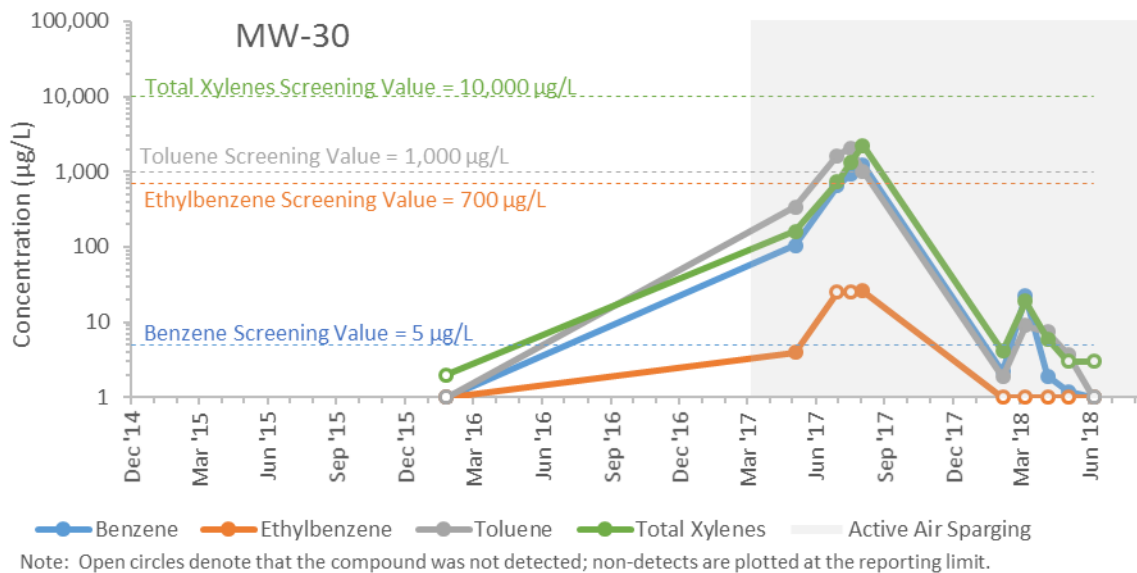
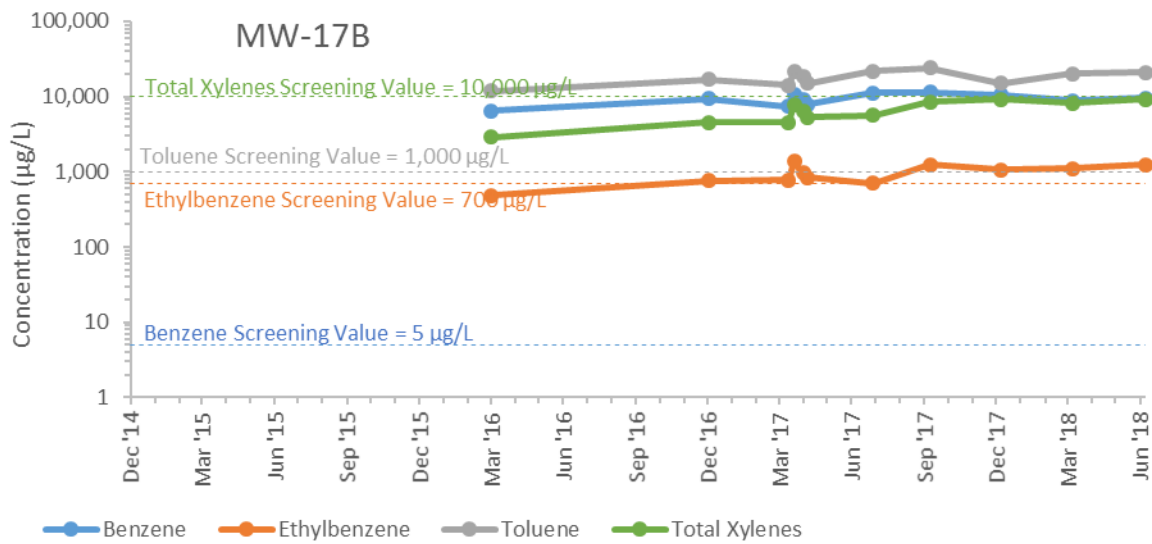
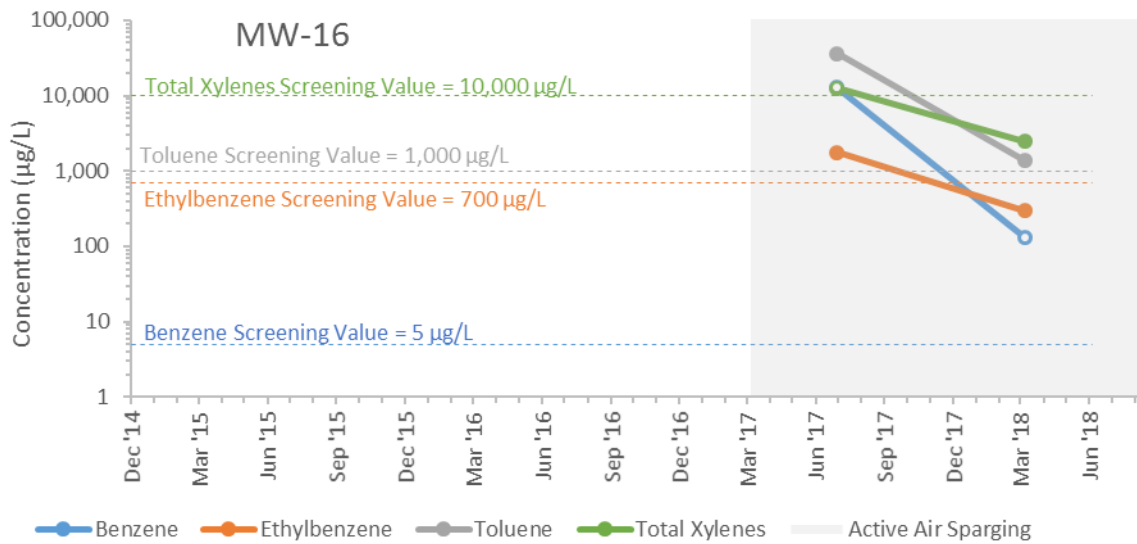


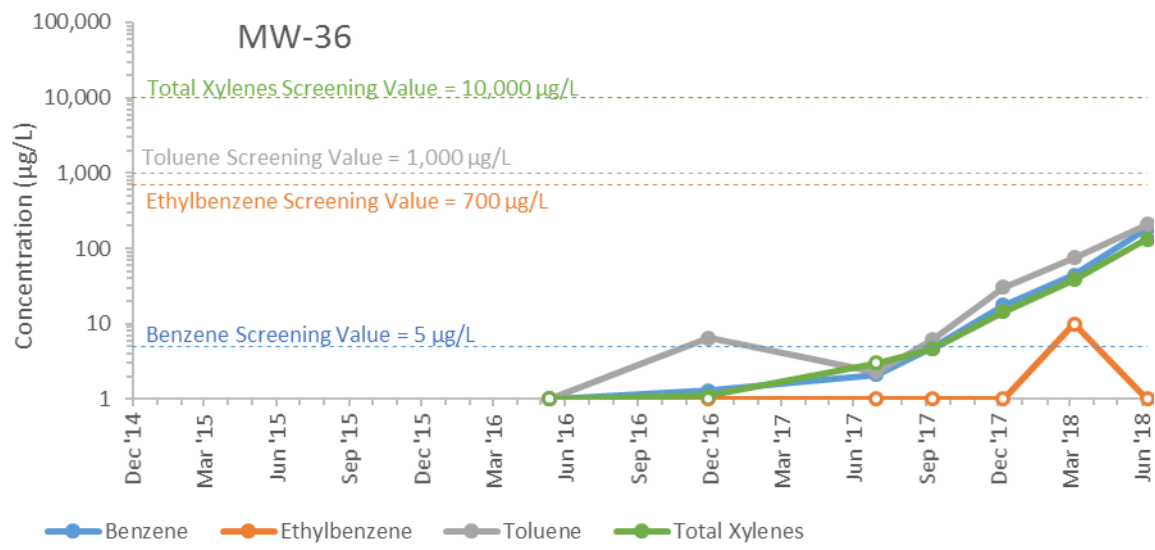
Note: Open circles denote that the compound was not detected; non-detects are plotted at the reporting limit.



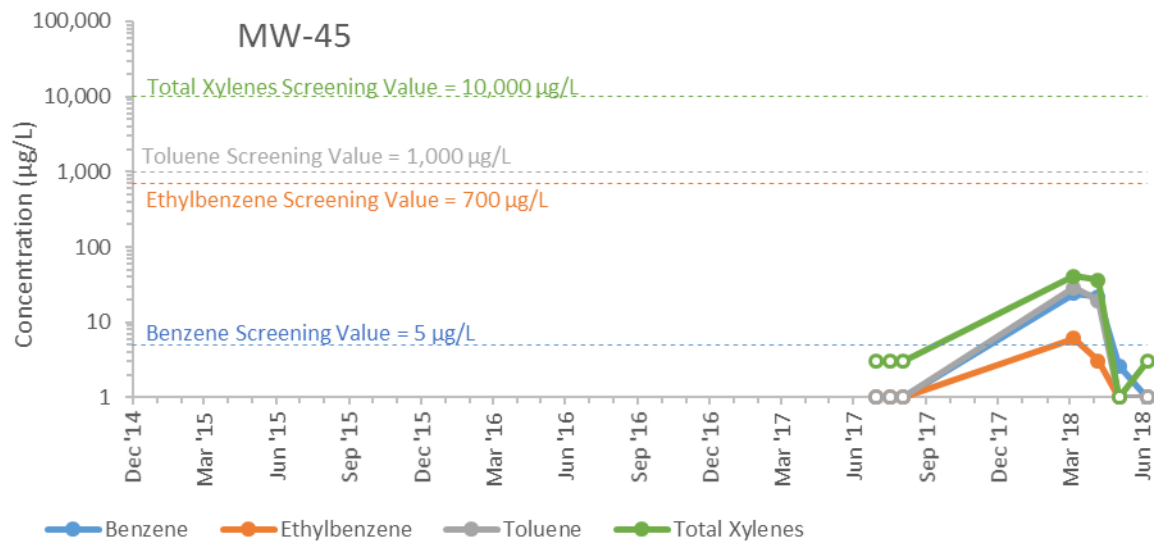
Note: Open circles denote that the compound was not detected; non-detects are plotted at the reporting limit.





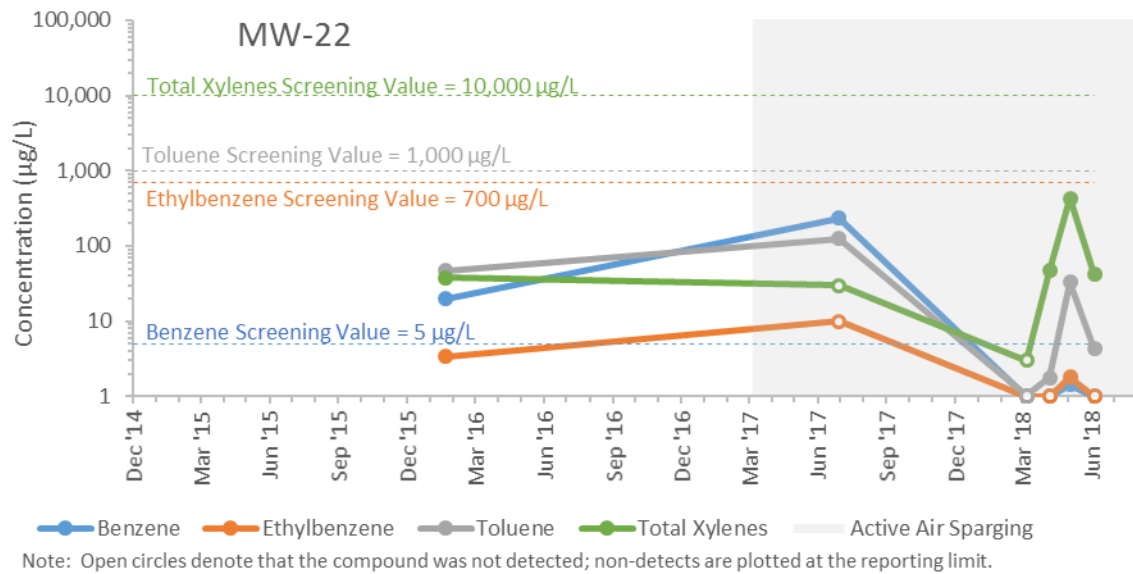
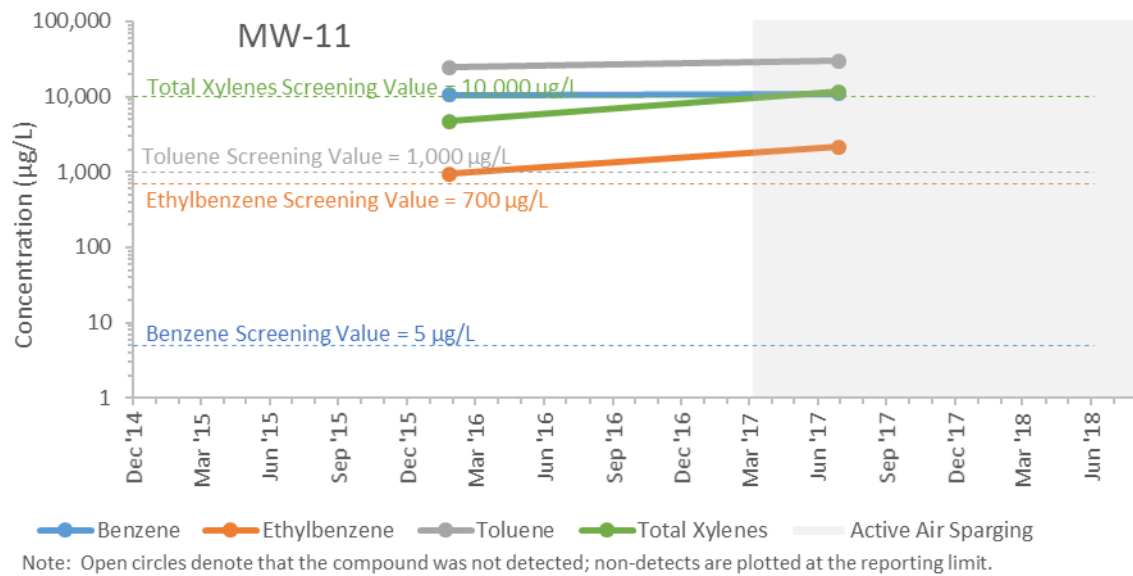
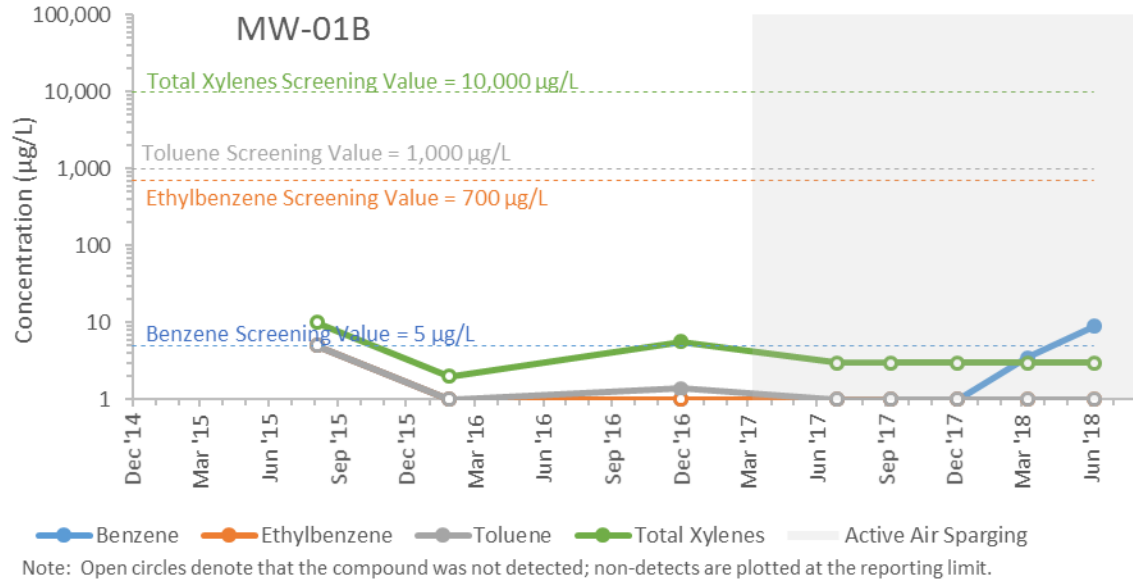


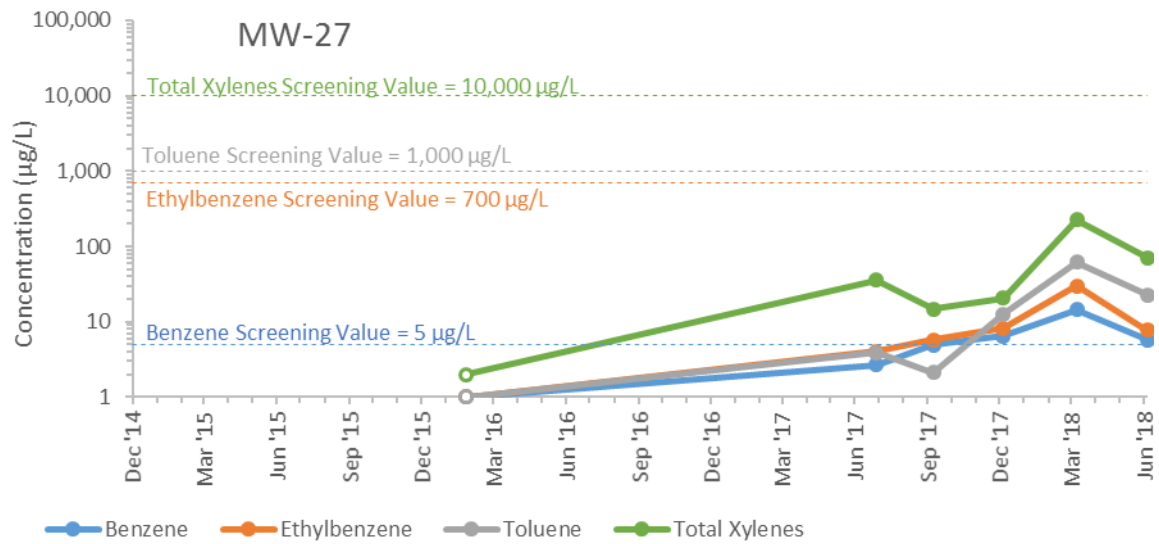
Note: Open circles denote that the compound was not detected; non-detects are plotted at the reporting limit.



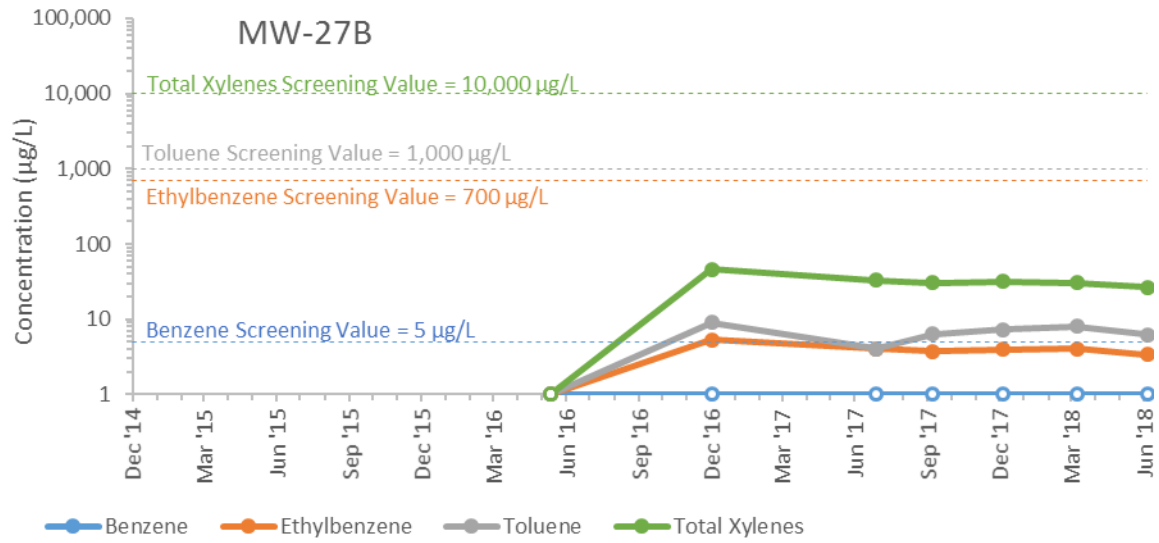
Note: Open circles denote that the compound was not detected; non-detects are plotted at the reporting limit.

Shallow Bedrock Monitoring Well Trends:





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