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Ms. Bobbi Coleman
South Carolina Department of Health and Environmental Control
Assessment Section, UST Management Division
Bureau of Land and Waste Management
2600 Bull Street
Columbia, South Carolina 29201

Subject: Third Quarter 2017 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 submitting this Third Quarter 2017 Monitoring Report for the Lewis Drive Remediation Site in Belton, South Carolina. This report summarizes the work performed at the site between July 1, 2017, and September 30, 2017.

1.0 Work Activities

The following activities were performed during the third quarter 2017 in accordance with the Corrective Action Plan (CAP) (CH2M, 2016) and the CAP Addendum, Revision 1 (CH2M, 2017a):

- Conducted three groundwater and surface water sampling events.
- Operated vertical sparging wells in the areas of Brown's Creek and Cupboard Creek (Figure 1), as well as the stream aerators.
- Operated horizontal sparging wells in the Hayfield Zone (Figure 1).
- Performed routine operation and maintenance (O&M) events on the sparging system.
- Recorded changes in water levels and barometric pressures using In Situ Rugged Troll 100 water level data loggers.
- Performed twice weekly free product recovery in wells with greater than 0.5 foot of product, and transitioned to once per week following written approval from the South Carolina Department of Health and Environmental Control (SCDHEC) on August 23, 2017.
- Installed residuum monitoring wells MW-46, MW-47, and MW-49.
- Transported and disposed of liquid waste generated during the completion of work onsite.
- Performed twice weekly inspections of surface water features at Brown's Creek and Cupboard Creek and transitioned to once per week following written approval from SCDHEC on August 23, 2017.

2.0 Work Procedures

2.1 Gauging Events

Monitoring wells, surface water locations, and temporary wells (piezometers) were gauged monthly. All product recovery features (recovery sumps, trenches, and wells) were gauged twice per week until August 23, 2017, at which time their gauging frequency changed to weekly in accordance with the *Interim Free Product Recovery Plan – Revision 3* (CH2M, 2017c) submitted to SCDHEC on August 4, 2017, and approved on August 23, 2017.

2.2 Product Recovery

Free product recovery was performed twice weekly from recovery features that had a product thickness of 0.5 foot and greater until August 23, 2017, at which time the frequency was reduced to once per week in accordance with the *Interim Free Product Recovery Plan, Revision 3* (CH2M, 2017c). Vacuum trucks were used to recover, quantify, and transfer the recovered product and petroleum-contact water into an onsite tank(s) for temporary storage and separation. During product recovery, color changes of the extracted fluids were monitored, and extraction ceased when recovered liquids from the recovery features were observed to be clear and emulsification was minimal. During each recovery event, the operator recorded the duration of product recovery from each recovery feature or well. The quantity of recovered product and petroleum-contact water was tracked by measuring these fluid levels in the onsite tank(s) prior to and after the recovery event. On September 1, 2017, the fractionation (frac) tank was replaced with two, 1,500-gallon poly tanks in anticipation of reduced fluid recovery volumes. When the level in the frac tank was within 2 feet of the top, the fluids were decanted and transported to the A&D facility in Archdale, North Carolina, for disposal. When the fluid levels of both poly tanks were full (poly tank neck), the fluids were decanted and transported to the A&D facility in Archdale, North Carolina, for disposal.

2.3 Surface Water

Twice weekly inspections of surface water features were performed at the site until August 23, 2017, at which time the frequency was reduced to once per week as noted above. The inspection route used is illustrated on Figures 2A and 2B. Observations made during this reporting period are summarized in Table 1. No new signs of distressed vegetation, hydrocarbon or biological sheens, or odors were observed during the inspections for this reporting period.

For this reporting period, surface water samples were collected on July 18, August 2, and September 5, 2017, as follows:

- In July 2017, 15 surface water samples were collected from SW-01, SW-02, SW-03, SW-04, SW-07, SW-08, SW-09, SW-10, SW-11, SW-12, SW-13, SW-14, FP-01, FP-02, and FP-03. Locations SW-05 and SW-06 in Cupboard Creek were dry so samples were not collected.
- During the August and September 2017 events, 14 surface water samples were collected at locations SW-01, SW-02, SW-03, SW-04, SW-08, SW-09, SW-10, SW-11, SW-12, SW-13, SW-14, FP-01, FP-02, and FP-03. Locations SW-05 and SW-06 in Cupboard Creek and location SW-07 in Brown's Creek were dry so samples were not collected.

Samples were collected in accordance with the project *Quality Assurance Project Plan (QAPP), Revision 3* (CH2M, 2017f) and were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) and naphthalene using U.S. Environmental Protection Agency (EPA) Method 8260B (see Table 2). Sample containers were 40-milliliter (mL) volatile organic analysis (VOA) vials containing a hydrochloric acid (HCl) preservative. Surface water samples were collected by dipping the sample vials into the creek at each sampling location to fill the vials. The vials were labeled, 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 are included in Attachment A. Laboratory results are summarized in Table 2.

2.4 Groundwater Sampling Events

Three groundwater sampling events were performed during the reporting period, on July 17, 2017 (Event 1), August 1 and 2, 2017 (Event 2), and September 7 and 8, 2017 (Event 3). Prior to each sampling event, a comprehensive round of well gauging was performed 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 accomplished by wiping the interface probe with a clean paper towel that contained Alconox and deionized water, and a second clean paper towel that only contained deionized water, or by spraying down the probe using a spray bottle containing Alconox and deionized water followed by a final deionized water rinse. If the paper towel method was used, two new clean paper towels were used at each location and were properly disposed. Groundwater elevation and product thickness data are summarized in Table 3. Figures 2A and 2B show groundwater elevation for the residuum and bedrock aquifers, respectively, while Figure 3 shows the product thickness data.

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

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

Water samples were collected by filling 40-mL VOA vials containing HCl preservative. The vials were labeled, packed on 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, methyl tertiary butyl ether (MTBE), and naphthalene using EPA Method 8260B. Laboratory data sheets for groundwater samples and COC records are included in Attachment B. Laboratory results are summarized in Table 5.

2.5 Sparging System O&M

Sparging was initiated on March 6, 2017, according to the Startup Plan (CH2M, 2017a), with routine O&M activities performed during this reporting period (Attachment C). Sparging activities are summarized by remediation area below. When sparging rates were increased in any of the wells, air

monitoring was performed with a photoionization detector and visual observations were made in the vicinity of the sparging wells.

- **Brown's Creek Protection Zone (BCPZ):** Sparging in the BCPZ was performed using a curtain of 27 vertical sparging wells operating at a rate of 4 standard cubic feet per minute (scfm). Additionally, air was injected into two, submersible diffusion aerators installed in Brown's Creek. The flow rate in these aerators was maintained at approximately 4 scfm during this reporting period.
- **Cupboard Creek Protection Zone (CCPZ):** Sparging in the CCPZ was performed using a curtain of 19 vertical sparging wells operating at a rate of 4 scfm during this reporting period.
- **Shallow Bedrock Zone:** No sparging has been performed in the Shallow Bedrock Zone to date. A pilot plan for sparging in the Shallow Bedrock Zone was submitted to SCDHEC on May 8, 2017, and Plantation is awaiting SCDHEC approval of this plan (a copy of the pilot plan is included in Appendix D of the CAP Addendum [CH2M, 2017a]).
- **Hayfield Zone:** Sparging in the Hayfield Zone was increased weekly by approximately 0.02 scfm per foot of screen (scfm/ft) from 0.15 scfm/ft to 0.37 scfm/ft during this reporting period, in accordance with the *Request for Authorization to Initiate Remediation in the Hayfield Zone*, dated April 11, 2017 (a copy of the request is included in Appendix C of the CAP Addendum [CH2M, 2017a]). Wells HAS-1, HAS-2, and HAS-3 have screen lengths of approximately 752 feet, 715 feet, and 377 feet, respectively. Therefore, the initial total injection rate in the Hayfield Zone was increased from approximately 277 scfm to 682 scfm during this reporting period.

Water levels were measured in the BCPZ, CCPZ, and Hayfield Zone to document the influence of the sparge system on the residuum aquifer. In July 2017, water levels were measured continuously from six locations with water level data loggers (In Situ Rugged Troll 100) in MW-02, MW-08, MW-12, MW-15, MW-20, and MW-25, and with barometric pressure loggers in MW-01 and MW-10. The water level data logger in MW-25 was removed from the site in August 2017, because there is a water level data logger in MW-12. In September 2017, the water level data logger in MW-08 was relocated to MW-40 so additional data could be collected within the BCPZ.

2.6 Additional Activities

The following additional activities were performed during this reporting period:

- In August 2017
 - Recovered fluids, including approximately 566 gallons of product, were collected by extraction from recovery features and during sampling of the monitoring wells. These recovered fluids were transported to the A&D facility in Archdale, North Carolina, for disposal. See Attachment D for the Bills of Lading and Table 6 for a summary of the total product transported and disposed of offsite.
- In September 2017
 - Recovered fluids, including approximately 99 gallons of product, were collected by extraction from recovery features and during sampling of the monitoring wells. These recovered fluids were transported to the A&D facility in Archdale, North Carolina, for disposal. See Attachment D for the Bills of Lading and Table 6 for a summary of the total product transported and disposed of offsite.
 - Three monitoring wells (MW-46, MW-47, and MW-49) were installed and screened in the residuum aquifer using a Geoprobe 8040 DT. MW-46 was installed on September 13, 2017; MW-47 and MW-49 were installed on September 14, 2017. Monitoring well screens ranged

from 5 to 15 feet in length and total depths ranged from 14 to 21 feet. The wells were installed in accordance with SCDHEC Well Standards R.61-71 (SCDHEC, 2016) and as discussed in the letter to SCDHEC, *Request for Well Permit to Install Additional Monitoring Wells*, dated May 8, 2017 (CH2M, 2017e). The boring logs and well construction details for these wells are provided in Attachment E.

3.0 Discussion of Results

3.1 Product Recovery

During the current quarter (July 1 through September 30, 2017), approximately 665 gallons (16 barrels) of product were recovered at the site and transported offsite for disposal. This is approximately an 81 percent reduction from the previous quarter (April 1 through June 30, 2017), where 3,535 gallons (84 barrels) were recovered and transported offsite for disposal. Table 3 summarizes the dates, times, and recovery features used for product recovery. Table 6 shows the dates and quantities of product that were shipped offsite for disposal. Attachment D contains the Bills of Lading for transportation of fluids offsite for disposal. Since the beginning of free product recovery through this reporting period (December 9, 2014, through September 30, 2017), approximately 222,974 gallons (5,309 barrels) of product have been recovered.

3.2 Surface Water

During this reporting period, BTEX concentrations were detected in surface water at SW-04 and SW-12 (Table 2), which is three fewer locations than were observed during the second quarter 2017. Benzene was the only constituent that exceeded the surface water standard for protection of human health for consumption of water and organisms (SCDHEC, 2014) of 2.2 micrograms per liter ($\mu\text{g/L}$). These exceedances were all located at SW-12, where groundwater impacts (including potential free product) entered Brown's Creek. Reactive core matting was installed in accordance with the CAP Addendum Revision 2 (CH2M, 2017d) to abate further impacted seep flow to Brown's Creek. However, the detections noted at SW-12 may be from previously impacted sediments localized at that seep location.

Benzene concentrations above the surface water standard were detected as follows.

- In July 2017:
 - 65 $\mu\text{g/L}$ benzene at SW-12
- In August 2017:
 - 125 $\mu\text{g/L}$ benzene at SW-12
- In September 2017:
 - 57.4 $\mu\text{g/L}$ benzene at SW-12

Construction details for the stream gauges are presented in Table 7. Sample results are summarized in Table 2. Trends for surface water sampling locations SW-02 and SW-12 are presented in Attachment F. Analytical data sheets and COC records are included in Attachment A.

3.3 Groundwater Flow and Product Distribution

Water levels from the September 2017 gauging event were used to prepare 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 flows from topographic highs to topographic lows. It was observed that Cupboard Creek flows intermittently, indicating the primary direction of groundwater flow is northeast toward Brown's Creek. The September 2017 water table configurations and direction of groundwater flow are consistent with previous findings.

Product was detected in site wells during the third quarter 2017 gauging events as follows (see Table 3).

- On July 2 and 3, 2017:
 - Three locations had product thicknesses greater than 0.5 foot: two monitoring wells and one piezometer. MW-18, MW-20, and TW-42 are under the influence of the sparging system.
 - No recovery features had product thicknesses greater than 0.5 foot.
 - MW-20 and TW-42 were the non-recovery features (monitoring wells, surface water locations, and piezometers) that had the greatest thickness of product (1.27 feet at both locations).
- On August 12 and 14, 2017:
 - Five locations had product thicknesses greater than 0.5 foot: one monitoring well, three recovery wells, and one piezometer. MW-20, RW-07, and TW-42 are under the influence of the sparging system, while RW-04 and RW-05 are not under the influence.
 - RW-05 was the recovery feature that had the greatest thickness of product (1.89 feet).
 - TW-42 was the non-recovery feature that had the greatest thickness of product (0.84 foot).
- On September 10 and 15, 2017:
 - Six locations had product thicknesses greater than 0.5 foot: one monitoring well, one recovery sump, two recovery wells, and two piezometers. MW-20, RS-05, RW-07, TW-42, and TW-45 are under the influence of the sparging system while RW-05 is not under the influence.
 - RW-05 was the recovery feature that had the greatest thickness of product (1.86 feet).
 - TW-42 was the non-recovery feature that had the greatest thickness of product (0.94 foot).

For comparison, the product extent in June 2016 is shown with September 2017 data and product extent on Figure 3, demonstrating the decrease of product thickness and extent over the last 15 months. This time period represents the largest decrease in product thickness and extent for the site. For example, the product thickness in MW-18 decreased from 3.16 feet in June 2016 to no recordable product in September 2017; and in MW-20, product thickness decreased from 2.29 feet in June 2016 to 0.51 foot in September 2017. Additionally, the extent of product has decreased since product is no longer measurable in MW-12, RW-06, RW-14, RW-11, RW-12, TW-94, MW-09, MW-18, and RS-13. Hydrographs for product recovery wells and select monitoring wells representative of general product thickness trends are presented in Attachment G.

Stream elevations are tabulated in Table 3 and are presented with groundwater elevations on Figure 2A. Construction details for recovery and non-recovery features are presented in Table 8. The only wells that were installed during this reporting period were MW-46, MW-47, and MW-49 (well construction diagrams and soil boring logs are provided in Attachment E). Groundwater elevation and product thickness data for the third quarter 2017 are presented in Table 3. Groundwater elevation (residuum and bedrock aquifers) and product thickness and extent for September 2017 are shown on Figures 2A, 2B, and 3, respectively.

3.4 Dissolved Oxygen Distribution

DO measurements in groundwater in July, August, and September 2017 are provided in Table 4. The average DO concentration in residuum and bedrock wells has increased since April 2017. In residuum wells, the average DO concentration increased from 3.98 milligrams per liter (mg/L) in April 2017 to 6.04 mg/L in September 2017. In bedrock wells, the average DO concentration remained between 1.23 and 1.77 mg/L.

3.4.1 Brown's Creek Protection Zone

DO concentrations in the BCPZ increased from 0.85 mg/L in July 2017 to 2.97 mg/L in September 2017.

3.4.2 Cupboard Creek Protection Zone

DO concentrations in the CCPZ increased from 2.59 mg/L in July 2017 to 3.68 mg/L in September 2017.

3.4.3 Hayfield Zone

DO concentrations in the Hayfield Zone remained stable between 6.73 and 7.94 mg/L during this reporting period.

3.4.4 Shallow Bedrock Zone

Sparging wells in the Shallow Bedrock Zone were not in operation during this reporting period because Plantation has not received approval of the pilot plan for sparging; however, DO increases were observed, which are likely a result of rainwater infiltration.

3.5 Groundwater Monitoring Results

Monitoring results for samples collected in July, August, and September 2017 are presented in Table 5. Table 5 presents all the results that have been collected at the site since July 2015. The laboratory analytical reports for this quarter are provided in Attachment B. 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 bottom of Table 5. The September 2017 results are shown on Figures 4A and 4B, and are summarized below.

3.5.1 Brown's Creek Protection Zone

Benzene was detected above its screening level in 9 of 13 residuum monitoring wells in the BCPZ, ranging from 130 µg/L (MW-28) to 14,300 µg/L (MW-40). Toluene was detected above its screening level in MW-12, MW-39, and MW-40. Ethylbenzene and naphthalene were detected above their screening levels in MW-40. MTBE was detected above its screening level in MW-15, MW-39, and MW-40. 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 wells MW-24 and MW-38 were below screening levels for the third quarter 2017. These BTEX concentrations reflect generally stable trends in this zone since initiating sparging in this zone on March 6, 2017. Prior to initiating sparging, BTEX concentrations were increasing.

Benzene was detected above its screening level in two of four bedrock monitoring wells in the BCPZ, ranging from 126 µg/L (MW-12B) to 1,820 µg/L (MW-15B). Toluene and MTBE were also detected above their screening levels in MW-15B at 3,560 µg/L and 133 µg/L, respectively. Constituents have been nondetect in MW-25B since March 2017, and MW-24B was nondetect in September 2017.

3.5.2 Cupboard Creek Protection Zone

Benzene and MTBE were detected above their screening levels in one residuum monitoring well in the CCPZ (1,110 µg/L and 141 µg/L, respectively, in MW-23). However, MW-19 was not sampled because it was dry, and MW-19 historically has had detections of benzene, toluene, and MTBE above their screening levels. 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.

3.5.3 Hayfield Zone

Benzene was detected above its screening level in 2 of 22 residuum monitoring wells in the Hayfield Zone ranging from 2,340 µg/L (MW-02) to 11,400 µg/L (MW-17). Toluene was detected above its screening level in two monitoring wells in the Hayfield Zone, ranging from 7,120 µg/L (MW-02) to 23,900 µg/L (MW-17). Ethylbenzene was detected above its screening level in MW-17. MTBE was also detected above its screening level in MW-17. Naphthalene was detected above its screening level in MW-02 and MW-17. Xylenes and 1,2-dichloroethane were not detected above their respective screening levels. Constituents in downgradient monitoring wells MW-04, MW-05, MW-06, MW-08, MW-10, MW-14, MW-21, MW-31, MW-32, and MW-36 were below screening levels. No discernable trends in the Hayfield Zone are evident at this time. Nine residuum monitoring wells in the Hayfield Zone were not sampled because of health and safety concerns (MW-03, fire ants present), lack of water (MW-07, MW-13, MW-30, and MW-45), and presence of product (MW-09, MW-16, and MW-18).

Benzene was detected above its screening level in one of seven bedrock monitoring wells (6.81 µg/L in MW-14B). Constituents in monitoring wells MW-02B and MW-36B were below screening levels. MW-17B and MW-45B were not sampled because they were dry.

3.5.4 Shallow Bedrock Zone

In the residuum of the Shallow Bedrock Zone, one well contained product (MW-11) and two wells were dry (MW-22 and MW-44). No constituents were detected above screening levels in groundwater in the remaining two wells (MW-01 and MW-27). These wells bound the southern edge of the dissolved plume.

No constituents were detected above screening levels in bedrock monitoring wells in the Shallow Bedrock Zone.

3.6 Sparge System Operating Efficiency and Performance Data

Between June 29, 2017, and September 26, 2017, the sparge system operated a total of approximately 2,017 hours, with an operating efficiency of 93.1 percent (operational “up” time vs. available time in the reporting period). Downtime during this period was due to scheduled system maintenance activities and local power fluctuations caused by local area storms. Sparging flow rates and stream aerator flow rates are at approximately 40 percent of design flow capacity.

4.0 Conclusions

The following conclusions are based on the site work performed between July 1, 2017, and September 30, 2017:

- The number of locations with product thickness greater than 0.5 foot (six locations) stayed the same from June 2017 to September 2017, but was markedly fewer than the number observed in April 2017 (21 locations). Product thickness values have also declined in both recovery and non-recovery features across the site. The locations that have product thickness greater than 0.5 foot are not located near any surface water bodies at the site.
- Approximately 665 gallons (16 barrels) of product were shipped offsite for disposal between July and September 2017 during twice weekly product evacuation events until August 23, 2017, when the events were reduced to once per week. To date, (December 9, 2014, through the end of September 2017), approximately 273,490 gallons (6,512 barrels) of product have been recovered and removed from the site.

- Three gauging and surface water sampling events were performed during this quarter. Other than location SW-12, no dissolved hydrocarbons were detected above the respective surface water standards. The detections above screening levels at SW-12 were for benzene only.
- DO concentrations have increased in the BCPZ and CCPZ and are stable in the Hayfield Zone. Increasing sparging flow rates are planned for next quarter in these zones to meet the increasing biomass oxygen demand.
- Trends of dissolved BTEX concentrations are no longer increasing in the BCPZ and CCPZ and have stabilized. This indicates that vertical sparging is becoming more effective. Flow rates are planned to be increased to design levels during the next quarter in accordance with the Sparging Operating Limits letter (CH2M, 2017b) submitted to SCDHEC on July 26, 2017, and approved by SCDHEC on September 12, 2017.
- Product thicknesses have decreased significantly in the Hayfield Zone, but trends of dissolved BTEX there are not apparent at this time. Remediation has only begun in the Hayfield Zone at very low operating levels (less than 40 percent of design capacity) and will be increased to design levels during the next quarter.
- During this reporting period, the sparging system had an operating efficiency of 93.1 percent. Downtime was a result of scheduled system O&M activities and local power fluctuations due to area storms. Operating flows are at approximately 40 percent of design flow capacity.

5.0 Future Activities

The following activities are planned for the site.

5.1 Groundwater and Surface Water Monitoring

- Continue monthly gauging and sampling 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, and pending SCDHEC approval.
- Install proposed monitoring wells MW-06B, MW-09B, MW-43, MW-43B, MW-48B, and MW-50B as proposed in the *Request for Well Permit to Install Additional Monitoring Wells* (CH2M, 2017e) to address data gaps.
- Continue routine visual inspection of Brown's Creek and Cupboard Creek as outlined in the CAP Addendum, Revision 2 (CH2M, 2017d).

5.2 System O&M

- Continue routine system O&M activities for the sparging system as described in the CAP Addendum, Revision 2 (CH2M, 2017d).
- Continue sparging in the BCPZ and CCPZ. Increase flows in each area up to the design flow rate of 15 scfm per vertical well according to the Sparging Operating Limits letter submitted to SCDHEC on July 26, 2017 (CH2M, 2017b).
- Continue sparging in the horizontal wells in the Hayfield Zone. Increase flows in each well up to the maximum design flow rate of 0.75 scfm/ft of screen.
- Continue operating the stream diffusion aerators and increase flows up to the design flow rate of 15 scfm in each, according to the Sparging Operating Limits letter (CH2M, 2017b).
- Implement the bedrock sparging pilot study upon SCDHEC approval.

6.0 References

- CH2M HILL (CH2M). 2016. *Corrective Action Plan, Lewis Drive Release Site, Belton, South Carolina. Site ID Number 18693 ("Kinder Morgan Belton Pipeline Release")*. September 1.
- CH2M HILL (CH2M). 2017a. *Corrective Action Plan Addendum, Revision 1, Lewis Drive Remediation Site, Belton, South Carolina. Site ID Number 18693 ("Kinder Morgan Belton Pipeline Release")*. May 25.
- CH2M HILL (CH2M). 2017b. *Sparging Operating Limits, Lewis Drive Remediation Site, Belton, South Carolina. Site ID Number 18693 ("Kinder Morgan Belton Pipeline Release")*. July 26.
- CH2M HILL (CH2M). 2017c. *Interim Free Product Recovery Plan – Revision 3, Lewis Drive Remediation Site, Belton, South Carolina. Site ID Number 18693 ("Kinder Morgan Belton Pipeline Release")*. August 4.
- CH2M HILL (CH2M). 2017d. *Corrective Action Plan Addendum, Revision 2, Lewis Drive Remediation Site, Belton, South Carolina. Site ID Number 18693 ("Kinder Morgan Belton Pipeline Release")*. October 12.
- CH2M HILL (CH2M). 2017e. *Request for Well Permit to Install Additional Monitoring Wells, Lewis Drive Remediation Site, Belton, South Carolina. Site ID Number 18693 ("Kinder Morgan Belton Pipeline Release")*. May 8.
- CH2M HILL (CH2M). 2017f. *Quality Assurance Project Plan, Revision 3. Addendum to the SCDHEC UST Programmatic Quality Assurance Program Plan for Plantation Pipe Line Company/ Site ID No. 18693*. May 24.
- South Carolina Underground Storage Tank Management Division. 2016. *Programmatic Quality Assurance Program Plan, Revision 3.1*. February.
- South Carolina Department of Health and Environmental Control (SCDHEC). 2014. *R. 61-68, Water Classifications & Standards*. June 27.
- South Carolina Department of Health and Environmental Control (SCDHEC). 2016. *R. 61-71, Well Standards*. May 27.

If you have any questions or concerns, please call me at 919-760-1777, Mr. Scott Powell/CH2M at 678-530-4457, or Mr. Jerry Aycock/Plantation at 770-751-4165.

Regards,
CH2M HILL Engineers, Inc.



William M. Waldron, P.E.
Program Manager

I affirm that this report was prepared under my direct supervision.



Jonathan Grimes, P.G.
South Carolina Registered Professional Geologist #2235



06 Dec 17
Date

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File

Attachments:

Table 1 – Field Observation Log
Table 2 – Analytical Results for Surface Water
Table 3 – Groundwater Elevation and Product Thickness Data
Table 4 – Dissolved Oxygen Results for Groundwater
Table 5 – Analytical Results for Groundwater
Table 6 – Cumulative Product Shipped from the Site
Table 7 – Stream Gauge Construction Information
Table 8 – Well Construction Information

Figure 1 – Site Overview
Figure 2A – Residuum Groundwater and Surface Water Elevation Map
Figure 2B – Bedrock Groundwater Elevation Map
Figure 3 – Product Thickness Map
Figure 4A – Groundwater Analytical Results in Residuum Aquifer, September 2017
Figure 4B – Groundwater Analytical Results in Bedrock Aquifer, September 2017

Attachment A – Surface Water Analytical Laboratory Reports
Attachment B – Groundwater Analytical Laboratory Reports
Attachment C – Operation and Maintenance Logs
Attachment D – Bills of Lading
Attachment E – Soil Boring Log and Well Completion Diagrams (MW-46, MW-47, and MW 49)
Attachment F – Surface Water Analytical Trends
Attachment G – Product Thickness Trends

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.)
7/2&3/2017	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.
7/6/2017	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.
7/10/2017	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.
7/13/2017	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.
7/17/2017	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.
7/20/2017	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.
7/24/2017	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.
7/27/2017	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.
7/31/2017	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.
8/2/2017	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.
8/9/2017	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.
8/12/2017	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.
8/14/2017	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.
8/17/2017	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.
8/21/2017	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.
8/24/2017	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.
8/31/2017	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.
9/5/2017	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.

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.)
9/10/2017	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.
9/15/2017	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.
9/21/2017	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.
9/28/2017	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							MTBE		
				Benzene 330	Ethylbenzene 490	Toluene 2,400	m&p-Xylene 2,100	o-Xylene 940	Naphthalene 140				
SW-RELEASE	SW-RELEASE	1/20/2015	µg/L									5.7 J	
	SW01-121114	12/11/2014	µg/L	0.5 U	1 U	1 U	2 U	1 U	1 U ^d				1 U
	SW01-022515	2/25/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d				NA
	SW01-030215	3/2/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d				NA
	SW01-031115	3/11/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d				NA
	SW01-031815	3/18/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d				NA
	SW01-033115	3/31/2015	µg/L	5 U ^d	5 U	17.6	10 U	5 U	5 U ^d				NA
	SW01-042215	4/22/2015	µg/L	5 U ^d	5 U	14.9	10 U	5 U	5 U ^d				NA
	SW01-050715	5/7/2015	µg/L	5 U ^d	5 U	7.0	10 U	5 U	5 U ^d				NA
	SW01-051915	5/19/2015	µg/L	5 U ^d	5 U	8.8	10.6	6.4	5 U ^d				NA
	SW01-060315	6/3/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d				NA
	SW01-061815	6/18/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d				NA
	SW01-071515	7/15/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d				NA
	SW01-081315	8/13/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d				NA
	SW01-092415	9/24/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d				NA
	SW01-102215	10/22/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d				NA
	SW01-112415	11/24/2015	µg/L	7.8	1.5	13.0	9.3	4.6	1 U ^d				NA
	SW01-122215	12/22/2015	µg/L	4.6	1 U	8.8	5.5	3.1	1 U ^d				NA
	SW01-012516	1/25/2016	µg/L	17.6	2.3	36.0	11.3	6.3	1 U ^d				NA
	SW01-021816	2/18/2016	µg/L	23.4	3.0	55.6	15.0	9.1	1 U ^d				NA
	SW01-031616	3/16/2016	µg/L	20.1	2.4	42.3	13.3	7.6	1 U ^d				NA
SW-01	SW01-042716	4/27/2016	µg/L	20.8	1 U	30.6	2.9	2.0	1 U ^d				NA
	SW01-050916	5/9/2016	µg/L	16.5	1.4	16.3	7.0	4.8	1 U ^d				NA
	SW01-062716	6/27/2016	µg/L	9	1 U	3.3	2 U	1 U	1 U ^d				NA
	SW01-072816	7/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d				NA
	SW01-081916	8/19/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d				NA
	SW01-092916	9/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d				NA
	SW01-103116	10/31/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d				NA
	SW01-112816	11/28/2016	µg/L	5.0	1 U	10.4	4.9	8.3	1 U ^d				NA
	SW01-122916	12/29/2016	µg/L	12.6	1 U	22.1	11.2	13.5	1 U ^d				NA
	SW01-012017	1/20/2017	µg/L	1.0	1 U	2.3	2 U	3.5	1 U ^d				NA
	SW01-022817	2/28/2017	µg/L	18.5	1.93	37.0	13.8	10.2	5 U ^d				NA
	SW01-031517	3/15/2017	µg/L	3.02	1 U	5.13	2.16	1.74	5 U ^d				NA
	SW01-032117	3/21/2017	µg/L	1 U	1 U	1.57	2 U	1 U	5 U ^d				NA
	SW01-033017	3/30/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d				NA
	SW01-040517	4/5/2017	µg/L	1 U	1 U	2.25	2 U	1 U	5 U ^d				NA
	SW01-050417	5/4/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d				NA
	SW01-061317	6/13/2017	µg/L	1 U	1 U	1.90	2 U	1 U	5 U ^d				NA
	SW01-071817	7/18/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d				NA
	SW01-080217	8/2/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d				NA
	SW01-090517	9/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d				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
	SW02-121114	12/11/2014	µg/L	0.5 U	1 U	1 U	2 U	1 U	1 U ^d	1 U
	SW02-022515	2/25/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW02-030215	3/2/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW02-031115	3/11/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW02-031815	3/18/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW02-033115	3/31/2015	µg/L	5 U ^d	5 U	6.0	10 U	5 U	5 U ^d	NA
	SW02-042215	4/22/2015	µg/L	5 U ^d	5 U	13.0	10 U	5 U	5 U ^d	NA
	SW02-050715	5/7/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW02-051915	5/19/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW02-060315	6/3/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW02-061815	6/18/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW02-071515	7/15/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW02-081315	8/13/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW02-092415	9/24/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW02-102215	10/22/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	SW02-112415	11/24/2015	µg/L	6	1.3	10.0	7.8	4.0	1 U ^d	NA
	SW02-122215	12/22/2015	µg/L	4.1	1 U	7.6	5.1	3.1	1 U ^d	NA
	SW02-012516	1/25/2016	µg/L	12	1.5	25.0	8.4	4.6	1 U ^d	NA
	SW02-021816	2/18/2016	µg/L	15.5	1.8	35.3	10.1	5.9	1 U ^d	NA
SW-02	SW02-031616	3/16/2016	µg/L	8	1.0	17.5	5.8	3.9	1 U ^d	NA
	SW02-042716	4/27/2016	µg/L	5.6	1 U	7.1	2 U	1 U	1 U ^d	NA
	SW02-050916	5/9/2016	µg/L	7.1	1 U	4.5	2.2	1.6	1 U ^d	NA
	SW02-062716	6/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	SW02-072816	7/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	SW02-081916	8/19/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	SW02-092916	9/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	SW02-103116	10/31/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	SW02-112816	11/28/2016	µg/L	5.4	1 U	1.6	2.6	4.8	1 U ^d	NA
	SW02-122916	12/29/2016	µg/L	1 U	1 U	1 U	2 U	1.4	1 U ^d	NA
	SW02-012017	1/20/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	SW02-022817	2/28/2017	µg/L	10.7	1 U	11.0	4.14	4.23	5 U ^d	NA
	SW02-031517	3/15/2017	µg/L	11.4	1 U	8.6	4.45	3.6	5 U ^d	NA
	SW02-032117	3/21/2017	µg/L	8.42	1 U	2.45	2.48	2.68	5 U ^d	NA
	SW02-033017	3/30/2017	µg/L	2.18	1 U	1 U	2 U	1 U	5 U ^d	NA
	SW02-040517	4/5/2017	µg/L	2.87	1 U	1.12	2 U	1.14	5 U ^d	NA
	SW02-050417	5/4/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	SW02-061317	6/13/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	SW02-071817	7/18/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	SW02-080217	8/2/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	SW02-090517	9/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	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
	SW-UPGRADIENT	1/20/2015	µg/L	0.5 U	1 U	0.23 J	2 U	1 U	1 U ^d	1 U
	SW03-022515	2/25/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW03-030215	3/2/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW03-031115	3/11/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW03-031815	3/18/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW03-033115	3/31/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW03-042215	4/22/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW03-050715	5/7/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW03-051915	5/19/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW03-060315	6/3/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW03-061815	6/18/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW03-071515	7/15/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW03-081315	8/13/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW03-102215	10/22/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	SW03-112415	11/24/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	SW03-122215	12/22/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	SW03-012516	1/25/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	SW03-021816	2/18/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
SW-03	SW03-031616	3/16/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	SW03-042716	4/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	SW03-050916	5/9/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	SW03-062716	6/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	SW03-072816	7/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	SW03-092916	9/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	SW03-103116	10/31/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	SW03-112816	11/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	SW03-122916	12/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	SW03-012017	1/20/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	SW03-022817	2/28/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	SW03-031517	3/15/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	SW03-032117	3/21/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	SW03-033017	3/30/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	SW03-040517	4/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	SW03-050417	5/4/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	SW03-061317	6/13/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	SW03-071817	7/18/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	SW03-080217	8/2/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	SW03-090517	9/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	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							MTBE
				Benzene	Ethylbenzene	Toluene	m&p-Xylene	o-Xylene	Naphthalene	94 U ^d	
	SW-DOWNGRADIANT	1/20/2015	µg/L	95	27	310	110	63	94 U ^d	2.7	
	SW04-022515	2/25/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA	
	SW04-030215	3/2/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA	
	SW04-031115	3/11/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA	
	SW04-031815	3/18/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA	
	SW04-033115	3/31/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA	
	SW04-042215	4/22/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA	
	SW04-050715	5/7/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA	
	SW04-051915	5/19/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA	
	SW04-060315	6/3/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA	
	SW04-061815	6/18/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA	
	SW04-071515	7/15/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA	
	SW04-081315	8/13/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA	
	SW04-092415	9/24/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA	
	SW04-102215	10/22/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW04-112415	11/24/2015	µg/L	1.7	1 U	2.7	2.9	1.6	1 U ^d	NA	
	SW04-122215	12/22/2015	µg/L	3.3	1 U	7.3	5.2	2.7	1 U ^d	NA	
	SW04-012516	1/25/2016	µg/L	6.9	1 U	14.0	4.9	2.8	1 U ^d	NA	
	SW04-021816	2/18/2016	µg/L	10.9	1.1	25.4	7.0	4.3	1 U ^d	NA	
SW-04	SW04-031616	3/16/2016	µg/L	1 U	1 U	2.0	2 U	1.8	1 U ^d	NA	
	SW04-042716	4/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW04-050916	5/9/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW04-062716	6/27/2016	µg/L	1 U	1 U	1.1	2 U	1 U	1 U ^d	NA	
	SW04-072816	7/28/2016	µg/L	1 U	1 U	23.5	2 U	1 U	1 U ^d	NA	
	SW04-081916	8/19/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW04-092916	9/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW04-103116	10/31/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW04-112816	11/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW04-122916	12/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW04-012017	1/20/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW04-022817	2/28/2017	µg/L	1 U	1 U	1.13	2 U	1 U	5 U ^d	NA	
	SW04-031517	3/15/2017	µg/L	1 U	1 U	2.90	2 U	1 U	5 U ^d	NA	
	SW04-032117	3/21/2017	µg/L	1 U	1 U	3.28	2 U	1 U	5 U ^d	NA	
	SW04-033017	3/30/2017	µg/L	1 U	1 U	6.15	2 U	1 U	5 U ^d	NA	
	SW04-040517	4/5/2017	µg/L	1 U	1 U	9.47	2 U	1 U	5 U ^d	NA	
	SW04-050417	5/4/2017	µg/L	1 U	1 U	13.8	2 U	1 U	5 U ^d	NA	
	SW04-061317	6/13/2017	µg/L	1 U	1 U	1.37	2 U	1 U	5 U ^d	NA	
	SW04-071817	7/18/2017	µg/L	1 U	1 U	1.92	2 U	1 U	5 U ^d	NA	
	SW04-080217	8/2/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
	SW04-090517	9/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	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
SW-05	SW05-022515	2/25/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW05-030215	3/2/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW05-031115	3/11/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW05-031815	3/18/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW05-033115	3/31/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW05-042215	4/22/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW05-050715	5/7/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW05-112415	11/24/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	SW05-122215	12/22/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	SW05-012516	1/25/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	SW05-021816	2/18/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	SW05-031616	3/16/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	SW-06	SW06-022515	2/25/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d
SW06-030215		3/2/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
SW06-031115		3/11/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
SW06-031815		3/18/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
SW06-042215		4/22/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
SW06-122215		12/22/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
SW06-012516		1/25/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
SW06-021816		2/18/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	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
	SW07-022515	2/25/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW07-030215	3/2/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW07-031115	3/11/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW07-031815	3/18/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW07-033115	3/31/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW07-042215	4/22/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW07-050715	5/7/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW07-051915	5/19/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW07-060315	6/3/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW07-061815	6/18/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW07-071515	7/15/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U ^d	NA
	SW07-102215	10/22/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
SW-07	SW07-112415	11/24/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	SW07-122215	12/22/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	SW07-012516	1/25/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	SW07-021816	2/18/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	SW07-031616	3/16/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	SW07-042716	4/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	SW07-050916	5/9/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	SW07-031517	3/15/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	SW07-032117	3/21/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	SW07-033017	3/30/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	SW07-040517	4/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	SW07-050417	5/4/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	SW07-061317	6/13/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	SW07-071817	7/18/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	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	
	SW08-022515	2/25/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW08-030215	3/2/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW08-031115	3/11/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW08-031815	3/18/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW08-033115	3/31/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW08-042215	4/22/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW08-050715	5/7/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW08-051915	5/19/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW08-060315	6/3/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW08-061815	6/18/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW08-071515	7/15/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW08-081315	8/13/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW08-092415	9/24/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW08-102215	10/22/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
	SW08-112415	11/24/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
	SW08-122215	12/22/2015	µg/L	1.6	1 U	3.8	2.5	1.6	1 U ^d	NA	
	SW08-012516	1/25/2016	µg/L	2.4	1 U	5.6	2	1.3	1 U ^d	NA	
	SW08-021816	2/18/2016	µg/L	2.9	1 U	7.6	2.3	1.5	1 U ^d	NA	
SW-08	SW08-031616	3/16/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW08-042716	4/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW08-050916	5/9/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW08-062716	6/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW08-072816	7/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW08-081916	8/19/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW08-092916	9/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW08-103116	10/31/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW08-112816	11/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW08-122916	12/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW08-012017	1/20/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW08-022817	2/28/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
	SW08-031517	3/15/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
	SW08-032117	3/21/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
	SW08-033017	3/30/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
	SW08-040517	4/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
	SW08-050417	5/4/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
	SW08-061317	6/13/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
SW08-071817	7/18/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA		
SW08-080217	8/2/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA		
SW08-090517	9/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	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	
	SW09-022515	2/25/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW09-030215	3/2/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW09-031115	3/11/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW09-031815	3/18/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW09-033115	3/31/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW09-042215	4/22/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW09-050715	5/7/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW09-051915	5/19/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW09-060315	6/3/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW09-061815	6/18/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW09-071515	7/15/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW09-081315	8/13/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW09-092415	9/24/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW09-102215	10/22/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
	SW09-112415	11/24/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
	SW09-122215	12/22/2015	µg/L	2.1	1 U	4.8	3.3	2.1	1 U ^d	NA	
	SW09-012516	1/25/2016	µg/L	3.3	1 U	7.1	2.4	1.5	1 U ^d	NA	
	SW09-021816	2/18/2016	µg/L	2.2	1 U	5.9	2 U	1.2	1 U ^d	NA	
	SW09-031616	3/16/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
SW-09	SW09-042716	4/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW09-050916	5/9/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW09-062716	6/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW09-072816	7/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW09-081916	8/19/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW09-092916	9/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW09-103116	10/31/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW09-112816	11/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW09-122916	12/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW09-012017	1/20/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW09-022817	2/28/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
	SW09-031517	3/15/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
	SW09-032117	3/21/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
	SW09-033017	3/30/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
	SW09-040517	4/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
	SW09-050417	5/4/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
	SW09-061317	6/13/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
	SW09-071817	7/18/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
	SW09-080217	8/2/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
	SW09-090517	9/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	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	
	SW10-022515	2/25/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW10-030215	3/2/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW10-031115	3/11/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW10-031815	3/18/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW10-033115	3/31/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW10-042215	4/22/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW10-050715	5/7/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW10-051915	5/19/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW10-060315	6/3/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW10-061815	6/18/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW10-071515	7/15/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW10-081315	8/13/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW10-092415	9/24/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW10-102215	10/22/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
	SW10-112415	11/24/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
	SW10-122215	12/22/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
	SW10-012516	1/25/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
	SW10-021816	2/18/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
	SW10-031616	3/16/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
SW-10	SW10-042716	4/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
	SW10-050916	5/9/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
	SW10-062716	6/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
	SW10-072816	7/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
	SW10-081916	8/19/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
	SW10-092916	9/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
	SW10-103116	10/31/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
	SW10-112816	11/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
	SW10-122916	12/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
	SW10-012017	1/20/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
	SW10-022817	2/28/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	5 U ^d	NA
	SW10-031517	3/15/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	5 U ^d	NA
	SW-10-032117	3/21/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	5 U ^d	NA
	SW-10-033017	3/30/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	5 U ^d	NA
	SW-10-040517	4/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	5 U ^d	NA
	SW10-050417	5/4/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	5 U ^d	NA
	SW10-061317	6/13/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	5 U ^d	NA
	SW10-071817	7/18/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	5 U ^d	NA
	SW10-080217	8/2/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	5 U ^d	NA
	SW10-090517	9/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	5 U ^d	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	
	SW11-022515	2/25/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW11-030215	3/2/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW11-031115	3/11/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW11-031815	3/18/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW11-033115	3/31/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW11-042215	4/22/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW11-050715	5/7/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW11-051915	5/19/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW11-060315	6/3/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW11-061815	6/18/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW11-071515	7/15/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW11-081315	8/13/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW11-092415	9/24/2015	µg/L	5 U ^d	5 U	5 U	10 U	5 U	5 U	5 U ^d	NA
	SW11-102215	10/22/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
	SW11-112415	11/24/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
	SW11-122215	12/22/2015	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
	SW11-012516	1/25/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
	SW11-021816	2/18/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
	SW11-031616	3/16/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
SW-11	SW11-042716	4/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
	SW11-050916	5/9/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
	SW11-062716	6/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
	SW11-072816	7/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
	SW11-081916	8/19/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
	SW11-092916	9/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
	SW11-103116	10/31/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
	SW11-112816	11/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
	SW11-122916	12/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
	SW11-012017	1/20/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U ^d	NA
	SW11-022817	2/28/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	5 U ^d	NA
	SW11-031517	3/15/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	5 U ^d	NA
	SW-11-032117	3/21/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	5 U ^d	NA
	SW-11-033017	3/30/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	5 U ^d	NA
	SW-11-040517	4/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	5 U ^d	NA
	SW11-050417	5/4/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	5 U ^d	NA
	SW11-061317	6/13/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	5 U ^d	NA
	SW11-071817	7/18/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	5 U ^d	NA
	SW11-080217	8/2/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	5 U ^d	NA
	SW11-090517	9/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	5 U ^d	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							MTBE
				Benzene	Ethylbenzene	Toluene	m&p-Xylene	o-Xylene	Naphthalene		
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	4.7	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	3.8	NA	
	SW12-022817	2/28/2017	µg/L	26.1	4.04	62.3	18.0	9.73	5 U ^d	NA	
	SW12-031517	3/15/2017	µg/L	125	15.3	185	67.9	35.5	5 U ^d	NA	
	SW12-032117	3/21/2017	µg/L	134	12.1	45.0	60.8	33.6	5 U ^d	NA	
	SW12-033017	3/30/2017	µg/L	48.5	5.69	86.3	27.7	15.8	5 U ^d	NA	
	SW12-040517	4/5/2017	µg/L	67.1	9.24	127.0	43.6	23.7	5 U ^d	NA	
	SW12-050417	5/4/2017	µg/L	52.8	7.96	91.7	42	23.2	5 U ^d	NA	
	SW12-061317	6/13/2017	µg/L	102	16.6	166	85.1	46.2	5 U ^d	NA	
	SW12-071817	7/18/2017	µg/L	65	5.8	116	43.3	24.8	5 U ^d	NA	
	SW12-080217	8/2/2017	µg/L	125	14.7	204	102	67	5 U ^d	NA	
	SW12-090517	9/5/2017	µg/L	46.7	4.72	72	39	26.2	5 U ^d	NA	
	SW12-090517-DUP	9/5/2017	µg/L	57.4	5.5	86.5	46.2	32.1	5 U ^d	NA	
SW-13	SW13-081916	8/19/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW13-092916	9/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW13-103116	10/31/2016	µg/L	1 U	1 U	2.0	2 U	1 U	1 U ^d	NA	
	SW13-112816	11/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW13-122916	12/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW13-012017	1/20/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	SW13-022817	2/28/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
	SW13-031517	3/15/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
	SW13-032117	3/21/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
	SW13-033017	3/30/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
	SW13-040517	4/5/2017	µg/L	1 U	1 U	1.21	2 U	1 U	5 U ^d	NA	
	SW13-050417	5/4/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
	SW13-061317	6/13/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
SW13-071817	7/18/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA		
SW13-080217	8/2/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA		
SW13-090517	9/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA		
SW-14	SW14-071817	7/18/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
	SW14-080217	8/2/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
	SW14-090517	9/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	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
FP-01	FP01-031616	3/16/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	FP01-042716	4/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	FP01-050916	5/9/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	FP01-062716	6/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	FP01-072816	7/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	FP01-081916	8/19/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	FP01-092916	9/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	FP01-103116	10/31/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	FP01-112816	11/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	FP01-122916	12/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	FP01-012017	1/20/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	FP01-022817	2/28/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	FP01-031517	3/15/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	FP-01-032117	3/21/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	FP-01-033017	3/30/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	FP-01-040517	4/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	FP-01-050417	5/4/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	FP-01-061317	6/13/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	FP-01-071817	7/18/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	FP-01-080217	8/2/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
FP-01-090517	9/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
FP-02	FP02-031616	3/16/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	FP02-042716	4/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	FP02-050916	5/9/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	FP02-062716	6/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	FP02-072816	7/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	FP02-081916	8/19/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	FP02-092916	9/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	FP02-103116	10/31/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	FP02-112816	11/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	FP02-122916	12/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	FP02-012017	1/20/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA
	FP02-022817	2/28/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	FP02-031517	3/15/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	FP-02-032117	3/21/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	FP-02-033017	3/30/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	FP-02-040517	4/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	FP-02-050417	5/4/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	FP-02-061317	6/13/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	FP-02-071817	7/18/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
	FP-02-080217	8/2/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA
FP-02-090517	9/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	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	
FP-03	FP03-031616	3/16/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	FP03-042716	4/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	FP03-050916	5/9/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	FP03-062716	6/27/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	FP03-072816	7/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	FP03-092916	9/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	FP03-103116	10/31/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	FP03-112816	11/28/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	FP03-122916	12/29/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	FP03-012017	1/20/2017	µg/L	1 U	1 U	1 U	2 U	1 U	1 U ^d	NA	
	FP03-022817	2/28/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
	FP03-031517	3/15/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
	FP-03-032117	3/21/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
	FP-03-033017	3/30/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
	FP-03-040517	4/5/2017	µg/L	NS	NS	NS	NS	NS	NS	NS	NA
	FP-03-050417	5/4/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
	FP-03-061317	6/13/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
	FP-03-071817	7/18/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
	FP-03-080217	8/2/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
	FP-03-090517	9/5/2017	µg/L	1 U	1 U	1 U	2 U	1 U	5 U ^d	NA	
Screening Value:			µg/L	2.2 ^a	530 ^a	1,000 ^a	190 ^{b,c}	190 ^b	0.17 ^b	14 ^b	

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 22, 2012

^b U.S. Environmental Protection Agency (EPA) Regional Screening Levels (RSLs). Tapwater. June 2015. RSLs based on hazard quotient (HQ) = 1 and cancer risk = 1 x 10⁻⁶

^c RSL value for total xylenes used for m&p-Xylene

^d 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 RBSLs.

µg/L = microgram(s) per liter

FP = free product

ID = identification

J = estimated

MTBE = methyl tertiary butyl ether

NA = not applicable

NS = not sampled

SW = surface water

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

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 ^{1,2} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ³ Groundwater Elevation (ft amsl)	Date of Product Evacuation	Start Time	Finish Time
MW-01					853.07					
	9/10/2017	-	9.05	-		844.02	-	-	-	-
	9/6/2017	-	8.30	-		844.77	-	-	-	-
	8/12/2017	-	9.78	-		843.29	-	-	-	-
	8/1/2017	-	9.05	-		844.02	-	-	-	-
7/2/2017	-	6.42	-		846.65	-	-	-	-	
MW-01B					852.99					
	9/10/2017	-	10.77	-		842.22	-	-	-	-
	9/6/2017	-	10.78	-		842.21	-	-	-	-
	8/12/2017	-	9.24	-		843.75	-	-	-	-
	8/1/2017	-	9.17	-		843.82	-	-	-	-
7/2/2017	-	8.05	-		844.94	-	-	-	-	
MW-02					841.04					
	9/10/2017	-	3.42	-		837.62	-	-	-	-
	9/6/2017	-	4.21	-		836.83	-	-	-	-
	8/12/2017	-	3.98	-		837.06	-	-	-	-
	8/1/2017	-	3.80	-		837.24	-	-	-	-
7/2/2017	-	3.21	-		837.83	-	-	-	-	
MW-02B					841.18					
	9/10/2017	-	2.42	-		838.76	-	-	-	-
	9/6/2017	-	1.94	-		839.24	-	-	-	-
	8/12/2017	-	0.37	-		840.81	-	-	-	-
	8/1/2017	-	4.35	-		836.83	-	-	-	-
7/2/2017	-	4.04	-		837.14	-	-	-	-	
MW-03					838.36					
	9/10/2017	-	6.00	-		832.36	-	-	-	-
	9/6/2017	-	NM	-		-	-	-	-	-
	8/12/2017	-	5.00	-		833.36	-	-	-	-
	8/1/2017	-	9.50	-		828.86	-	-	-	-
7/2/2017	-	9.20	-		829.16	-	-	-	-	
MW-04					844.42					
	9/10/2017	-	10.82	-		833.60	-	-	-	-
	9/6/2017	-	11.07	-		833.35	-	-	-	-
	8/12/2017	-	9.49	-		834.93	-	-	-	-
	8/1/2017	-	9.51	-		834.91	-	-	-	-
7/2/2017	-	8.57	-		835.85	-	-	-	-	
MW-05					851.11					
	9/10/2017	-	16.65	-		834.46	-	-	-	-
	9/6/2017	-	16.50	-		834.61	-	-	-	-
	8/12/2017	-	15.41	-		835.70	-	-	-	-
	8/1/2017	-	15.01	-		836.10	-	-	-	-
7/2/2017	-	14.50	-		836.61	-	-	-	-	
MW-06					852.92					
	9/10/2017	-	15.40	-		837.52	-	-	-	-
	9/6/2017	-	15.34	-		837.58	-	-	-	-
	8/12/2017	-	14.84	-		838.08	-	-	-	-
	7/2/2017	-	14.70	-		838.22	-	-	-	-
MW-07					853.02					
	9/10/2017	-	13.17	-		839.85	-	-	-	-
	9/6/2017	-	13.20	-		839.82	-	-	-	-
	8/12/2017	13.08	13.09	0.01		839.93	839.93	-	-	-
	7/2/2017	-	12.75	-		840.27	-	-	-	-
MW-08					844.72					
	9/10/2017	-	11.20	-		833.52	-	-	-	-
	9/6/2017	-	11.92	-		832.80	-	-	-	-
8/12/2017	-	11.70	-		833.02	-	-	-	-	

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 ^{1,2} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ³ Groundwater Elevation (ft amsl)	Date of Product Evacuation	Start Time	Finish Time
MW-08 (cont'd)	8/1/2017	-	11.32	-		833.40	-	-	-	-
	7/2/2017	-	9.68	-		835.04	-	-	-	-
MW-09					843.63					
	9/10/2017	-	3.50	-		840.13	-	-	-	-
	9/6/2017	2.81	3.00	0.19		840.63	840.77	-	-	-
	8/12/2017	-	4.90	-		838.73	-	-	-	-
	8/1/2017	-	4.15	-		839.48	-	-	-	-
	7/2/2017	-	3.35	-		840.28	-	-	-	-
MW-10					845.41					
	9/10/2017	-	13.02	-		832.39	-	-	-	-
	9/6/2017	-	13.50	-		831.91	-	-	-	-
	8/12/2017	-	14.05	-		831.36	-	-	-	-
	8/1/2017	-	12.40	-		833.01	-	-	-	-
	7/2/2017	-	10.48	-		834.93	-	-	-	-
MW-11					855.63					
	9/10/2017	29.68	30.04	0.36		825.59	825.85	-	-	-
	9/6/2017	29.69	30.04	0.35		825.59	825.84	-	-	-
	8/12/2017	29.05	29.15	0.10		826.48	826.55	-	-	-
	8/1/2017	28.54	28.63	0.09		827.00	827.07	-	-	-
	7/2/2017	-	28.20	-		827.43	-	-	-	-
MW-12					834.53					
	9/10/2017	-	14.90	-		819.63	-	-	-	-
	9/6/2017	-	14.84	-		819.69	-	-	-	-
	8/12/2017	-	14.41	-		820.12	-	-	-	-
	8/1/2017	-	13.83	-		820.70	-	-	-	-
	7/2/2017	-	13.65	-		820.88	-	-	-	-
MW-12B					834.98					
	9/10/2017	-	15.35	-		819.63	-	-	-	-
	9/6/2017	-	15.20	-		819.78	-	-	-	-
	8/12/2017	-	14.82	-		820.16	-	-	-	-
	8/1/2017	-	14.17	-		820.81	-	-	-	-
	7/2/2017	-	14.02	-		820.96	-	-	-	-
MW-13					848.84					
	9/10/2017	-	21.85	-		826.99	-	-	-	-
	9/6/2017	-	21.85	-		826.99	-	-	-	-
	8/12/2017	-	21.70	-		827.14	-	-	-	-
	7/2/2017	-	20.73	-		828.11	-	-	-	-
MW-13B					849.82					
	9/10/2017	-	22.75	-		827.07	-	-	-	-
	9/6/2017	-	22.70	-		827.12	-	-	-	-
	8/12/2017	-	22.22	-		827.60	-	-	-	-
	7/2/2017	-	21.25	-		828.57	-	-	-	-
MW-14					838.70					
	9/10/2017	-	18.07	-		820.63	-	-	-	-
	9/6/2017	-	18.08	-		820.62	-	-	-	-
	8/12/2017	-	17.52	-		821.18	-	-	-	-
	7/2/2017	-	16.57	-		822.13	-	-	-	-
MW-14B					840.20					
	9/10/2017	-	18.97	-		821.23	-	-	-	-
	9/6/2017	-	18.84	-		821.36	-	-	-	-
	8/12/2017	-	18.37	-		821.83	-	-	-	-
	7/2/2017	-	17.87	-		822.33	-	-	-	-
MW-15					831.03					
	9/10/2017	-	14.12	-		816.91	-	-	-	-
	9/6/2017	-	13.87	-		817.16	-	-	-	-
	8/12/2017	-	13.25	-		817.78	-	-	-	-

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 ^{1,2} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ³ Groundwater Elevation (ft amsl)	Date of Product Evacuation	Start Time	Finish Time
MW-15 (cont'd)	8/1/2017	-	11.20	-		819.83	-	-	-	-
	7/2/2017	-	13.01	-		818.02	-	-	-	-
MW-15B					831.29					
	9/10/2017	-	16.37	-		814.92	-	-	-	-
	9/6/2017	-	16.40	-		814.89	-	-	-	-
	8/12/2017	-	16.42	-		814.87	-	-	-	-
	8/1/2017	-	16.28	-		815.01	-	-	-	-
	7/2/2017	-	15.64	-		815.65	-	-	-	-
MW-16					847.67					
	9/10/2017	-	8.50	-		839.17	-	-	-	-
	9/6/2017	8.95	9.10	0.15		838.57	838.67	-	-	-
	8/12/2017	-	7.00	-		840.67	-	-	-	-
	8/1/2017	8.70	8.75	0.05		838.92	838.95	-	-	-
7/2/2017	-	9.05	-		838.62	-	-	-	-	
MW-17					855.35					
	9/10/2017	-	10.83	-		844.52	-	-	-	-
	9/6/2017	-	10.85	-		844.50	-	-	-	-
	8/12/2017	-	16.82	-		838.53	-	-	-	-
7/2/2017	-	10.82	-		844.53	-	-	-	-	
MW-17B					855.37					
	9/10/2017	-	16.75	-		838.62	-	-	-	-
	9/6/2017	-	16.71	-		838.66	-	-	-	-
	8/12/2017	-	16.07	-		839.30	-	-	-	-
7/2/2017	-	16.85	-		838.52	-	-	-	-	
MW-18					846.89					
	9/10/2017	-	11.10	-		835.79	-	-	-	-
	9/6/2017	12.68	12.71	0.03		834.18	834.20	-	-	-
	8/12/2017	11.98	12.05	0.07		834.84	834.89	-	-	-
	8/1/2017	12.30	13.39	1.09		833.50	834.29	-	-	-
7/2/2017	10.50	11.70	1.20		835.19	836.06	-	-	-	
MW-19					853.94					
	9/10/2017	-	11.77	-		842.17	-	-	-	-
	9/6/2017	-	11.76	-		842.18	-	-	-	-
	8/12/2017	-	11.74	-		842.20	-	-	-	-
	8/1/2017	-	11.35	-		842.59	-	-	-	-
7/2/2017	-	10.68	-		843.26	-	-	-	-	
MW-20					852.89					
	9/10/2017	12.94	13.45	0.51		839.44	839.81	-	-	-
	9/6/2017	12.99	13.71	0.72		839.18	839.70	-	-	-
	8/12/2017	12.33	13.10	0.77		839.79	840.35	-	-	-
	8/1/2017	12.08	13.10	1.02		839.79	840.53	-	-	-
7/2/2017	11.63	12.90	1.27		839.99	840.91	-	-	-	
MW-21					855.77					
	9/10/2017	-	17.39	-		838.38	-	-	-	-
	9/6/2017	-	17.34	-		838.43	-	-	-	-
	8/12/2017	-	16.80	-		838.97	-	-	-	-
7/2/2017	-	16.16	-		839.61	-	-	-	-	
MW-22					854.60					
	9/10/2017	-	DRY	-		-	-	-	-	-
	9/6/2017	-	10.35	-		844.25	-	-	-	-
	8/12/2017	-	10.35	-		844.25	-	-	-	-
	8/1/2017	-	9.98	-		844.62	-	-	-	-
7/2/2017	-	9.65	-		844.95	-	-	-	-	
MW-23					849.57					
	9/10/2017	-	11.28	-		838.29	-	-	-	-
9/6/2017	-	11.22	-		838.35	-	-	-	-	

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 ^{1,2} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ³ Groundwater Elevation (ft amsl)	Date of Product Evacuation	Start Time	Finish Time
MW-23 (cont'd)	8/12/2017	-	10.70	-		838.87	-	-	-	-
	8/1/2017	-	10.55	-		839.02	-	-	-	-
	7/2/2017	-	9.85	-		839.72	-	-	-	-
MW-23B					849.69					
	9/10/2017	-	11.33	-		838.36	-	-	-	-
	9/6/2017	-	11.21	-		838.48	-	-	-	-
	8/12/2017	-	11.22	-		838.47	-	-	-	-
	7/2/2017	-	11.80	-		837.89	-	-	-	-
MW-24					817.92					
	9/10/2017	-	4.65	-		813.27	-	-	-	-
	9/6/2017	-	4.47	-		813.45	-	-	-	-
	8/12/2017	-	4.62	-		813.30	-	-	-	-
	7/2/2017	-	4.47	-		813.45	-	-	-	-
MW-24B					818.72					
	9/10/2017	-	5.79	-		812.93	-	-	-	-
	9/6/2017	-	5.83	-		812.89	-	-	-	-
	8/12/2017	-	5.92	-		812.80	-	-	-	-
	7/2/2017	-	5.43	-		813.29	-	-	-	-
MW-25					826.18					
	9/10/2017	-	8.88	-		817.30	-	-	-	-
	9/6/2017	-	8.83	-		817.35	-	-	-	-
	8/12/2017	-	8.61	-		817.57	-	-	-	-
	8/1/2017	-	8.21	-		817.97	-	-	-	-
	7/2/2017	-	8.05	-		818.13	-	-	-	-
MW-25B					823.81					
	9/10/2017	-	5.37	-		818.44	-	-	-	-
	9/6/2017	-	5.62	-		818.19	-	-	-	-
	8/12/2017	-	5.65	-		818.16	-	-	-	-
	8/1/2017	-	5.55	-		818.26	-	-	-	-
	7/2/2017	-	4.88	-		818.93	-	-	-	-
MW-26					847.56					
	9/10/2017	-	7.35	-		840.21	-	-	-	-
	9/6/2017	-	7.18	-		840.38	-	-	-	-
	8/12/2017	-	6.70	-		840.86	-	-	-	-
	8/1/2017	-	6.58	-		840.98	-	-	-	-
	7/2/2017	-	5.15	-		842.41	-	-	-	-
MW-26B					847.81					
	9/10/2017	-	9.08	-		838.73	-	-	-	-
	9/6/2017	-	8.95	-		838.86	-	-	-	-
	8/12/2017	-	8.65	-		839.16	-	-	-	-
	7/2/2017	-	7.28	-		840.53	-	-	-	-
MW-27					854.11					
	9/10/2017	-	27.33	-		826.78	-	-	-	-
	9/6/2017	-	27.28	-		826.83	-	-	-	-
	8/12/2017	-	26.47	-		827.64	-	-	-	-
	7/2/2017	-	25.60	-		828.51	-	-	-	-
MW-27B					857.14					
	9/10/2017	-	30.15	-		826.99	-	-	-	-
	9/6/2017	30.06	30.07	0.01		827.07	827.08	-	-	-
	8/12/2017	-	29.80	-		827.34	-	-	-	-
	7/2/2017	-	29.95	-		827.19	-	-	-	-
MW-28					844.31					
	9/10/2017	-	25.04	-		819.27	-	-	-	-
	9/6/2017	-	23.48	-		820.83	-	-	-	-
	8/12/2017	-	23.50	-		820.81	-	-	-	-
	8/1/2017	-	23.04	-		821.27	-	-	-	-

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 ^{1,2} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ³ Groundwater Elevation (ft amsl)	Date of Product Evacuation	Start Time	Finish Time
MW-28 (cont'd)	7/2/2017	-	22.45	-		821.86	-	-	-	-
MW-29					852.20					
	9/10/2017	-	10.50	-		841.70	-	-	-	-
	9/6/2017	-	10.41	-		841.79	-	-	-	-
	8/12/2017	-	9.65	-		842.55	-	-	-	-
	8/1/2017	-	9.32	-		842.88	-	-	-	-
	7/2/2017	-	8.02	-		844.18	-	-	-	-
MW-30					841.28					
	9/10/2017	-	14.45	-		826.83	-	-	-	-
	9/6/2017	-	14.56	-		826.72	-	-	-	-
	8/12/2017	-	13.48	-		827.80	-	-	-	-
	8/1/2017	-	13.25	-		828.03	-	-	-	-
	7/2/2017	-	12.52	-		828.76	-	-	-	-
MW-31					845.04					
	9/10/2017	-	20.26	-		824.78	-	-	-	-
	9/6/2017	-	20.35	-		824.69	-	-	-	-
	8/12/2017	-	20.10	-		824.94	-	-	-	-
	8/1/2017	-	18.98	-		826.06	-	-	-	-
	7/2/2017	-	18.11	-		826.93	-	-	-	-
MW-31B					844.94					
	9/10/2017	-	20.32	-		824.62	-	-	-	-
	9/6/2017	-	20.34	-		824.60	-	-	-	-
	8/12/2017	-	19.71	-		825.23	-	-	-	-
	7/2/2017	-	18.36	-		826.58	-	-	-	-
MW-32					842.93					
	9/10/2017	-	11.51	-		831.42	-	-	-	-
	9/6/2017	-	12.32	-		830.61	-	-	-	-
	8/12/2017	-	12.08	-		830.85	-	-	-	-
	7/2/2017	-	8.98	-		833.95	-	-	-	-
MW-33					849.20					
	9/10/2017	-	25.35	-		823.85	-	-	-	-
	9/6/2017	-	25.30	-		823.90	-	-	-	-
	8/12/2017	-	24.80	-		824.40	-	-	-	-
	7/2/2017	-	23.90	-		825.30	-	-	-	-
MW-33T					849.11					
	9/10/2017	-	26.75	-		822.36	-	-	-	-
	9/6/2017	-	26.71	-		822.40	-	-	-	-
	8/12/2017	-	26.20	-		822.91	-	-	-	-
	7/2/2017	-	25.55	-		823.56	-	-	-	-
MW-34					816.35					
	9/10/2017	-	2.61	-		813.74	-	-	-	-
	9/6/2017	-	2.53	-		813.82	-	-	-	-
	8/12/2017	-	NM	-		-	-	-	-	-
	8/1/2017	-	2.62	-		813.73	-	-	-	-
	7/2/2017	-	NM	-		-	-	-	-	-
MW-35					829.40					
	9/10/2017	-	8.98	-		820.42	-	-	-	-
	9/6/2017	-	9.74	-		819.66	-	-	-	-
	8/12/2017	-	9.45	-		819.95	-	-	-	-
	8/1/2017	-	10.23	-		819.17	-	-	-	-
	7/2/2017	-	7.90	-		821.50	-	-	-	-
MW-36					858.47					
	9/10/2017	-	19.89	-		838.58	-	-	-	-
	9/6/2017	-	19.82	-		838.65	-	-	-	-
	8/12/2017	-	19.22	-		839.25	-	-	-	-
	7/2/2017	-	19.09	-		839.38	-	-	-	-

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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 ^{1,2} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ³ Groundwater Elevation (ft amsl)	Date of Product Evacuation	Start Time	Finish Time
MW-36B					858.15			-	-	-
	9/10/2017	-	19.60	-		838.55	-	-	-	-
	9/6/2017	-	19.53	-		838.62	-	-	-	-
	8/12/2017	-	18.95	-		839.20	-	-	-	-
	7/2/2017	-	18.77	-		839.38	-	-	-	-
MW-37					813.92			-	-	-
	9/10/2017	-	3.50	-		810.42	-	-	-	-
	9/6/2017	-	3.46	-		810.46	-	-	-	-
	8/12/2017	-	3.55	-		810.37	-	-	-	-
	7/2/2017	-	3.49	-		810.43	-	-	-	-
MW-38					813.28			-	-	-
	9/10/2017	-	1.99	-		811.29	-	-	-	-
	9/6/2017	-	1.88	-		811.40	-	-	-	-
	8/12/2017	-	2.05	-		811.23	-	-	-	-
	8/1/2017	-	2.10	-		811.18	-	-	-	-
	7/2/2017	-	1.83	-		811.45	-	-	-	-
MW-39					819.90			-	-	-
	9/10/2017	-	6.04	-		813.86	-	-	-	-
	9/6/2017	-	5.50	-		814.40	-	-	-	-
	8/12/2017	-	5.15	-		814.75	-	-	-	-
	8/1/2017	-	3.81	-		816.09	-	-	-	-
	7/2/2017	-	5.57	-		814.33	-	-	-	-
MW-40					817.79			-	-	-
	9/10/2017	-	3.22	-		814.57	-	-	-	-
	9/6/2017	-	2.88	-		814.91	-	-	-	-
	8/12/2017	-	2.53	-		815.26	-	-	-	-
	8/1/2017	-	1.97	-		815.82	-	-	-	-
	7/2/2017	-	2.95	-		814.84	-	-	-	-
MW-41					819.68			-	-	-
	9/10/2017	-	4.64	-		815.04	-	-	-	-
	9/6/2017	-	4.49	-		815.19	-	-	-	-
	8/12/2017	-	4.53	-		815.15	-	-	-	-
	8/1/2017	-	4.33	-		815.35	-	-	-	-
	7/2/2017	-	3.98	-		815.70	-	-	-	-
MW-42					820.33			-	-	-
	9/10/2017	-	5.24	-		815.09	-	-	-	-
	9/6/2017	-	5.16	-		815.17	-	-	-	-
	8/12/2017	-	5.19	-		815.14	-	-	-	-
	7/2/2017	-	4.53	-		815.80	-	-	-	-
MW-44					853.67			-	-	-
	9/10/2017	-	9.35	-		844.32	-	-	-	-
	9/6/2017	-	9.38	-		844.29	-	-	-	-
	8/12/2017	-	9.30	-		844.37	-	-	-	-
	7/2/2017	-	7.80	-		845.87	-	-	-	-
MW-44B					853.38			-	-	-
	9/10/2017	-	14.15	-		839.23	-	-	-	-
	9/6/2017	-	13.95	-		839.43	-	-	-	-
	8/12/2017	-	13.28	-		840.10	-	-	-	-
	7/2/2017	-	12.62	-		840.76	-	-	-	-
MW-45					852.47			-	-	-
	9/10/2017	-	14.21	-		838.26	-	-	-	-
	9/6/2017	-	14.19	-		838.28	-	-	-	-
	8/12/2017	-	14.05	-		838.42	-	-	-	-
	8/1/2017	-	13.84	-		838.63	-	-	-	-
	7/2/2017	-	13.40	-		839.07	-	-	-	-
MW-45B				852.85			-	-	-	-

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 ^{1,2} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ³ Groundwater Elevation (ft amsl)	Date of Product Evacuation	Start Time	Finish Time
MW-45B (cont'd)	9/10/2017	-	15.72	-		837.13	-	-	-	-
	9/6/2017	-	15.70	-		837.15	-	-	-	-
	8/12/2017	-	15.33	-		837.52	-	-	-	-
	7/2/2017	-	15.41	-		837.44	-	-	-	-
RS-01				849.13						
	9/10/2017	11.45	11.77	0.32		837.36	837.59	-	-	-
	8/21/2017	11.12	11.52	0.40		837.61	837.90	-	-	-
	8/17/2017	11.10	11.46	0.36		837.67	837.93	-	-	-
	8/14/2017	11.02	11.32	0.30		837.81	838.03	-	-	-
	8/9/2017	11.33	11.63	0.30		837.50	837.72	-	-	-
	8/2/2017	11.12	11.41	0.29		837.72	837.93	-	-	-
	7/31/2017	11.09	11.44	0.35		837.69	837.95	-	-	-
	7/27/2017	10.01	11.08	1.07		838.05	838.83	-	-	-
	7/24/2017	10.73	11.02	0.29		838.11	838.32	-	-	-
	7/20/2017	10.65	10.85	0.20		838.28	838.43	-	-	-
	7/17/2017	10.71	10.95	0.24		838.18	838.36	-	-	-
	7/13/2017	10.58	10.79	0.21		838.34	838.49	-	-	-
	7/10/2017	10.33	10.55	0.22		838.58	838.74	-	-	-
	7/6/2017	10.88	11.02	0.14		838.11	838.21	-	-	-
	7/3/2017	-	12.44	-		836.69	-	7/3/2017	10:20	10:31
RS-02					849.52					
	9/10/2017	11.17	11.37	0.20		838.15	838.30	-	-	-
	8/21/2017	11.14	11.48	0.34		838.04	838.29	-	-	-
	8/17/2017	11.14	11.43	0.29		838.09	838.30	-	-	-
	8/14/2017	11.16	11.42	0.26		838.10	838.29	-	-	-
	8/9/2017	11.20	11.43	0.23		838.09	838.26	-	-	-
	8/2/2017	10.80	11.12	0.32		838.40	838.63	-	-	-
	7/31/2017	10.72	11.06	0.34		838.46	838.71	-	-	-
	7/27/2017	10.42	10.76	0.34		838.76	839.01	-	-	-
	7/24/2017	10.20	10.47	0.27		839.05	839.25	-	-	-
	7/20/2017	10.08	10.32	0.24		839.20	839.38	-	-	-
	7/17/2017	10.36	10.61	0.25		838.91	839.09	-	-	-
	7/13/2017	10.21	10.48	0.27		839.04	839.24	-	-	-
	7/10/2017	9.98	10.38	0.40		839.14	839.43	-	-	-
	7/6/2017	10.07	10.30	0.23		839.22	839.39	-	-	-
	7/3/2017	10.60	10.80	0.20		838.72	838.87	7/3/2017	10:07	10:17
RS-04					851.47					
	9/10/2017	-	9.70	-		841.77	-	-	-	-
	8/21/2017	-	9.68	-		841.79	-	-	-	-
	8/17/2017	-	9.68	-		841.79	-	-	-	-
	8/14/2017	-	9.69	-		841.78	-	-	-	-
	8/9/2017	-	9.71	-		841.76	-	-	-	-
	8/2/2017	-	9.70	-		841.77	-	-	-	-
	7/31/2017	-	9.68	-		841.79	-	-	-	-
	7/27/2017	-	9.68	-		841.79	-	-	-	-
	7/24/2017	-	9.67	-		841.80	-	-	-	-
	7/20/2017	-	9.71	-		841.76	-	-	-	-
	7/17/2017	-	10.69	-		840.78	-	-	-	-
	7/13/2017	-	9.69	-		841.78	-	-	-	-
	7/10/2017	-	10.38	-		841.09	-	-	-	-
	7/6/2017	-	9.71	-		841.76	-	-	-	-
	7/3/2017	-	10.68	-		840.79	-	-	-	-
RS-05					848.31					
	9/10/2017	10.35	10.95	0.60		837.36	837.80	-	-	-
	8/21/2017	9.88	10.44	0.56		837.87	838.28	8/24/2017	8:35	8:40
	8/17/2017	10.14	10.61	0.47		837.70	838.04	8/17/2017	9:25	9:30

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 ^{1,2} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ³ Groundwater Elevation (ft amsl)	Date of Product Evacuation	Start Time	Finish Time
RS-05 (cont'd)	8/14/2017	9.49	9.94	0.45		838.37	838.70	-	-	-
	8/9/2017	9.83	10.30	0.47		838.01	838.35	-	-	-
	8/2/2017	10.25	10.80	0.55		837.51	837.91	8/7/2017	9:35	9:40
	7/31/2017	10.31	10.89	0.58		837.42	837.84	-	-	-
	7/27/2017	10.08	10.59	0.51		837.72	838.09	-	-	-
	7/24/2017	10.19	10.70	0.51		837.61	837.98	-	-	-
	7/20/2017	10.07	10.55	0.48		837.76	838.11	7/20/2017	10:35	10:40
	7/17/2017	9.92	10.36	0.44		837.95	838.27	7/17/2017	10:20	10:25
	7/13/2017	9.86	10.26	0.40		838.05	838.34	-	-	-
	7/10/2017	9.65	10.08	0.43		838.23	838.54	-	-	-
	7/6/2017	10.49	10.89	0.40		837.42	837.71	-	-	-
	7/3/2017	10.23	10.60	0.37		837.71	837.98	-	-	-
RS-06					849.47			-	-	-
	9/10/2017	11.36	11.46	0.10		838.01	838.08	-	-	-
	8/21/2017	10.95	11.12	0.17		838.35	838.47	-	-	-
	8/17/2017	10.87	11.03	0.16		838.44	838.56	-	-	-
	8/14/2017	10.45	10.59	0.14		838.88	838.98	-	-	-
	8/9/2017	10.58	10.70	0.12		838.77	838.86	-	-	-
	8/2/2017	10.90	11.10	0.20		838.37	838.52	-	-	-
	7/31/2017	10.86	11.07	0.21		838.40	838.55	-	-	-
	7/27/2017	10.67	10.86	0.19		838.61	838.75	-	-	-
	7/24/2017	10.68	10.85	0.17		838.62	838.74	-	-	-
	7/20/2017	10.71	10.87	0.16		838.60	838.72	-	-	-
	7/17/2017	10.67	10.81	0.14		838.66	838.76	-	-	-
	7/13/2017	10.60	10.76	0.16		838.71	838.83	-	-	-
	7/10/2017	10.41	10.60	0.19		838.87	839.01	-	-	-
7/6/2017	10.63	10.76	0.13		838.71	838.80	-	-	-	
7/3/2017	10.61	10.78	0.17		838.69	838.81	-	-	-	
RS-07					855.08			-	-	-
	9/28/2017	13.92	13.95	0.03		841.13	841.15	9/28/2017	13:30	13:35
	9/21/2017	13.76	13.77	0.01		841.31	841.32	-	-	-
	9/15/2017	13.70	13.71	0.01		841.37	841.38	-	-	-
	9/10/2017	13.91	13.98	0.07		841.10	841.15	-	-	-
	9/5/2017	13.89	13.99	0.10		841.09	841.17	9/5/2017	8:25	8:30
	8/31/2017	13.81	13.90	0.09		841.18	841.25	-	-	-
	8/24/2017	13.60	13.70	0.10		841.38	841.46	-	-	-
	8/21/2017	13.58	13.69	0.11		841.39	841.47	-	-	-
	8/17/2017	13.46	13.54	0.08		841.54	841.60	-	-	-
	8/14/2017	13.39	13.48	0.09		841.60	841.67	-	-	-
	8/9/2017	14.30	14.37	0.07		840.71	840.76	-	-	-
	8/2/2017	13.01	13.10	0.09		841.98	842.05	-	-	-
	7/31/2017	12.99	13.07	0.08		842.01	842.07	-	-	-
	7/27/2017	12.87	12.94	0.07		842.14	842.19	-	-	-
	7/24/2017	12.83	12.91	0.08		842.17	842.23	-	-	-
	7/20/2017	12.80	12.88	0.08		842.20	842.26	-	-	-
	7/17/2017	12.73	12.78	0.05		842.30	842.34	-	-	-
	7/13/2017	12.71	12.76	0.05		842.32	842.36	-	-	-
	7/10/2017	12.55	12.57	0.02		842.51	842.53	-	-	-
7/6/2017	12.63	12.65	0.02		842.43	842.45	-	-	-	
7/3/2017	12.54	12.55	0.01		842.53	842.54	-	-	-	
RS-08					854.00			-	-	-
	9/28/2017	14.41	14.69	0.28		839.31	839.51	9/28/2017	13:35	13:40
	9/21/2017	14.23	14.42	0.19		839.58	839.72	-	-	-
	9/15/2017	14.21	14.41	0.20		839.59	839.74	-	-	-
	9/10/2017	14.39	14.68	0.29		839.32	839.53	-	-	-
	9/5/2017	14.31	14.58	0.27		839.42	839.62	9/5/2017	8:30	8:35

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 ^{1,2} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ³ Groundwater Elevation (ft amsl)	Date of Product Evacuation	Start Time	Finish Time
RS-08 (cont'd)	8/31/2017	14.25	14.50	0.25		839.50	839.68	-	-	-
	8/24/2017	14.03	14.32	0.29		839.68	839.89	-	-	-
	8/21/2017	13.87	14.12	0.25		839.88	840.06	-	-	-
	8/17/2017	13.83	14.10	0.27		839.90	840.10	-	-	-
	8/14/2017	13.71	13.97	0.26		840.03	840.22	-	-	-
	8/9/2017	13.60	13.77	0.17		840.23	840.35	-	-	-
	8/2/2017	13.35	13.55	0.20		840.45	840.60	-	-	-
	7/31/2017	13.30	13.57	0.27		840.43	840.63	-	-	-
	7/27/2017	13.18	13.42	0.24		840.58	840.76	-	-	-
	7/24/2017	13.10	13.31	0.21		840.69	840.84	-	-	-
	7/20/2017	12.97	13.15	0.18		840.85	840.98	-	-	-
	7/17/2017	12.98	13.18	0.20		840.82	840.97	-	-	-
	7/13/2017	12.92	13.10	0.18		840.90	841.03	-	-	-
	7/10/2017	12.90	13.10	0.20		840.90	841.05	-	-	-
7/6/2017	12.79	12.92	0.13		841.08	841.17	-	-	-	
7/3/2017	12.78	12.94	0.16		841.06	841.18	-	-	-	
RS-09					847.60			-	-	-
	9/10/2017	9.15	9.20	0.05		838.40	838.44	-	-	-
	8/21/2017	8.85	8.93	0.08		838.67	838.73	-	-	-
	8/17/2017	9.12	9.16	0.04		838.44	838.47	-	-	-
	8/14/2017	9.71	9.84	0.13		837.76	837.85	-	-	-
	8/9/2017	10.91	10.98	0.07		836.62	836.67	-	-	-
	8/2/2017	9.61	9.75	0.14		837.85	837.95	-	-	-
	7/31/2017	9.58	9.78	0.20		837.82	837.97	-	-	-
	7/27/2017	9.42	9.62	0.20		837.98	838.13	-	-	-
	7/24/2017	9.33	9.52	0.19		838.08	838.22	-	-	-
	7/20/2017	8.99	9.20	0.21		838.40	838.55	-	-	-
	7/17/2017	8.74	8.89	0.15		838.71	838.82	-	-	-
	7/13/2017	8.97	9.13	0.16		838.47	838.59	-	-	-
	7/10/2017	8.86	9.01	0.15		838.59	838.70	-	-	-
	7/6/2017	10.22	10.45	0.23		837.15	837.32	-	-	-
	7/3/2017	9.26	9.49	0.23		838.11	838.28	-	-	-
RS-10					847.42			-	-	-
	9/10/2017	-	8.47	-		838.95	-	-	-	-
	8/21/2017	8.17	8.20	0.03		839.22	839.24	-	-	-
	8/17/2017	8.09	8.10	0.01		839.32	839.33	-	-	-
	8/14/2017	7.88	7.89	0.01		839.53	839.54	-	-	-
	8/9/2017	8.50	8.51	0.01		838.91	838.92	-	-	-
	8/2/2017	8.85	9.20	0.35		838.22	838.48	-	-	-
	7/31/2017	8.85	9.22	0.37		838.20	838.47	-	-	-
	7/27/2017	8.68	9.06	0.38		838.36	838.64	-	-	-
	7/24/2017	8.84	9.21	0.37		838.21	838.48	-	-	-
	7/20/2017	8.64	9.01	0.37		838.41	838.68	-	-	-
	7/17/2017	8.44	8.81	0.37		838.61	838.88	-	-	-
	7/13/2017	8.44	8.81	0.37		838.61	838.88	-	-	-
	7/10/2017	8.13	8.50	0.37		838.92	839.19	-	-	-
	7/6/2017	8.99	9.35	0.36		838.07	838.33	-	-	-
	7/3/2017	8.83	9.08	0.25		838.34	838.52	-	-	-
RS-11					847.44			-	-	-
	9/10/2017	-	8.35	-		839.09	-	-	-	-
	8/21/2017	-	8.12	-		839.32	-	-	-	-
	8/17/2017	-	7.96	-		839.48	-	-	-	-
	8/14/2017	-	7.92	-		839.52	-	-	-	-
	8/9/2017	-	8.18	-		839.26	-	-	-	-
	8/2/2017	-	8.60	-		838.84	-	-	-	-
	7/31/2017	-	8.87	-		838.57	-	-	-	-

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 ^{1,2} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ³ Groundwater Elevation (ft amsl)	Date of Product Evacuation	Start Time	Finish Time
RS-11 (cont'd)	7/27/2017	-	8.47	-		838.97	-	-	-	-
	7/24/2017	-	8.58	-		838.86	-	-	-	-
	7/20/2017	-	8.53	-		838.91	-	-	-	-
	7/17/2017	-	8.37	-		839.07	-	-	-	-
	7/13/2017	-	8.36	-		839.08	-	-	-	-
	7/10/2017	-	8.11	-		839.33	-	-	-	-
	7/6/2017	-	8.47	-		838.97	-	-	-	-
	7/3/2017	-	8.71	-		838.73	-	-	-	-
RS-12					847.74					
	9/10/2017	-	8.70	-		839.04	-	-	-	-
	8/21/2017	8.44	8.45	0.01		839.29	839.30	-	-	-
	8/17/2017	-	8.29	-		839.45	-	-	-	-
	8/14/2017	7.94	7.95	0.01		839.79	839.80	-	-	-
	8/9/2017	-	8.50	-		839.24	-	-	-	-
	8/2/2017	8.91	8.92	0.01		838.82	838.83	-	-	-
	7/31/2017	8.89	8.90	0.01		838.84	838.85	-	-	-
	7/27/2017	8.79	8.81	0.02		838.93	838.94	-	-	-
	7/24/2017	8.91	8.93	0.02		838.81	838.82	-	-	-
	7/20/2017	8.85	8.86	0.01		838.88	838.89	-	-	-
	7/17/2017	8.70	8.71	0.01		839.03	839.04	-	-	-
	7/13/2017	8.69	8.70	0.01		839.04	839.05	-	-	-
	7/10/2017	-	7.87	-		839.87	-	-	-	-
	7/6/2017	-	8.78	-		838.96	-	-	-	-
	7/3/2017	9.03	9.05	0.02		838.69	838.70	-	-	-
RS-13					846.61					
	9/10/2017	-	6.43	-		840.18	-	-	-	-
	8/21/2017	-	7.15	-		839.46	-	-	-	-
	8/17/2017	-	7.81	-		838.80	-	-	-	-
	8/14/2017	-	8.71	-		837.90	-	-	-	-
	8/9/2017	-	9.50	-		837.11	-	-	-	-
	8/2/2017	-	7.83	-		838.78	-	-	-	-
	7/31/2017	-	7.87	-		838.74	-	-	-	-
	7/27/2017	-	7.60	-		839.01	-	-	-	-
	7/24/2017	-	7.55	-		839.06	-	-	-	-
	7/20/2017	-	6.90	-		839.71	-	-	-	-
	7/17/2017	-	6.77	-		839.84	-	-	-	-
	7/13/2017	-	6.88	-		839.73	-	-	-	-
	7/10/2017	-	6.77	-		839.84	-	-	-	-
	7/6/2017	-	8.17	-		838.44	-	-	-	-
	7/3/2017	-	6.96	-		839.65	-	-	-	-
RS-14					845.97					
	9/10/2017	-	5.40	-		840.57	-	-	-	-
	8/21/2017	5.80	5.89	0.09		840.08	840.15	-	-	-
	8/17/2017	5.69	5.77	0.08		840.20	840.26	-	-	-
	8/14/2017	6.41	6.50	0.09		839.47	839.54	-	-	-
	8/9/2017	7.27	7.35	0.08		838.62	838.68	-	-	-
	8/2/2017	6.14	6.20	0.06		839.77	839.81	-	-	-
	7/31/2017	6.06	6.13	0.07		839.84	839.89	-	-	-
	7/27/2017	5.85	5.94	0.09		840.03	840.10	-	-	-
	7/24/2017	5.64	5.71	0.07		840.26	840.31	-	-	-
	7/20/2017	5.08	5.16	0.08		840.81	840.87	-	-	-
	7/17/2017	4.71	4.79	0.08		841.18	841.24	-	-	-
	7/13/2017	5.39	5.46	0.07		840.51	840.56	-	-	-
	7/10/2017	5.13	5.21	0.08		840.76	840.82	-	-	-
	7/6/2017	5.62	5.68	0.06		840.29	840.33	-	-	-
	7/3/2017	5.02	5.09	0.07		840.88	840.93	-	-	-

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 ^{1,2} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ³ Groundwater Elevation (ft amsl)	Date of Product Evacuation	Start Time	Finish Time
RS-15					846.41					
	9/10/2017	6.17	6.18	0.01		840.23	840.24	-	-	-
	8/21/2017	-	6.41	-		840.00	-	-	-	-
	8/17/2017	-	6.20	-		840.21	-	-	-	-
	8/14/2017	-	6.64	-		839.77	-	-	-	-
	8/9/2017	-	7.11	-		839.30	-	-	-	-
	8/2/2017	6.48	6.50	0.02		839.91	839.92	-	-	-
	7/31/2017	6.40	6.41	0.01		840.00	840.01	-	-	-
	7/27/2017	6.17	6.19	0.02		840.22	840.23	-	-	-
	7/24/2017	6.01	6.03	0.02		840.38	840.39	-	-	-
	7/20/2017	5.59	5.60	0.01		840.81	840.82	-	-	-
	7/17/2017	5.30	5.32	0.02		841.09	841.10	-	-	-
	7/13/2017	5.78	5.80	0.02		840.61	840.62	-	-	-
	7/10/2017	5.55	5.57	0.02		840.84	840.85	-	-	-
	7/6/2017	5.90	5.91	0.01		840.50	840.51	-	-	-
	7/3/2017	5.49	5.51	0.02		840.90	840.91	-	-	-
RS-16					845.44					
	9/10/2017	-	4.94	-		840.50	-	-	-	-
	8/21/2017	-	5.35	-		840.09	-	-	-	-
	8/17/2017	5.26	5.27	0.01		840.17	840.18	-	-	-
	8/14/2017	-	5.47	-		839.97	-	-	-	-
	8/9/2017	-	5.95	-		839.49	-	-	-	-
	8/2/2017	-	5.45	-		839.99	-	-	-	-
	7/31/2017	-	5.37	-		840.07	-	-	-	-
	7/27/2017	-	5.11	-		840.33	-	-	-	-
	7/24/2017	-	4.87	-		840.57	-	-	-	-
	7/20/2017	-	4.32	-		841.12	-	-	-	-
	7/17/2017	-	3.95	-		841.49	-	-	-	-
	7/13/2017	-	4.60	-		840.84	-	-	-	-
	7/10/2017	-	4.36	-		841.08	-	-	-	-
	7/6/2017	-	4.68	-		840.76	-	-	-	-
	7/3/2017	-	4.17	-		841.27	-	-	-	-
RS-17					844.22					
	9/10/2017	-	4.61	-		839.61	-	-	-	-
	8/21/2017	-	5.11	-		839.11	-	-	-	-
	8/17/2017	-	5.15	-		839.07	-	-	-	-
	8/14/2017	-	5.72	-		838.50	-	-	-	-
	8/9/2017	-	6.13	-		838.09	-	-	-	-
	8/2/2017	-	5.06	-		839.16	-	-	-	-
	7/31/2017	-	4.97	-		839.25	-	-	-	-
	7/27/2017	-	4.72	-		839.50	-	-	-	-
	7/24/2017	-	4.46	-		839.76	-	-	-	-
	7/20/2017	-	3.92	-		840.30	-	-	-	-
	7/17/2017	-	3.26	-		840.96	-	-	-	-
	7/13/2017	-	4.14	-		840.08	-	-	-	-
	7/10/2017	-	3.87	-		840.35	-	-	-	-
	7/6/2017	-	4.19	-		840.03	-	-	-	-
	7/3/2017	-	3.46	-		840.76	-	-	-	-
RS-18					847.89					
	9/10/2017	-	10.00	-		837.89	-	-	-	-
	8/21/2017	9.71	9.79	0.08		838.10	838.16	-	-	-
	8/17/2017	9.72	9.77	0.05		838.12	838.16	-	-	-
	8/14/2017	9.97	10.02	0.05		837.87	837.91	-	-	-
	8/9/2017	10.91	10.96	0.05		836.93	836.97	-	-	-
	8/2/2017	10.35	10.45	0.10		837.44	837.51	-	-	-
	7/31/2017	10.38	10.54	0.16		837.35	837.47	-	-	-

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 ^{1,2} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ³ Groundwater Elevation (ft amsl)	Date of Product Evacuation	Start Time	Finish Time
RS-18 (cont'd)	7/27/2017	10.11	10.25	0.14		837.64	837.74	-	-	-
	7/24/2017	10.05	10.22	0.17		837.67	837.79	-	-	-
	7/20/2017	9.65	9.81	0.16		838.08	838.20	-	-	-
	7/17/2017	-	8.61	-		839.28	-	-	-	-
	7/13/2017	9.64	9.78	0.14		838.11	838.21	-	-	-
	7/10/2017	9.44	9.59	0.15		838.30	838.41	-	-	-
	7/6/2017	10.82	11.02	0.20		836.87	837.02	-	-	-
	7/3/2017	9.78	9.99	0.21		837.90	838.05	-	-	-
RS-19					850.40					
	9/10/2017	-	NM	-		-	-	-	-	-
	8/21/2017	-	NM	-		-	-	-	-	-
	8/17/2017	-	NM	-		-	-	-	-	-
	8/14/2017	-	NM	-		-	-	-	-	-
	8/9/2017	-	NM	-		-	-	-	-	-
	8/2/2017	-	NM	-		-	-	-	-	-
	7/31/2017	-	NM	-		-	-	-	-	-
	7/27/2017	-	NM	-		-	-	-	-	-
	7/24/2017	-	NM	-		-	-	-	-	-
	7/20/2017	-	NM	-		-	-	-	-	-
	7/17/2017	-	NM	-		-	-	-	-	-
	7/13/2017	-	NM	-		-	-	-	-	-
	7/10/2017	-	NM	-		-	-	-	-	-
	7/6/2017	-	NM	-		-	-	-	-	-
	7/3/2017	-	NM	-		-	-	-	-	-
RS-20					842.69					
	9/10/2017	-	5.68	-		837.01	-	-	-	-
	8/21/2017	-	5.70	-		836.99	-	-	-	-
	8/17/2017	-	5.93	-		836.76	-	-	-	-
	8/14/2017	-	6.32	-		836.37	-	-	-	-
	8/9/2017	-	6.56	-		836.13	-	-	-	-
	8/2/2017	-	5.65	-		837.04	-	-	-	-
	7/31/2017	-	5.60	-		837.09	-	-	-	-
	7/27/2017	-	5.35	-		837.34	-	-	-	-
	7/24/2017	-	5.27	-		837.42	-	-	-	-
	7/20/2017	-	4.94	-		837.75	-	-	-	-
	7/17/2017	-	4.66	-		838.03	-	-	-	-
	7/13/2017	-	4.80	-		837.89	-	-	-	-
	7/10/2017	-	4.55	-		838.14	-	-	-	-
	7/6/2017	-	5.08	-		837.61	-	-	-	-
	7/3/2017	-	4.61	-		838.08	-	-	-	-
RT-1A					854.06					
	9/28/2017	14.62	14.72	0.10		839.34	839.41	9/28/2017	13:05	13:10
	9/21/2017	14.43	14.50	0.07		839.56	839.61	-	-	-
	9/15/2017	14.38	14.42	0.04		839.64	839.67	-	-	-
	9/5/2017	14.54	14.68	0.14		839.38	839.48	9/5/2017	8:35	8:40
	8/31/2017	14.51	14.61	0.10		839.45	839.52	-	-	-
	8/24/2017	14.32	14.40	0.08		839.66	839.72	8/24/2017	8:50	8:55
	8/21/2017	14.22	14.33	0.11		839.73	839.81	-	-	-
	8/17/2017	14.22	14.32	0.10		839.74	839.81	8/17/2017	9:00	9:05
	8/14/2017	14.01	14.11	0.10		839.95	840.02	-	-	-
	8/9/2017	14.00	14.09	0.09		839.97	840.04	-	-	-
	8/2/2017	13.79	13.85	0.06		840.21	840.25	8/7/2017	11:25	11:30
	7/31/2017	13.71	13.79	0.08		840.27	840.33	-	-	-
	7/27/2017	13.61	13.67	0.06		840.39	840.43	-	-	-
	7/24/2017	13.50	13.55	0.05		840.51	840.55	-	-	-
	7/20/2017	13.48	13.53	0.05		840.53	840.57	-	-	-

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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 ^{1,2} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ³ Groundwater Elevation (ft amsl)	Date of Product Evacuation	Start Time	Finish Time
RT-1A (cont'd)	7/17/2017	13.42	13.47	0.05		840.59	840.63	7/17/2017	9:50	9:53
	7/13/2017	13.43	13.48	0.05		840.58	840.62	-	-	-
	7/10/2017	13.35	13.39	0.04		840.67	840.70	7/11/2017	16:30	16:34
	7/6/2017	-	13.37	-		840.69	-	7/6/2017	10:50	10:53
	7/3/2017	13.34	13.36	0.02		840.70	840.71	7/3/2017	13:33	13:37
RT-1B				854.15						
	9/28/2017	14.58	14.68	0.10		839.47	839.54	9/28/2017	13:15	13:20
	9/21/2017	14.39	14.46	0.07		839.69	839.74	-	-	-
	9/15/2017	14.34	14.38	0.04		839.77	839.80	-	-	-
	9/5/2017	14.50	14.63	0.13		839.52	839.61	9/5/2017	8:45	8:50
	8/31/2017	14.46	14.56	0.10		839.59	839.66	-	-	-
	8/24/2017	14.28	14.38	0.10		839.77	839.84	8/24/2017	8:55	9:00
	8/21/2017	14.17	14.28	0.11		839.87	839.95	-	-	-
	8/17/2017	14.19	14.29	0.10		839.86	839.93	8/17/2017	9:05	9:10
	8/14/2017	13.97	14.07	0.10		840.08	840.15	-	-	-
	8/9/2017	13.96	14.05	0.09		840.10	840.17	-	-	-
	8/2/2017	13.75	13.81	0.06		840.34	840.38	8/7/2017	11:35	11:40
	7/31/2017	13.67	13.74	0.07		840.41	840.46	8/1/2017	14:50	15:00
	7/27/2017	13.57	13.60	0.03		840.55	840.57	-	-	-
	7/24/2017	13.45	13.53	0.08		840.62	840.68	-	-	-
	7/20/2017	13.45	13.50	0.05		840.65	840.69	7/20/2017	10:15	10:20
	7/17/2017	13.38	13.43	0.05		840.72	840.76	7/17/2017	9:53	9:56
	7/13/2017	13.40	13.44	0.04		840.71	840.74	7/14/2017	9:15	9:20
	7/10/2017	13.31	13.37	0.06		840.78	840.82	7/11/2017	16:34	16:38
	7/6/2017	13.34	13.38	0.04		840.77	840.80	7/6/2017	10:53	10:56
	7/3/2017	13.29	13.33	0.04		840.82	840.85	7/3/2017	13:37	13:41
RT-1C					854.55					
	9/28/2017	15.02	15.11	0.09		839.44	839.51	9/28/2017	13:25	13:30
	9/21/2017	14.82	14.90	0.08		839.65	839.71	-	-	-
	9/15/2017	14.78	14.82	0.04		839.73	839.76	-	-	-
	9/5/2017	14.94	15.05	0.11		839.50	839.58	9/5/2017	8:50	8:55
	8/31/2017	14.91	15.01	0.10		839.54	839.61	-	-	-
	8/24/2017	14.72	14.81	0.09		839.74	839.81	8/24/2017	9:05	9:10
	8/21/2017	14.62	14.73	0.11		839.82	839.90	-	-	-
	8/17/2017	14.62	14.71	0.09		839.84	839.91	8/17/2017	9:10	9:15
	8/14/2017	14.43	14.53	0.10		840.02	840.09	-	-	-
	8/9/2017	14.44	14.51	0.07		840.04	840.09	-	-	-
	8/2/2017	14.19	14.24	0.05		840.31	840.35	8/7/2017	11:40	11:45
	7/31/2017	14.01	14.07	0.06		840.48	840.52	-	-	-
	7/27/2017	14.00	14.07	0.07		840.48	840.53	-	-	-
	7/24/2017	13.91	13.98	0.07		840.57	840.62	-	-	-
	7/20/2017	13.87	13.94	0.07		840.61	840.66	-	-	-
	7/17/2017	13.83	13.88	0.05		840.67	840.71	7/17/2017	9:56	10:00
	7/13/2017	13.82	13.87	0.05		840.68	840.72	-	-	-
	7/10/2017	13.75	13.80	0.05		840.75	840.79	7/11/2017	16:38	16:41
	7/6/2017	13.76	13.79	0.03		840.76	840.78	7/6/2017	10:56	10:59
	7/3/2017	13.73	13.77	0.04		840.78	840.81	7/3/2017	13:41	13:45
RT-2A					817.48					
	9/28/2017	-	1.39	-		816.09	-	9/28/2017	11:20	11:25
	9/21/2017	-	1.28	-		816.20	-	-	-	-
	9/15/2017	-	0.95	-		816.53	-	-	-	-
	9/5/2017	-	1.21	-		816.27	-	9/5/2017	9:40	9:45
	8/31/2017	-	1.37	-		816.11	-	-	-	-
	8/24/2017	-	1.38	-		816.10	-	8/24/2017	9:40	9:45
	8/21/2017	-	1.07	-		816.41	-	-	-	-
	8/17/2017	-	1.31	-		816.17	-	8/17/2017	10:20	10:25

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 ^{1,2} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ³ Groundwater Elevation (ft amsl)	Date of Product Evacuation	Start Time	Finish Time
RT-2A (cont'd)	8/14/2017	-	1.02	-	-	816.46	-	-	-	-
	8/9/2017	-	1.26	-	-	816.22	-	-	-	-
	8/2/2017	-	1.30	-	-	816.18	-	8/7/2017	9:55	10:00
	7/31/2017	-	1.25	-	-	816.23	-	8/1/2017	13:30	13:35
	7/27/2017	-	1.16	-	-	816.32	-	-	-	-
	7/24/2017	-	1.12	-	-	816.36	-	-	-	-
	7/20/2017	-	1.07	-	-	816.41	-	7/20/2017	11:00	11:05
	7/17/2017	-	1.33	-	-	816.15	-	7/17/2017	11:05	11:10
	7/13/2017	-	1.06	-	-	816.42	-	7/14/2017	9:21	9:32
	7/10/2017	-	0.98	-	-	816.50	-	7/11/2017	16:21	16:25
	7/6/2017	-	0.75	-	-	816.73	-	7/6/2017	12:15	12:18
7/3/2017	-	0.80	-	-	816.68	-	7/3/2017	13:18	13:21	
RT-2B					817.61					
	9/28/2017	-	1.51	-	-	816.10	-	9/28/2017	11:25	11:30
	9/21/2017	-	1.46	-	-	816.15	-	-	-	-
	9/15/2017	-	1.07	-	-	816.54	-	-	-	-
	9/5/2017	-	1.29	-	-	816.32	-	9/5/2017	9:45	9:50
	8/31/2017	-	1.50	-	-	816.11	-	-	-	-
	8/24/2017	-	1.48	-	-	816.13	-	8/24/2017	9:50	9:55
	8/21/2017	-	1.15	-	-	816.46	-	-	-	-
	8/17/2017	-	1.42	-	-	816.19	-	8/17/2017	10:25	10:30
	8/14/2017	-	1.12	-	-	816.49	-	-	-	-
	8/9/2017	-	1.37	-	-	816.24	-	-	-	-
	8/2/2017	-	1.37	-	-	816.24	-	8/7/2017	10:05	10:10
	7/31/2017	-	1.36	-	-	816.25	-	8/1/2017	13:38	13:42
	7/27/2017	-	1.28	-	-	816.33	-	-	-	-
	7/24/2017	-	1.23	-	-	816.38	-	-	-	-
	7/20/2017	-	1.18	-	-	816.43	-	7/20/2017	11:05	11:10
	7/17/2017	-	1.39	-	-	816.22	-	7/17/2017	11:10	11:15
	7/13/2017	-	1.18	-	-	816.43	-	7/14/2017	9:35	9:40
	7/10/2017	-	1.08	-	-	816.53	-	7/11/2017	16:13	16:16
	7/6/2017	-	0.95	-	-	816.66	-	7/6/2017	12:08	12:13
	7/3/2017	-	0.96	-	-	816.65	-	7/3/2017	13:10	13:14
RT-2C					818.06					
	9/28/2017	-	1.95	-	-	816.11	-	9/28/2017	11:30	11:35
	9/21/2017	-	1.84	-	-	816.22	-	-	-	-
	9/15/2017	-	1.51	-	-	816.55	-	-	-	-
	9/5/2017	-	1.75	-	-	816.31	-	9/5/2017	9:50	9:55
	8/31/2017	-	1.92	-	-	816.14	-	-	-	-
	8/24/2017	-	1.92	-	-	816.14	-	8/24/2017	9:55	10:00
	8/21/2017	1.89	1.91	0.02	-	816.15	816.16	-	-	-
	8/17/2017	-	1.86	-	-	816.20	-	8/17/2017	10:30	10:35
	8/14/2017	-	1.37	-	-	816.69	-	-	-	-
	8/9/2017	-	1.81	-	-	816.25	-	-	-	-
	8/2/2017	-	1.85	-	-	816.21	-	8/7/2017	10:06	10:11
	7/31/2017	-	1.78	-	-	816.28	-	8/1/2017	13:43	13:46
	7/27/2017	-	1.72	-	-	816.34	-	-	-	-
	7/24/2017	-	1.67	-	-	816.39	-	-	-	-
	7/20/2017	-	1.61	-	-	816.45	-	7/20/2017	11:10	11:15
	7/17/2017	-	1.83	-	-	816.23	-	7/17/2017	11:15	11:20
	7/13/2017	-	1.61	-	-	816.45	-	7/14/2017	9:45	9:47
	7/10/2017	-	1.56	-	-	816.50	-	7/11/2017	16:09	16:11
	7/6/2017	-	1.40	-	-	816.66	-	7/6/2017	12:01	12:05
	7/3/2017	-	1.41	-	-	816.65	-	7/3/2017	13:01	13:08
RT-2D					818.12					
	9/28/2017	-	2.03	-	-	816.09	-	9/28/2017	11:35	11:40

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 ^{1,2} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ³ Groundwater Elevation (ft amsl)	Date of Product Evacuation	Start Time	Finish Time
RT-2D (cont'd)	9/21/2017	-	1.91	-	-	816.21	-	-	-	-
	9/15/2017	-	1.59	-	-	816.53	-	-	-	-
	9/5/2017	-	1.83	-	-	816.29	-	-	-	-
	8/31/2017	-	2.01	-	-	816.11	-	-	-	-
	8/24/2017	-	1.99	-	-	816.13	-	-	-	-
	8/21/2017	-	1.94	-	-	816.18	-	-	-	-
	8/17/2017	-	1.93	-	-	816.19	-	-	-	-
	8/14/2017	1.81	1.82	0.01	-	816.30	816.31	-	-	-
	8/9/2017	-	1.90	-	-	816.22	-	-	-	-
	8/2/2017	-	1.91	-	-	816.21	-	8/7/2017	10:15	10:20
	7/31/2017	-	1.87	-	-	816.25	-	8/1/2017	13:48	13:51
	7/27/2017	-	1.80	-	-	816.32	-	-	-	-
	7/24/2017	-	1.75	-	-	816.37	-	-	-	-
	7/20/2017	-	1.69	-	-	816.43	-	7/20/2017	11:15	11:20
	7/17/2017	-	1.92	-	-	816.20	-	7/17/2017	11:20	11:25
	7/13/2017	-	1.69	-	-	816.43	-	7/14/2017	9:50	10:00
	7/10/2017	-	1.64	-	-	816.48	-	7/11/2017	16:02	16:07
7/6/2017	-	1.47	-	-	816.65	-	7/6/2017	11:47	11:52	
7/3/2017	-	1.50	-	-	816.62	-	7/3/2017	12:49	12:55	
RT-2E					818.25					
	9/28/2017	-	2.14	-	-	816.11	-	9/28/2017	11:40	11:45
	9/21/2017	-	2.03	-	-	816.22	-	-	-	-
	9/15/2017	-	1.70	-	-	816.55	-	-	-	-
	9/5/2017	-	1.93	-	-	816.32	-	9/5/2017	9:55	10:00
	8/31/2017	-	2.11	-	-	816.14	-	-	-	-
	8/24/2017	-	2.10	-	-	816.15	-	8/24/2017	10:05	10:10
	8/21/2017	-	2.06	-	-	816.19	-	-	-	-
	8/17/2017	-	2.04	-	-	816.21	-	-	-	-
	8/14/2017	-	1.88	-	-	816.37	-	-	-	-
	8/9/2017	-	3.01	-	-	815.24	-	-	-	-
	8/2/2017	-	2.04	-	-	816.21	-	8/7/2017	10:25	10:30
	7/31/2017	-	1.98	-	-	816.27	-	8/1/2017	13:52	13:58
	7/27/2017	-	1.91	-	-	816.34	-	-	-	-
	7/24/2017	-	1.85	-	-	816.40	-	-	-	-
	7/20/2017	-	1.80	-	-	816.45	-	7/20/2017	11:20	11:25
	7/17/2017	-	2.04	-	-	816.21	-	7/17/2017	11:25	11:30
	7/13/2017	-	1.80	-	-	816.45	-	7/14/2017	10:15	10:19
	7/10/2017	-	1.75	-	-	816.50	-	7/11/2017	15:49	15:52
	7/6/2017	-	1.59	-	-	816.66	-	7/6/2017	11:41	11:45
	7/3/2017	-	1.61	-	-	816.64	-	7/3/2017	12:40	12:46
RT-2F					818.57					
	9/28/2017	-	2.49	-	-	816.08	-	9/28/2017	11:45	11:50
	9/21/2017	-	2.37	-	-	816.20	-	-	-	-
	9/15/2017	-	2.03	-	-	816.54	-	-	-	-
	9/5/2017	-	2.27	-	-	816.30	-	9/5/2017	10:00	10:05
	8/31/2017	-	2.47	-	-	816.10	-	-	-	-
	8/24/2017	-	2.44	-	-	816.13	-	8/24/2017	10:10	10:15
	8/21/2017	-	2.35	-	-	816.22	-	-	-	-
	8/17/2017	-	2.38	-	-	816.19	-	-	-	-
	8/14/2017	2.00	2.01	0.01	-	816.56	816.57	-	-	-
	8/9/2017	-	2.36	-	-	816.21	-	-	-	-
	8/2/2017	-	2.40	-	-	816.17	-	8/7/2017	10:35	10:45
	7/31/2017	-	2.32	-	-	816.25	-	8/1/2017	14:00	14:02
	7/27/2017	-	2.25	-	-	816.32	-	-	-	-
	7/24/2017	-	2.20	-	-	816.37	-	-	-	-
	7/20/2017	-	2.14	-	-	816.43	-	7/20/2017	11:25	11:30

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 ^{1,2} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ³ Groundwater Elevation (ft amsl)	Date of Product Evacuation	Start Time	Finish Time
RT-2F (cont'd)	7/17/2017	-	2.37	-		816.20	-	7/17/2017	11:30	11:35
	7/13/2017	-	2.15	-		816.42	-	7/14/2017	10:20	10:24
	7/10/2017	-	2.08	-		816.49	-	7/11/2017	15:42	15:47
	7/6/2017	-	1.94	-		816.63	-	7/6/2017	11:35	11:39
	7/3/2017	-	1.94	-		816.63	-	7/3/2017	12:30	12:37
RT-2G					820.07					
	9/28/2017	-	3.42	-		816.65	-	9/28/2017	12:00	12:05
	9/21/2017	-	3.30	-		816.77	-	-	-	-
	9/15/2017	-	1.32	-		818.75	-	-	-	-
	9/5/2017	-	1.37	-		818.70	-	9/5/2017	10:05	10:10
	8/31/2017	-	3.47	-		816.60	-	-	-	-
	8/24/2017	-	2.98	-		817.09	-	8/24/2017	10:15	10:20
	8/21/2017	3.40	3.41	0.01		816.66	816.67	-	-	-
	8/17/2017	-	4.63	-		815.44	-	-	-	-
	8/14/2017	-	2.32	-		817.75	-	-	-	-
	8/9/2017	-	3.10	-		816.97	-	-	-	-
	8/2/2017	-	3.09	-		816.98	-	8/7/2017	10:45	10:50
	7/31/2017	-	3.19	-		816.88	-	8/1/2017	14:03	14:06
	7/27/2017	-	3.05	-		817.02	-	-	-	-
	7/24/2017	-	2.93	-		817.14	-	-	-	-
	7/20/2017	-	2.91	-		817.16	-	7/20/2017	11:30	11:35
	7/17/2017	-	3.21	-		816.86	-	7/17/2017	11:35	11:40
	7/13/2017	-	2.93	-		817.14	-	7/14/2017	10:30	10:38
	7/10/2017	-	2.58	-		817.49	-	7/11/2017	15:36	15:39
7/6/2017	-	1.15	-		818.92	-	7/6/2017	11:30	11:33	
7/3/2017	-	2.65	-		817.42	-	7/3/2017	12:18	12:26	
RT-2H					822.17					
	9/28/2017	-	NM	-		-	-	-	-	-
	9/21/2017	-	NM	-		-	-	-	-	-
	9/15/2017	-	NM	-		-	-	-	-	-
	9/5/2017	-	NM	-		-	-	9/5/2017	10:10	10:15
	8/31/2017	-	NM	-		-	-	-	-	-
	8/24/2017	-	NM	-		-	-	8/24/2017	10:20	10:25
	8/21/2017	-	NM	-		-	-	-	-	-
	8/17/2017	-	NM	-		-	-	-	-	-
	8/14/2017	-	NM	-		-	-	-	-	-
	8/9/2017	-	NM	-		-	-	-	-	-
	8/2/2017	-	NM	-		-	-	-	-	-
	7/31/2017	-	NM	-		-	-	-	-	-
	7/27/2017	-	NM	-		-	-	-	-	-
	7/24/2017	-	NM	-		-	-	-	-	-
	7/20/2017	-	NM	-		-	-	-	-	-
	7/17/2017	-	NM	-		-	-	-	-	-
7/13/2017	-	NM	-		-	-	-	-	-	
7/10/2017	-	NM	-		-	-	-	-	-	
7/6/2017	-	NM	-		-	-	-	-	-	
7/3/2017	-	NM	-		-	-	-	-	-	
RT-2I					819.51					
	9/28/2017	-	3.40	-		816.11	-	9/28/2017	12:10	12:15
	9/21/2017	-	3.30	-		816.21	-	-	-	-
	9/15/2017	-	NM	-		-	-	-	-	-
	9/5/2017	-	1.27	-		818.24	-	9/5/2017	10:15	10:20
	8/31/2017	-	3.38	-		816.13	-	-	-	-
	8/24/2017	-	3.38	-		816.13	-	8/24/2017	10:30	10:35
	8/21/2017	-	3.30	-		816.21	-	-	-	-
8/17/2017	-	3.25	-		816.26	-	-	-	-	

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 ^{1,2} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ³ Groundwater Elevation (ft amsl)	Date of Product Evacuation	Start Time	Finish Time
RT-2I (cont'd)	8/14/2017	-	3.24	-	-	816.27	-	-	-	-
	8/9/2017	-	3.22	-	-	816.29	-	-	-	-
	8/2/2017	-	3.25	-	-	816.26	-	8/7/2017	10:50	10:55
	7/31/2017	-	3.23	-	-	816.28	-	8/1/2017	14:08	14:11
	7/27/2017	-	3.13	-	-	816.38	-	-	-	-
	7/24/2017	-	3.05	-	-	816.46	-	-	-	-
	7/20/2017	-	3.00	-	-	816.51	-	7/20/2017	11:40	11:45
	7/17/2017	-	2.86	-	-	816.65	-	7/17/2017	11:45	11:50
	7/13/2017	-	3.02	-	-	816.49	-	7/14/2017	10:40	10:43
	7/10/2017	-	2.98	-	-	816.53	-	7/11/2017	15:18	15:20
	7/6/2017	-	2.47	-	-	817.04	-	7/6/2017	11:08	11:13
	7/3/2017	-	2.71	-	-	816.80	-	7/3/2017	11:16	11:24
RT-2J					817.63					
	9/28/2017	-	1.98	-	-	815.65	-	9/28/2017	12:15	12:20
	9/21/2017	-	1.85	-	-	815.78	-	-	-	-
	9/15/2017	-	NM	-	-	-	-	-	-	-
	9/5/2017	-	NM	-	-	-	-	9/5/2017	10:20	10:25
	8/31/2017	-	2.05	-	-	815.58	-	-	-	-
	8/24/2017	-	1.90	-	-	815.73	-	8/24/2017	10:40	10:45
	8/21/2017	-	1.74	-	-	815.89	-	-	-	-
	8/17/2017	-	1.75	-	-	815.88	-	-	-	-
	8/14/2017	-	1.70	-	-	815.93	-	-	-	-
	8/9/2017	-	1.75	-	-	815.88	-	-	-	-
	8/2/2017	-	1.75	-	-	815.88	-	8/7/2017	10:55	11:00
	7/31/2017	-	1.78	-	-	815.85	-	8/1/2017	14:15	14:19
	7/27/2017	-	1.66	-	-	815.97	-	-	-	-
	7/24/2017	-	1.57	-	-	816.06	-	-	-	-
	7/20/2017	-	1.49	-	-	816.14	-	7/20/2017	11:45	11:50
	7/17/2017	-	1.41	-	-	816.22	-	7/17/2017	11:50	11:55
7/13/2017	-	1.55	-	-	816.08	-	7/14/2017	10:48	10:52	
7/10/2017	-	1.47	-	-	816.16	-	7/11/2017	15:21	15:25	
7/6/2017	-	1.10	-	-	816.53	-	7/6/2017	11:15	11:20	
7/3/2017	-	1.33	-	-	816.30	-	7/3/2017	11:30	11:38	
RT-2K					817.40					
	9/28/2017	1.59	1.73	0.14	-	815.67	815.77	9/28/2017	12:20	12:25
	9/21/2017	-	NM	-	-	-	-	-	-	-
	9/15/2017	-	NM	-	-	-	-	-	-	-
	9/5/2017	1.41	1.53	0.12	-	815.87	815.96	9/5/2017	10:25	10:30
	8/31/2017	1.68	1.80	0.12	-	815.60	815.69	-	-	-
	8/24/2017	0.60	0.72	0.12	-	816.68	816.77	8/24/2017	10:45	10:50
	8/21/2017	1.47	1.65	0.18	-	815.75	815.88	-	-	-
	8/17/2017	1.44	1.55	0.11	-	815.85	815.93	-	-	-
	8/14/2017	1.41	1.61	0.20	-	815.79	815.94	-	-	-
	8/9/2017	1.39	1.50	0.11	-	815.90	815.98	-	-	-
	8/2/2017	1.64	1.75	0.11	-	815.65	815.73	8/7/2017	11:05	11:10
	7/31/2017	-	NM	-	-	-	-	8/1/2017	14:21	14:25
	7/27/2017	-	NM	-	-	-	-	-	-	-
	7/24/2017	-	NM	-	-	-	-	-	-	-
	7/20/2017	-	NM	-	-	-	-	7/20/2017	11:50	11:55
	7/17/2017	1.26	1.36	0.10	-	816.04	816.11	7/17/2017	11:55	12:00
7/13/2017	1.48	1.58	0.10	-	815.82	815.89	7/14/2017	10:54	10:59	
7/10/2017	-	NM	-	-	-	-	7/11/2017	15:27	15:29	
7/6/2017	-	2.96	-	-	814.44	-	7/6/2017	11:21	11:24	
7/3/2017	-	2.44	-	-	814.96	-	7/3/2017	11:44	11:56	
RT-2L					819.54					
	9/28/2017	2.76	2.79	0.03	-	816.75	816.77	9/28/2017	12:25	12:30

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 ^{1,2} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ³ Groundwater Elevation (ft amsl)	Date of Product Evacuation	Start Time	Finish Time
RT-2L (cont'd)	9/21/2017	2.62	2.64	0.02		816.90	816.91	-	-	-
	9/15/2017	2.24	2.25	0.01		817.29	817.30	-	-	-
	9/5/2017	2.53	2.55	0.02		816.99	817.00	9/5/2017	10:30	10:35
	8/31/2017	2.86	2.92	0.06		816.62	816.66	-	-	-
	8/24/2017	2.80	2.83	0.03		816.71	816.73	8/24/2017	10:50	10:55
	8/21/2017	2.69	2.77	0.08		816.77	816.83	-	-	-
	8/17/2017	2.62	2.64	0.02		816.90	816.91	-	-	-
	8/14/2017	2.62	2.70	0.08		816.84	816.90	-	-	-
	8/9/2017	2.89	2.92	0.03		816.62	816.64	-	-	-
	8/2/2017	-	2.61	-		816.93	-	8/7/2017	11:12	11:17
	7/31/2017	2.55	2.56	0.01		816.98	816.99	8/1/2017	14:27	14:32
	7/27/2017	2.43	2.44	0.01		817.10	817.11	-	-	-
	7/24/2017	2.42	2.43	0.01		817.11	817.12	-	-	-
	7/20/2017	2.27	2.33	0.06		817.21	817.25	7/20/2017	11:55	12:00
	7/17/2017	2.26	2.28	0.02		817.26	817.27	7/17/2017	12:00	12:05
	7/13/2017	2.34	2.37	0.03		817.17	817.19	7/14/2017	11:03	11:06
	7/10/2017	2.55	2.59	0.04		816.95	816.98	7/11/2017	15:31	15:34
7/6/2017	2.20	2.21	0.01		817.33	817.34	7/6/2017	11:25	11:28	
7/3/2017	2.16	2.21	0.05		817.33	817.37	7/3/2017	12:02	12:11	
RW-01					851.92					
	9/10/2017	-	14.20	-		837.72	-	-	-	-
	8/21/2017	-	14.90	-		837.02	-	-	-	-
	8/17/2017	-	14.62	-		837.30	-	-	-	-
	8/14/2017	-	14.60	-		837.32	-	-	-	-
	8/9/2017	-	14.45	-		837.47	-	-	-	-
	8/2/2017	-	14.10	-		837.82	-	-	-	-
	7/31/2017	-	14.05	-		837.87	-	-	-	-
	7/27/2017	-	13.73	-		838.19	-	-	-	-
	7/24/2017	-	13.47	-		838.45	-	-	-	-
	7/20/2017	-	12.91	-		839.01	-	-	-	-
	7/17/2017	-	12.97	-		838.95	-	-	-	-
	7/13/2017	-	13.33	-		838.59	-	-	-	-
	7/10/2017	-	13.00	-		838.92	-	-	-	-
	7/6/2017	-	12.80	-		839.12	-	-	-	-
	7/3/2017	-	12.55	-		839.37	-	-	-	-
RW-02					852.69					
	9/10/2017	22.85	23.10	0.25		829.59	829.77	-	-	-
	8/21/2017	22.46	22.80	0.34		829.89	830.14	-	-	-
	8/17/2017	22.38	22.68	0.30		830.01	830.23	-	-	-
	8/14/2017	22.35	22.64	0.29		830.05	830.26	-	-	-
	8/9/2017	22.22	22.50	0.28		830.19	830.39	-	-	-
	8/2/2017	21.95	22.32	0.37		830.37	830.64	-	-	-
	7/31/2017	21.91	22.31	0.40		830.38	830.67	-	-	-
	7/27/2017	21.69	22.05	0.36		830.64	830.90	-	-	-
	7/24/2017	21.63	22.00	0.37		830.69	830.96	-	-	-
	7/20/2017	21.48	21.83	0.35		830.86	831.11	-	-	-
	7/17/2017	21.41	21.74	0.33		830.95	831.19	-	-	-
	7/13/2017	21.40	21.72	0.32		830.97	831.20	-	-	-
	7/10/2017	21.29	21.58	0.29		831.11	831.32	-	-	-
	7/6/2017	21.22	21.49	0.27		831.20	831.40	-	-	-
	7/3/2017	21.10	21.37	0.27		831.32	831.52	-	-	-
RW-03					852.34					
	9/10/2017	23.25	23.26	0.01		829.08	829.09	-	-	-
	8/21/2017	22.72	22.80	0.08		829.54	829.60	-	-	-
	8/17/2017	22.68	22.71	0.03		829.63	829.65	-	-	-
	8/14/2017	22.64	22.68	0.04		829.66	829.69	-	-	-

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 ^{1,2} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ³ Groundwater Elevation (ft amsl)	Date of Product Evacuation	Start Time	Finish Time
RW-03 (cont'd)	8/9/2017	22.52	22.55	0.03		829.79	829.81	-	-	-
	8/2/2017	22.35	22.39	0.04		829.95	829.98	-	-	-
	7/31/2017	22.34	22.38	0.04		829.96	829.99	-	-	-
	7/27/2017	22.12	22.14	0.02		830.20	830.21	-	-	-
	7/24/2017	22.11	22.12	0.01		830.22	830.23	-	-	-
	7/20/2017	-	22.01	-		830.33	-	-	-	-
	7/17/2017	-	21.96	-		830.38	-	-	-	-
	7/13/2017	21.86	21.87	0.01		830.47	830.48	-	-	-
	7/10/2017	-	21.79	-		830.55	-	-	-	-
	7/6/2017	-	21.80	-		830.54	-	-	-	-
7/3/2017	-	21.17	-		831.17	-	-	-	-	
RW-04					853.93			-	-	-
	9/28/2017	29.62	30.01	0.39		823.92	824.21	9/28/2017	12:40	12:45
	9/21/2017	29.34	29.66	0.32		824.27	824.51	-	-	-
	9/15/2017	29.46	29.78	0.32		824.15	824.39	-	-	-
	9/5/2017	29.46	29.79	0.33		824.14	824.38	9/5/2017	9:15	9:20
	8/31/2017	29.40	29.70	0.30		824.23	824.45	-	-	-
	8/24/2017	29.20	29.35	0.15		824.58	824.69	8/24/2017	9:15	9:20
	8/21/2017	28.96	29.43	0.47		824.50	824.85	-	-	-
	8/17/2017	28.90	29.25	0.35		824.68	824.94	8/17/2017	9:50	9:55
	8/14/2017	28.76	29.50	0.74		824.43	824.97	-	-	-
	8/9/2017	28.65	29.33	0.68		824.60	825.10	-	-	-
	8/2/2017	28.31	28.98	0.67		824.95	825.44	8/7/2017	11:45	11:50
	7/31/2017	28.28	28.96	0.68		824.97	825.47	-	-	-
	7/27/2017	28.15	28.77	0.62		825.16	825.61	-	-	-
	7/24/2017	28.10	28.70	0.60		825.23	825.67	-	-	-
	7/20/2017	28.05	28.56	0.51		825.37	825.74	7/20/2017	12:25	12:30
	7/17/2017	28.02	28.51	0.49		825.42	825.78	7/17/2017	11:45	11:50
	7/13/2017	28.02	28.45	0.43		825.48	825.80	-	-	-
	7/10/2017	27.99	28.34	0.35		825.59	825.85	-	-	-
	7/6/2017	28.05	28.41	0.36		825.52	825.78	-	-	-
	7/3/2017	28.03	28.31	0.28		825.62	825.83	-	-	-
RW-05					853.53			-	-	-
	9/28/2017	32.98	34.76	1.78		818.77	820.07	9/28/2017	12:50	12:55
	9/21/2017	32.87	33.58	0.71		819.95	820.47	-	-	-
	9/15/2017	32.90	34.76	1.86		818.77	820.13	-	-	-
	9/5/2017	32.97	34.82	1.85		818.71	820.06	9/5/2017	9:20	9:25
	8/31/2017	33.10	34.21	1.11		819.32	820.13	-	-	-
	8/24/2017	32.98	33.67	0.69		819.86	820.37	8/24/2017	9:20	9:25
	8/21/2017	32.74	34.36	1.62		819.17	820.36	-	-	-
	8/17/2017	33.75	34.77	1.02		818.76	819.51	8/17/2017	9:55	10:00
	8/14/2017	32.41	34.30	1.89		819.23	820.61	-	-	-
	8/9/2017	28.65	29.33	0.68		824.20	824.70	-	-	-
	8/2/2017	32.09	33.85	1.76		819.68	820.97	8/7/2017	11:58	12:05
	7/31/2017	32.02	33.86	1.84		819.67	821.02	-	-	-
	7/27/2017	31.92	33.63	1.71		819.90	821.15	-	-	-
	7/24/2017	31.89	33.36	1.47		820.17	821.25	-	-	-
	7/20/2017	31.93	33.04	1.11		820.49	821.30	7/20/2017	12:15	12:20
	7/17/2017	31.88	32.86	0.98		820.67	821.39	7/17/2017	11:58	12:05
	7/13/2017	31.90	32.65	0.75		820.88	821.43	-	-	-
	7/10/2017	31.95	32.61	0.66		820.92	821.41	-	-	-
	7/6/2017	31.95	32.39	0.44		821.14	821.46	-	-	-
	7/3/2017	32.05	32.37	0.32		821.16	821.40	-	-	-
RW-06					846.21			-	-	-
	9/28/2017	-	27.41	-		818.80	-	-	-	-
	9/21/2017	-	27.32	-		818.89	-	-	-	-

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 ^{1,2} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ³ Groundwater Elevation (ft amsl)	Date of Product Evacuation	Start Time	Finish Time
RW-06 (cont'd)	9/15/2017	-	27.10	-		819.11	-	-	-	-
	9/5/2017	-	27.18	-		819.03	-	-	-	-
	8/31/2017	-	27.42	-		818.79	-	-	-	-
	8/24/2017	27.15	27.16	0.01		819.05	819.06	-	-	-
	8/21/2017	-	27.21	-		819.00	-	-	-	-
	8/17/2017	-	27.04	-		819.17	-	-	-	-
	8/14/2017	-	26.87	-		819.34	-	-	-	-
	8/9/2017	-	26.80	-		819.41	-	-	-	-
	8/2/2017	-	26.52	-		819.69	-	-	-	-
	7/31/2017	-	26.63	-		819.58	-	-	-	-
	7/27/2017	-	26.47	-		819.74	-	-	-	-
	7/24/2017	26.33	26.34	0.01		819.87	819.88	-	-	-
	7/20/2017	-	26.36	-		819.85	-	-	-	-
	7/17/2017	-	26.20	-		820.01	-	-	-	-
	7/13/2017	-	26.22	-		819.99	-	-	-	-
	7/10/2017	26.19	26.20	0.01		820.01	820.02	-	-	-
7/6/2017	-	25.63	-		820.58	-	-	-	-	
7/3/2017	-	26.25	-		819.96	-	-	-	-	
RW-07					843.19					
	9/28/2017	23.97	25.05	1.08		818.14	818.93	9/28/2017	11:10	11:15
	9/21/2017	23.85	24.90	1.05		818.29	819.06	-	-	-
	9/15/2017	23.21	24.14	0.93		819.05	819.73	-	-	-
	9/5/2017	23.33	24.31	0.98		818.88	819.60	9/5/2017	9:30	9:35
	8/31/2017	23.98	25.13	1.15		818.06	818.90	-	-	-
	8/24/2017	23.71	24.73	1.02		818.46	819.21	8/24/2017	9:30	9:35
	8/21/2017	23.81	24.82	1.01		818.37	819.11	-	-	-
	8/17/2017	23.55	24.50	0.95		818.69	819.39	8/17/2017	10:10	10:15
	8/14/2017	23.37	24.30	0.93		818.89	819.57	-	-	-
	8/9/2017	23.37	24.22	0.85		818.97	819.59	-	-	-
	8/2/2017	23.30	23.85	0.55		819.34	819.74	-	-	-
	7/31/2017	23.40	23.79	0.39		819.40	819.69	-	-	-
	7/27/2017	23.28	23.56	0.28		819.63	819.84	-	-	-
	7/24/2017	23.10	23.32	0.22		819.87	820.03	-	-	-
	7/20/2017	23.14	23.46	0.32		819.73	819.97	-	-	-
	7/17/2017	22.97	23.16	0.19		820.03	820.17	-	-	-
	7/13/2017	23.03	23.20	0.17		819.99	820.12	-	-	-
	7/10/2017	22.84	23.02	0.18		820.17	820.30	-	-	-
	7/6/2017	22.22	22.41	0.19		820.78	820.92	-	-	-
	7/3/2017	22.89	23.13	0.24		820.06	820.24	-	-	-
RW-08					835.48					
	9/28/2017	-	17.57	-		817.91	-	9/28/2017	11:05	11:10
	9/21/2017	17.48	17.50	0.02		817.98	817.99	-	-	-
	9/15/2017	16.35	16.36	0.01		819.12	819.13	-	-	-
	9/5/2017	16.50	16.53	0.03		818.95	818.97	-	-	-
	8/31/2017	17.75	17.78	0.03		817.70	817.72	-	-	-
	8/24/2017	17.32	17.33	0.01		818.15	818.16	-	-	-
	8/21/2017	23.86	23.87	0.01		811.61	811.62	-	-	-
	8/17/2017	-	17.10	-		818.38	-	8/17/2017	10:40	10:45
	8/14/2017	-	16.94	-		818.54	-	-	-	-
	8/9/2017	16.94	16.95	0.01		818.53	818.54	-	-	-
	8/2/2017	-	16.80	-		818.68	-	-	-	-
	7/31/2017	-	17.07	-		818.41	-	-	-	-
	7/27/2017	-	16.97	-		818.51	-	-	-	-
	7/24/2017	-	NM	-		-	-	-	-	-
	7/20/2017	-	16.92	-		818.56	-	-	-	-
	7/17/2017	-	16.55	-		818.93	-	-	-	-

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 ^{1,2} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ³ Groundwater Elevation (ft amsl)	Date of Product Evacuation	Start Time	Finish Time
RW-08 (cont'd)	7/13/2017	16.71	16.72	0.01		818.76	818.77	-	-	-
	7/10/2017	-	16.29	-		819.19	-	-	-	-
	7/6/2017	-	15.11	-		820.37	-	-	-	-
	7/3/2017	-	16.65	-		818.83	-	-	-	-
RW-09				835.12						
	9/28/2017	14.59	15.35	0.76		819.77	820.33	9/28/2017	11:00	11:05
	9/21/2017	14.49	14.91	0.42		820.21	820.52	-	-	-
	9/15/2017	13.55	13.90	0.35		821.22	821.48	-	-	-
	9/5/2017	13.68	14.08	0.40		821.04	821.34	-	-	-
	8/31/2017	14.52	15.42	0.90		819.70	820.36	-	-	-
	8/24/2017	14.45	14.81	0.36		820.31	820.58	-	-	-
	8/21/2017	9.49	9.58	0.09		825.54	825.61	-	-	-
	8/17/2017	14.25	14.60	0.35		820.52	820.78	8/17/2017	10:45	10:50
	8/14/2017	14.08	14.53	0.45		820.59	820.92	-	-	-
	8/9/2017	14.16	14.24	0.08		820.88	820.94	-	-	-
	8/2/2017	14.18	14.22	0.04		820.90	820.93	-	-	-
	7/31/2017	14.10	14.12	0.02		821.00	821.02	-	-	-
	7/27/2017	13.98	14.00	0.02		821.12	821.14	-	-	-
	7/24/2017	-	13.82	-		821.30	-	-	-	-
	7/20/2017	-	13.85	-		821.27	-	-	-	-
	7/17/2017	-	13.69	-		821.43	-	-	-	-
	7/13/2017	13.72	13.73	0.01		821.39	821.40	-	-	-
	7/10/2017	13.44	13.45	0.01		821.67	821.68	-	-	-
	7/6/2017	-	12.72	-		822.40	-	-	-	-
	7/3/2017	-	13.53	-		821.59	-	-	-	-
RW-10					848.53					
	9/10/2017	11.95	12.06	0.11		836.47	836.55	-	-	-
	8/21/2017	11.55	11.76	0.21		836.77	836.93	-	-	-
	8/17/2017	11.69	11.78	0.09		836.75	836.82	8/17/2017	10:50	10:55
	8/14/2017	9.97	10.04	0.07		838.49	838.54	-	-	-
	8/9/2017	-	10.08	-		838.45	-	-	-	-
	8/2/2017	12.00	12.26	0.26		836.27	836.46	-	-	-
	7/31/2017	12.06	12.35	0.29		836.18	836.39	-	-	-
	7/27/2017	11.74	11.98	0.24		836.55	836.73	-	-	-
	7/24/2017	11.99	12.22	0.23		836.31	836.48	-	-	-
	7/20/2017	11.88	12.05	0.17		836.48	836.61	-	-	-
	7/17/2017	11.60	11.70	0.10		836.83	836.91	-	-	-
	7/13/2017	11.44	11.49	0.05		837.04	837.08	-	-	-
	7/10/2017	11.42	11.43	0.01		837.10	837.11	-	-	-
	7/6/2017	-	11.35	-		837.18	-	-	-	-
	7/3/2017	12.06	12.20	0.14		836.33	836.43	-	-	-
RW-11					852.97					
	9/28/2017	-	13.37	-		839.60	-	-	-	-
	9/21/2017	-	13.06	-		839.91	-	-	-	-
	9/15/2017	-	13.01	-		839.96	-	-	-	-
	9/5/2017	-	12.88	-		840.09	-	-	-	-
	8/31/2017	-	13.46	-		839.51	-	-	-	-
	8/24/2017	13.21	13.23	0.02		839.74	839.75	-	-	-
	8/21/2017	-	13.72	-		839.25	-	-	-	-
	8/17/2017	-	13.00	-		839.97	-	8/17/2017	10:55	11:00
	8/14/2017	-	12.86	-		840.11	-	-	-	-
	8/9/2017	-	12.65	-		840.32	-	-	-	-
	8/2/2017	-	12.67	-		840.30	-	-	-	-
	7/31/2017	-	12.60	-		840.37	-	-	-	-
	7/27/2017	12.39	12.40	0.01		840.57	840.57	-	-	-
	7/24/2017	-	12.25	-		840.72	-	-	-	-

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 ^{1,2} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ³ Groundwater Elevation (ft amsl)	Date of Product Evacuation	Start Time	Finish Time
RW-11 (cont'd)	7/20/2017	-	12.12	-		840.85	-	-	-	-
	7/17/2017	12.07	12.09	0.02		840.88	840.89	-	-	-
	7/13/2017	11.99	12.08	0.09		840.89	840.95	-	-	-
	7/10/2017	11.78	11.87	0.09		841.10	841.16	-	-	-
	7/6/2017	11.05	11.14	0.09		841.83	841.89	-	-	-
	7/3/2017	11.58	11.71	0.13		841.26	841.35	-	-	-
RW-12					852.75					
	9/28/2017	14.45	14.46	0.01		838.29	838.30	-	-	-
	9/21/2017	-	14.78	-		837.97	-	-	-	-
	9/15/2017	-	14.84	-		837.91	-	-	-	-
	9/5/2017	-	14.80	-		837.95	-	-	-	-
	8/31/2017	-	14.75	-		838.00	-	-	-	-
	8/24/2017	14.57	14.58	0.01		838.17	838.18	-	-	-
	8/21/2017	-	14.46	-		838.29	-	-	-	-
	8/17/2017	-	14.35	-		838.40	-	8/17/2017	11:00	11:05
	8/14/2017	-	14.22	-		838.53	-	-	-	-
	8/9/2017	-	14.11	-		838.64	-	-	-	-
	8/2/2017	-	13.98	-		838.77	-	-	-	-
	7/31/2017	-	13.96	-		838.79	-	-	-	-
	7/27/2017	13.69	13.70	0.01		839.05	839.06	-	-	-
	7/24/2017	-	13.58	-		839.17	-	-	-	-
	7/20/2017	-	13.44	-		839.31	-	-	-	-
	7/17/2017	-	13.47	-		839.28	-	-	-	-
	7/13/2017	-	13.36	-		839.39	-	-	-	-
	7/10/2017	-	13.36	-		839.39	-	-	-	-
	7/6/2017	-	13.08	-		839.67	-	-	-	-
	7/3/2017	-	13.16	-		839.59	-	-	-	-
RW-13					847.97					
	9/10/2017	-	NM	-		-	-	-	-	-
	8/21/2017	-	NM	-		-	-	-	-	-
	8/17/2017	-	NM	-		-	-	8/17/2017	11:05	11:10
	8/14/2017	-	NM	-		-	-	-	-	-
	8/9/2017	-	10.20	-		837.77	-	-	-	-
	8/2/2017	-	11.10	-		836.87	-	-	-	-
	7/31/2017	-	NM	-		-	-	-	-	-
	7/27/2017	-	NM	-		-	-	-	-	-
	7/24/2017	-	NM	-		-	-	-	-	-
	7/20/2017	-	NM	-		-	-	-	-	-
	7/17/2017	-	NM	-		-	-	-	-	-
	7/13/2017	-	NM	-		-	-	-	-	-
	7/10/2017	-	NM	-		-	-	-	-	-
	7/6/2017	-	NM	-		-	-	-	-	-
	7/3/2017	-	NM	-		-	-	-	-	-
RW-14					827.54					
	9/28/2017	-	12.78	-		814.76	-	-	-	-
	9/21/2017	-	12.64	-		814.90	-	-	-	-
	9/15/2017	-	8.67	-		818.87	-	-	-	-
	9/5/2017	-	8.58	-		818.96	-	-	-	-
	8/31/2017	-	12.88	-		814.66	-	-	-	-
	8/24/2017	-	12.58	-		814.96	-	-	-	-
	8/21/2017	-	12.71	-		814.83	-	-	-	-
	8/17/2017	-	12.40	-		815.14	-	8/17/2017	11:10	11:20
	8/14/2017	-	12.29	-		815.25	-	-	-	-
	8/9/2017	-	12.31	-		815.23	-	-	-	-
	8/2/2017	-	10.92	-		816.62	-	-	-	-
	7/31/2017	-	12.43	-		815.11	-	-	-	-

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 ^{1,2} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ³ Groundwater Elevation (ft amsl)	Date of Product Evacuation	Start Time	Finish Time
RW-14 (cont'd)	7/27/2017	-	12.25	-		815.29	-	-	-	-
	7/24/2017	-	12.16	-		815.38	-	-	-	-
	7/20/2017	-	12.02	-		815.52	-	-	-	-
	7/17/2017	-	11.91	-		815.63	-	-	-	-
	7/13/2017	-	12.11	-		815.43	-	-	-	-
	7/10/2017	-	11.93	-		815.61	-	-	-	-
	7/6/2017	-	7.80	-		819.74	-	-	-	-
	7/3/2017	-	11.94	-		815.60	-	-	-	-
RW-15					851.64					
	9/10/2017	14.03	14.51	0.48		837.13	837.48	-	-	-
	8/21/2017	13.81	13.98	0.17		837.66	837.78	-	-	-
	8/17/2017	13.77	13.82	0.05		837.82	837.85	8/17/2017	11:20	11:25
	8/14/2017	-	13.58	-		838.06	-	-	-	-
	8/9/2017	13.70	13.72	0.02		837.92	837.93	-	-	-
	8/2/2017	13.61	13.90	0.29		837.74	837.95	-	-	-
	7/31/2017	13.66	13.87	0.21		837.77	837.92	-	-	-
	7/27/2017	13.51	13.67	0.16		837.97	838.08	-	-	-
	7/24/2017	13.50	13.62	0.12		838.02	838.11	-	-	-
	7/20/2017	13.49	13.55	0.06		838.09	838.13	-	-	-
	7/17/2017	13.52	13.55	0.03		838.09	838.11	-	-	-
	7/13/2017	13.50	13.51	0.01		838.13	838.13	-	-	-
	7/10/2017	-	13.47	-		838.17	-	-	-	-
	7/6/2017	-	13.56	-		838.08	-	-	-	-
	7/3/2017	-	13.59	-		838.05	-	-	-	-
SW-01					812.82					
	9/10/2017	-	(0.91)	-		813.73	-	-	-	-
	9/6/2017	-	(0.96)	-		813.78	-	-	-	-
	8/12/2017	-	(0.90)	-		813.72	-	-	-	-
	8/1/2017	-	-	-		812.82	-	-	-	-
	7/2/2017	-	(0.99)	-		813.81	-	-	-	-
SW-02					808.65					
	9/10/2017	-	(1.60)	-		810.25	-	-	-	-
	9/6/2017	-	(1.58)	-		810.23	-	-	-	-
	8/12/2017	-	(1.61)	-		810.26	-	-	-	-
	7/2/2017	-	(1.67)	-		810.32	-	-	-	-
SW-03					815.09					
	9/10/2017	-	(1.54)	-		816.63	-	-	-	-
	9/6/2017	-	(1.48)	-		816.57	-	-	-	-
	8/12/2017	-	(1.49)	-		816.58	-	-	-	-
	8/1/2017	-	-	-		815.09	-	-	-	-
	7/2/2017	-	(1.92)	-		817.01	-	-	-	-
SW-05					838.75					
	9/10/2017	-	NM	-		-	-	-	-	-
	9/6/2017	-	NM	-		-	-	-	-	-
	8/12/2017	-	NM	-		-	-	-	-	-
	7/2/2017	-	NM	-		-	-	-	-	-
SW-08					802.04					
	9/10/2017	-	(1.09)	-		803.13	-	-	-	-
	9/6/2017	-	(1.43)	-		803.47	-	-	-	-
	8/12/2017	-	(1.05)	-		803.09	-	-	-	-
	7/2/2017	-	(1.05)	-		803.09	-	-	-	-
SW-10					778.09					
	9/10/2017	-	(0.30)	-		778.39	-	-	-	-
	9/6/2017	-	(0.67)	-		778.76	-	-	-	-
	8/12/2017	-	(0.27)	-		778.36	-	-	-	-
	7/2/2017	-	(0.36)	-		778.45	-	-	-	-

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 ^{1,2} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ³ Groundwater Elevation (ft amsl)	Date of Product Evacuation	Start Time	Finish Time
TW-04R					852.64					
	9/10/2017	-	DRY	-		-	-	-	-	-
	8/12/2017	-	NM	-		-	-	-	-	-
	7/2/2017	-	3.95	-		848.69	-	-	-	-
TW-05R					849.93					
	9/10/2017	-	6.87	-		843.06	-	-	-	-
	8/12/2017	-	8.13	-		841.80	-	-	-	-
	7/2/2017	-	4.55	-		845.38	-	-	-	-
TW-14R					853.37					
	9/10/2017	-	DRY	-		-	-	-	-	-
	8/12/2017	-	NM	-		-	-	-	-	-
	7/2/2017	-	3.76	-		849.61	-	-	-	-
TW-15R					850.62					
	9/10/2017	-	DRY	-		-	-	-	-	-
	8/12/2017	-	NM	-		-	-	-	-	-
	7/2/2017	-	3.10	-		847.52	-	-	-	-
TW-21					849.70					
	9/10/2017	-	5.00	-		844.70	-	-	-	-
	8/12/2017	-	6.10	-		843.60	-	-	-	-
	7/2/2017	-	2.67	-		847.03	-	-	-	-
TW-28					851.42					
	9/10/2017	22.80	22.90	0.10		828.52	828.60	-	-	-
	8/12/2017	22.35	22.50	0.15		828.92	829.03	-	-	-
	7/2/2017	21.31	21.58	0.27		829.84	830.04	-	-	-
TW-30					851.81					
	9/10/2017	-	22.00	-		829.81	-	-	-	-
	8/12/2017	-	21.26	-		830.55	-	-	-	-
	7/2/2017	-	20.15	-		831.66	-	-	-	-
TW-34					854.79					
	9/10/2017	-	22.20	-		832.59	-	-	-	-
	8/12/2017	-	22.20	-		832.59	-	-	-	-
	7/2/2017	-	22.23	-		832.56	-	-	-	-
TW-35					854.10					
	9/10/2017	-	22.72	-		831.38	-	-	-	-
	8/12/2017	-	22.72	-		831.38	-	-	-	-
	7/2/2017	-	22.75	-		831.35	-	-	-	-
TW-40					853.35					
	9/10/2017	-	28.90	-		824.45	-	-	-	-
	8/12/2017	-	28.65	-		824.70	-	-	-	-
	7/2/2017	-	28.40	-		824.95	-	-	-	-
TW-41					849.38					
	9/10/2017	-	27.89	-		821.49	-	-	-	-
	8/12/2017	-	27.25	-		822.13	-	-	-	-
	7/2/2017	-	26.51	-		822.87	-	-	-	-
TW-42					846.84					
	9/10/2017	26.26	27.20	0.94		819.64	820.32	-	-	-
	8/12/2017	25.74	26.58	0.84		820.26	820.87	-	-	-
	7/2/2017	24.95	26.22	1.27		820.62	821.55	-	-	-
TW-45					848.31					
	9/10/2017	27.85	28.40	0.55		819.91	820.31	-	-	-
	8/12/2017	27.32	27.75	0.43		820.56	820.87	-	-	-
	7/2/2017	26.70	26.98	0.28		821.33	821.53	-	-	-
TW-46					846.88					
	9/10/2017	-	NM	-		-	-	-	-	-
	8/12/2017	-	NM	-		-	-	-	-	-
	7/2/2017	-	NM	-		-	-	-	-	-

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 ^{1,2} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ³ Groundwater Elevation (ft amsl)	Date of Product Evacuation	Start Time	Finish Time
TW-55					845.93			-	-	-
	9/10/2017	-	6.60	-		839.33	-	-	-	-
	9/6/2017	-	6.95	-		838.98	-	-	-	-
	8/12/2017	-	3.60	-		842.33	-	-	-	-
	8/1/2017	-	6.46	-		839.47	-	-	-	-
	7/2/2017	-	6.02	-		839.91	-	-	-	-
TW-59					834.78			-	-	-
	9/10/2017	-	14.85	-		819.93	-	-	-	-
	9/6/2017	-	15.34	-		819.44	-	-	-	-
	8/12/2017	-	14.25	-		820.53	-	-	-	-
	8/1/2017	-	14.02	-		820.76	-	-	-	-
	7/2/2017	-	13.68	-		821.10	-	-	-	-
TW-60					828.03			-	-	-
	9/10/2017	-	10.45	-		817.58	-	-	-	-
	9/6/2017	-	10.11	-		817.92	-	-	-	-
	8/12/2017	-	16.04	-		811.99	-	-	-	-
	8/1/2017	-	7.05	-		820.98	-	-	-	-
	7/2/2017	-	9.38	-		818.65	-	-	-	-
TW-64					845.88			-	-	-
	9/10/2017	-	17.25	-		828.63	-	-	-	-
	9/6/2017	-	17.05	-		828.83	-	-	-	-
	8/12/2017	-	16.23	-		829.65	-	-	-	-
	8/1/2017	-	16.38	-		829.50	-	-	-	-
	7/2/2017	-	15.65	-		830.23	-	-	-	-
TW-65					845.62			-	-	-
	9/10/2017	-	21.61	-		824.01	-	-	-	-
	8/12/2017	-	21.08	-		824.54	-	-	-	-
	7/2/2017	-	20.14	-		825.48	-	-	-	-
TW-66					820.31			-	-	-
	9/10/2017	-	2.98	-		817.33	-	-	-	-
	9/6/2017	-	2.45	-		817.86	-	-	-	-
	8/12/2017	-	2.65	-		817.66	-	-	-	-
	8/1/2017	-	1.35	-		818.96	-	-	-	-
	7/2/2017	-	1.78	-		818.53	-	-	-	-
TW-67					852.71			-	-	-
	9/10/2017	-	9.80	-		842.91	-	-	-	-
	9/6/2017	-	13.32	-		839.39	-	-	-	-
	8/12/2017	-	6.80	-		845.91	-	-	-	-
	8/1/2017	-	12.70	-		840.01	-	-	-	-
	7/2/2017	-	11.95	-		840.76	-	-	-	-
TW-68					846.45			-	-	-
	9/10/2017	-	23.11	-		823.34	-	-	-	-
	8/12/2017	-	22.68	-		823.77	-	-	-	-
	7/2/2017	-	22.09	-		824.36	-	-	-	-
TW-69					840.27			-	-	-
	9/10/2017	-	15.24	-		825.03	-	-	-	-
	8/12/2017	-	14.77	-		825.50	-	-	-	-
	7/2/2017	-	12.95	-		827.32	-	-	-	-
TW-70					841.95			-	-	-
	9/10/2017	-	19.35	-		822.60	-	-	-	-
	8/12/2017	-	18.75	-		823.20	-	-	-	-
	7/2/2017	-	17.75	-		824.20	-	-	-	-
TW-73					850.53			-	-	-
	9/10/2017	-	9.15	-		841.38	-	-	-	-
	9/6/2017	-	9.20	-		841.33	-	-	-	-
	8/12/2017	-	8.40	-		842.13	-	-	-	-

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 ^{1,2} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ³ Groundwater Elevation (ft amsl)	Date of Product Evacuation	Start Time	Finish Time
TW-73 (cont'd)	8/1/2017	-	5.31	-		845.22	-	-	-	-
	7/2/2017	-	7.41	-		843.12	-	-	-	-
TW-76					852.44					
	9/10/2017	-	14.39	-		838.05	-	-	-	-
	8/12/2017	-	13.92	-		838.52	-	-	-	-
	7/2/2017	-	13.81	-		838.63	-	-	-	-
TW-81					849.43					
	9/10/2017	-	4.87	-		844.56	-	-	-	-
	8/12/2017	-	5.58	-		843.85	-	-	-	-
	7/2/2017	-	2.67	-		846.76	-	-	-	-
TW-82					849.64					
	9/10/2017	-	5.11	-		844.53	-	-	-	-
	8/12/2017	-	5.88	-		843.76	-	-	-	-
	7/2/2017	-	2.65	-		846.99	-	-	-	-
TW-83					850.44					
	9/10/2017	-	NM	-		-	-	-	-	-
	8/12/2017	-	NM	-		-	-	-	-	-
	7/2/2017	-	3.45	-		846.99	-	-	-	-
TW-84					851.22					
	9/10/2017	-	6.67	-		844.55	-	-	-	-
	8/12/2017	-	7.12	-		844.10	-	-	-	-
	7/2/2017	-	4.06	-		847.16	-	-	-	-
TW-85					843.49					
	9/10/2017	-	10.60	-		832.89	-	-	-	-
	8/12/2017	-	6.10	-		837.39	-	-	-	-
	7/2/2017	-	9.51	-		833.98	-	-	-	-
TW-86					853.10					
	9/10/2017	-	5.56	-		847.54	-	-	-	-
	8/12/2017	-	5.55	-		847.55	-	-	-	-
	7/2/2017	-	5.35	-		847.75	-	-	-	-
TW-87					852.25					
	9/10/2017	-	6.80	-		845.45	-	-	-	-
	8/12/2017	-	6.80	-		845.45	-	-	-	-
	7/2/2017	-	5.26	-		846.99	-	-	-	-
TW-90					845.43					
	9/10/2017	-	10.20	-		835.23	-	-	-	-
	8/12/2017	-	7.70	-		837.73	-	-	-	-
	7/2/2017	-	11.42	-		834.01	-	-	-	-
TW-94					840.58					
	9/10/2017	-	NM	-		-	-	-	-	-
	8/12/2017	-	-	-		840.58	-	-	-	-
	7/2/2017	-	1.80	-		838.78	-	-	-	-

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 ^{1,2} (ft amsl)	Groundwater Elevation (ft amsl)	Corrected ³ Groundwater Elevation (ft amsl)	Date of Product Evacuation	Start Time	Finish Time
TW-96					840.40					
	9/10/2017	-	6.70	-		833.70	-	-	-	-
	9/6/2017	-	9.28	-		831.12	-	-	-	-
	8/12/2017	-	8.55	-		831.85	-	-	-	-
	8/1/2017	-	8.25	-		832.15	-	-	-	-
	7/2/2017	-	5.83	-		834.57	-	-	-	-

Notes:

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

2. "RS-" and "RT-" features were trimmed to less than 12 inches above ground surface on 3/14/2017. Only the resurveyed top of casing elevation after trimming is displayed. Groundwater elevation calculations are based on the true top of casing elevation at the time of gauging.

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

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

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:

- RS-19 was damaged on or about January 20, 2017.
- RT-2H was covered over on or about January 17, 2017, due to construction efforts in the vicinity.
- TW-46 was damaged on or about December 8, 2016.

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) 4/3/2017	DO (mg/L) 5/4/2017	DO (mg/L) 6/26/2017	DO (mg/L) 7/17/2017	DO (mg/L) 8/1/2017	DO (mg/L) 9/5-8/2017
MW-12	Brown's Creek	VAS-37	18	FP	1.62	0.50	0.45	0.54	7.95
MW-12B	Brown's Creek	VAS-37	9	1.17	0.51	0.70	0.55	0.67	0.70
MW-15	Brown's Creek	VAS-21	14	1.67	3.91	1.45	2.43	9.84	7.95
MW-15B	Brown's Creek	VAS-22	13	0.95	1.58	0.66	0.98	1.36	0.98
MW-25	Brown's Creek	VAS-29	54	0.75	0.53	0.48	0.44	0.78	0.68
MW-25B	Brown's Creek	VAS-29	56	0.55	0.51	1.13	0.61	0.81	2.10
MW-28	Brown's Creek	VAS-46	26	2.41	0.66	0.50	0.51	0.73	0.40
Average Brown's Creek Protection Zone Values				1.25	1.33	0.77	0.85	2.10	2.97
MW-19	Cupboard Creek	VAS-08	17	1.74	1.43	0.65	0.63	0.89	0.85
MW-20	Cupboard Creek	VAS-03	23	FP	FP	NM	NM	FP	FP
MW-29	Cupboard Creek	VAS-19	111	6.76	6.68	5.80	4.55	7.21	6.50
Average Cupboard Creek Protection Zone Values				4.25	4.06	3.23	2.59	4.05	3.68
MW-02	Hayfield	HAS-02	33	NM	0.35	5.30	7.48	8.71	6.20
MW-02B	Hayfield	HAS-02	24	NM	0.26	3.74	3.18	4.23	1.54
MW-03	Hayfield	HAS-02	12	NM	0.27	10.25	10.12	10.86	NM ^b
MW-04	Hayfield	HAS-01	82	NM	8.02	6.51	7.53	8.19	7.61
MW-08	Hayfield	HAS-03	12	NM	7.00	7.14	18.94	7.24	8.59
MW-09	Hayfield	HAS-01	37	NM	0.20	8.72	8.96	9.74	FP
MW-10	Hayfield	HAS-03	27	NM	6.32	5.95	3.66	3.84	1.70
MW-16	Hayfield	HAS-01	24	NM	FP	8.46	9.10	FP	FP
MW-18	Hayfield	HAS-03	2	NM	FP	1.39	FP	FP	FP
MW-30	Hayfield	HAS-01	15	NM	3.62	7.56	0.58	1.06	NC
TW-55	Hayfield	HAS-01	40	NM	1.68	8.10	9.03	9.28	9.06
TW-59 ^a	Hayfield	VAS-38	6	NM	NM	NM	NM	NM	NM
TW-60	Hayfield	VAS-25	10	0.76	1.80	NM	5.40	8.46	5.65
TW-64	Hayfield	HAS-03	132	NM	7.85	NM	7.85	8.28	4.38
TW-66	Hayfield	VAS-28	49	2.90	5.35	4.57	6.02	6.54	8.93
TW-67	Hayfield	VAS-11	14	9.26	9.82	16.86	9.45	10.03	9.15
TW-73	Hayfield	VAS-19	11	9.57	NC	8.34	10.27	10.47	8.90
TW-96	Hayfield	HAS-03	78	NM	7.29	NM	9.51	10.04	9.05
Average Hayfield Zone Values				5.62	4.27	7.35	7.94	7.80	6.73

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) 4/3/2017	DO (mg/L) 5/4/2017	DO (mg/L) 6/26/2017	DO (mg/L) 7/17/2017	DO (mg/L) 8/1/2017	DO (mg/L) 9/5-8/2017
MW-01	Shallow Bedrock	VBS-01	147	NM	NM	NM	NM	NM	3.40
MW-01B	Shallow Bedrock	VBS-01	152	NM	NM	NM	NM	NM	0.85
MW-11	Shallow Bedrock	VBS-01	368	NM	NM	NM	NM	NM	7.89
MW-22	Shallow Bedrock	VBS-03	115	NM	NM	NM	NM	NM	NC
Average Shallow Bedrock Zone Values				-	-	-	-	-	4.05
Average Residuuum Values				3.98	3.92	5.71	6.33	6.64	6.04
Average Bedrock Values				0.89	0.72	1.56	1.33	1.77	1.23

Notes:

^a = TW-59 can't be measured because the probe does not fit into the well because the polyvinyl chloride pipe has shifted in the vault

^b = MW-03 could not be measured in September for health and safety reasons (fire ants)

Brown's and Cupboard Creek Protection Zones startup was March 6, 2017.

Hayfield Zone startup was May 9, 2017.

Shallow Bedrock Zone has not been started as of September 30, 2017. Measurements in September were baseline values

DO = dissolved oxygen

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

NC = measurement not collected due to insufficient volume of water in the well

NM = not measured

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	Sample Date	Analyte: Units	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
MW-01	MW-01-072715	7/27/2015	µg/L	5 U	5 U	5 U	10 U	5 U	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-01B	MW-01B-080415	8/4/2015	µg/L	5 U	5 U	5 U	10 U	5 U	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	1.4	5.6	1 U	1 U	1.3	--
	MW-01B-062817	6/28/2017	µg/L	1 U	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-01B-062817-FD	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-02	MW-02-072715	7/27/2015	µg/L	4,320	625 U	9,670	2,460	5 U	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-02B	MW-02B-080415	8/4/2015	µg/L	5 U	5 U	5 U	10 U	5 U	5 U	5 U	0.02 U
	MW-02B-D-080415	8/4/2015	µg/L	5 U	5 U	5 U	10 U	5 U	5 U	5 U	0.019 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	4.8	4.6	1 U	1 U	1 U	0.019 U
	MW-02B-D-030116	3/1/2016	µg/L	1 U	1 U	4.8	5.3	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-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-03	MW-03-072715	7/27/2015	µg/L	5 U	5 U	5 U	10 U	5 U	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	3.6	--
	MW-03-062917	6/29/2017	µg/L	10.9	1 U	24.6	6.98	1 U	2.34	5 U	--
MW-04	MW-04-072815	7/28/2015	µg/L	5 U	5 U	5 U	10 U	5 U	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-04-090817-DUP	9/8/2017	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	Sample Date	Analyte: Units	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
MW-05	MW-05-072815	7/28/2015	µg/L	5 U	5 U	5 U	10 U	5 U	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-06	MW-06-072815	7/28/2015	µg/L	5 U	5 U	5 U	10 U	5 U	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	--
	MW-06-090817	9/8/2017	µg/L	1 U	1 U	1 U	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	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	--
MW-08	MW-08-072815	7/28/2015	µg/L	5 U	5 U	5 U	10 U	5 U	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	7.1	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-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	--
MW-10	MW-10-072815	7/28/2015	µg/L	5 U	5 U	5 U	10 U	5 U	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-10-050317-FD	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	--

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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	Sample Date	Analyte: Units	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
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	--
MW-12	MW-12-072815	7/28/2015	µg/L	51.3	5 U	22.9	39.2	5 U	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-12B	MW-12B-012616	1/26/2016	µg/L	228	31.4	193	532	1 U	5.4	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-031417-FD	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	--
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	1 U	12.5	6.9	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	--
MW-13B	MW-13B-012816	1/28/2016	µg/L	367	1 U	5.6	59.5	1 U	119	1 U	0.02 U
	MW-13B-D-012816	1/28/2016	µg/L	405	1 U	6.1	59.1	1 U	108	1 U	0.02 U
	MW-13B-113016	11/30/2016	µg/L	550	5.1	21.2	140	5 U	158	7.9	--
	MW-13B-062817	6/28/2017	µg/L	308	3.09	10.3	103	1 U	121	5.13	--
MW-14	MW-14-072815	7/28/2015	µg/L	5 U	5 U	5 U	10 U	5 U	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	--

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	Sample Date	Analyte: Units	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
MW-14B	MW-14B-052516	5/25/2016	µg/L	5	1 U	1 U	4.4	1 U	17.2	1 U	0.02 U
	MW-14B-052516-FD	5/25/2016	µg/L	4.6	1 U	1 U	4.1	1 U	23.6	1 U	0.02 U
	MW-14B-113016	11/30/2016	µg/L	10.5	1 U	1.1	5.5	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-15	MW-15-080415	8/4/2015	µg/L	5 U	5 U	5 U	10 U	5 U	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	188	43.8	--
	MW-15-031417	3/14/2017	µg/L	1,960	72	324	1,320	25 U	161	125 U	--
	MW-15-031417-FD	3/14/2017	µg/L	1,820	61	286	1,120	25 U	153	125 U	--
	MW-15-032017	3/20/2017	µg/L	3,390	103	505	2,460	50 U	194	250 U	--
	MW-15-033117	3/31/2017	µg/L	2,850	65.4	444	1,860	20 U	221	100 U	--
	MW-15-040617	4/6/2017	µg/L	1,790	60.6	465	886	25 U	181	125 U	--
	MW-15-062817	6/28/2017	µg/L	73	25 U	29	110	25 U	91.8	125 U	--
	MW-15-090817	9/8/2017	µg/L	454	24	567	338	5 U	193	25 U	--
MW-15B	MW-15B-080415	8/4/2015	µg/L	5 U	5 U	5 U	10 U	5 U	5 U	5 U	0.019 U
	MW-15B-012816	1/28/2016	µg/L	4.8	1 U	2	3.9	1 U	1 U	1 U	0.02 U
	MW-15B-113016	11/30/2016	µg/L	337	34	565	194	5 U	26.7	5	--
	MW-15B-031417	3/14/2017	µg/L	2,160	248	4,580	1,500	100 U	118	500 U	--
	MW-15B-032017	3/20/2017	µg/L	615	88.6	1,270	555	25 U	67.5	125 U	--
	MW-15B-033117	3/31/2017	µg/L	1,630	205	3,240	1,180	50 U	115	250 U	--
	MW-15B-040617	4/6/2017	µg/L	1,020	132	2,020	789	25 U	84.7	125 U	--
	MW-15B-040617-FD	4/6/2017	µg/L	973	124	1,910	742	25 U	82.9	125 U	--
	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-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	2500 U ^b	--
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
	--	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
	MW-17-090817	9/8/2017	µg/L	11,400	1,240	23,900	8,460	20 U ^b	1,330	201	--

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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	Sample Date	Analyte: Units	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
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	954	112	--
	MW-17B-031317	3/13/2017	µg/L	7,350	770	14,100	4,510	200 U	944	1,000 U	--
	MW-17B-032017	3/20/2017	µg/L	10,700	1,360	21,400	7,910	323	1,210	1,000 U	--
	MW-17B-033117	3/31/2017	µg/L	9,190	900	17,500	5,910	100 U	1,200	500 U	--
	MW-17B-033117FD	3/31/2017	µg/L	9,190	956	18,200	6,330	100 U	1,210	500 U	--
	MW-17B-040617	4/6/2017	µg/L	7,780	833	14,900	5,330	200 U	991	1,000 U	--
	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-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
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	250 U	1,250 U	--
	MW-19-062917	6/29/2017	µg/L	9,410	683	27,200	9,580	200 U ^b	320	1,000 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
	--	6/26/2017	--	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	Sample Date	Analyte: Units	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
MW-21	MW-21-072715	7/27/2015	µg/L	5 U	5 U	5 U	10 U	5 U	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-D-012116	1/21/2016	µg/L	1 U	1 U	1 U	2 U	1 U	1 U	1 U	0.019 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-21-062817-FD	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-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	3.4	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
	MW-22-062917	6/29/2017	µg/L	234	10 U	125	30 U	10 U ^b	10 U	50 U ^b	--
MW-23	MW-23-072715	7/27/2015	µg/L	5 U	5 U	7.5	10 U	5 U	5 U	5 U	0.02 U
	MW-23D-072715	7/27/2015	µg/L	5 U	5 U	5 U	10 U	5 U	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	46.4	5.9	--
	MW-23-031317	3/13/2017	µg/L	709	5 U	23.1	548	5 U	127	25 U	--
	MW-23-032017	3/20/2017	µg/L	642	10 U	12.7	579	10 U	108	50 U	--
	MW-23-032017-FD	3/20/2017	µg/L	620	10 U	12.0	548	10 U	110	50 U	--
	MW-23-033117	3/31/2017	µg/L	685	10 U	16.5	624	10 U	130	50 U	--
	MW-23-040617	4/6/2017	µg/L	432	1 U	6.6	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	1.2	1 U	1 U	3 U	1 U	1 U	5 U	--
	MW-23-080117	8/1/2017	µg/L	132	1 U	6.2	252	1 U	48.1	5 U	--
	MW-23-090717	9/7/2017	µg/L	1,110	9.25	43.1	999	5 U	141	25 U	--
MW-23B	MW-23B-080515	8/5/2015	µg/L	5 U	5 U	7.0	10 U	5 U	5 U	5 U	0.02 U
	MW-23B-012016	1/20/2016	µg/L	1 U	1 U	3.9	7.1	1 U	1 U	1 U	0.02 U
	MW-23B-120216	12/2/2016	µg/L	1 U	1.4	3.5	11.0	1 U	1 U	1.3	--
	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	--

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	Sample Date	Analyte: Units	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
MW-24	MW-24-080515	8/5/2015	µg/L	5 U	5 U	5 U	10 U	5 U	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	1.7	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-24B	MW-24B-080515	8/5/2015	µg/L	5 U	5 U	5 U	10 U	5 U	5 U	5 U	0.02 U
	MW-24B-012616	1/26/2016	µg/L	1 U	1 U	3.3	6.8	1 U	1 U	1 U	0.019 U
	MW-24B-120716	12/7/2016	µg/L	1 U	1 U	2.9	1.6	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-25	MW-25-012716	1/27/2016	µg/L	101	1 U	1 U	115	1 U	1 U	1.8	0.02 U
	MW-25-012716	12/1/2016	µg/L	675	30.2	15.3	619	5 U	5.9	29.7	--
	MW-25-031417	3/14/2017	µg/L	627	28.6	10.1	668	10 U	10 U	50 U	--
	MW-25-032017	3/20/2017	µg/L	604	20.4	20 U	680	20 U	20 U	100 U	--
	MW-25-033117	3/31/2017	µg/L	673	30.1	12	736	10 U	10 U	50 U	--
	MW-25-033117FD	3/31/2017	µg/L	790	35.4	12.5	861	10 U	10 U	50 U	--
	MW-25-040617	4/6/2017	µg/L	558	24.3	10 U	682	10 U	10 U	50 U	--
	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-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-090817-DUP	9/8/2017	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	Sample Date	Analyte: Units	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
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	2.3	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-26-040617-FD	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-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	1.3	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-090717-DUP	9/7/2017	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	--	
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	5.3	9.1	45.7	1 U	1 U	8.9	--
	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	--

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	Sample Date	Analyte: Units	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
MW-28	MW-28-012716	1/27/2016	µg/L	542	430	3,850	3,370	1 U	4.8	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	50 U	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	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	--
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-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	--
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-D-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-31B	MW-31B-051116	5/11/2016	µg/L	1 U	1 U	2.7	1 U	1 U	1 U	1 U	0.02 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	Sample Date	Analyte: Units	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
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-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-34	MW-34-031517	3/15/2017	--	978	33.0	143	218	10 U	157	50 U	--
	MW-34-032017	3/20/2017	µg/L	801	10.0 U	113	305	10 U	149	50 U	--
	MW-34-033117	3/31/2017	µg/L	728	10.0 U	81.4	224	10 U	152	50 U	--
	MW-34-040617	4/6/2017	µg/L	860	1.7	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	9.3	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	--
	MW-34-090817	9/8/2017	µg/L	1,430	6.01	98.0	264	1 U	191	7.33	--
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-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	1.3	1 U	6.5	1.1	1 U	1 U	1 U	--
	MW-36-D-112916	11/29/2016	µg/L	1 U	1 U	5.4	1 U	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-36B	MW-36B-051116	5/11/2016	µg/L	1 U	1 U	7.2	1 U	1 U	1 U	1 U	0.02 U
	MW-36B-112916	11/29/2016	µg/L	1 U	1 U	1.6	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-062917-FD	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	--

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	Sample Date	Analyte: Units	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
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	1.5	5 U	--
MW-38	MW-38-113016	11/30/2016	µg/L	1 U	1 U	1 U	1 U	1 U	5.5	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-38-071717-FD	7/17/2017	µg/L	1 U	1 U	1 U	3 U	1 U	9.78	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-39	MW-39-120716	12/7/2016	µg/L	6,320	682	1,290	3,650	50 U	311	86	--
	MW-39-031417	3/14/2017	µg/L	6,370	431	2,200	3,700	10 U	199	117	--
	MW-39-032017	3/20/2017	µg/L	7,340	704	2,990	4,050	100 U	248	500 U	--
	MW-39-033117	3/31/2017	µg/L	7,540	899	3,140	4,400	50 U	272	250 U	--
	MW-39-040617	4/6/2017	µg/L	6,180	754	3,280	3,860	50 U	257	250 U	--
	MW-39-062817	6/28/2017	µg/L	5,470	58	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-40	MW-40-120716	12/7/2016	µg/L	6,730	588	7,460	3,390	50 U	373	64.8	--
	MW-40-031417	3/14/2017	µg/L	11,600	1,280	16,100	7,260	50 U	691	250 U	--
	MW-40-032017	3/20/2017	µg/L	12,300	1,330	19,600	7,500	200 U	654	1,000 U	--
	MW-40-033117	3/31/2017	µg/L	13,300	1,500	19,500	8,070	100 U	727	500 U	--
	MW-40-040617	4/6/2017	µg/L	10,400	1,180	16,200	6,570	200 U	650	1,000 U	--
	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	--

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	Sample Date	Analyte: Units	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
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	5 U	25 U	--
	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	1 U	3.74	5 U	--
MW-42	MW-42-120716	12/7/2016	µg/L	3.8	1 U	1 U	2.7	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-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	--
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	--

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	Sample Date	Analyte: Units	Benzene	Ethylbenzene	Toluene	Total Xylenes	1,2-DCA	MTBE	Naphthalene	EDB
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
	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	--
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	--
RBSL ^a :		µg/L		5.0	700	1,000	10,000	5.0	40	25	0.05

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 cannot be determined

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.

µg/L = microgram(s) per liter

1,2-DCA = 1,2-dichloroethane

EDB = 1,2-dibromoethane

ID = identification

MTBE = methyl tertiary butyl ether

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

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

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

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	3,758
1/9/2015	Allied Energies	7,825	3/3/2017	A&D Archdale	460
1/12/2015	Allied Energies	6,540	3/8/2017	A&D Archdale	500
1/12/2015	Allied Energies	6,467	3/15/2017	A&D Archdale	4,189
1/13/2015	Allied Energies	6,732	4/3/2017	A&D Archdale	458
1/13/2015	Allied Energies	6,595	4/19/2017	A&D Archdale	927
1/15/2015	Allied Energies	6,500	4/19/2017	A&D Archdale	747
1/22/2015	Allied Energies	5,791	5/22/2017	A&D Archdale	50
1/23/2015	Allied Energies	5,450	6/7/2017	A&D Archdale	658
1/27/2015	Allied Energies	5,791	6/29/2017	A&D Archdale	695
1/27/2015	Allied Energies	5,557	8/25/2017	A&D Archdale	566
1/27/2015	Allied Energies	6,043	9/8/2017	A&D Archdale	99
1/28/2015	Allied Energies	4,411	9/28/2017	Remaining in frac tank (estimated)	6
2/5/2015	Allied Energies	5,513		Total (gallons)	222,974
2/11/2015	Allied Energies	5,732		Total (barrels)	5,309
2/11/2015	Allied Energies	5,606			
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:

1. Two 1,550-gallon poly tanks were mobilized to the site in August 2017, and put into service on September 1, 2017. These will replace the frac tank that has been onsite since January 2017. Gasoline and water are field-segregated using the poly tanks prior to offsite disposal

A&D = A&D Environmental

gal = gallons

PPL = Plantation Pipe Line Company

Table 7. 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 of Zero
			Elevation (ft amsl)	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

ft = feet

ID = identification

NS = not surveyed

SW = surface water

Table 8. 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)	Well Bottom (ft amsl)	Top of Screen or	Bottom of Screen or	Top of Screen or	Bottom of Screen or	Top of Screen or	Bottom of Screen or	Length of Screen or Borehole Interval (ft)
													Borehole Interval (ft BTOC)	Borehole Interval (ft BTOC)	Borehole Interval (ft bgs)	Borehole Interval (ft bgs)	Borehole Interval (ft amsl)	Borehole Interval (ft amsl)	
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
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
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
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
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
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
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
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

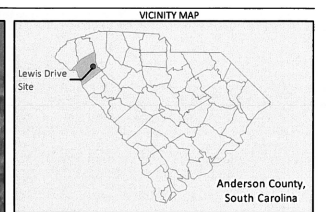
Table 8. Well Construction Information

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 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)
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
 BTOC = below top of casing
 DPT = direct push
 ft = feet
 HSA = hollow-stem auger
 in = inches
 NA = not applicable
 NS = location not surveyed
 RNE = Refusal not encountered
 TOC = top of casing

Figures



- LEGEND**
- ★ Release Point
 - Residuum Monitoring Well
 - ⊕ Bedrock Monitoring Well
 - ⊕ Proposed Shallow Monitoring Well
 - ⊕ Proposed Bedrock Monitoring Well
 - ⊕ Piezometer
 - △ Recovery Sump
 - Recovery Trench Point
 - Recovery Well (4" diameter)
 - Surface Water Sampling Location
 - ◆ Seep Location
 - Vertical Bedrock Sparging Well
 - Vertical Saprolite Sparging Well
 - Pipeline
 - Horizontal Air Sparging Well Riser
 - Horizontal Air Sparging Well Screen
 - ~ National Hydrography Dataset Stream
 - Inspection Route for Sheen or Distressed Vegetation
 - ⊕ Remediation Zone
- Base Map Sources:
 United States Department of Agriculture (USDA), Farm Service Agency (FSA), National Agriculture Imagery Program (NAIP), Published 8/19/2015
 United States Geological Survey (USGS) National Hydrography Dataset (NHD)

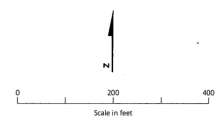
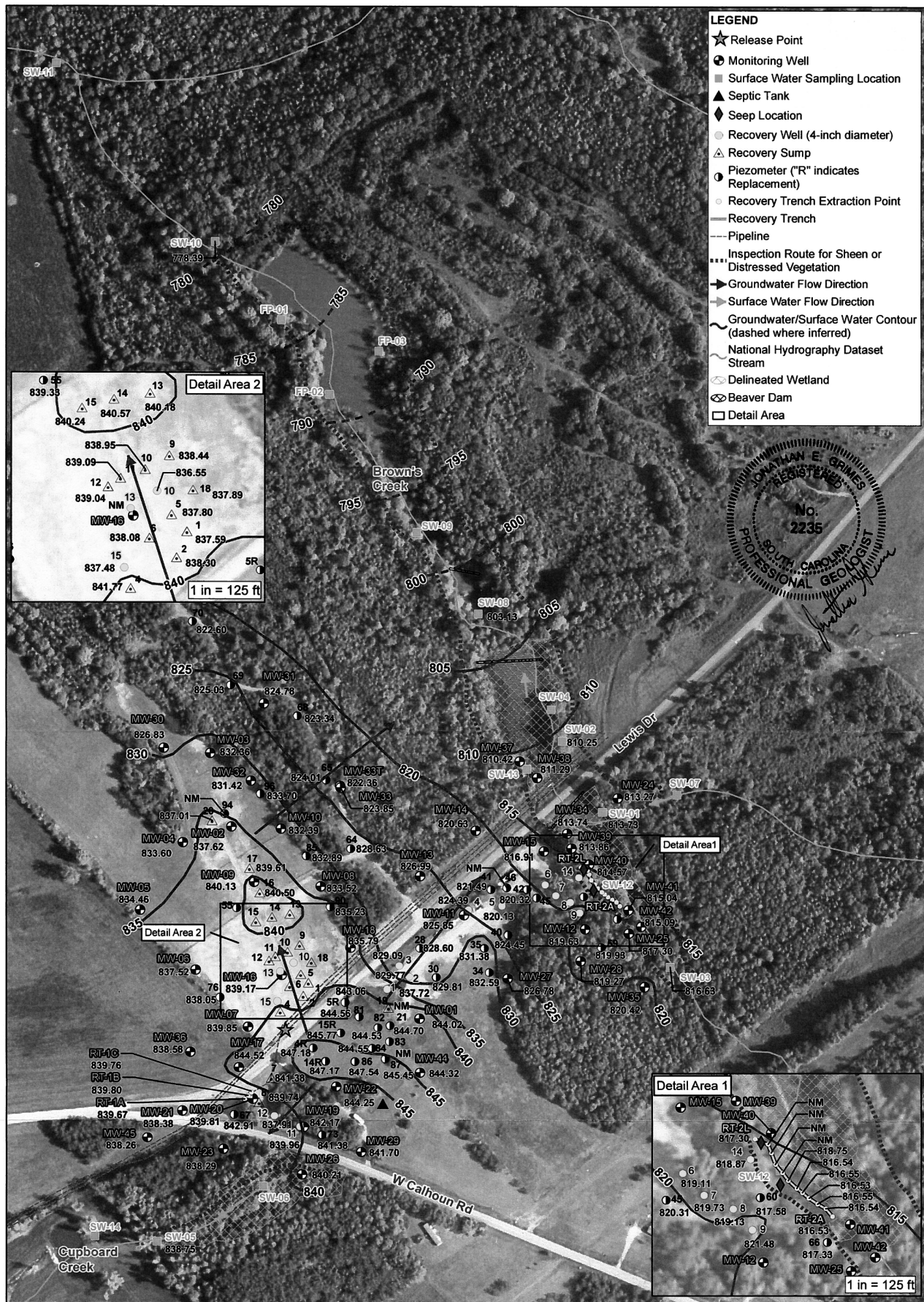


Figure 1. Site Overview
 Lewis Drive Remediation Site
 Belton, South Carolina
 Site ID #18693 "Kinder Morgan Belton Pipeline Release"





814.92 Corrected Groundwater Elevation as of 9/10/2017 (monthly gauging features) and 9/15/2017 (weekly gauging features) in feet above mean sea level

NM Not measured

Base Map Sources:
 *USDA, Farm Service Agency (FSA), National Agriculture Imagery Program (NAIP), Published 8/19/2015
 *United States Geological Survey (USGS) National Hydrography Dataset (NHD)

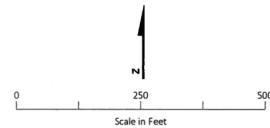


Figure 2A. Residuum Groundwater and Surface Water Elevation Map
 Lewis Drive Remediation Site
 Belton, South Carolina
 Site ID #18693 "Kinder Morgan Belton Pipeline Release"



826.99 Corrected Groundwater Elevation as of
 9/10/2017 (monthly gauging features) and 9/15/2017
 (weekly gauging features) in feet above mean sea level

Base Map Sources:
 *USDA, Farm Service Agency (FSA), National Agriculture
 Imagery Program (NAIP), Published 8/19/2015
 *United States Geological Survey (USGS)
 National Hydrography Dataset (NHD)

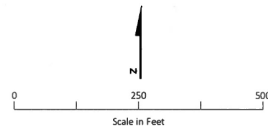


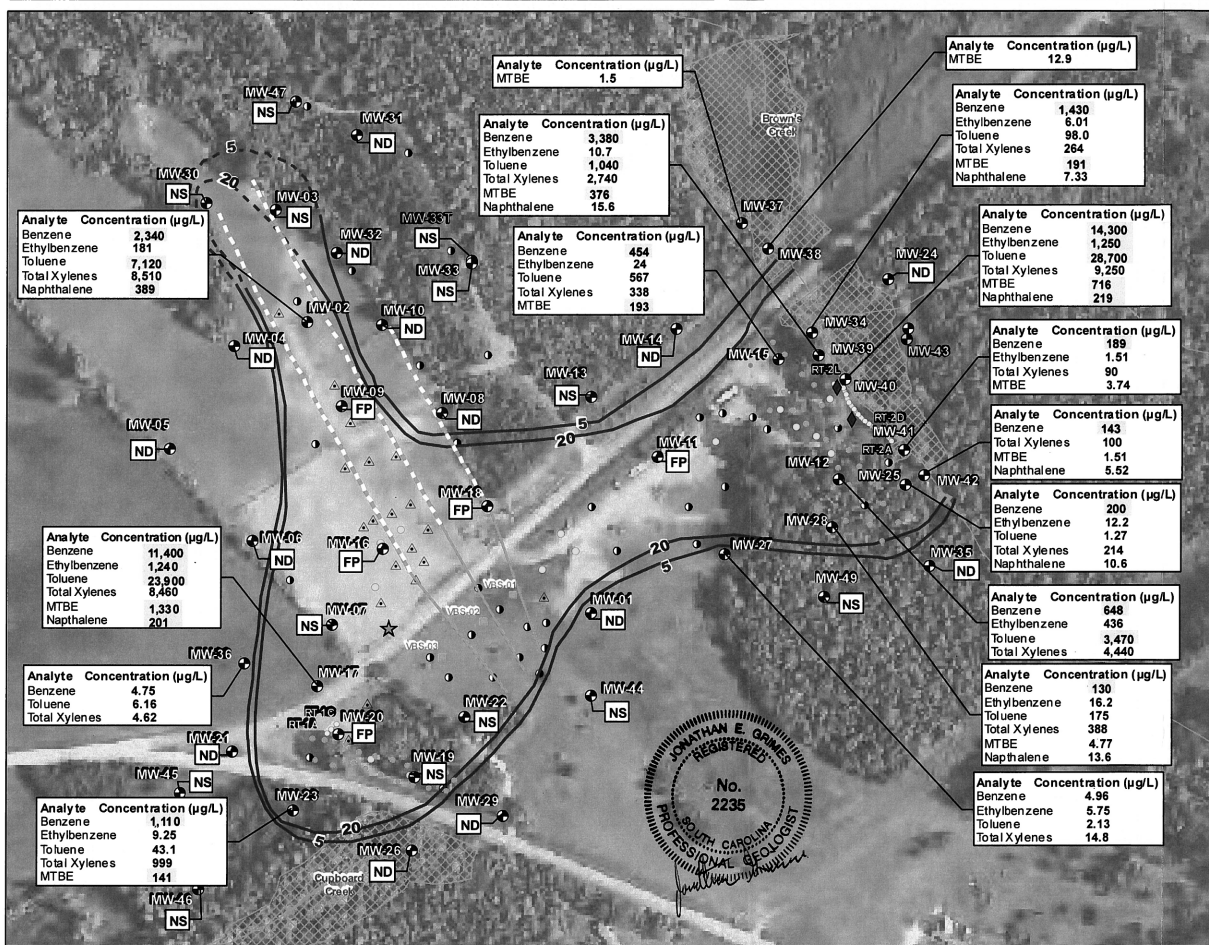
Figure 2B. Bedrock Groundwater Elevation Map
 Lewis Drive Remediation Site
 Belton, South Carolina
 Site ID #18693 "Kinder Morgan Belton Pipeline Release"



- LEGEND**
- ★ Release Point
 - Monitoring Well
 - ◆ Bedrock Monitoring Well
 - ◆ Seep Location
 - ▲ Recovery Pump
 - Piezometer ("R" indicates Replacement)
 - Recovery Well (4-inch diameter)
 - 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 Air Sparging Well Risers
 - Horizontal Air Sparging Well Screen
 - Pipeline
 - National Hydrography Dataset Stream
 - ▨ Delineated Wetland
 - ▧ Beaver Dam
 - ▭ Detail Area
 - Approximate extent of Product > 0.01' Thickness Based on 9/10/2017 and 9/15/2017 Data
 - ▨ Approximate Extent of Product > 0.01' Thickness based on 6/10/2016 data (data not shown)
 - 0.32 Product thickness in feet as of 9/10/2017 (monthly gauging features) and 9/15/2017 (weekly gauging features)
 - NP No product detected
 - NM Not measured
- Base Map Sources:
 *USDA, Farm Service Agency (FSA), National Agriculture Imagery Program (NAIP), Published 8/19/2015
 *United States Geological Survey (USGS) National Hydrography Dataset (NHD)

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
- Proposed Residuum 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 Air Sparging Well
- Horizontal Air Sparging Well Screen
- Dissolved Benzene Plume Extent (µg/L) (Dashed where inferred)
- 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.
 FP = Sample not collected due to the presence of free product in the well.
 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, 2015. Basemap features are approximate.
 *United States Geological Survey (USGS) National Hydrography Dataset (NHD)

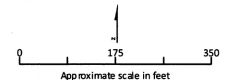
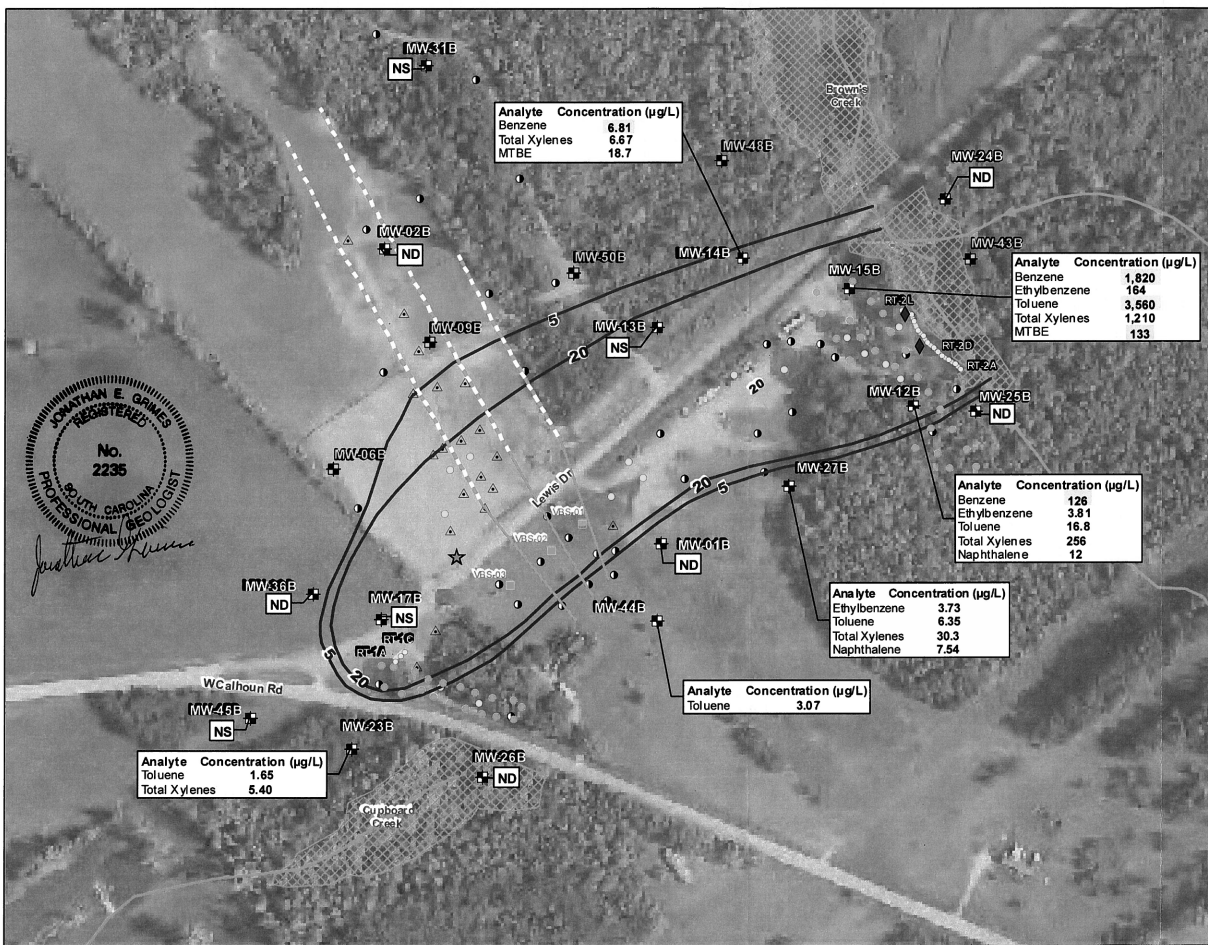


Figure 4A. Groundwater Analytical Results in Residuum Aquifer, September 2017
 Lewis Drive Remediation Site
 Belton, South Carolina
 Site ID #18693 "Kinder Morgan Belton Pipeline Release"





- ### LEGEND
- ★ Release Point
 - ⊕ Bedrock Monitoring Well
 - ⊕ Proposed Bedrock Monitoring Well
 - Piezometer
 - Vertical Bedrock Sparging Well
 - Vertical Saprillite Sparging Well
 - ◆ Seep Location
 - Recovery Well (4" diameter)
 - △ Recovery Sump
 - Recovery Trench Point
 - Recovery Trench
 - Surface Water Flow Direction
 - Horizontal Air Sparging Well Riser
 - - - Horizontal Air 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 = micrograms 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, 2015. Basemap features are approximate.
 *United States Geological Survey (USGS) National Hydrography Dataset (NHD)

Figure 4B. Groundwater Analytical Results in Bedrock Aquifer, September 2017
 Lewis Drive Remediation Site
 Belton, South Carolina
 Site ID #18693 "Kinder Morgan Belton Pipeline Release"

JONATHAN E. GRIMES
 REGISTERED
 No. 2235
 SOUTH CAROLINA
 PROFESSIONAL GEOLOGIST

Well ID	Analyte	Concentration (µg/L)
MW-41E	Benzene	6.81
	Total Xylenes	6.67
	MTBE	18.7
	NS	ND
MW-48B	Benzene	1,820
	Ethylbenzene	164
	Toluene	3,560
	Total Xylenes	1,210
	MTBE	133
MW-12B	Benzene	126
	Ethylbenzene	3.81
	Toluene	16.8
	Total Xylenes	256
	Naphthalene	12
MW-44B	Ethylbenzene	3.73
	Toluene	6.35
	Total Xylenes	30.3
	Naphthalene	7.54
	NS	ND
MW-36B	Toluene	1.65
	Total Xylenes	5.40
	NS	ND
MW-26B	Toluene	3.07
	NS	ND



Attachment A
Surface Water Analytical Laboratory
Reports

July 26, 2017

CH2M Hill- Kinder Morgan- Atlanta, GA

Sample Delivery Group: L923562
Samples Received: 07/19/2017
Project Number: 684910.LD.MR.GW
Description: Lewis Drive Site Surface water event
Site: LEWIS DRIVE
Report To: Bethany Garvey
6600 Peachtree Dunwoody Road
400 Embassy Row - Suite 600
Atlanta, GA 30328

Entire Report Reviewed By:



Jason Romer
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
SW-11-071817 L923562-01	6	
SW-10-071817 L923562-02	7	⁴ Cn
SW-09-071817 L923562-03	8	⁵ Sr
FP-01-071817 L923562-04	9	
FP-02-071817 L923562-05	10	⁶ Qc
SW-08-071817 L923562-06	11	
SW-13-071817 L923562-07	12	⁷ Gl
SW-04-071817 L923562-08	13	
SW-02-071817 L923562-09	14	⁸ Al
SW-01-071817 L923562-10	15	
SW-07-071817 L923562-11	16	⁹ Sc
SW-12-071817 L923562-12	17	
SW-03-071817 L923562-13	18	
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Qc: Quality Control Summary	22	
Volatile Organic Compounds (GC/MS) by Method 8260B	22	
Gl: Glossary of Terms	23	
Al: Accreditations & Locations	24	
Sc: Chain of Custody	25	

SAMPLE SUMMARY

SW-11-071817 L923562-01 GW

Collected by
J.M. M.S. Collected date/time
07/18/17 09:00 Received date/time
07/19/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001538	1	07/22/17 02:27	07/22/17 02:27	BMB

SW-10-071817 L923562-02 GW

Collected by
J.M. M.S. Collected date/time
07/18/17 09:15 Received date/time
07/19/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001538	1	07/22/17 02:43	07/22/17 02:43	BMB

SW-09-071817 L923562-03 GW

Collected by
J.M. M.S. Collected date/time
07/18/17 09:45 Received date/time
07/19/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001538	1	07/22/17 03:00	07/22/17 03:00	BMB

FP-01-071817 L923562-04 GW

Collected by
J.M. M.S. Collected date/time
07/18/17 09:25 Received date/time
07/19/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001538	1	07/22/17 03:16	07/22/17 03:16	BMB

FP-02-071817 L923562-05 GW

Collected by
J.M. M.S. Collected date/time
07/18/17 09:35 Received date/time
07/19/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001538	1	07/22/17 03:33	07/22/17 03:33	BMB

SW-08-071817 L923562-06 GW

Collected by
J.M. M.S. Collected date/time
07/18/17 10:00 Received date/time
07/19/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001538	1	07/22/17 03:49	07/22/17 03:49	BMB

SW-13-071817 L923562-07 GW

Collected by
J.M. M.S. Collected date/time
07/18/17 10:10 Received date/time
07/19/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001538	1	07/22/17 04:06	07/22/17 04:06	BMB

SW-04-071817 L923562-08 GW

Collected by
J.M. M.S. Collected date/time
07/18/17 10:20 Received date/time
07/19/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001538	1	07/22/17 04:22	07/22/17 04:22	BMB

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

SAMPLE SUMMARY

SW-02-071817 L923562-09 GW

Collected by
J.M. M.S. Collected date/time
07/18/17 10:25 Received date/time
07/19/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001538	1	07/22/17 04:39	07/22/17 04:39	BMB

SW-01-071817 L923562-10 GW

Collected by
J.M. M.S. Collected date/time
07/18/17 10:35 Received date/time
07/19/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001538	1	07/22/17 04:55	07/22/17 04:55	BMB

SW-07-071817 L923562-11 GW

Collected by
J.M. M.S. Collected date/time
07/18/17 10:40 Received date/time
07/19/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001538	1	07/22/17 05:12	07/22/17 05:12	BMB

SW-12-071817 L923562-12 GW

Collected by
J.M. M.S. Collected date/time
07/18/17 11:05 Received date/time
07/19/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001538	1	07/22/17 05:28	07/22/17 05:28	BMB

SW-03-071817 L923562-13 GW

Collected by
J.M. M.S. Collected date/time
07/18/17 11:15 Received date/time
07/19/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001538	1	07/22/17 05:45	07/22/17 05:45	BMB

FP-03-071817 L923562-14 GW

Collected by
J.M. M.S. Collected date/time
07/18/17 11:55 Received date/time
07/19/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001538	1	07/22/17 06:01	07/22/17 06:01	BMB

SW-14-071817 L923562-15 GW

Collected by
J.M. M.S. Collected date/time
07/18/17 13:20 Received date/time
07/19/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001538	1	07/22/17 06:18	07/22/17 06:18	BMB

TB-01-071817 L923562-16 GW

Collected by
J.M. M.S. Collected date/time
07/18/17 13:30 Received date/time
07/19/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001538	1	07/22/17 01:05	07/22/17 01:05	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. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Jason Romer
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	07/22/2017 02:27	WG1001538
Toluene	ND		1.00	1	07/22/2017 02:27	WG1001538
Ethylbenzene	ND		1.00	1	07/22/2017 02:27	WG1001538
o-Xylene	ND		1.00	1	07/22/2017 02:27	WG1001538
m&p-Xylene	ND		2.00	1	07/22/2017 02:27	WG1001538
Xylenes, Total	ND		3.00	1	07/22/2017 02:27	WG1001538
Naphthalene	ND		5.00	1	07/22/2017 02:27	WG1001538
(S) Toluene-d8	107		80.0-120		07/22/2017 02:27	WG1001538
(S) Dibromofluoromethane	105		76.0-123		07/22/2017 02:27	WG1001538
(S) a,a,a-Trifluorotoluene	103		80.0-120		07/22/2017 02:27	WG1001538
(S) 4-Bromofluorobenzene	101		80.0-120		07/22/2017 02:27	WG1001538

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	07/22/2017 02:43	WG1001538
Toluene	ND		1.00	1	07/22/2017 02:43	WG1001538
Ethylbenzene	ND		1.00	1	07/22/2017 02:43	WG1001538
o-Xylene	ND		1.00	1	07/22/2017 02:43	WG1001538
m&p-Xylene	ND		2.00	1	07/22/2017 02:43	WG1001538
Xylenes, Total	ND		3.00	1	07/22/2017 02:43	WG1001538
Naphthalene	ND		5.00	1	07/22/2017 02:43	WG1001538
(S) Toluene-d8	105		80.0-120		07/22/2017 02:43	WG1001538
(S) Dibromofluoromethane	105		76.0-123		07/22/2017 02:43	WG1001538
(S) a,a,a-Trifluorotoluene	105		80.0-120		07/22/2017 02:43	WG1001538
(S) 4-Bromofluorobenzene	101		80.0-120		07/22/2017 02:43	WG1001538

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	07/22/2017 03:00	WG1001538
Toluene	ND		1.00	1	07/22/2017 03:00	WG1001538
Ethylbenzene	ND		1.00	1	07/22/2017 03:00	WG1001538
o-Xylene	ND		1.00	1	07/22/2017 03:00	WG1001538
m&p-Xylene	ND		2.00	1	07/22/2017 03:00	WG1001538
Xylenes, Total	ND		3.00	1	07/22/2017 03:00	WG1001538
Naphthalene	ND		5.00	1	07/22/2017 03:00	WG1001538
(S) Toluene-d8	105		80.0-120		07/22/2017 03:00	WG1001538
(S) Dibromofluoromethane	105		76.0-123		07/22/2017 03:00	WG1001538
(S) a,a,a-Trifluorotoluene	104		80.0-120		07/22/2017 03:00	WG1001538
(S) 4-Bromofluorobenzene	103		80.0-120		07/22/2017 03:00	WG1001538

- 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	07/22/2017 03:16	WG1001538
Toluene	ND		1.00	1	07/22/2017 03:16	WG1001538
Ethylbenzene	ND		1.00	1	07/22/2017 03:16	WG1001538
o-Xylene	ND		1.00	1	07/22/2017 03:16	WG1001538
m&p-Xylene	ND		2.00	1	07/22/2017 03:16	WG1001538
Xylenes, Total	ND		3.00	1	07/22/2017 03:16	WG1001538
Naphthalene	ND		5.00	1	07/22/2017 03:16	WG1001538
(S) Toluene-d8	110		80.0-120		07/22/2017 03:16	WG1001538
(S) Dibromofluoromethane	104		76.0-123		07/22/2017 03:16	WG1001538
(S) a,a,a-Trifluorotoluene	105		80.0-120		07/22/2017 03:16	WG1001538
(S) 4-Bromofluorobenzene	103		80.0-120		07/22/2017 03:16	WG1001538

- 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	07/22/2017 03:33	WG1001538
Toluene	ND		1.00	1	07/22/2017 03:33	WG1001538
Ethylbenzene	ND		1.00	1	07/22/2017 03:33	WG1001538
o-Xylene	ND		1.00	1	07/22/2017 03:33	WG1001538
m&p-Xylene	ND		2.00	1	07/22/2017 03:33	WG1001538
Xylenes, Total	ND		3.00	1	07/22/2017 03:33	WG1001538
Naphthalene	ND		5.00	1	07/22/2017 03:33	WG1001538
(S) Toluene-d8	104		80.0-120		07/22/2017 03:33	WG1001538
(S) Dibromofluoromethane	104		76.0-123		07/22/2017 03:33	WG1001538
(S) a,a,a-Trifluorotoluene	104		80.0-120		07/22/2017 03:33	WG1001538
(S) 4-Bromofluorobenzene	101		80.0-120		07/22/2017 03:33	WG1001538

- 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	07/22/2017 03:49	WG1001538
Toluene	ND		1.00	1	07/22/2017 03:49	WG1001538
Ethylbenzene	ND		1.00	1	07/22/2017 03:49	WG1001538
o-Xylene	ND		1.00	1	07/22/2017 03:49	WG1001538
m&p-Xylene	ND		2.00	1	07/22/2017 03:49	WG1001538
Xylenes, Total	ND		3.00	1	07/22/2017 03:49	WG1001538
Naphthalene	ND		5.00	1	07/22/2017 03:49	WG1001538
(S) Toluene-d8	105		80.0-120		07/22/2017 03:49	WG1001538
(S) Dibromofluoromethane	104		76.0-123		07/22/2017 03:49	WG1001538
(S) a,a,a-Trifluorotoluene	103		80.0-120		07/22/2017 03:49	WG1001538
(S) 4-Bromofluorobenzene	104		80.0-120		07/22/2017 03:49	WG1001538

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	07/22/2017 04:06	WG1001538
Toluene	ND		1.00	1	07/22/2017 04:06	WG1001538
Ethylbenzene	ND		1.00	1	07/22/2017 04:06	WG1001538
o-Xylene	ND		1.00	1	07/22/2017 04:06	WG1001538
m&p-Xylene	ND		2.00	1	07/22/2017 04:06	WG1001538
Xylenes, Total	ND		3.00	1	07/22/2017 04:06	WG1001538
Naphthalene	ND		5.00	1	07/22/2017 04:06	WG1001538
(S) Toluene-d8	106		80.0-120		07/22/2017 04:06	WG1001538
(S) Dibromofluoromethane	106		76.0-123		07/22/2017 04:06	WG1001538
(S) a,a,a-Trifluorotoluene	104		80.0-120		07/22/2017 04:06	WG1001538
(S) 4-Bromofluorobenzene	102		80.0-120		07/22/2017 04:06	WG1001538

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	07/22/2017 04:22	WG1001538
Toluene	1.92		1.00	1	07/22/2017 04:22	WG1001538
Ethylbenzene	ND		1.00	1	07/22/2017 04:22	WG1001538
o-Xylene	ND		1.00	1	07/22/2017 04:22	WG1001538
m&p-Xylene	ND		2.00	1	07/22/2017 04:22	WG1001538
Xylenes, Total	ND		3.00	1	07/22/2017 04:22	WG1001538
Naphthalene	ND		5.00	1	07/22/2017 04:22	WG1001538
(S) Toluene-d8	104		80.0-120		07/22/2017 04:22	WG1001538
(S) Dibromofluoromethane	107		76.0-123		07/22/2017 04:22	WG1001538
(S) a,a,a-Trifluorotoluene	105		80.0-120		07/22/2017 04:22	WG1001538
(S) 4-Bromofluorobenzene	103		80.0-120		07/22/2017 04:22	WG1001538

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	07/22/2017 04:39	WG1001538
Toluene	ND		1.00	1	07/22/2017 04:39	WG1001538
Ethylbenzene	ND		1.00	1	07/22/2017 04:39	WG1001538
o-Xylene	ND		1.00	1	07/22/2017 04:39	WG1001538
m&p-Xylene	ND		2.00	1	07/22/2017 04:39	WG1001538
Xylenes, Total	ND		3.00	1	07/22/2017 04:39	WG1001538
Naphthalene	ND		5.00	1	07/22/2017 04:39	WG1001538
(S) Toluene-d8	103		80.0-120		07/22/2017 04:39	WG1001538
(S) Dibromofluoromethane	105		76.0-123		07/22/2017 04:39	WG1001538
(S) a,a,a-Trifluorotoluene	104		80.0-120		07/22/2017 04:39	WG1001538
(S) 4-Bromofluorobenzene	101		80.0-120		07/22/2017 04:39	WG1001538

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	07/22/2017 04:55	WG1001538
Toluene	ND		1.00	1	07/22/2017 04:55	WG1001538
Ethylbenzene	ND		1.00	1	07/22/2017 04:55	WG1001538
o-Xylene	ND		1.00	1	07/22/2017 04:55	WG1001538
m&p-Xylene	ND		2.00	1	07/22/2017 04:55	WG1001538
Xylenes, Total	ND		3.00	1	07/22/2017 04:55	WG1001538
Naphthalene	ND		5.00	1	07/22/2017 04:55	WG1001538
(S) Toluene-d8	106		80.0-120		07/22/2017 04:55	WG1001538
(S) Dibromofluoromethane	106		76.0-123		07/22/2017 04:55	WG1001538
(S) a,a,a-Trifluorotoluene	106		80.0-120		07/22/2017 04:55	WG1001538
(S) 4-Bromofluorobenzene	101		80.0-120		07/22/2017 04:55	WG1001538

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	07/22/2017 05:12	WG1001538
Toluene	ND		1.00	1	07/22/2017 05:12	WG1001538
Ethylbenzene	ND		1.00	1	07/22/2017 05:12	WG1001538
o-Xylene	ND		1.00	1	07/22/2017 05:12	WG1001538
m&p-Xylene	ND		2.00	1	07/22/2017 05:12	WG1001538
Xylenes, Total	ND		3.00	1	07/22/2017 05:12	WG1001538
Naphthalene	ND		5.00	1	07/22/2017 05:12	WG1001538
(S) Toluene-d8	107		80.0-120		07/22/2017 05:12	WG1001538
(S) Dibromofluoromethane	107		76.0-123		07/22/2017 05:12	WG1001538
(S) a,a,a-Trifluorotoluene	105		80.0-120		07/22/2017 05:12	WG1001538
(S) 4-Bromofluorobenzene	102		80.0-120		07/22/2017 05:12	WG1001538

- 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	65.1		1.00	1	07/22/2017 05:28	WG1001538
Toluene	116		1.00	1	07/22/2017 05:28	WG1001538
Ethylbenzene	5.78		1.00	1	07/22/2017 05:28	WG1001538
o-Xylene	24.8		1.00	1	07/22/2017 05:28	WG1001538
m&p-Xylene	43.3		2.00	1	07/22/2017 05:28	WG1001538
Xylenes, Total	68.1		3.00	1	07/22/2017 05:28	WG1001538
Naphthalene	ND		5.00	1	07/22/2017 05:28	WG1001538
(S) Toluene-d8	109		80.0-120		07/22/2017 05:28	WG1001538
(S) Dibromofluoromethane	103		76.0-123		07/22/2017 05:28	WG1001538
(S) a,a,a-Trifluorotoluene	104		80.0-120		07/22/2017 05:28	WG1001538
(S) 4-Bromofluorobenzene	104		80.0-120		07/22/2017 05:28	WG1001538

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	07/22/2017 05:45	WG1001538
Toluene	ND		1.00	1	07/22/2017 05:45	WG1001538
Ethylbenzene	ND		1.00	1	07/22/2017 05:45	WG1001538
o-Xylene	ND		1.00	1	07/22/2017 05:45	WG1001538
m&p-Xylene	ND		2.00	1	07/22/2017 05:45	WG1001538
Xylenes, Total	ND		3.00	1	07/22/2017 05:45	WG1001538
Naphthalene	ND		5.00	1	07/22/2017 05:45	WG1001538
(S) Toluene-d8	107		80.0-120		07/22/2017 05:45	WG1001538
(S) Dibromofluoromethane	105		76.0-123		07/22/2017 05:45	WG1001538
(S) a,a,a-Trifluorotoluene	105		80.0-120		07/22/2017 05:45	WG1001538
(S) 4-Bromofluorobenzene	103		80.0-120		07/22/2017 05:45	WG1001538

- 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	07/22/2017 06:01	WG1001538
Toluene	ND		1.00	1	07/22/2017 06:01	WG1001538
Ethylbenzene	ND		1.00	1	07/22/2017 06:01	WG1001538
o-Xylene	ND		1.00	1	07/22/2017 06:01	WG1001538
m&p-Xylene	ND		2.00	1	07/22/2017 06:01	WG1001538
Xylenes, Total	ND		3.00	1	07/22/2017 06:01	WG1001538
Naphthalene	ND		5.00	1	07/22/2017 06:01	WG1001538
(S) Toluene-d8	106		80.0-120		07/22/2017 06:01	WG1001538
(S) Dibromofluoromethane	106		76.0-123		07/22/2017 06:01	WG1001538
(S) a,a,a-Trifluorotoluene	104		80.0-120		07/22/2017 06:01	WG1001538
(S) 4-Bromofluorobenzene	103		80.0-120		07/22/2017 06:01	WG1001538

- 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	07/22/2017 06:18	WG1001538
Toluene	ND		1.00	1	07/22/2017 06:18	WG1001538
Ethylbenzene	ND		1.00	1	07/22/2017 06:18	WG1001538
o-Xylene	ND		1.00	1	07/22/2017 06:18	WG1001538
m&p-Xylene	ND		2.00	1	07/22/2017 06:18	WG1001538
Xylenes, Total	ND		3.00	1	07/22/2017 06:18	WG1001538
Naphthalene	ND		5.00	1	07/22/2017 06:18	WG1001538
(S) Toluene-d8	107		80.0-120		07/22/2017 06:18	WG1001538
(S) Dibromofluoromethane	104		76.0-123		07/22/2017 06:18	WG1001538
(S) a,a,a-Trifluorotoluene	104		80.0-120		07/22/2017 06:18	WG1001538
(S) 4-Bromofluorobenzene	103		80.0-120		07/22/2017 06:18	WG1001538

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	07/22/2017 01:05	WG1001538
Toluene	ND		1.00	1	07/22/2017 01:05	WG1001538
Ethylbenzene	ND		1.00	1	07/22/2017 01:05	WG1001538
o-Xylene	ND		1.00	1	07/22/2017 01:05	WG1001538
m&p-Xylene	ND		2.00	1	07/22/2017 01:05	WG1001538
Xylenes, Total	ND		3.00	1	07/22/2017 01:05	WG1001538
Naphthalene	ND		5.00	1	07/22/2017 01:05	WG1001538
(S) Toluene-d8	107		80.0-120		07/22/2017 01:05	WG1001538
(S) Dibromofluoromethane	104		76.0-123		07/22/2017 01:05	WG1001538
(S) a,a,a-Trifluorotoluene	103		80.0-120		07/22/2017 01:05	WG1001538
(S) 4-Bromofluorobenzene	104		80.0-120		07/22/2017 01:05	WG1001538

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

WG1001538

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

QUALITY CONTROL SUMMARY

L923562-01,02,03,04,05,06,07,08,09,10,11,12,13,14,15,16

ONE LAB. NATIONWIDE.



Method Blank (MB)

(MB) R3235979-3 07/22/17 00:48

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
Naphthalene	U		1.00	5.00
Toluene	U		0.412	1.00
o-Xylene	U		0.341	1.00
Xylenes, Total	U		1.06	3.00
m&p-Xylenes	U		0.719	2.00
(S) Toluene-d8	105			80.0-120
(S) Dibromofluoromethane	98.4			76.0-123
(S) a,a,a-Trifluorotoluene	102			80.0-120
(S) 4-Bromofluorobenzene	105			80.0-120

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

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

(LCS) R3235979-1 07/21/17 23:59 • (LCSD) R3235979-2 07/22/17 00:15

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	23.8	21.7	95.1	86.8	70.0-130			9.16	20
Ethylbenzene	25.0	23.8	22.3	95.4	89.1	70.0-130			6.77	20
Naphthalene	25.0	23.2	22.9	92.8	91.4	70.0-130			1.54	20
Toluene	25.0	23.2	21.8	92.6	87.3	70.0-130			5.90	20
o-Xylene	25.0	23.7	22.1	94.9	88.3	70.0-130			7.26	20
m&p-Xylenes	50.0	47.5	46.0	94.9	92.0	70.0-130			3.17	20
Xylenes, Total	75.0	71.2	68.1	94.9	90.8	70.0-130			4.45	20
(S) Toluene-d8				105	106	80.0-120				
(S) Dibromofluoromethane				104	101	76.0-123				
(S) a,a,a-Trifluorotoluene				103	101	80.0-120				
(S) 4-Bromofluorobenzene				104	104	80.0-120				

8 Al

9 Sc



Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(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.
Rec.	Recovery.

Qualifier	Description
-----------	-------------

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



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.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

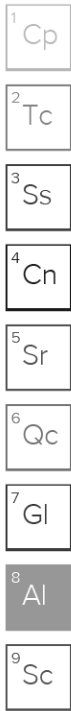
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ^{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

Project Description: **Lewis Drive Site Surface water**

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

Collected by (print):
Justine McLann

Collected by (signature):
Justine McLann

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:

Lab Project #
KINCH2MGA-LEWIS

P.O. #

Quote #

Date Results Needed

Pres Chk

Analysis / Container / Preservative

V8260BTEXNSC 40mlAmb-HCl
V8260BTEXNSC 40mlAmb-HCl-Bik

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# **923562**
G120

Acctnum: **KINCH2MGA**

Template: **T121339**

Prelogin: **P609683**

TSR: **526 - Chris McCord**

PB: **Jb 7-11-17**

Shipped Via: **FedEX Ground**

Remarks Sample # (lab only)

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Pres	Analysis / Container / Preservative	Remarks	Sample # (lab only)
SW-11-071817	G	GW	NA	7/18/17	0900	3	X			
SW-10-071817		GW			0915	3	X			-01
SW-09-071817		GW			0945	3	X			-02
FP-01-071817		GW			0925	3	X			-03
FP-02-071817		GW			0935	3	X			-04
SW-08-071817		GW			1000	3	X			-05
SW-13-071817		GW			1010	3	X			-06
SW-04-071817		GW			1020	3	X			-07
SW-02-071817		GW			1025	3	X			-08
SW-01-071817		GW			1035	3	X			-09
										-10

* 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 # **7372 1966 1693**

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
VDA Zero Headpace: N N
Preservation Correct/Checked: N N

Relinquished by: (Signature) *Justine McLann* Date: **7/18/17** Time: **1530**

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

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

Received by: (Signature) _____ Trip Blank Received: Yes/No HCL / MeOH TBR **2**

Temp: **20.8** °C Bottles Received: **45**

Received for lab by: (Signature) *Mont* Date: **7-19-17** Time: **0945**

If preservation required by Login: Date/Time

Hold: _____ Condition: **NCF / 18**

CH2M Hill- Kinder Morgan- Atlanta, GA

6600 Peachtree Dunwoody Road

Report to:
Bethany Garvey

Project Description: **Lewis Drive Site Surface water**

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

Collected by (print):
J. McCann

Collected by (signature):
Justine McLann

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:
GA

Lab Project #
KINCH2MGA-LEWIS

P.O. #

Quote #

Date Results Needed

Pres Chk

Analysis / Container / Preservative

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# **923562**

Table #

Acctnum: **KINCH2MGA**

Template: **T121339**

Prelogin: **P609683**

TSR: **526 - Chris McCord**

PB: **JH 7-11-17**

Shipped Via: **FedEX Ground**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Analysis / Container / Preservative	Remarks	Sample # (lab only)
SW-07-071817	G	GW	NA	7/18/17	1040	3	X		
SW-12-071817		GW			1105	3	X		-11
SW-03-071817		GW			1115	3	X		-12
FP-03-071817		GW			1155	3	X		-13
SW-14-071817		GW			1320	3	X		-14
TB-01-071817	↓	GW	↓	↓	1330	2	X	X	-15
		GW				2	X	X	-16

* 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

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

Relinquished by: (Signature) <i>Justine McLann</i>	Date: 7/18/17	Time: 1530	Received by: (Signature)	Trip Blank Received: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	HCL / MeOH TBR	2	Bottles Received:	If preservation required by Login: Date/Time
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 20.70 °C	45			
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) <i>Munk</i>	Date: 7-19-17	Time: 845		Hold:	Condition: NCF / <input checked="" type="checkbox"/>

August 10, 2017

CH2M Hill- Kinder Morgan- Atlanta, GA

Sample Delivery Group: L926755
Samples Received: 08/03/2017
Project Number: 684910.LD.MR.GW
Description: Lewis Drive
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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SW10-080217 L926755-02	7	⁴Cn
FP01-080217 L926755-03	8	⁵Sr
FP02-080217 L926755-04	9	
SW09-080217 L926755-05	10	⁶Qc
SW08-080217 L926755-06	11	
SW13-080217 L926755-07	12	⁷Gl
SW04-080217 L926755-08	13	
SW02-080217 L926755-09	14	⁸Al
SW01-080217 L926755-10	15	
SW12-080217 L926755-11	16	⁹Sc
SW03-080217 L926755-12	17	
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SAMPLE SUMMARY



SW11-080217 L926755-01 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1006112	1	08/05/17 08:35	08/05/17 08:35	ACG

Collected by MS / MT Collected date/time 08/02/17 09:05 Received date/time 08/03/17 08:45

1
Cp

SW10-080217 L926755-02 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1006112	1	08/05/17 10:05	08/05/17 10:05	ACG

Collected by MS / MT Collected date/time 08/02/17 09:15 Received date/time 08/03/17 08:45

2
Tc

3
Ss

4
Cn

5
Sr

FP01-080217 L926755-03 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1006112	1	08/05/17 10:23	08/05/17 10:23	ACG

Collected by MS / MT Collected date/time 08/02/17 09:20 Received date/time 08/03/17 08:45

6
Qc

7
Gl

FP02-080217 L926755-04 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1006112	1	08/05/17 10:41	08/05/17 10:41	ACG

Collected by MS / MT Collected date/time 08/02/17 09:25 Received date/time 08/03/17 08:45

8
Al

9
Sc

SW09-080217 L926755-05 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1006112	1	08/05/17 10:59	08/05/17 10:59	ACG

Collected by MS / MT Collected date/time 08/02/17 09:30 Received date/time 08/03/17 08:45

SW08-080217 L926755-06 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1006112	1	08/05/17 11:17	08/05/17 11:17	ACG

Collected by MS / MT Collected date/time 08/02/17 09:35 Received date/time 08/03/17 08:45

SW13-080217 L926755-07 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1006112	1	08/05/17 11:35	08/05/17 11:35	ACG

Collected by MS / MT Collected date/time 08/02/17 09:45 Received date/time 08/03/17 08:45

SW04-080217 L926755-08 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1006112	1	08/05/17 11:53	08/05/17 11:53	ACG

Collected by MS / MT Collected date/time 08/02/17 09:50 Received date/time 08/03/17 08:45

SAMPLE SUMMARY

SW02-080217 L926755-09 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by MS / MT				Collected date/time 08/02/17 09:55	Received date/time 08/03/17 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1006112	1	08/05/17 12:11	08/05/17 12:11	ACG

SW01-080217 L926755-10 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by MS / MT				Collected date/time 08/02/17 10:05	Received date/time 08/03/17 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1006112	1	08/05/17 12:29	08/05/17 12:29	ACG

SW12-080217 L926755-11 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by MS / MT				Collected date/time 08/02/17 10:15	Received date/time 08/03/17 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1006112	1	08/05/17 12:46	08/05/17 12:46	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1006112	10	08/07/17 16:38	08/07/17 16:38	DWR

SW03-080217 L926755-12 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by MS / MT				Collected date/time 08/02/17 10:20	Received date/time 08/03/17 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1006112	1	08/05/17 13:04	08/05/17 13:04	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1006112	1	08/07/17 16:56	08/07/17 16:56	DWR

SW14-080217 L926755-16 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by MS / MT				Collected date/time 08/02/17 11:25	Received date/time 08/03/17 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1006112	1	08/05/17 13:22	08/05/17 13:22	ACG

TB-01-080217 L926755-17 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by MS / MT				Collected date/time 08/02/17 13:28	Received date/time 08/03/17 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1006112	1	08/05/17 02:10	08/05/17 02:10	ACG

FP03-080217 L926755-18 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Collected by MS / MT				Collected date/time 08/02/17 10:50	Received date/time 08/03/17 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1006112	1	08/05/17 13:39	08/05/17 13:39	ACG

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. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

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	08/05/2017 08:35	WG1006112
Toluene	ND		1.00	1	08/05/2017 08:35	WG1006112
Ethylbenzene	ND		1.00	1	08/05/2017 08:35	WG1006112
o-Xylene	ND		1.00	1	08/05/2017 08:35	WG1006112
m&p-Xylene	ND		2.00	1	08/05/2017 08:35	WG1006112
Xylenes, Total	ND		3.00	1	08/05/2017 08:35	WG1006112
Naphthalene	ND		5.00	1	08/05/2017 08:35	WG1006112
(S) Toluene-d8	104		80.0-120		08/05/2017 08:35	WG1006112
(S) Dibromofluoromethane	99.1		76.0-123		08/05/2017 08:35	WG1006112
(S) a,a,a-Trifluorotoluene	102		80.0-120		08/05/2017 08:35	WG1006112
(S) 4-Bromofluorobenzene	119		80.0-120		08/05/2017 08:35	WG1006112

- 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	08/05/2017 10:05	WG1006112
Toluene	ND		1.00	1	08/05/2017 10:05	WG1006112
Ethylbenzene	ND		1.00	1	08/05/2017 10:05	WG1006112
o-Xylene	ND		1.00	1	08/05/2017 10:05	WG1006112
m&p-Xylene	ND		2.00	1	08/05/2017 10:05	WG1006112
Xylenes, Total	ND		3.00	1	08/05/2017 10:05	WG1006112
Naphthalene	ND		5.00	1	08/05/2017 10:05	WG1006112
(S) Toluene-d8	106		80.0-120		08/05/2017 10:05	WG1006112
(S) Dibromofluoromethane	97.3		76.0-123		08/05/2017 10:05	WG1006112
(S) a,a,a-Trifluorotoluene	98.6		80.0-120		08/05/2017 10:05	WG1006112
(S) 4-Bromofluorobenzene	118		80.0-120		08/05/2017 10:05	WG1006112

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	08/05/2017 10:23	WG1006112
Toluene	ND		1.00	1	08/05/2017 10:23	WG1006112
Ethylbenzene	ND		1.00	1	08/05/2017 10:23	WG1006112
o-Xylene	ND		1.00	1	08/05/2017 10:23	WG1006112
m&p-Xylene	ND		2.00	1	08/05/2017 10:23	WG1006112
Xylenes, Total	ND		3.00	1	08/05/2017 10:23	WG1006112
Naphthalene	ND		5.00	1	08/05/2017 10:23	WG1006112
(S) Toluene-d8	105		80.0-120		08/05/2017 10:23	WG1006112
(S) Dibromofluoromethane	100		76.0-123		08/05/2017 10:23	WG1006112
(S) a,a,a-Trifluorotoluene	98.7		80.0-120		08/05/2017 10:23	WG1006112
(S) 4-Bromofluorobenzene	118		80.0-120		08/05/2017 10:23	WG1006112

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	08/05/2017 10:41	WG1006112
Toluene	ND		1.00	1	08/05/2017 10:41	WG1006112
Ethylbenzene	ND		1.00	1	08/05/2017 10:41	WG1006112
o-Xylene	ND		1.00	1	08/05/2017 10:41	WG1006112
m&p-Xylene	ND		2.00	1	08/05/2017 10:41	WG1006112
Xylenes, Total	ND		3.00	1	08/05/2017 10:41	WG1006112
Naphthalene	ND		5.00	1	08/05/2017 10:41	WG1006112
(S) Toluene-d8	104		80.0-120		08/05/2017 10:41	WG1006112
(S) Dibromofluoromethane	101		76.0-123		08/05/2017 10:41	WG1006112
(S) a,a,a-Trifluorotoluene	99.2		80.0-120		08/05/2017 10:41	WG1006112
(S) 4-Bromofluorobenzene	117		80.0-120		08/05/2017 10:41	WG1006112

- 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	08/05/2017 10:59	WG1006112
Toluene	ND		1.00	1	08/05/2017 10:59	WG1006112
Ethylbenzene	ND		1.00	1	08/05/2017 10:59	WG1006112
o-Xylene	ND		1.00	1	08/05/2017 10:59	WG1006112
m&p-Xylene	ND		2.00	1	08/05/2017 10:59	WG1006112
Xylenes, Total	ND		3.00	1	08/05/2017 10:59	WG1006112
Naphthalene	ND		5.00	1	08/05/2017 10:59	WG1006112
(S) Toluene-d8	104		80.0-120		08/05/2017 10:59	WG1006112
(S) Dibromofluoromethane	99.6		76.0-123		08/05/2017 10:59	WG1006112
(S) a,a,a-Trifluorotoluene	99.6		80.0-120		08/05/2017 10:59	WG1006112
(S) 4-Bromofluorobenzene	118		80.0-120		08/05/2017 10:59	WG1006112

- 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	08/05/2017 11:17	WG1006112
Toluene	ND		1.00	1	08/05/2017 11:17	WG1006112
Ethylbenzene	ND		1.00	1	08/05/2017 11:17	WG1006112
o-Xylene	ND		1.00	1	08/05/2017 11:17	WG1006112
m&p-Xylene	ND		2.00	1	08/05/2017 11:17	WG1006112
Xylenes, Total	ND		3.00	1	08/05/2017 11:17	WG1006112
Naphthalene	ND		5.00	1	08/05/2017 11:17	WG1006112
(S) Toluene-d8	104		80.0-120		08/05/2017 11:17	WG1006112
(S) Dibromofluoromethane	100		76.0-123		08/05/2017 11:17	WG1006112
(S) a,a,a-Trifluorotoluene	98.7		80.0-120		08/05/2017 11:17	WG1006112
(S) 4-Bromofluorobenzene	117		80.0-120		08/05/2017 11:17	WG1006112

- 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	08/05/2017 11:35	WG1006112
Toluene	ND		1.00	1	08/05/2017 11:35	WG1006112
Ethylbenzene	ND		1.00	1	08/05/2017 11:35	WG1006112
o-Xylene	ND		1.00	1	08/05/2017 11:35	WG1006112
m&p-Xylene	ND		2.00	1	08/05/2017 11:35	WG1006112
Xylenes, Total	ND		3.00	1	08/05/2017 11:35	WG1006112
Naphthalene	ND		5.00	1	08/05/2017 11:35	WG1006112
(S) Toluene-d8	103		80.0-120		08/05/2017 11:35	WG1006112
(S) Dibromofluoromethane	98.5		76.0-123		08/05/2017 11:35	WG1006112
(S) a,a,a-Trifluorotoluene	102		80.0-120		08/05/2017 11:35	WG1006112
(S) 4-Bromofluorobenzene	117		80.0-120		08/05/2017 11:35	WG1006112

- 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	08/05/2017 11:53	WG1006112
Toluene	ND		1.00	1	08/05/2017 11:53	WG1006112
Ethylbenzene	ND		1.00	1	08/05/2017 11:53	WG1006112
o-Xylene	ND		1.00	1	08/05/2017 11:53	WG1006112
m&p-Xylene	ND		2.00	1	08/05/2017 11:53	WG1006112
Xylenes, Total	ND		3.00	1	08/05/2017 11:53	WG1006112
Naphthalene	ND		5.00	1	08/05/2017 11:53	WG1006112
(S) Toluene-d8	105		80.0-120		08/05/2017 11:53	WG1006112
(S) Dibromofluoromethane	99.9		76.0-123		08/05/2017 11:53	WG1006112
(S) a,a,a-Trifluorotoluene	100		80.0-120		08/05/2017 11:53	WG1006112
(S) 4-Bromofluorobenzene	117		80.0-120		08/05/2017 11:53	WG1006112

- 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	08/05/2017 12:11	WG1006112
Toluene	ND		1.00	1	08/05/2017 12:11	WG1006112
Ethylbenzene	ND		1.00	1	08/05/2017 12:11	WG1006112
o-Xylene	ND		1.00	1	08/05/2017 12:11	WG1006112
m&p-Xylene	ND		2.00	1	08/05/2017 12:11	WG1006112
Xylenes, Total	ND		3.00	1	08/05/2017 12:11	WG1006112
Naphthalene	ND		5.00	1	08/05/2017 12:11	WG1006112
(S) Toluene-d8	103		80.0-120		08/05/2017 12:11	WG1006112
(S) Dibromofluoromethane	100		76.0-123		08/05/2017 12:11	WG1006112
(S) a,a,a-Trifluorotoluene	98.8		80.0-120		08/05/2017 12:11	WG1006112
(S) 4-Bromofluorobenzene	116		80.0-120		08/05/2017 12:11	WG1006112

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	08/05/2017 12:29	WG1006112
Toluene	ND		1.00	1	08/05/2017 12:29	WG1006112
Ethylbenzene	ND		1.00	1	08/05/2017 12:29	WG1006112
o-Xylene	ND		1.00	1	08/05/2017 12:29	WG1006112
m&p-Xylene	ND		2.00	1	08/05/2017 12:29	WG1006112
Xylenes, Total	ND		3.00	1	08/05/2017 12:29	WG1006112
Naphthalene	ND		5.00	1	08/05/2017 12:29	WG1006112
(S) Toluene-d8	104		80.0-120		08/05/2017 12:29	WG1006112
(S) Dibromofluoromethane	99.0		76.0-123		08/05/2017 12:29	WG1006112
(S) a,a,a-Trifluorotoluene	98.9		80.0-120		08/05/2017 12:29	WG1006112
(S) 4-Bromofluorobenzene	118		80.0-120		08/05/2017 12:29	WG1006112

- 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	125		1.00	1	08/05/2017 12:46	WG1006112
Toluene	204		10.0	10	08/07/2017 16:38	WG1006112
Ethylbenzene	14.7		1.00	1	08/05/2017 12:46	WG1006112
o-Xylene	67.0		1.00	1	08/05/2017 12:46	WG1006112
m&p-Xylene	102		2.00	1	08/05/2017 12:46	WG1006112
Xylenes, Total	169		3.00	1	08/05/2017 12:46	WG1006112
Naphthalene	ND		5.00	1	08/05/2017 12:46	WG1006112
(S) Toluene-d8	105		80.0-120		08/07/2017 16:38	WG1006112
(S) Toluene-d8	102		80.0-120		08/05/2017 12:46	WG1006112
(S) Dibromofluoromethane	94.5		76.0-123		08/07/2017 16:38	WG1006112
(S) Dibromofluoromethane	91.1		76.0-123		08/05/2017 12:46	WG1006112
(S) a,a,a-Trifluorotoluene	99.6		80.0-120		08/07/2017 16:38	WG1006112
(S) a,a,a-Trifluorotoluene	98.0		80.0-120		08/05/2017 12:46	WG1006112
(S) 4-Bromofluorobenzene	120		80.0-120		08/07/2017 16:38	WG1006112
(S) 4-Bromofluorobenzene	121	J1	80.0-120		08/05/2017 12:46	WG1006112

- 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	
Benzene	ND		1.00	1	08/05/2017 13:04	WG1006112
Toluene	ND		1.00	1	08/07/2017 16:56	WG1006112
Ethylbenzene	ND		1.00	1	08/05/2017 13:04	WG1006112
o-Xylene	ND		1.00	1	08/05/2017 13:04	WG1006112
m&p-Xylene	ND		2.00	1	08/05/2017 13:04	WG1006112
Xylenes, Total	ND		3.00	1	08/05/2017 13:04	WG1006112
Naphthalene	ND		5.00	1	08/05/2017 13:04	WG1006112
(S) Toluene-d8	103		80.0-120		08/05/2017 13:04	WG1006112
(S) Toluene-d8	107		80.0-120		08/07/2017 16:56	WG1006112
(S) Dibromofluoromethane	98.3		76.0-123		08/05/2017 13:04	WG1006112
(S) Dibromofluoromethane	97.6		76.0-123		08/07/2017 16:56	WG1006112
(S) a,a,a-Trifluorotoluene	100		80.0-120		08/05/2017 13:04	WG1006112
(S) a,a,a-Trifluorotoluene	99.6		80.0-120		08/07/2017 16:56	WG1006112
(S) 4-Bromofluorobenzene	117		80.0-120		08/07/2017 16:56	WG1006112
(S) 4-Bromofluorobenzene	118		80.0-120		08/05/2017 13:04	WG1006112

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	08/05/2017 13:22	WG1006112
Toluene	ND		1.00	1	08/05/2017 13:22	WG1006112
Ethylbenzene	ND		1.00	1	08/05/2017 13:22	WG1006112
o-Xylene	ND		1.00	1	08/05/2017 13:22	WG1006112
m&p-Xylene	ND		2.00	1	08/05/2017 13:22	WG1006112
Xylenes, Total	ND		3.00	1	08/05/2017 13:22	WG1006112
Naphthalene	ND		5.00	1	08/05/2017 13:22	WG1006112
(S) Toluene-d8	102		80.0-120		08/05/2017 13:22	WG1006112
(S) Dibromofluoromethane	98.9		76.0-123		08/05/2017 13:22	WG1006112
(S) a,a,a-Trifluorotoluene	99.1		80.0-120		08/05/2017 13:22	WG1006112
(S) 4-Bromofluorobenzene	121	J1	80.0-120		08/05/2017 13:22	WG1006112

- 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	08/05/2017 02:10	WG1006112
Toluene	ND		1.00	1	08/05/2017 02:10	WG1006112
Ethylbenzene	ND		1.00	1	08/05/2017 02:10	WG1006112
o-Xylene	ND		1.00	1	08/05/2017 02:10	WG1006112
m&p-Xylene	ND		2.00	1	08/05/2017 02:10	WG1006112
Xylenes, Total	ND		3.00	1	08/05/2017 02:10	WG1006112
Naphthalene	ND		5.00	1	08/05/2017 02:10	WG1006112
(S) Toluene-d8	102		80.0-120		08/05/2017 02:10	WG1006112
(S) Dibromofluoromethane	98.9		76.0-123		08/05/2017 02:10	WG1006112
(S) a,a,-Trifluorotoluene	99.8		80.0-120		08/05/2017 02:10	WG1006112
(S) 4-Bromofluorobenzene	118		80.0-120		08/05/2017 02:10	WG1006112

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	08/05/2017 13:39	WG1006112
Toluene	ND		1.00	1	08/05/2017 13:39	WG1006112
Ethylbenzene	ND		1.00	1	08/05/2017 13:39	WG1006112
o-Xylene	ND		1.00	1	08/05/2017 13:39	WG1006112
m&p-Xylene	ND		2.00	1	08/05/2017 13:39	WG1006112
Xylenes, Total	ND		3.00	1	08/05/2017 13:39	WG1006112
Naphthalene	ND		5.00	1	08/05/2017 13:39	WG1006112
(S) Toluene-d8	106		80.0-120		08/05/2017 13:39	WG1006112
(S) Dibromofluoromethane	99.2		76.0-123		08/05/2017 13:39	WG1006112
(S) a,a,a-Trifluorotoluene	100		80.0-120		08/05/2017 13:39	WG1006112
(S) 4-Bromofluorobenzene	115		80.0-120		08/05/2017 13:39	WG1006112

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

WG1006112

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

QUALITY CONTROL SUMMARY

L926755-01,02,03,04,05,06,07,08,09,10,11,12,16,17,18

ONE LAB. NATIONWIDE.



Method Blank (MB)

(MB) R3238928-2 08/05/17 01:52

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
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	104			80.0-120
(S) Dibromofluoromethane	100			76.0-123
(S) a,a,a-Trifluorotoluene	98.4			80.0-120
(S) 4-Bromofluorobenzene	117			80.0-120

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

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

(LCS) R3238928-1 08/05/17 00:40 • (LCSD) R3238928-3 08/05/17 08:54

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	26.1	26.3	104	105	70.0-130			0.630	20
Ethylbenzene	25.0	22.8	22.8	91.3	91.0	70.0-130			0.300	20
Naphthalene	25.0	23.5	20.8	94.2	83.1	70.0-130			12.5	20
Toluene	25.0	24.1	24.0	96.3	96.0	70.0-130			0.330	20
Xylenes, Total	75.0	68.4	69.2	91.2	92.3	70.0-130			1.16	20
o-Xylene	25.0	22.4	22.8	89.7	91.1	70.0-130			1.49	20
m&p-Xylenes	50.0	46.0	46.4	92.0	92.8	70.0-130			0.840	20
(S) Toluene-d8				102	102	80.0-120				
(S) Dibromofluoromethane				99.9	102	76.0-123				
(S) a,a,a-Trifluorotoluene				96.4	95.9	80.0-120				
(S) 4-Bromofluorobenzene				118	119	80.0-120				

8 Al

9 Sc



Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(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.
Rec.	Recovery.

Qualifier	Description
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

ACCREDITATIONS & LOCATIONS



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.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey-NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio-VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

Third Party & Federal Accreditations

A2LA - ISO 17025	1461.01	AIHA-LAP,LLC	100789
A2LA - ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ^{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.**



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

CH2M Hill- Kinder Morgan- Atlanta, GA

6600 Peachtree Dunwoody Road

Report to:
Bethany Garvey

Project Description: **Lewis Drive Site Surface water**

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

Collected by (print):
MAAS + MIKE T.

Collected by (signature):

Immediately Packed on Ice **N X 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:

Lab Project #
KINCH2MGA-LEWIS

P.O. #

Quote #

Date Results Needed

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 2



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# **926755**

B064

Account: **KINCH2MGA**

Template: **T121697**

Prelogin: **P611254**

TSR: **526 - Chris McCord**

PB: **7-27-17**

Shipped Via: **FedEX Ground**

Remarks Sample # (lab only)

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Ctrs	Analysis / Container / Preservative	Remarks	Sample # (lab only)
SW11-080217	G	GW	NA	08-02-17	0905	3	X		01
SW10-080217		GW			0915	3	X		02
FP01-080217		GW			0920	3	X		03
FP02-080217		GW			0925	3	X		04
SW09-080217		GW			0930	3	X		05
SW08-080217		GW			0935	3	X		06
SW13-080217		GW			0945	3	X		07
SW04-080217		GW			0950	3	X		08
SW02-080217		GW			0955	3	X		09
SW01-080217	✓	GW	✓		1005	3	X		10

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

Remarks:

Samples returned via:
UPS FedEx Courier



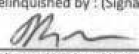
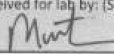
Tracking #

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 Headpace: Y N
Preservation Correct/Checked: Y N

Relinquished by: (Signature) <i>[Signature]</i>	Date: 08-02-17	Time: 1351	Received by: (Signature) <i>[Signature]</i>	Trip Blank Received: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No NO / MeOH TBR	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 1.8°C Bottles Received: 10/11 51	If preservation required by Login: Date/Time
Relinquished by: (Signature)	Date:	Time:	Received for Lab by: (Signature) <i>[Signature]</i>	Date: 8-3-17 Time: 845	Hold: Condition: NCF

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 Site Surface water		City/State Collected: 		Lab Project # KINCH2MGA-LEWIS		Analysis / Container / Preservative V8260BTEXNSC 40mlAmb-HCl V8260BTEXNSC- TB 40mlAmb-HCl-Bik		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 	
Phone: 770-604-9182 Fax:		Client Project # 684910.LD.MR.GW		Site/Facility ID # Lewis Drive		P.O. # 		Quote # 		Date Results Needed 		L# 926753	
Collected by (print): Matt S. + Mike T.		Collected by (signature): 		Rush? (Lab MUST Be Notified) <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		Immediately Packed on Ice: N X Y		Table # 		Acctnum: KINCH2MGA Template: T121697 Prelogin: P611254 TSR: 526 - Chris McCord PB: 7-27-17		Shipped Via: FedEX Ground	
Sample ID		Comp/Grab	Matrix *	Depth	Date	Time	No. of C-irrs						
SW12-080217		G	GW	NA	08-02-17	1015	3	X					4
SW03-080217		↓	GW			1020	3	X					12
MW28-080217			GW			1035	3	X					17
MW-30-080217			GW			1105	3	X					11
MW-45-080217			GW			1115	3	X					15
SW4-080217			GW			1125	3	X					16
TRIP BLANK TB-01-080217		↓	GW	↓	↓	1328	1		X				17
FP03-080217		G	GW	NA	08-02-17	1050	3	X					18
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other		Remarks: 		Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier		Tracking # 		pH _____ Temp _____ Flow _____ Other _____		Sample Receipt Checklist CDC Seal Present/Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N CDC 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) 		Date: 08-02-17	Time: 1351	Received by: (Signature) 		Trip Blank Received: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No MeOH TBR							
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)		Temp: 1.8°C Bottles Received: 7011 51						If preservation required by Login: Date/Time	
Relinquished by: (Signature)		Date:	Time:	Received for lab by: (Signature) 		Date: 08-3-17	Time: 845	Hold:				Condition: <input checked="" type="checkbox"/> NCF <input type="checkbox"/> OK	

**ESC Lab Sciences
Non-Conformance Form**

Login #926755	Client: KINCH2MGA	Date: 8/3	Evaluated by: Matt S
---------------	-------------------	-----------	----------------------

Non-Conformance (check applicable items)

Sample Integrity	Chain of Custody Clarification	
Parameter(s) past holding time	x Login Clarification Needed	If Broken Container:
Improper temperature	Chain of custody is incomplete	Insufficient packing material around container
Improper container type	Please specify Metals requested.	Insufficient packing material inside cooler
Improper preservation	Please specify TCLP requested.	Improper handling by carrier (FedEx / UPS / Courier)
Insufficient sample volume.	Received additional samples not listed on coc.	Sample was frozen
Sample is biphasic.	Sample ids on containers do not match ids on coc	Container lid not intact
Vials received with headspace.	Trip Blank not received.	If no Chain of Custody:
Broken container	Client did not "X" analysis.	Received by:
Broken container:	Chain of Custody is missing	Date/Time:
Sufficient sample remains		Temp./Cont. Rec./pH:
		Carrier:
		Tracking#

Login Comments:

1. Received SW02-080217 @ 1020 instead of SW03-080217. Collected at same time and date. Logged per COC
2. Received SW04-080217 @ 0955 instead of SW02-080217. Collected same date and time. Logged per COC

Client informed by:	Call	x	Email	Voice Mail	Date: 8/4/17	Time: 12:06
TSR Initials: CM	Client Contact: Bethany Garvey					

Login Instructions:

Logged per COC is correct.

This E-mail and any attached files are confidential, and may be copyright protected. If you are not the addressee, any dissemination of this communication is strictly prohibited. If you have received this message in error, please contact the sender immediately and delete/destroy all information received.

September 07, 2017

CH2M Hill- Kinder Morgan- Atlanta, GA

Sample Delivery Group: L934050
Samples Received: 09/06/2017
Project Number: 684910
Description: Lewis Drive Site Surface water event

Report To: Bethany Garvey
6600 Peachtree Dunwoody Road
400 Embassy Row - Suite 600
Atlanta, GA 30328

Entire Report Reviewed By:

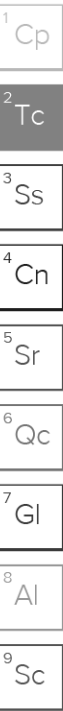


Chris McCord
Technical Service Representative

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



SW01-090517 L934050-01 GW				Collected by Melissa Warren	Collected date/time 09/05/17 15:30	Received date/time 09/06/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1017230	1	09/06/17 16:23	09/06/17 16:23	DWR	
FP01-090517 L934050-02 GW				Collected by Melissa Warren	Collected date/time 09/05/17 12:10	Received date/time 09/06/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1017230	1	09/06/17 16:43	09/06/17 16:43	DWR	
FP02-090517 L934050-03 GW				Collected by Melissa Warren	Collected date/time 09/05/17 12:20	Received date/time 09/06/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1017230	1	09/06/17 17:02	09/06/17 17:02	DWR	
FP03-090517 L934050-04 GW				Collected by Melissa Warren	Collected date/time 09/05/17 14:00	Received date/time 09/06/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1017230	1	09/06/17 18:25	09/06/17 18:25	DWR	
SW02-090517 L934050-05 GW				Collected by Melissa Warren	Collected date/time 09/05/17 15:20	Received date/time 09/06/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1017230	1	09/06/17 18:44	09/06/17 18:44	DWR	
SW03-090517 L934050-06 GW				Collected by Melissa Warren	Collected date/time 09/05/17 15:45	Received date/time 09/06/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1017230	1	09/06/17 19:03	09/06/17 19:03	DWR	
SW04-090517 L934050-07 GW				Collected by Melissa Warren	Collected date/time 09/05/17 15:15	Received date/time 09/06/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1017230	1	09/06/17 19:52	09/06/17 19:52	DWR	
SW08-090517 L934050-08 GW				Collected by Melissa Warren	Collected date/time 09/05/17 12:45	Received date/time 09/06/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1017230	1	09/06/17 20:12	09/06/17 20:12	DWR	

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

SAMPLE SUMMARY

SW09-090517 L934050-09 GW

Collected by
Melissa Warren
Collected date/time
09/05/17 12:25
Received date/time
09/06/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1017230	1	09/06/17 20:31	09/06/17 20:31	DWR

SW10-090517 L934050-10 GW

Collected by
Melissa Warren
Collected date/time
09/05/17 11:45
Received date/time
09/06/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1017230	1	09/06/17 20:50	09/06/17 20:50	DWR

SW11-090517 L934050-11 GW

Collected by
Melissa Warren
Collected date/time
09/05/17 11:20
Received date/time
09/06/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1017230	1	09/06/17 21:09	09/06/17 21:09	DWR

SW12-090517 L934050-12 GW

Collected by
Melissa Warren
Collected date/time
09/05/17 15:50
Received date/time
09/06/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1017230	1	09/06/17 23:33	09/06/17 23:33	DWR

SW12-090517-DUP L934050-13 GW

Collected by
Melissa Warren
Collected date/time
09/05/17 16:45
Received date/time
09/06/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1017230	1	09/06/17 23:51	09/06/17 23:51	DWR

SW13-090517 L934050-14 GW

Collected by
Melissa Warren
Collected date/time
09/05/17 13:00
Received date/time
09/06/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1017230	1	09/07/17 01:09	09/07/17 01:09	DWR

SW14-090517 L934050-15 GW

Collected by
Melissa Warren
Collected date/time
09/05/17 16:20
Received date/time
09/06/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1017230	1	09/07/17 00:31	09/07/17 00:31	DWR

TB-090517 L934050-16 GW

Collected by
Melissa Warren
Collected date/time
09/05/17 16:40
Received date/time
09/06/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1017230	1	09/06/17 14:12	09/06/17 14:12	DWR

- 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. 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	09/06/2017 16:23	WG1017230
Toluene	ND		1.00	1	09/06/2017 16:23	WG1017230
Ethylbenzene	ND		1.00	1	09/06/2017 16:23	WG1017230
o-Xylene	ND		1.00	1	09/06/2017 16:23	WG1017230
m&p-Xylene	ND		2.00	1	09/06/2017 16:23	WG1017230
Xylenes, Total	ND		3.00	1	09/06/2017 16:23	WG1017230
Naphthalene	ND		5.00	1	09/06/2017 16:23	WG1017230
(S) Toluene-d8	114		80.0-120		09/06/2017 16:23	WG1017230
(S) Dibromofluoromethane	84.6		76.0-123		09/06/2017 16:23	WG1017230
(S) a, a, a-Trifluorotoluene	109		80.0-120		09/06/2017 16:23	WG1017230
(S) 4-Bromofluorobenzene	103		80.0-120		09/06/2017 16:23	WG1017230

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	09/06/2017 16:43	WG1017230
Toluene	ND		1.00	1	09/06/2017 16:43	WG1017230
Ethylbenzene	ND		1.00	1	09/06/2017 16:43	WG1017230
o-Xylene	ND		1.00	1	09/06/2017 16:43	WG1017230
m&p-Xylene	ND		2.00	1	09/06/2017 16:43	WG1017230
Xylenes, Total	ND		3.00	1	09/06/2017 16:43	WG1017230
Naphthalene	ND		5.00	1	09/06/2017 16:43	WG1017230
(S) Toluene-d8	105		80.0-120		09/06/2017 16:43	WG1017230
(S) Dibromofluoromethane	103		76.0-123		09/06/2017 16:43	WG1017230
(S) a,a,a-Trifluorotoluene	107		80.0-120		09/06/2017 16:43	WG1017230
(S) 4-Bromofluorobenzene	97.5		80.0-120		09/06/2017 16:43	WG1017230

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	09/06/2017 17:02	WG1017230
Toluene	ND		1.00	1	09/06/2017 17:02	WG1017230
Ethylbenzene	ND		1.00	1	09/06/2017 17:02	WG1017230
o-Xylene	ND		1.00	1	09/06/2017 17:02	WG1017230
m&p-Xylene	ND		2.00	1	09/06/2017 17:02	WG1017230
Xylenes, Total	ND		3.00	1	09/06/2017 17:02	WG1017230
Naphthalene	ND		5.00	1	09/06/2017 17:02	WG1017230
(S) Toluene-d8	104		80.0-120		09/06/2017 17:02	WG1017230
(S) Dibromofluoromethane	102		76.0-123		09/06/2017 17:02	WG1017230
(S) a,a,a-Trifluorotoluene	106		80.0-120		09/06/2017 17:02	WG1017230
(S) 4-Bromofluorobenzene	98.6		80.0-120		09/06/2017 17:02	WG1017230

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	09/06/2017 18:25	WG1017230
Toluene	ND		1.00	1	09/06/2017 18:25	WG1017230
Ethylbenzene	ND		1.00	1	09/06/2017 18:25	WG1017230
o-Xylene	ND		1.00	1	09/06/2017 18:25	WG1017230
m&p-Xylene	ND		2.00	1	09/06/2017 18:25	WG1017230
Xylenes, Total	ND		3.00	1	09/06/2017 18:25	WG1017230
Naphthalene	ND		5.00	1	09/06/2017 18:25	WG1017230
(S) Toluene-d8	104		80.0-120		09/06/2017 18:25	WG1017230
(S) Dibromofluoromethane	95.0		76.0-123		09/06/2017 18:25	WG1017230
(S) a,a,a-Trifluorotoluene	106		80.0-120		09/06/2017 18:25	WG1017230
(S) 4-Bromofluorobenzene	98.6		80.0-120		09/06/2017 18:25	WG1017230

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	09/06/2017 18:44	WG1017230
Toluene	ND		1.00	1	09/06/2017 18:44	WG1017230
Ethylbenzene	ND		1.00	1	09/06/2017 18:44	WG1017230
o-Xylene	ND		1.00	1	09/06/2017 18:44	WG1017230
m&p-Xylene	ND		2.00	1	09/06/2017 18:44	WG1017230
Xylenes, Total	ND		3.00	1	09/06/2017 18:44	WG1017230
Naphthalene	ND		5.00	1	09/06/2017 18:44	WG1017230
(S) Toluene-d8	104		80.0-120		09/06/2017 18:44	WG1017230
(S) Dibromofluoromethane	103		76.0-123		09/06/2017 18:44	WG1017230
(S) a,a,a-Trifluorotoluene	108		80.0-120		09/06/2017 18:44	WG1017230
(S) 4-Bromofluorobenzene	98.7		80.0-120		09/06/2017 18:44	WG1017230

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	09/06/2017 19:03	WG1017230
Toluene	ND		1.00	1	09/06/2017 19:03	WG1017230
Ethylbenzene	ND		1.00	1	09/06/2017 19:03	WG1017230
o-Xylene	ND		1.00	1	09/06/2017 19:03	WG1017230
m&p-Xylene	ND		2.00	1	09/06/2017 19:03	WG1017230
Xylenes, Total	ND		3.00	1	09/06/2017 19:03	WG1017230
Naphthalene	ND		5.00	1	09/06/2017 19:03	WG1017230
(S) Toluene-d8	104		80.0-120		09/06/2017 19:03	WG1017230
(S) Dibromofluoromethane	104		76.0-123		09/06/2017 19:03	WG1017230
(S) a,a,a-Trifluorotoluene	108		80.0-120		09/06/2017 19:03	WG1017230
(S) 4-Bromofluorobenzene	96.6		80.0-120		09/06/2017 19:03	WG1017230

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	09/06/2017 19:52	WG1017230
Toluene	ND		1.00	1	09/06/2017 19:52	WG1017230
Ethylbenzene	ND		1.00	1	09/06/2017 19:52	WG1017230
o-Xylene	ND		1.00	1	09/06/2017 19:52	WG1017230
m&p-Xylene	ND		2.00	1	09/06/2017 19:52	WG1017230
Xylenes, Total	ND		3.00	1	09/06/2017 19:52	WG1017230
Naphthalene	ND		5.00	1	09/06/2017 19:52	WG1017230
(S) Toluene-d8	105		80.0-120		09/06/2017 19:52	WG1017230
(S) Dibromofluoromethane	99.3		76.0-123		09/06/2017 19:52	WG1017230
(S) a, a, a-Trifluorotoluene	106		80.0-120		09/06/2017 19:52	WG1017230
(S) 4-Bromofluorobenzene	99.4		80.0-120		09/06/2017 19:52	WG1017230

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	09/06/2017 20:12	WG1017230
Toluene	ND		1.00	1	09/06/2017 20:12	WG1017230
Ethylbenzene	ND		1.00	1	09/06/2017 20:12	WG1017230
o-Xylene	ND		1.00	1	09/06/2017 20:12	WG1017230
m&p-Xylene	ND		2.00	1	09/06/2017 20:12	WG1017230
Xylenes, Total	ND		3.00	1	09/06/2017 20:12	WG1017230
Naphthalene	ND		5.00	1	09/06/2017 20:12	WG1017230
(S) Toluene-d8	105		80.0-120		09/06/2017 20:12	WG1017230
(S) Dibromofluoromethane	103		76.0-123		09/06/2017 20:12	WG1017230
(S) a,a,a-Trifluorotoluene	108		80.0-120		09/06/2017 20:12	WG1017230
(S) 4-Bromofluorobenzene	95.8		80.0-120		09/06/2017 20:12	WG1017230

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	09/06/2017 20:31	WG1017230
Toluene	ND		1.00	1	09/06/2017 20:31	WG1017230
Ethylbenzene	ND		1.00	1	09/06/2017 20:31	WG1017230
o-Xylene	ND		1.00	1	09/06/2017 20:31	WG1017230
m&p-Xylene	ND		2.00	1	09/06/2017 20:31	WG1017230
Xylenes, Total	ND		3.00	1	09/06/2017 20:31	WG1017230
Naphthalene	ND		5.00	1	09/06/2017 20:31	WG1017230
(S) Toluene-d8	103		80.0-120		09/06/2017 20:31	WG1017230
(S) Dibromofluoromethane	105		76.0-123		09/06/2017 20:31	WG1017230
(S) a,a,a-Trifluorotoluene	109		80.0-120		09/06/2017 20:31	WG1017230
(S) 4-Bromofluorobenzene	94.7		80.0-120		09/06/2017 20:31	WG1017230

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	
Benzene	ND		1.00	1	09/06/2017 20:50	WG1017230
Toluene	ND		1.00	1	09/06/2017 20:50	WG1017230
Ethylbenzene	ND		1.00	1	09/06/2017 20:50	WG1017230
o-Xylene	ND		1.00	1	09/06/2017 20:50	WG1017230
m&p-Xylene	ND		2.00	1	09/06/2017 20:50	WG1017230
Xylenes, Total	ND		3.00	1	09/06/2017 20:50	WG1017230
Naphthalene	ND		5.00	1	09/06/2017 20:50	WG1017230
(S) Toluene-d8	103		80.0-120		09/06/2017 20:50	WG1017230
(S) Dibromofluoromethane	101		76.0-123		09/06/2017 20:50	WG1017230
(S) a,a,a-Trifluorotoluene	108		80.0-120		09/06/2017 20:50	WG1017230
(S) 4-Bromofluorobenzene	96.2		80.0-120		09/06/2017 20:50	WG1017230

- 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	09/06/2017 21:09	WG1017230
Toluene	ND		1.00	1	09/06/2017 21:09	WG1017230
Ethylbenzene	ND		1.00	1	09/06/2017 21:09	WG1017230
o-Xylene	ND		1.00	1	09/06/2017 21:09	WG1017230
m&p-Xylene	ND		2.00	1	09/06/2017 21:09	WG1017230
Xylenes, Total	ND		3.00	1	09/06/2017 21:09	WG1017230
Naphthalene	ND		5.00	1	09/06/2017 21:09	WG1017230
(S) Toluene-d8	104		80.0-120		09/06/2017 21:09	WG1017230
(S) Dibromofluoromethane	103		76.0-123		09/06/2017 21:09	WG1017230
(S) a,a,a-Trifluorotoluene	106		80.0-120		09/06/2017 21:09	WG1017230
(S) 4-Bromofluorobenzene	97.0		80.0-120		09/06/2017 21:09	WG1017230

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	46.7		1.00	1	09/06/2017 23:33	WG1017230
Toluene	72.0		1.00	1	09/06/2017 23:33	WG1017230
Ethylbenzene	4.72		1.00	1	09/06/2017 23:33	WG1017230
o-Xylene	26.2		1.00	1	09/06/2017 23:33	WG1017230
m&p-Xylene	39.0		2.00	1	09/06/2017 23:33	WG1017230
Xylenes, Total	65.2		3.00	1	09/06/2017 23:33	WG1017230
Naphthalene	ND		5.00	1	09/06/2017 23:33	WG1017230
(S) Toluene-d8	107		80.0-120		09/06/2017 23:33	WG1017230
(S) Dibromofluoromethane	94.5		76.0-123		09/06/2017 23:33	WG1017230
(S) a,a,a-Trifluorotoluene	107		80.0-120		09/06/2017 23:33	WG1017230
(S) 4-Bromofluorobenzene	101		80.0-120		09/06/2017 23:33	WG1017230

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	
Benzene	57.4		1.00	1	09/06/2017 23:51	WG1017230
Toluene	86.5		1.00	1	09/06/2017 23:51	WG1017230
Ethylbenzene	5.50		1.00	1	09/06/2017 23:51	WG1017230
o-Xylene	32.1		1.00	1	09/06/2017 23:51	WG1017230
m&p-Xylene	46.2		2.00	1	09/06/2017 23:51	WG1017230
Xylenes, Total	78.3		3.00	1	09/06/2017 23:51	WG1017230
Naphthalene	ND		5.00	1	09/06/2017 23:51	WG1017230
(S) Toluene-d8	107		80.0-120		09/06/2017 23:51	WG1017230
(S) Dibromofluoromethane	102		76.0-123		09/06/2017 23:51	WG1017230
(S) a,a,a-Trifluorotoluene	106		80.0-120		09/06/2017 23:51	WG1017230
(S) 4-Bromofluorobenzene	97.6		80.0-120		09/06/2017 23:51	WG1017230

- 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	09/07/2017 01:09	WG1017230
Toluene	ND		1.00	1	09/07/2017 01:09	WG1017230
Ethylbenzene	ND		1.00	1	09/07/2017 01:09	WG1017230
o-Xylene	ND		1.00	1	09/07/2017 01:09	WG1017230
m&p-Xylene	ND		2.00	1	09/07/2017 01:09	WG1017230
Xylenes, Total	ND		3.00	1	09/07/2017 01:09	WG1017230
Naphthalene	ND		5.00	1	09/07/2017 01:09	WG1017230
(S) Toluene-d8	104		80.0-120		09/07/2017 01:09	WG1017230
(S) Dibromofluoromethane	105		76.0-123		09/07/2017 01:09	WG1017230
(S) a, a, a-Trifluorotoluene	105		80.0-120		09/07/2017 01:09	WG1017230
(S) 4-Bromofluorobenzene	97.3		80.0-120		09/07/2017 01:09	WG1017230

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	09/07/2017 00:31	WG1017230
Toluene	ND		1.00	1	09/07/2017 00:31	WG1017230
Ethylbenzene	ND		1.00	1	09/07/2017 00:31	WG1017230
o-Xylene	ND		1.00	1	09/07/2017 00:31	WG1017230
m&p-Xylene	ND		2.00	1	09/07/2017 00:31	WG1017230
Xylenes, Total	ND		3.00	1	09/07/2017 00:31	WG1017230
Naphthalene	ND		5.00	1	09/07/2017 00:31	WG1017230
(S) Toluene-d8	105		80.0-120		09/07/2017 00:31	WG1017230
(S) Dibromofluoromethane	106		76.0-123		09/07/2017 00:31	WG1017230
(S) a,a,a-Trifluorotoluene	107		80.0-120		09/07/2017 00:31	WG1017230
(S) 4-Bromofluorobenzene	97.9		80.0-120		09/07/2017 00:31	WG1017230

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	09/06/2017 14:12	WG1017230
Toluene	ND		1.00	1	09/06/2017 14:12	WG1017230
Ethylbenzene	ND		1.00	1	09/06/2017 14:12	WG1017230
o-Xylene	ND		1.00	1	09/06/2017 14:12	WG1017230
m&p-Xylene	ND		2.00	1	09/06/2017 14:12	WG1017230
Xylenes, Total	ND		3.00	1	09/06/2017 14:12	WG1017230
Naphthalene	ND		5.00	1	09/06/2017 14:12	WG1017230
(S) Toluene-d8	106		80.0-120		09/06/2017 14:12	WG1017230
(S) Dibromofluoromethane	98.6		76.0-123		09/06/2017 14:12	WG1017230
(S) a,a,a-Trifluorotoluene	107		80.0-120		09/06/2017 14:12	WG1017230
(S) 4-Bromofluorobenzene	101		80.0-120		09/06/2017 14:12	WG1017230

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

WG1017230

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

QUALITY CONTROL SUMMARY

L934050-01,02,03,04,05,06,07,08,09,10,11,12,13,14,15,16

ONE LAB. NATIONWIDE.



Method Blank (MB)

(MB) R3247396-2 09/06/17 10:21

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
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	105			80.0-120
(S) Dibromofluoromethane	103			76.0-123
(S) a,a,a-Trifluorotoluene	108			80.0-120
(S) 4-Bromofluorobenzene	96.4			80.0-120

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

Laboratory Control Sample (LCS)

(LCS) R3247396-1 09/06/17 09:23

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Benzene	25.0	26.9	108	70.0-130	
Ethylbenzene	25.0	26.4	105	70.0-130	
Naphthalene	25.0	22.8	91.1	70.0-130	
Toluene	25.0	25.8	103	70.0-130	
Xylenes, Total	75.0	79.7	106	70.0-130	
o-Xylene	25.0	26.7	107	70.0-130	
m&p-Xylenes	50.0	53.0	106	70.0-130	
(S) Toluene-d8			105	80.0-120	
(S) Dibromofluoromethane			98.7	76.0-123	
(S) a,a,a-Trifluorotoluene			105	80.0-120	
(S) 4-Bromofluorobenzene			101	80.0-120	

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, 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
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Qualifier	Description
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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.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP, LLC	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		


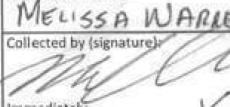
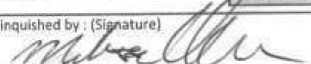
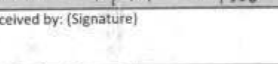
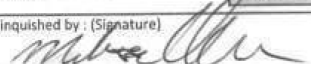
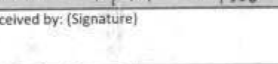
¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ^{n/a} Accreditation not applicable


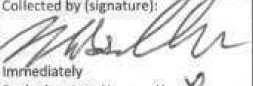
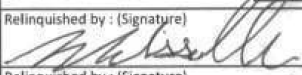
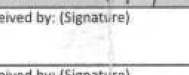
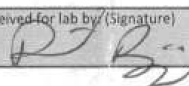
Our Locations

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.**



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

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;		Pres Chk <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>		Analysis / Container / Preservative V8260BTEXNSC 40miAmb-HCl BTEX NAPH										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# L934050 F154 Acctnum: KINCH2MGA Template: T121339 Prelogin: P616115 TSR: 526 - Chris McCord PB: 8-31-17 Shipped Via: FedEX Ground													
Project Description: Lewis Drive Site City/State Collected: BELTON, SC		Client Project # 684910		Lab Project # KINCH2MGA-LEWIS		P.O. #		Quote #		Date Results Needed		No. of Cntrs		Remarks Sample # (Lab only)															
Phone: 770-604-9182 Fax:		Site/Facility ID #		Rush? (Lab MUST Be Notified) <input checked="" type="checkbox"/> Same Day ___ Five Day <input checked="" type="checkbox"/> Next Day ___ 5 Day (Rad Only) <input type="checkbox"/> Two Day ___ 10 Day (Rad Only) <input type="checkbox"/> Three Day		Collected by (print): MELISSA WARREN		Collected by (signature): 		Packed on Ice N ___ Y ___		Sample ID		Comp/Grab		Matrix *		Depth		Date		Time		No. of Cntrs		Remarks		Sample # (Lab only)	
SW01-090517		Grab		GW		-		09/05/17		1530		3		X		+		X		-01		-01		-01					
FP01-090517		Grab		GW		-		09/05/17		1210		3		X		-		-		02		02		02					
FP02-090517		Grab		GW		-		09/05/17		1220		3		X		-		-		03		03		03					
FP03-090517		Grab		GW		-		09/05/17		1400		3		X		-		-		04		04		04					
SW02-090517		Grab		GW		-		09/05/17		1520		3		X		-		-		05		05		05					
SW03-090517		Grab		GW		-		09/05/17		1545		3		X		-		-		06		06		06					
SW04-090517		Grab		GW		-		09/05/17		1515		3		X		-		-		07		07		07					
SW08-090517		Grab		GW		-		09/05/17		1245		3		X		-		-		08		08		08					
SW09-090517		Grab		GW		-		09/05/17		1225		3		X		-		-		09		09		09					
SW10-090517		Grab		GW		-		09/05/17		1145		3		X		-		-		10		10		10					
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - Waste Water DW - Drinking Water OT - Other		Remarks: all surface water samples		Samples returned via: <input checked="" type="checkbox"/> UPS ___ FedEx ___ Courier ___		Tracking # 7474 0926 9287		pH ___ Temp ___ Flow ___ Other ___		Received by: (Signature) 		Date: 09/05/17		Time: 1740		Received by: (Signature) 		Trip Blank Received: <input checked="" type="checkbox"/> No <input type="checkbox"/> HCl/MeOH <input type="checkbox"/> TBR		Temp: 29.0 °C Bottles Received: 48		Sample Receipt Checklist COC Seal Present/Intact: ___ <input checked="" type="checkbox"/> N COC Signed/Accurate: ___ <input checked="" type="checkbox"/> N Bottles arrive intact: ___ <input checked="" type="checkbox"/> N Correct bottles used: ___ <input checked="" type="checkbox"/> N Sufficient volume sent: ___ <input checked="" type="checkbox"/> N VOA Zero Headspace: ___ <input checked="" type="checkbox"/> N Preservation Correct/Checked: ___ <input checked="" type="checkbox"/> N		If preservation required by Login: Date/Time					
Relinquished by: (Signature) 		Date: 09/05/17		Time: 1740		Received by: (Signature) 		Trip Blank Received: <input checked="" type="checkbox"/> No <input type="checkbox"/> HCl/MeOH <input type="checkbox"/> TBR		Temp: 29.0 °C Bottles Received: 48		Condition: 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 <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>		Analysis / Container / Preservative						Chain of Custody Page ___ 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;		City/State Collected: BELTON, SC		V8260BTEXNSC 40mlAmb-HCl BTEX NAPL						L# L934050									
Project Description: Lewis Drive Site		Client Project # 684910		Lab Project # KINCH2MGA-LEWIS								Table #									
Phone: 770-604-9182 Fax:		Site/Facility ID #		P.O. #								Acctnum: KINCH2MGA									
Collected by (print): MELISSA WARR		Rush? (Lab MUST Be Notified) <input checked="" type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input checked="" 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		Quote #								Template: T121339									
Collected by (signature): 		Date Results Needed		Prelogin: P616115								TSR: 526 - Chris McCord									
Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>		No. of Cntrs		Shipped Via: FedEX Ground								PB: 8-31-17									
Sample ID		Comp/Grab		Matrix *								Depth		Date		Time		Remarks		Sample # (lab only)	
SW11-09052017		Grab		GW								-		9/5/17		1120				- 11	
SW12-09052017		Grab		GW								-		9/5/17		1550				12	
SW12-090517-DUP		Grab		GW								-		9/5/17		1645				13	
SW13-09052017		Grab		GW		-		9/5/17		1300				14							
SW14-090517		Grab		GW		-		9/5/17		1620				15							
TB-090517		Grab		GW		-		9/5/17		1640				16							
FB-090517		Grab		GW		-		9/5/17		1655				17							
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other		Remarks: all surface water samples		Samples returned via: <input checked="" type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier		Tracking # 7474 0926 9287		pH _____ Temp _____ Flow _____ Other _____		Sample Receipt Checklist COC Seal Present/Intact: <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> COC Signed/Accurate: <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Bottles arrive intact: <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Correct bottles used: <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Sufficient volume sent: <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> If Applicable VOA Zero Headspace: <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Preservation Correct/Checked: <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>											
Relinquished by: (Signature) 		Date: 09/05/17		Time: 1740		Received by: (Signature) 		Trip Blank Received: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> HCl / MeOH <input type="checkbox"/> TBR		Temp: 29.5 °C Bottles Received: 48		If preservation required by Login: Date/Time									
Relinquished by: (Signature)		Date:		Time:		Received by: (Signature)		Temp:		Bottles Received:		If preservation required by Login: Date/Time									
Relinquished by: (Signature)		Date:		Time:		Received for lab by: (Signature) 		Date: 9-6-17		Time: 8845		Hold:		Condition: NCF <input checked="" type="checkbox"/> OK							

Andy Vann

From: Chris McCord
Sent: Wednesday, September 06, 2017 3:27 PM
To: Login; Due VOC
Subject: L934050 *KINCH2MGA*

Please remove V8260BTEXNSC from L934050-17 per below email. Currently in VOL:HOLD:WG1017230.

Thanks,
Christopher McCord
Project Manager

ESC Lab Sciences-a subsidiary of Pace Analytical
12065 Lebanon Road | Mt. Juliet, TN 37122
615.773.3281 | Cell 615.504.3183
cmccord@esclabsciences.com | www.esclabsciences.com

-----Original Message-----

From: Garvey, Bethany/ATL [<mailto:Bethany.Garvey@CH2M.com>]
Sent: Wednesday, September 06, 2017 3:17 PM
To: Chris McCord
Subject: FW: ESC Lab Sciences Login for 684910 Lewis Drive Site Surface water event L934050

Hi Chris,

Please cancel the field blank in the attached COC. The surface water samples do not require FBs. It was collected by mistake by the field team.

Thanks,
Bethany

Attachment B
Groundwater Analytical Laboratory
Reports

July 25, 2017

CH2M Hill- Kinder Morgan- Atlanta, GA

Sample Delivery Group: L923058
Samples Received: 07/18/2017
Project Number: 684910. LD.MR.GW
Description: Lewis Drive Site Groundwater
Site: LEWIS DR
Report To: Bethany Garvey
6600 Peachtree Dunwoody Road
400 Embassy Row - Suite 600
Atlanta, GA 30328

Entire Report Reviewed By:



Jason Romer
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-29-071717 L923058-01 GW

Collected by
McCann-Sumner Collected date/time
07/17/17 13:40 Received date/time
07/18/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001050	1	07/21/17 08:57	07/21/17 08:57	ACG

1
Cp

2
Tc

3
Ss

MW-26-071717 L923058-02 GW

Collected by
McCann-Sumner Collected date/time
07/17/17 13:50 Received date/time
07/18/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001050	1	07/21/17 09:14	07/21/17 09:14	ACG

4
Cn

5
Sr

MW-23-071717 L923058-03 GW

Collected by
McCann-Sumner Collected date/time
07/17/17 14:00 Received date/time
07/18/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001050	1	07/22/17 15:03	07/22/17 15:03	ACG

6
Qc

7
Gl

MW-34-071717 L923058-04 GW

Collected by
McCann-Sumner Collected date/time
07/17/17 14:20 Received date/time
07/18/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001050	1	07/21/17 09:50	07/21/17 09:50	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001050	10	07/22/17 15:21	07/22/17 15:21	ACG

8
Al

9
Sc

MW-39-071717 L923058-05 GW

Collected by
McCann-Sumner Collected date/time
07/17/17 14:25 Received date/time
07/18/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001050	100	07/21/17 10:07	07/21/17 10:07	ACG

MW-40-071717 L923058-06 GW

Collected by
McCann-Sumner Collected date/time
07/17/17 14:35 Received date/time
07/18/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001050	500	07/21/17 10:25	07/21/17 10:25	ACG

MW-41-071717 L923058-07 GW

Collected by
McCann-Sumner Collected date/time
07/17/17 14:40 Received date/time
07/18/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001050	1	07/21/17 10:43	07/21/17 10:43	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001050	10	07/22/17 15:39	07/22/17 15:39	ACG

MW-25-071717 L923058-08 GW

Collected by
McCann-Sumner Collected date/time
07/17/17 14:50 Received date/time
07/18/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001050	10	07/21/17 11:01	07/21/17 11:01	ACG

SAMPLE SUMMARY



MW-35-071717 L923058-09 GW

Collected by
McCann-Sumner Collected date/time
07/17/17 15:00 Received date/time
07/18/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001050	1	07/21/17 11:19	07/21/17 11:19	ACG

1
Cp

2
Tc

MW-28-071717 L923058-10 GW

Collected by
McCann-Sumner Collected date/time
07/17/17 15:16 Received date/time
07/18/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001050	1	07/21/17 11:37	07/21/17 11:37	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001050	10	07/22/17 15:57	07/22/17 15:57	ACG

3
Ss

4
Cn

5
Sr

MW-38-071717 L923058-11 GW

Collected by
McCann-Sumner Collected date/time
07/17/17 15:20 Received date/time
07/18/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001050	1	07/21/17 11:55	07/21/17 11:55	ACG

6
Qc

7
Gl

8
Al

MW-38-071717-FD L923058-12 GW

Collected by
McCann-Sumner Collected date/time
07/17/17 15:25 Received date/time
07/18/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001050	1	07/21/17 12:13	07/21/17 12:13	ACG

9
Sc

MW-31-071717 L923058-13 GW

Collected by
McCann-Sumner Collected date/time
07/17/17 15:35 Received date/time
07/18/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001050	1	07/21/17 12:31	07/21/17 12:31	ACG

MW-10-071717 L923058-14 GW

Collected by
McCann-Sumner Collected date/time
07/17/17 15:50 Received date/time
07/18/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001050	1	07/21/17 12:49	07/21/17 12:49	ACG

MW-05-071717 L923058-15 GW

Collected by
McCann-Sumner Collected date/time
07/17/17 15:55 Received date/time
07/18/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001050	1	07/21/17 13:07	07/21/17 13:07	ACG

MW-30-071717 L923058-16 GW

Collected by
McCann-Sumner Collected date/time
07/17/17 16:50 Received date/time
07/18/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001050	25	07/21/17 13:25	07/21/17 13:25	ACG

SAMPLE SUMMARY

MW-45-071717 L923058-17 GW

Collected by
McCann-Sumner Collected date/time
07/17/17 17:10 Received date/time
07/18/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001050	1	07/21/17 13:43	07/21/17 13:43	ACG

FB-01-071717 L923058-18 GW

Collected by
McCann-Sumner Collected date/time
07/17/17 17:15 Received date/time
07/18/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001050	1	07/21/17 08:21	07/21/17 08:21	ACG

TB-01-071717 L923058-19 GW

Collected by
McCann-Sumner Collected date/time
07/17/17 17:18 Received date/time
07/18/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1001050	1	07/21/17 08:39	07/21/17 08:39	ACG

- 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. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Jason Romer
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	07/21/2017 08:57	WG1001050
Toluene	ND		1.00	1	07/21/2017 08:57	WG1001050
Ethylbenzene	ND		1.00	1	07/21/2017 08:57	WG1001050
Total Xylenes	ND		3.00	1	07/21/2017 08:57	WG1001050
Methyl tert-butyl ether	ND		1.00	1	07/21/2017 08:57	WG1001050
Naphthalene	ND		5.00	1	07/21/2017 08:57	WG1001050
1,2-Dichloroethane	ND		1.00	1	07/21/2017 08:57	WG1001050
(S) Toluene-d8	104		80.0-120		07/21/2017 08:57	WG1001050
(S) Dibromofluoromethane	94.9		76.0-123		07/21/2017 08:57	WG1001050
(S) 4-Bromofluorobenzene	108		80.0-120		07/21/2017 08:57	WG1001050

- 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	07/21/2017 09:14	WG1001050
Toluene	ND		1.00	1	07/21/2017 09:14	WG1001050
Ethylbenzene	ND		1.00	1	07/21/2017 09:14	WG1001050
Total Xylenes	ND		3.00	1	07/21/2017 09:14	WG1001050
Methyl tert-butyl ether	ND		1.00	1	07/21/2017 09:14	WG1001050
Naphthalene	ND		5.00	1	07/21/2017 09:14	WG1001050
1,2-Dichloroethane	ND		1.00	1	07/21/2017 09:14	WG1001050
(S) Toluene-d8	104		80.0-120		07/21/2017 09:14	WG1001050
(S) Dibromofluoromethane	95.2		76.0-123		07/21/2017 09:14	WG1001050
(S) 4-Bromofluorobenzene	108		80.0-120		07/21/2017 09:14	WG1001050

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	1.20		1.00	1	07/22/2017 15:03	WG1001050
Toluene	ND		1.00	1	07/22/2017 15:03	WG1001050
Ethylbenzene	ND		1.00	1	07/22/2017 15:03	WG1001050
Total Xylenes	ND		3.00	1	07/22/2017 15:03	WG1001050
Methyl tert-butyl ether	ND		1.00	1	07/22/2017 15:03	WG1001050
Naphthalene	ND		5.00	1	07/22/2017 15:03	WG1001050
1,2-Dichloroethane	ND		1.00	1	07/22/2017 15:03	WG1001050
(S) Toluene-d8	104		80.0-120		07/22/2017 15:03	WG1001050
(S) Dibromofluoromethane	94.5		76.0-123		07/22/2017 15:03	WG1001050
(S) 4-Bromofluorobenzene	108		80.0-120		07/22/2017 15:03	WG1001050

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	137		10.0	10	07/22/2017 15:21	WG1001050
Toluene	19.8		1.00	1	07/21/2017 09:50	WG1001050
Ethylbenzene	5.83		1.00	1	07/21/2017 09:50	WG1001050
Total Xylenes	69.5		3.00	1	07/21/2017 09:50	WG1001050
Methyl tert-butyl ether	73.8		1.00	1	07/21/2017 09:50	WG1001050
Naphthalene	ND		5.00	1	07/21/2017 09:50	WG1001050
1,2-Dichloroethane	ND		1.00	1	07/21/2017 09:50	WG1001050
(S) Toluene-d8	103		80.0-120		07/22/2017 15:21	WG1001050
(S) Toluene-d8	105		80.0-120		07/21/2017 09:50	WG1001050
(S) Dibromofluoromethane	77.8		76.0-123		07/21/2017 09:50	WG1001050
(S) Dibromofluoromethane	93.0		76.0-123		07/22/2017 15:21	WG1001050
(S) 4-Bromofluorobenzene	107		80.0-120		07/22/2017 15:21	WG1001050
(S) 4-Bromofluorobenzene	111		80.0-120		07/21/2017 09:50	WG1001050

- 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	4690		100	100	07/21/2017 10:07	WG1001050
Toluene	3760		100	100	07/21/2017 10:07	WG1001050
Ethylbenzene	ND		100	100	07/21/2017 10:07	WG1001050
Total Xylenes	4580		300	100	07/21/2017 10:07	WG1001050
Methyl tert-butyl ether	344		100	100	07/21/2017 10:07	WG1001050
Naphthalene	ND		500	100	07/21/2017 10:07	WG1001050
1,2-Dichloroethane	ND		100	100	07/21/2017 10:07	WG1001050
(S) Toluene-d8	104		80.0-120		07/21/2017 10:07	WG1001050
(S) Dibromofluoromethane	90.4		76.0-123		07/21/2017 10:07	WG1001050
(S) 4-Bromofluorobenzene	108		80.0-120		07/21/2017 10:07	WG1001050

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	11400		500	500	07/21/2017 10:25	WG1001050
Toluene	25300		500	500	07/21/2017 10:25	WG1001050
Ethylbenzene	1210		500	500	07/21/2017 10:25	WG1001050
Total Xylenes	7430		1500	500	07/21/2017 10:25	WG1001050
Methyl tert-butyl ether	727		500	500	07/21/2017 10:25	WG1001050
Naphthalene	ND		2500	500	07/21/2017 10:25	WG1001050
1,2-Dichloroethane	ND		500	500	07/21/2017 10:25	WG1001050
(S) Toluene-d8	103		80.0-120		07/21/2017 10:25	WG1001050
(S) Dibromofluoromethane	94.9		76.0-123		07/21/2017 10:25	WG1001050
(S) 4-Bromofluorobenzene	110		80.0-120		07/21/2017 10:25	WG1001050

- 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	487		10.0	10	07/22/2017 15:39	WG1001050
Toluene	3.09		1.00	1	07/21/2017 10:43	WG1001050
Ethylbenzene	15.8		1.00	1	07/21/2017 10:43	WG1001050
Total Xylenes	366		30.0	10	07/22/2017 15:39	WG1001050
Methyl tert-butyl ether	3.62		1.00	1	07/21/2017 10:43	WG1001050
Naphthalene	27.9		5.00	1	07/21/2017 10:43	WG1001050
1,2-Dichloroethane	ND		1.00	1	07/21/2017 10:43	WG1001050
(S) Toluene-d8	105		80.0-120		07/21/2017 10:43	WG1001050
(S) Toluene-d8	103		80.0-120		07/22/2017 15:39	WG1001050
(S) Dibromofluoromethane	70.2	J2	76.0-123		07/21/2017 10:43	WG1001050
(S) Dibromofluoromethane	92.8		76.0-123		07/22/2017 15:39	WG1001050
(S) 4-Bromofluorobenzene	108		80.0-120		07/22/2017 15:39	WG1001050
(S) 4-Bromofluorobenzene	104		80.0-120		07/21/2017 10:43	WG1001050

- 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	230		10.0	10	07/21/2017 11:01	WG1001050
Toluene	ND		10.0	10	07/21/2017 11:01	WG1001050
Ethylbenzene	13.4		10.0	10	07/21/2017 11:01	WG1001050
Total Xylenes	264		30.0	10	07/21/2017 11:01	WG1001050
Methyl tert-butyl ether	ND		10.0	10	07/21/2017 11:01	WG1001050
Naphthalene	ND		50.0	10	07/21/2017 11:01	WG1001050
1,2-Dichloroethane	ND		10.0	10	07/21/2017 11:01	WG1001050
(S) Toluene-d8	105		80.0-120		07/21/2017 11:01	WG1001050
(S) Dibromofluoromethane	94.2		76.0-123		07/21/2017 11:01	WG1001050
(S) 4-Bromofluorobenzene	110		80.0-120		07/21/2017 11:01	WG1001050

- 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	07/21/2017 11:19	WG1001050
Toluene	ND		1.00	1	07/21/2017 11:19	WG1001050
Ethylbenzene	ND		1.00	1	07/21/2017 11:19	WG1001050
Total Xylenes	ND		3.00	1	07/21/2017 11:19	WG1001050
Methyl tert-butyl ether	ND		1.00	1	07/21/2017 11:19	WG1001050
Naphthalene	ND		5.00	1	07/21/2017 11:19	WG1001050
1,2-Dichloroethane	ND		1.00	1	07/21/2017 11:19	WG1001050
(S) Toluene-d8	104		80.0-120		07/21/2017 11:19	WG1001050
(S) Dibromofluoromethane	94.7		76.0-123		07/21/2017 11:19	WG1001050
(S) 4-Bromofluorobenzene	109		80.0-120		07/21/2017 11:19	WG1001050

- 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	219		10.0	10	07/22/2017 15:57	WG1001050
Toluene	85.8		1.00	1	07/21/2017 11:37	WG1001050
Ethylbenzene	64.2		1.00	1	07/21/2017 11:37	WG1001050
Total Xylenes	422		3.00	1	07/21/2017 11:37	WG1001050
Methyl tert-butyl ether	ND		1.00	1	07/21/2017 11:37	WG1001050
Naphthalene	14.7		5.00	1	07/21/2017 11:37	WG1001050
1,2-Dichloroethane	ND		1.00	1	07/21/2017 11:37	WG1001050
(S) Toluene-d8	104		80.0-120		07/22/2017 15:57	WG1001050
(S) Toluene-d8	97.5		80.0-120		07/21/2017 11:37	WG1001050
(S) Dibromofluoromethane	93.2		76.0-123		07/22/2017 15:57	WG1001050
(S) Dibromofluoromethane	88.3		76.0-123		07/21/2017 11:37	WG1001050
(S) 4-Bromofluorobenzene	97.0		80.0-120		07/21/2017 11:37	WG1001050
(S) 4-Bromofluorobenzene	108		80.0-120		07/22/2017 15:57	WG1001050

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	07/21/2017 11:55	WG1001050
Toluene	ND		1.00	1	07/21/2017 11:55	WG1001050
Ethylbenzene	ND		1.00	1	07/21/2017 11:55	WG1001050
Total Xylenes	ND		3.00	1	07/21/2017 11:55	WG1001050
Methyl tert-butyl ether	8.59		1.00	1	07/21/2017 11:55	WG1001050
Naphthalene	ND		5.00	1	07/21/2017 11:55	WG1001050
1,2-Dichloroethane	ND		1.00	1	07/21/2017 11:55	WG1001050
(S) Toluene-d8	106		80.0-120		07/21/2017 11:55	WG1001050
(S) Dibromofluoromethane	94.7		76.0-123		07/21/2017 11:55	WG1001050
(S) 4-Bromofluorobenzene	112		80.0-120		07/21/2017 11:55	WG1001050

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	07/21/2017 12:13	WG1001050
Toluene	ND		1.00	1	07/21/2017 12:13	WG1001050
Ethylbenzene	ND		1.00	1	07/21/2017 12:13	WG1001050
Total Xylenes	ND		3.00	1	07/21/2017 12:13	WG1001050
Methyl tert-butyl ether	9.78		1.00	1	07/21/2017 12:13	WG1001050
Naphthalene	ND		5.00	1	07/21/2017 12:13	WG1001050
1,2-Dichloroethane	ND		1.00	1	07/21/2017 12:13	WG1001050
(S) Toluene-d8	103		80.0-120		07/21/2017 12:13	WG1001050
(S) Dibromofluoromethane	93.8		76.0-123		07/21/2017 12:13	WG1001050
(S) 4-Bromofluorobenzene	109		80.0-120		07/21/2017 12:13	WG1001050

- 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	07/21/2017 12:31	WG1001050
Toluene	ND		1.00	1	07/21/2017 12:31	WG1001050
Ethylbenzene	ND		1.00	1	07/21/2017 12:31	WG1001050
Total Xylenes	ND		3.00	1	07/21/2017 12:31	WG1001050
Methyl tert-butyl ether	ND		1.00	1	07/21/2017 12:31	WG1001050
Naphthalene	ND		5.00	1	07/21/2017 12:31	WG1001050
1,2-Dichloroethane	ND		1.00	1	07/21/2017 12:31	WG1001050
(S) Toluene-d8	106		80.0-120		07/21/2017 12:31	WG1001050
(S) Dibromofluoromethane	94.2		76.0-123		07/21/2017 12:31	WG1001050
(S) 4-Bromofluorobenzene	110		80.0-120		07/21/2017 12:31	WG1001050

- 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	07/21/2017 12:49	WG1001050
Toluene	ND		1.00	1	07/21/2017 12:49	WG1001050
Ethylbenzene	ND		1.00	1	07/21/2017 12:49	WG1001050
Total Xylenes	ND		3.00	1	07/21/2017 12:49	WG1001050
Methyl tert-butyl ether	ND		1.00	1	07/21/2017 12:49	WG1001050
Naphthalene	ND		5.00	1	07/21/2017 12:49	WG1001050
1,2-Dichloroethane	ND		1.00	1	07/21/2017 12:49	WG1001050
(S) Toluene-d8	106		80.0-120		07/21/2017 12:49	WG1001050
(S) Dibromofluoromethane	95.9		76.0-123		07/21/2017 12:49	WG1001050
(S) 4-Bromofluorobenzene	107		80.0-120		07/21/2017 12:49	WG1001050

- 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	07/21/2017 13:07	WG1001050
Toluene	ND		1.00	1	07/21/2017 13:07	WG1001050
Ethylbenzene	ND		1.00	1	07/21/2017 13:07	WG1001050
Total Xylenes	ND		3.00	1	07/21/2017 13:07	WG1001050
Methyl tert-butyl ether	ND		1.00	1	07/21/2017 13:07	WG1001050
Naphthalene	ND		5.00	1	07/21/2017 13:07	WG1001050
1,2-Dichloroethane	ND		1.00	1	07/21/2017 13:07	WG1001050
(S) Toluene-d8	104		80.0-120		07/21/2017 13:07	WG1001050
(S) Dibromofluoromethane	94.5		76.0-123		07/21/2017 13:07	WG1001050
(S) 4-Bromofluorobenzene	108		80.0-120		07/21/2017 13:07	WG1001050

- 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	922		25.0	25	07/21/2017 13:25	WG1001050
Toluene	2050		25.0	25	07/21/2017 13:25	WG1001050
Ethylbenzene	ND		25.0	25	07/21/2017 13:25	WG1001050
Total Xylenes	1320		75.0	25	07/21/2017 13:25	WG1001050
Methyl tert-butyl ether	ND		25.0	25	07/21/2017 13:25	WG1001050
Naphthalene	ND		125	25	07/21/2017 13:25	WG1001050
1,2-Dichloroethane	ND		25.0	25	07/21/2017 13:25	WG1001050
(S) Toluene-d8	103		80.0-120		07/21/2017 13:25	WG1001050
(S) Dibromofluoromethane	91.2		76.0-123		07/21/2017 13:25	WG1001050
(S) 4-Bromofluorobenzene	112		80.0-120		07/21/2017 13:25	WG1001050

- 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	07/21/2017 13:43	WG1001050
Toluene	ND		1.00	1	07/21/2017 13:43	WG1001050
Ethylbenzene	ND		1.00	1	07/21/2017 13:43	WG1001050
Total Xylenes	ND		3.00	1	07/21/2017 13:43	WG1001050
Methyl tert-butyl ether	ND		1.00	1	07/21/2017 13:43	WG1001050
Naphthalene	ND		5.00	1	07/21/2017 13:43	WG1001050
1,2-Dichloroethane	ND		1.00	1	07/21/2017 13:43	WG1001050
(S) Toluene-d8	102		80.0-120		07/21/2017 13:43	WG1001050
(S) Dibromofluoromethane	95.4		76.0-123		07/21/2017 13:43	WG1001050
(S) 4-Bromofluorobenzene	108		80.0-120		07/21/2017 13:43	WG1001050

- 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	07/21/2017 08:21	WG1001050
Toluene	ND		1.00	1	07/21/2017 08:21	WG1001050
Ethylbenzene	ND		1.00	1	07/21/2017 08:21	WG1001050
Total Xylenes	ND		3.00	1	07/21/2017 08:21	WG1001050
Methyl tert-butyl ether	ND		1.00	1	07/21/2017 08:21	WG1001050
Naphthalene	ND		5.00	1	07/21/2017 08:21	WG1001050
1,2-Dichloroethane	ND		1.00	1	07/21/2017 08:21	WG1001050
(S) Toluene-d8	105		80.0-120		07/21/2017 08:21	WG1001050
(S) Dibromofluoromethane	94.9		76.0-123		07/21/2017 08:21	WG1001050
(S) 4-Bromofluorobenzene	107		80.0-120		07/21/2017 08:21	WG1001050

- 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	07/21/2017 08:39	WG1001050
Toluene	ND		1.00	1	07/21/2017 08:39	WG1001050
Ethylbenzene	ND		1.00	1	07/21/2017 08:39	WG1001050
Total Xylenes	ND		3.00	1	07/21/2017 08:39	WG1001050
Methyl tert-butyl ether	ND		1.00	1	07/21/2017 08:39	WG1001050
Naphthalene	ND		5.00	1	07/21/2017 08:39	WG1001050
1,2-Dichloroethane	ND		1.00	1	07/21/2017 08:39	WG1001050
(S) Toluene-d8	103		80.0-120		07/21/2017 08:39	WG1001050
(S) Dibromofluoromethane	93.6		76.0-123		07/21/2017 08:39	WG1001050
(S) 4-Bromofluorobenzene	106		80.0-120		07/21/2017 08:39	WG1001050

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

WG1001050

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

QUALITY CONTROL SUMMARY

L923058-01,02,03,04,05,06,07,08,09,10,11,12,13,14,15,16,17,18,19

ONE LAB. NATIONWIDE.



Method Blank (MB)

(MB) R3235286-3 07/21/17 08:04

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	95.3			76.0-123
(S) 4-Bromofluorobenzene	108			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) R3235286-1 07/21/17 06:53 • (LCSD) R3235286-2 07/21/17 07:11

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	22.7	22.5	91.0	90.0	70.0-130			1.14	20
1,2-Dichloroethane	25.0	23.4	22.6	93.6	90.5	70.0-130			3.34	20
Ethylbenzene	25.0	24.2	23.3	96.8	93.4	70.0-130			3.62	20
Methyl tert-butyl ether	25.0	24.8	24.6	99.3	98.4	70.0-130			0.920	20
Naphthalene	25.0	27.5	27.0	110	108	70.0-130			1.91	20
Toluene	25.0	24.3	23.9	97.0	95.6	70.0-130			1.47	20
Xylenes, Total	75.0	73.1	71.9	97.5	95.9	70.0-130			1.66	20
(S) Toluene-d8				105	104	80.0-120				
(S) Dibromofluoromethane				96.2	95.5	76.0-123				
(S) 4-Bromofluorobenzene				107	106	80.0-120				

7 Gl

8 Al

9 Sc



Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(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.
Rec.	Recovery.

Qualifier	Description
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

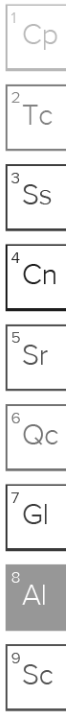
⁷ Gl

⁸ Al

⁹ Sc



ESCLab 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.



State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

Third Party & Federal Accreditations


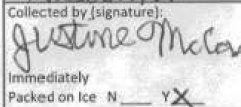
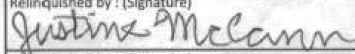
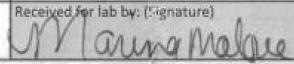
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		


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

Our Locations

ESCLab 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. **ESCLab 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;		Analysis / Container / Preservative Pres Chk V8260BTEXMNSC 40ml/Amb-HCl V8260BTEXMNSC 40ml/Amb-HCl-Bik		Chain of Custody Page 1 of 2  12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-9858 Phone: 800-767-5859 Fax: 615-758-9859 L# 2923058 B089 Acctnum: KINCH2MGA Template: T121318 Prelogin: P609693 TSR: 526 - Chris McCord P# 157-11-17 Shipped Via: FedEX Ground	
Project Description: Lewis Drive Groundwater City/State Collected:		Client Project # LR4910.LD.MR.GW Lab Project # KINCH2MGA-LEWIS12 P.O. #		Quote # Date Results Needed		No. of Cntrs	
Phone: 770-604-9182 Fax:		Site/Facility ID # Lewis Dr		Rush? (Lab MUST Be Notified) <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		Immediately Packed on Ice: N <input checked="" type="checkbox"/> YX	
Collected by (print): S. McLann Collected by (signature): 		Matrix *		Depth		Date	
Sample ID		Comp/Grab		Matrix *		Depth	
Date		Time		No. of Cntrs		Remarks	
MW-29-071717		G		GW		N/A 7/17/17 1340 3 X	
MW-26-071717				GW		1350 3 X	
MW-23-071717				GW		1400 3 X	
MW-34-071717				GW		1420 3 X	
MW-39-071717				GW		1425 3 X	
MW-40-071717				GW		1435 3 X	
MW-41-071717				GW		1440 3 X	
MW-25-071717				GW		1450 3 X	
MW-35-071717				GW		1500 3 X	
MW-38-071717		↓		GW		↓ 1510 3 X	
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other		Remarks: Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier		Tracking # 7372 1962 2152		pH _____ Temp _____ Flow _____ Other _____	
Relinquished by: (Signature) 		Date: 7/17/17		Time: 1800		Received by: (Signature) 	
Relinquished by: (Signature)		Date:		Time:		Trip Blank Received: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No HCl / MeOH TBX	
Relinquished by: (Signature)		Date:		Time:		Temp: 0.3 °C Bottles Received: 54	
Relinquished by: (Signature)		Date:		Time:		If preservation required by Login: Date/Time Hold:	
Relinquished by: (Signature)		Date:		Time:		Condition: NCF / <input checked="" type="checkbox"/>	

CH2M Hill- Kinder Morgan- Atlanta, GA		Billing Information:		Fres Chk		Analysis / Container / Preservative						Chain of Custody Page 2 of 2			
6600 Peachtree Dunwoody Road		Accounts Payable 1000 Windward Concourse Ste 450 Alpharetta, GA 30005										 <small>12095 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859</small>			
Report to: Bethany Garvey		Email To: bgarvey@ch2m.com; tom.wiley@ch2m.com; scott.powell@ch2m.com;										L # 692305D			
Project Description: Lewis Drive Groundwater		City/State Collected:										Table #			
Phone: 770-604-9182		Client Project # 684910.LDND.GW		Lab Project # KINCH2MGA-LEWIS12								Acctnum: KINCH2MGA			
Fax:		Site/Facility ID # Lewis Dr		P.O. #								Template: T121318			
Collected by (print): S. McLann		Rush? (Lab MUST Be Notified)		Quote #								Prelogin: P609693			
Collected by (signature): <i>Justine McLann</i>		<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		Date Results Needed								TSR: 526 - Chris McCord			
Immediately Packed on Ice: N Y X												PB: 67-11-17			
Sample ID		Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs							Shipped Via: FedEX Ground	
MW-38-071717	G	GW	N/A	7/17/17	1520	3	X							Remarks	
MW-38-071717-FD		GW			1525	3	X							Sample # (lab only)	
MW-31-071717		GW			1535	3	X							11	
MW-10-071717		GW			1550	3	X							12	
MW-05-071717		GW			1555	3	X							13	
MW-30-071717		GW			1650	3	X							14	
MW-45-071717		GW			1710	3	X							15	
FB-01-071717		GW			1715	3	X							16	
TR-01-071717	↓	GW	↓	↓	1718	2	X							17	
* Matrix:		Remarks:		pH _____ Temp _____										Sample Receipt Checklist	
SS - Soil AIR - Air F - Filter				Flow _____ Other _____										COC Seal Present/Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
GW - Groundwater B - Bioassay														COC Signed/Accurate: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
WW - WasteWater														Bottles arrive intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
DW - Drinking Water														Correct bottles used: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
OT - Other _____														Sufficient volume sent: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
Samples returned via:		Tracking #												If Applicable	
<input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier _____														VOA Zero Headspace: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)		Trip Blank Received: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No								Preservation Correct/Checked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
<i>Justine McLann</i>		7/17/17	1800			HCl / MeOH TBR									
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)		Temp: _____ °C								Bottles Received: _____	
						0.3°C								54	
Relinquished by: (Signature)		Date:	Time:	Received for lab by: (Signature)		Date:		Time:		Hold:		Condition: <input checked="" type="checkbox"/> NCF <input type="checkbox"/> OK			
				<i>Marina Makare</i>		7-18-17		0845							

August 10, 2017

CH2M Hill- Kinder Morgan- Atlanta, GA

Sample Delivery Group: L926290
Samples Received: 08/02/2017
Project Number: 684910.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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¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

SAMPLE SUMMARY



Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
MW-26-080117 L926290-01 GW					
			Collected by MS/MT	Collected date/time 08/01/17 14:00	Received date/time 08/02/17 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1005393	1	08/03/17 05:40	08/03/17 05:40	JAH
MW-23-080117 L926290-02 GW					
			Collected by MS/MT	Collected date/time 08/01/17 14:10	Received date/time 08/02/17 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1005393	1	08/03/17 05:57	08/03/17 05:57	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1005393	5	08/04/17 14:56	08/04/17 14:56	BMB
MW-29-080117 L926290-03 GW					
			Collected by MS/MT	Collected date/time 08/01/17 14:20	Received date/time 08/02/17 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1005393	1	08/03/17 06:13	08/03/17 06:13	JAH
MW-34-080117 L926290-04 GW					
			Collected by MS/MT	Collected date/time 08/01/17 14:33	Received date/time 08/02/17 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1005393	10	08/03/17 06:30	08/03/17 06:30	JAH
MW-39-080117 L926290-05 GW					
			Collected by MS/MT	Collected date/time 08/01/17 14:40	Received date/time 08/02/17 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1005393	100	08/03/17 06:47	08/03/17 06:47	JAH
MW-40-080117 L926290-06 GW					
			Collected by MS/MT	Collected date/time 08/01/17 14:50	Received date/time 08/02/17 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1005393	500	08/03/17 07:04	08/03/17 07:04	JAH
MW-41-080117 L926290-07 GW					
			Collected by MS/MT	Collected date/time 08/01/17 14:55	Received date/time 08/02/17 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1005393	10	08/03/17 07:21	08/03/17 07:21	JAH
MW-25-080117 L926290-08 GW					
			Collected by MS/MT	Collected date/time 08/01/17 15:00	Received date/time 08/02/17 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1005393	10	08/03/17 07:38	08/03/17 07:38	JAH

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

SAMPLE SUMMARY



MW-35-080117 L926290-11 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1005393	1	08/03/17 07:55	08/03/17 07:55	JAH

Collected by MS/MT Collected date/time 08/01/17 15:10 Received date/time 08/02/17 08:45

1
Cp

MW-38-080117 L926290-12 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1005393	1	08/03/17 08:11	08/03/17 08:11	JAH

Collected by MS/MT Collected date/time 08/01/17 15:20 Received date/time 08/02/17 08:45

2
Tc

3
Ss

MW-31-080117 L926290-13 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1005393	1	08/03/17 08:28	08/03/17 08:28	JAH

Collected by MS/MT Collected date/time 08/01/17 15:30 Received date/time 08/02/17 08:45

4
Cn

5
Sr

MW-31-D-080117 L926290-14 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1005393	1	08/03/17 08:44	08/03/17 08:44	JAH

Collected by MS/MT Collected date/time 08/01/17 15:35 Received date/time 08/02/17 08:45

6
Qc

7
Gl

MW-05-080117 L926290-15 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1005393	1	08/03/17 09:01	08/03/17 09:01	JAH

Collected by MS/MT Collected date/time 08/01/17 15:40 Received date/time 08/02/17 08:45

8
Al

MW-10-080117 L926290-16 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1005393	1	08/03/17 09:18	08/03/17 09:18	JAH

Collected by MS/MT Collected date/time 08/01/17 15:55 Received date/time 08/02/17 08:45

9
Sc

FB01-080117 L926290-17 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1005393	1	08/03/17 09:52	08/03/17 09:52	JAH

Collected by MS/MT Collected date/time 08/01/17 16:05 Received date/time 08/02/17 08:45

TB01-080117 L926290-18 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1005393	1	08/03/17 10:09	08/03/17 10:09	JAH

Collected by MS/MT Collected date/time 08/01/17 16:10 Received date/time 08/02/17 08:45

SAMPLE SUMMARY

MW28-080217 L926290-19 GW

Collected by MS / MT Collected date/time 08/02/17 10:35 Received date/time 08/03/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1006226	1	08/04/17 22:14	08/04/17 22:14	GLN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1006226	10	08/09/17 08:48	08/09/17 08:48	GLN

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

MW30-080217 L926290-20 GW

Collected by MS / MT Collected date/time 08/02/17 11:05 Received date/time 08/03/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1006226	25	08/04/17 22:31	08/04/17 22:31	GLN

MW45-080217 L926290-21 GW

Collected by MS / MT Collected date/time 08/02/17 11:15 Received date/time 08/03/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1006226	1	08/04/17 22:48	08/04/17 22:48	GLN



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

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	08/03/2017 05:40	WG1005393
Toluene	ND		1.00	1	08/03/2017 05:40	WG1005393
Ethylbenzene	ND		1.00	1	08/03/2017 05:40	WG1005393
Total Xylenes	ND		3.00	1	08/03/2017 05:40	WG1005393
Methyl tert-butyl ether	ND		1.00	1	08/03/2017 05:40	WG1005393
Naphthalene	ND		5.00	1	08/03/2017 05:40	WG1005393
1,2-Dichloroethane	ND		1.00	1	08/03/2017 05:40	WG1005393
(S) Toluene-d8	106		80.0-120		08/03/2017 05:40	WG1005393
(S) Dibromofluoromethane	106		76.0-123		08/03/2017 05:40	WG1005393
(S) 4-Bromofluorobenzene	104		80.0-120		08/03/2017 05:40	WG1005393

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	132		5.00	5	08/04/2017 14:56	WG1005393
Toluene	6.18		1.00	1	08/03/2017 05:57	WG1005393
Ethylbenzene	ND		1.00	1	08/03/2017 05:57	WG1005393
Total Xylenes	252		3.00	1	08/03/2017 05:57	WG1005393
Methyl tert-butyl ether	48.1		1.00	1	08/03/2017 05:57	WG1005393
Naphthalene	ND		5.00	1	08/03/2017 05:57	WG1005393
1,2-Dichloroethane	ND		1.00	1	08/03/2017 05:57	WG1005393
(S) Toluene-d8	109		80.0-120		08/03/2017 05:57	WG1005393
(S) Toluene-d8	99.1		80.0-120		08/04/2017 14:56	WG1005393
(S) Dibromofluoromethane	105		76.0-123		08/03/2017 05:57	WG1005393
(S) Dibromofluoromethane	109		76.0-123		08/04/2017 14:56	WG1005393
(S) 4-Bromofluorobenzene	113		80.0-120		08/04/2017 14:56	WG1005393
(S) 4-Bromofluorobenzene	100		80.0-120		08/03/2017 05:57	WG1005393

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	08/03/2017 06:13	WG1005393
Toluene	ND		1.00	1	08/03/2017 06:13	WG1005393
Ethylbenzene	ND		1.00	1	08/03/2017 06:13	WG1005393
Total Xylenes	ND		3.00	1	08/03/2017 06:13	WG1005393
Methyl tert-butyl ether	ND		1.00	1	08/03/2017 06:13	WG1005393
Naphthalene	ND		5.00	1	08/03/2017 06:13	WG1005393
1,2-Dichloroethane	ND		1.00	1	08/03/2017 06:13	WG1005393
(S) Toluene-d8	105		80.0-120		08/03/2017 06:13	WG1005393
(S) Dibromofluoromethane	104		76.0-123		08/03/2017 06:13	WG1005393
(S) 4-Bromofluorobenzene	102		80.0-120		08/03/2017 06:13	WG1005393

- 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	517		10.0	10	08/03/2017 06:30	WG1005393
Toluene	31.7		10.0	10	08/03/2017 06:30	WG1005393
Ethylbenzene	ND		10.0	10	08/03/2017 06:30	WG1005393
Total Xylenes	110		30.0	10	08/03/2017 06:30	WG1005393
Methyl tert-butyl ether	98.3		10.0	10	08/03/2017 06:30	WG1005393
Naphthalene	ND		50.0	10	08/03/2017 06:30	WG1005393
1,2-Dichloroethane	ND		10.0	10	08/03/2017 06:30	WG1005393
(S) Toluene-d8	108		80.0-120		08/03/2017 06:30	WG1005393
(S) Dibromofluoromethane	105		76.0-123		08/03/2017 06:30	WG1005393
(S) 4-Bromofluorobenzene	103		80.0-120		08/03/2017 06:30	WG1005393

- 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	4630		100	100	08/03/2017 06:47	WG1005393
Toluene	2880		100	100	08/03/2017 06:47	WG1005393
Ethylbenzene	ND		100	100	08/03/2017 06:47	WG1005393
Total Xylenes	4740		300	100	08/03/2017 06:47	WG1005393
Methyl tert-butyl ether	348		100	100	08/03/2017 06:47	WG1005393
Naphthalene	ND		500	100	08/03/2017 06:47	WG1005393
1,2-Dichloroethane	ND		100	100	08/03/2017 06:47	WG1005393
(S) Toluene-d8	106		80.0-120		08/03/2017 06:47	WG1005393
(S) Dibromofluoromethane	106		76.0-123		08/03/2017 06:47	WG1005393
(S) 4-Bromofluorobenzene	101		80.0-120		08/03/2017 06:47	WG1005393

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	12000		500	500	08/03/2017 07:04	WG1005393
Toluene	23200		500	500	08/03/2017 07:04	WG1005393
Ethylbenzene	1120		500	500	08/03/2017 07:04	WG1005393
Total Xylenes	8070		1500	500	08/03/2017 07:04	WG1005393
Methyl tert-butyl ether	631		500	500	08/03/2017 07:04	WG1005393
Naphthalene	ND		2500	500	08/03/2017 07:04	WG1005393
1,2-Dichloroethane	ND		500	500	08/03/2017 07:04	WG1005393
(S) Toluene-d8	106		80.0-120		08/03/2017 07:04	WG1005393
(S) Dibromofluoromethane	107		76.0-123		08/03/2017 07:04	WG1005393
(S) 4-Bromofluorobenzene	103		80.0-120		08/03/2017 07:04	WG1005393

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	08/03/2017 07:21	WG1005393
Toluene	ND		10.0	10	08/03/2017 07:21	WG1005393
Ethylbenzene	ND		10.0	10	08/03/2017 07:21	WG1005393
Total Xylenes	260		30.0	10	08/03/2017 07:21	WG1005393
Methyl tert-butyl ether	ND		10.0	10	08/03/2017 07:21	WG1005393
Naphthalene	ND		50.0	10	08/03/2017 07:21	WG1005393
1,2-Dichloroethane	ND		10.0	10	08/03/2017 07:21	WG1005393
(S) Toluene-d8	104		80.0-120		08/03/2017 07:21	WG1005393
(S) Dibromofluoromethane	104		76.0-123		08/03/2017 07:21	WG1005393
(S) 4-Bromofluorobenzene	101		80.0-120		08/03/2017 07:21	WG1005393

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	234		10.0	10	08/03/2017 07:38	WG1005393
Toluene	ND		10.0	10	08/03/2017 07:38	WG1005393
Ethylbenzene	14.4		10.0	10	08/03/2017 07:38	WG1005393
Total Xylenes	277		30.0	10	08/03/2017 07:38	WG1005393
Methyl tert-butyl ether	ND		10.0	10	08/03/2017 07:38	WG1005393
Naphthalene	ND		50.0	10	08/03/2017 07:38	WG1005393
1,2-Dichloroethane	ND		10.0	10	08/03/2017 07:38	WG1005393
(S) Toluene-d8	107		80.0-120		08/03/2017 07:38	WG1005393
(S) Dibromofluoromethane	107		76.0-123		08/03/2017 07:38	WG1005393
(S) 4-Bromofluorobenzene	102		80.0-120		08/03/2017 07:38	WG1005393

- 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	08/03/2017 07:55	WG1005393
Toluene	ND		1.00	1	08/03/2017 07:55	WG1005393
Ethylbenzene	ND		1.00	1	08/03/2017 07:55	WG1005393
Total Xylenes	ND		3.00	1	08/03/2017 07:55	WG1005393
Methyl tert-butyl ether	ND		1.00	1	08/03/2017 07:55	WG1005393
Naphthalene	ND		5.00	1	08/03/2017 07:55	WG1005393
1,2-Dichloroethane	ND		1.00	1	08/03/2017 07:55	WG1005393
(S) Toluene-d8	104		80.0-120		08/03/2017 07:55	WG1005393
(S) Dibromofluoromethane	104		76.0-123		08/03/2017 07:55	WG1005393
(S) 4-Bromofluorobenzene	105		80.0-120		08/03/2017 07:55	WG1005393

- 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	08/03/2017 08:11	WG1005393
Toluene	ND		1.00	1	08/03/2017 08:11	WG1005393
Ethylbenzene	ND		1.00	1	08/03/2017 08:11	WG1005393
Total Xylenes	ND		3.00	1	08/03/2017 08:11	WG1005393
Methyl tert-butyl ether	7.25		1.00	1	08/03/2017 08:11	WG1005393
Naphthalene	ND		5.00	1	08/03/2017 08:11	WG1005393
1,2-Dichloroethane	ND		1.00	1	08/03/2017 08:11	WG1005393
(S) Toluene-d8	109		80.0-120		08/03/2017 08:11	WG1005393
(S) Dibromofluoromethane	102		76.0-123		08/03/2017 08:11	WG1005393
(S) 4-Bromofluorobenzene	104		80.0-120		08/03/2017 08:11	WG1005393

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	08/03/2017 08:28	WG1005393
Toluene	ND		1.00	1	08/03/2017 08:28	WG1005393
Ethylbenzene	ND		1.00	1	08/03/2017 08:28	WG1005393
Total Xylenes	ND		3.00	1	08/03/2017 08:28	WG1005393
Methyl tert-butyl ether	ND		1.00	1	08/03/2017 08:28	WG1005393
Naphthalene	ND		5.00	1	08/03/2017 08:28	WG1005393
1,2-Dichloroethane	ND		1.00	1	08/03/2017 08:28	WG1005393
(S) Toluene-d8	106		80.0-120		08/03/2017 08:28	WG1005393
(S) Dibromofluoromethane	106		76.0-123		08/03/2017 08:28	WG1005393
(S) 4-Bromofluorobenzene	100		80.0-120		08/03/2017 08:28	WG1005393

- 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	08/03/2017 08:44	WG1005393
Toluene	ND		1.00	1	08/03/2017 08:44	WG1005393
Ethylbenzene	ND		1.00	1	08/03/2017 08:44	WG1005393
Total Xylenes	ND		3.00	1	08/03/2017 08:44	WG1005393
Methyl tert-butyl ether	ND		1.00	1	08/03/2017 08:44	WG1005393
Naphthalene	ND		5.00	1	08/03/2017 08:44	WG1005393
1,2-Dichloroethane	ND		1.00	1	08/03/2017 08:44	WG1005393
(S) Toluene-d8	106		80.0-120		08/03/2017 08:44	WG1005393
(S) Dibromofluoromethane	107		76.0-123		08/03/2017 08:44	WG1005393
(S) 4-Bromofluorobenzene	102		80.0-120		08/03/2017 08:44	WG1005393

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	08/03/2017 09:01	WG1005393
Toluene	ND		1.00	1	08/03/2017 09:01	WG1005393
Ethylbenzene	ND		1.00	1	08/03/2017 09:01	WG1005393
Total Xylenes	ND		3.00	1	08/03/2017 09:01	WG1005393
Methyl tert-butyl ether	ND		1.00	1	08/03/2017 09:01	WG1005393
Naphthalene	ND		5.00	1	08/03/2017 09:01	WG1005393
1,2-Dichloroethane	ND		1.00	1	08/03/2017 09:01	WG1005393
(S) Toluene-d8	107		80.0-120		08/03/2017 09:01	WG1005393
(S) Dibromofluoromethane	105		76.0-123		08/03/2017 09:01	WG1005393
(S) 4-Bromofluorobenzene	107		80.0-120		08/03/2017 09:01	WG1005393

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	08/03/2017 09:18	WG1005393
Toluene	ND		1.00	1	08/03/2017 09:18	WG1005393
Ethylbenzene	ND		1.00	1	08/03/2017 09:18	WG1005393
Total Xylenes	ND		3.00	1	08/03/2017 09:18	WG1005393
Methyl tert-butyl ether	ND		1.00	1	08/03/2017 09:18	WG1005393
Naphthalene	ND		5.00	1	08/03/2017 09:18	WG1005393
1,2-Dichloroethane	ND		1.00	1	08/03/2017 09:18	WG1005393
(S) Toluene-d8	107		80.0-120		08/03/2017 09:18	WG1005393
(S) Dibromofluoromethane	104		76.0-123		08/03/2017 09:18	WG1005393
(S) 4-Bromofluorobenzene	103		80.0-120		08/03/2017 09:18	WG1005393

- 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	08/03/2017 09:52	WG1005393
Toluene	ND		1.00	1	08/03/2017 09:52	WG1005393
Ethylbenzene	ND		1.00	1	08/03/2017 09:52	WG1005393
Total Xylenes	ND		3.00	1	08/03/2017 09:52	WG1005393
Methyl tert-butyl ether	ND		1.00	1	08/03/2017 09:52	WG1005393
Naphthalene	ND		5.00	1	08/03/2017 09:52	WG1005393
1,2-Dichloroethane	ND		1.00	1	08/03/2017 09:52	WG1005393
(S) Toluene-d8	106		80.0-120		08/03/2017 09:52	WG1005393
(S) Dibromofluoromethane	102		76.0-123		08/03/2017 09:52	WG1005393
(S) 4-Bromofluorobenzene	102		80.0-120		08/03/2017 09:52	WG1005393

- 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	08/03/2017 10:09	WG1005393
Toluene	ND		1.00	1	08/03/2017 10:09	WG1005393
Ethylbenzene	ND		1.00	1	08/03/2017 10:09	WG1005393
Total Xylenes	ND		3.00	1	08/03/2017 10:09	WG1005393
Methyl tert-butyl ether	ND		1.00	1	08/03/2017 10:09	WG1005393
Naphthalene	ND		5.00	1	08/03/2017 10:09	WG1005393
1,2-Dichloroethane	ND		1.00	1	08/03/2017 10:09	WG1005393
(S) Toluene-d8	107		80.0-120		08/03/2017 10:09	WG1005393
(S) Dibromofluoromethane	105		76.0-123		08/03/2017 10:09	WG1005393
(S) 4-Bromofluorobenzene	103		80.0-120		08/03/2017 10:09	WG1005393

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	
Benzene	219		10.0	10	08/09/2017 08:48	WG1006226
Toluene	52.7		1.00	1	08/04/2017 22:14	WG1006226
Ethylbenzene	48.7		1.00	1	08/04/2017 22:14	WG1006226
Xylenes, Total	187		3.00	1	08/04/2017 22:14	WG1006226
Methyl tert-butyl ether	3.46		1.00	1	08/04/2017 22:14	WG1006226
Naphthalene	11.9	<u>B</u>	5.00	1	08/04/2017 22:14	WG1006226
1,2-Dichloroethane	ND		1.00	1	08/04/2017 22:14	WG1006226
(S) Toluene-d8	109		80.0-120		08/09/2017 08:48	WG1006226
(S) Toluene-d8	102		80.0-120		08/04/2017 22:14	WG1006226
(S) Dibromofluoromethane	106		76.0-123		08/04/2017 22:14	WG1006226
(S) Dibromofluoromethane	89.2		76.0-123		08/09/2017 08:48	WG1006226
(S) a,a,a-Trifluorotoluene	104		80.0-120		08/09/2017 08:48	WG1006226
(S) a,a,a-Trifluorotoluene	107		80.0-120		08/04/2017 22:14	WG1006226
(S) 4-Bromofluorobenzene	102		80.0-120		08/09/2017 08:48	WG1006226
(S) 4-Bromofluorobenzene	124	<u>J1</u>	80.0-120		08/04/2017 22:14	WG1006226

- 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	1240		25.0	25	08/04/2017 22:31	WG1006226
Toluene	1020		25.0	25	08/04/2017 22:31	WG1006226
Ethylbenzene	25.9		25.0	25	08/04/2017 22:31	WG1006226
Xylenes, Total	2230		75.0	25	08/04/2017 22:31	WG1006226
Methyl tert-butyl ether	ND		25.0	25	08/04/2017 22:31	WG1006226
Naphthalene	ND		125	25	08/04/2017 22:31	WG1006226
1,2-Dichloroethane	ND		25.0	25	08/04/2017 22:31	WG1006226
(S) Toluene-d8	107		80.0-120		08/04/2017 22:31	WG1006226
(S) Dibromofluoromethane	105		76.0-123		08/04/2017 22:31	WG1006226
(S) a,a,a-Trifluorotoluene	105		80.0-120		08/04/2017 22:31	WG1006226
(S) 4-Bromofluorobenzene	120		80.0-120		08/04/2017 22:31	WG1006226

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

Sample Narrative:

L926290-20 WG1006226: Target and Non-target compounds too high to run at a lower dilution.



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	08/04/2017 22:48	WG1006226
Toluene	ND		1.00	1	08/04/2017 22:48	WG1006226
Ethylbenzene	ND		1.00	1	08/04/2017 22:48	WG1006226
Xylenes, Total	ND		3.00	1	08/04/2017 22:48	WG1006226
Methyl tert-butyl ether	ND		1.00	1	08/04/2017 22:48	WG1006226
Naphthalene	ND		5.00	1	08/04/2017 22:48	WG1006226
1,2-Dichloroethane	ND		1.00	1	08/04/2017 22:48	WG1006226
(S) Toluene-d8	109		80.0-120		08/04/2017 22:48	WG1006226
(S) Dibromofluoromethane	105		76.0-123		08/04/2017 22:48	WG1006226
(S) a,a,a-Trifluorotoluene	108		80.0-120		08/04/2017 22:48	WG1006226
(S) 4-Bromofluorobenzene	119		80.0-120		08/04/2017 22:48	WG1006226

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

WG1005393

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

QUALITY CONTROL SUMMARY

L926290-01,02,03,04,05,06,07,08,11,12,13,14,15,16,17,18

ONE LAB. NATIONWIDE.



Method Blank (MB)

(MB) R3238327-2 08/02/17 23:44

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	107			80.0-120
(S) Dibromofluoromethane	101			76.0-123
(S) 4-Bromofluorobenzene	107			80.0-120

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

Laboratory Control Sample (LCS)

(LCS) R3238327-1 08/02/17 22:54

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Benzene	25.0	22.7	90.9	70.0-130	
1,2-Dichloroethane	25.0	20.3	81.2	70.0-130	
Ethylbenzene	25.0	23.2	92.8	70.0-130	
Methyl tert-butyl ether	25.0	19.3	77.2	70.0-130	
Naphthalene	25.0	21.0	83.9	70.0-130	
Toluene	25.0	23.1	92.5	70.0-130	
Xylenes, Total	75.0	69.4	92.5	70.0-130	
(S) Toluene-d8			108	80.0-120	
(S) Dibromofluoromethane			101	76.0-123	
(S) 4-Bromofluorobenzene			103	80.0-120	

7 Gl

8 Al

9 Sc

WG1006226

QUALITY CONTROL SUMMARY

ONE LAB. NATIONWIDE.



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

L926290-19,20,21

Method Blank (MB)

(MB) R3239387-2 08/04/17 17:56

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	1.35	J	1.00	5.00
Toluene	U		0.412	1.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	106			80.0-120
(S) Dibromofluoromethane	104			76.0-123
(S) a,a,a-Trifluorotoluene	106			80.0-120
(S) 4-Bromofluorobenzene	119			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) R3239387-1 08/04/17 17:40

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Benzene	25.0	19.9	79.7	70.0-130	
1,2-Dichloroethane	25.0	18.7	74.8	70.0-130	
Ethylbenzene	25.0	21.2	84.8	70.0-130	
Methyl tert-butyl ether	25.0	20.1	80.3	70.0-130	
Naphthalene	25.0	24.9	99.5	70.0-130	
Toluene	25.0	20.2	81.0	70.0-130	
Xylenes, Total	75.0	65.0	86.7	70.0-130	
(S) Toluene-d8			105	80.0-120	
(S) Dibromofluoromethane			104	76.0-123	
(S) a,a,a-Trifluorotoluene			106	80.0-120	
(S) 4-Bromofluorobenzene			119	80.0-120	



Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(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.
Rec.	Recovery.

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



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.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ^{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

Project
Description: **Lewis Drive Groundwater**

Phone: **770-604-9182**

Collected by (print):
MATS. + MIKE T.

Collected by (signature):
[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:

Lab Project #
KINCH2MGA-LEWIS12

P.O. #

Quote #

Date Results Needed

Price Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 2



L # **1926290**
C186

Acctnum: **KINCH2MGA**
Template: **T121291**
Prelogin: **P611258**
TSR: **526 - Chris McCord**
PB: **7-27-17**
Shipped Via: **FedEX Ground**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Analysis / Container / Preservative	Remarks	Sample # (lab only)
MW-26-080117	G	GW	NA	080117	1400	3	V8260BTEXMNSC-40miAmb-HCl		-01
MW-23-080117		GW			1410	3	V8260BTEXMNSC-TB 40miAmb-HCl-Bk		-02
MW-29-080117		GW			1420	3			-03
MW-34-080117		GW			1433	3			-04
MW-39-080117		GW			1440	3			-05
MW-40-080117		GW			1450	3			-06
MW-41-080117		GW			1455	3			-07
MW-25-080117	↓	GW	↓	↓	1500	3			-08
DUPLICATE		GW				3			-09
FIELD BLANK		GW				3			-10

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

Remarks: V8260BTEXMNSC includes 1,2-DCA


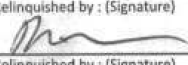
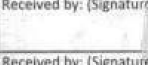
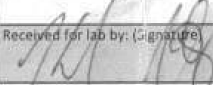
Samples returned via:
 UPS FedEx Courier

Tracking # **7372 1970 2388**

pH _____ Temp _____
Flow _____ Other _____

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

Relinquished by: (Signature) <i>[Signature]</i>	Date: 080117	Time: 1705	Received by: (Signature) <i>[Signature]</i>	Trip Blank Received: <input checked="" type="checkbox"/> No <input type="checkbox"/> MeOH <input type="checkbox"/> TBR	Temp: 3.4 °C	Bottles Received: 45	If preservation required by Login: Date/Time
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)				
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) <i>[Signature]</i>		Date: 8-2-17	Time: 0845	Hold: _____ Condition: NCF / OK

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		Analysis / Container / Preservative				Chain of Custody Page <u>1</u> of <u>2</u>	
		Email To: bgarvey@ch2m.com; tom.wiley@ch2m.com; scott.powell@ch2m.com;		Pres Chk				 12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-8859 Fax: 615-758-5859	
Project Description: Lewis Drive Groundwater		City/State Collected:		V8260BTEXMNSC-40miAmb-HCI V8260BTEXMNSC-TB 40miAmb-HCI-Blk				L # <u>192690</u>	
Phone: 770-604-9182 Fax:		Client Project # <u>684910 LD MR GW</u>						Lab Project # KINCH2MGA-LEWIS12	
Collected by (print): <u>MANS. + MIKET.</u>		Site/Facility ID # <u>Lewis Drive</u>		P.O. #		Acctnum: KINCH2MGA Template: T121291 Prelogin: P611258 TSR: 526 - Chris McCord PB: <u>227176</u>			
Collected by (signature):		Rush? (Lab MUST Be Notified) <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		Quote #		Date Results Needed			
Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>		Date Results Needed		No. of Cntrs		Shipped Via: FedEX Ground			
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Remarks		
MW-35-080117	B	GW	NA	080117	1510	3	X	-11	
MW-38-080117		GW			1520	3	X	-12	
MW-31-080117		GW			1530	3	X	-13	
MW-31-D-080117		GW			1535	3	X	-14	
MW-05-080117		GW			1540	3	X	-15	
MW-10-080117		GW			1555	3	X	-16	
FB01-080117		GW			1605	3	X	-17	
TB01-080117	✓	GW	✓	✓	1610	3	X	-18	
		GW				3	X		
		GW				3	X		
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other		Remarks: V8260BTEXMNSC includes 1,2-DCA		pH _____ Temp _____ Flow _____ Other _____		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 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) 		Date: <u>080117</u> Time: <u>1705</u>		Received by: (Signature) 		Trip Blank Received: <u>1</u> Yes / No HCl / MeOH TBR		Temp: <u>34.0</u> °C Bottles Received: <u>45</u>	
Relinquished by: (Signature)		Date: Time:		Received by: (Signature)		Temp: °C Bottles Received:		If preservation required by Login: Date/Time	
Relinquished by: (Signature)		Date: Time:		Received for lab by: (Signature) 		Date: <u>8-2-17</u> Time: <u>0845</u>		Hold: Condition: NCF / <input checked="" type="checkbox"/> OK	

September 18, 2017

CH2M Hill- Kinder Morgan- Atlanta, GA

Sample Delivery Group: L934953
Samples Received: 09/08/2017
Project Number: 684910.LD.MR.GW
Description: Lewis Drive Site 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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¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

SAMPLE SUMMARY



FB-090717 L934953-01 GW

Collected by
Melissa Warren

Collected date/time
09/07/17 16:36

Received date/time
09/08/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018707	1	09/10/17 12:20	09/10/17 12:20	ACE

1 Cp

2 Tc

3 Ss

MW-01-090717 L934953-02 GW

Collected by
Melissa Warren

Collected date/time
09/07/17 15:54

Received date/time
09/08/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018707	1	09/10/17 12:39	09/10/17 12:39	ACE

4 Cn

5 Sr

MW-01B-090717 L934953-03 GW

Collected by
Melissa Warren

Collected date/time
09/07/17 16:07

Received date/time
09/08/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018707	1	09/10/17 12:59	09/10/17 12:59	ACE

6 Qc

7 Gl

MW-23-090717 L934953-04 GW

Collected by
Melissa Warren

Collected date/time
09/07/17 14:21

Received date/time
09/08/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018707	10	09/14/17 16:33	09/14/17 16:33	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018707	5	09/10/17 13:18	09/10/17 13:18	ACE

8 Al

9 Sc

MW-23B-090717 L934953-05 GW

Collected by
Melissa Warren

Collected date/time
09/07/17 14:32

Received date/time
09/08/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018707	1	09/10/17 13:38	09/10/17 13:38	ACE

MW-26-090717 L934953-06 GW

Collected by
Melissa Warren

Collected date/time
09/07/17 14:08

Received date/time
09/08/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018707	1	09/10/17 13:57	09/10/17 13:57	ACE

MW-26B-090717 L934953-07 GW

Collected by
Melissa Warren

Collected date/time
09/07/17 13:52

Received date/time
09/08/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018707	1	09/10/17 14:17	09/10/17 14:17	ACE

MW-26B-090717-DUP L934953-08 GW

Collected by
Melissa Warren

Collected date/time
09/07/17 13:55

Received date/time
09/08/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018707	1	09/10/17 14:36	09/10/17 14:36	ACE

SAMPLE SUMMARY

MW-27B-090717 L934953-09 GW

Collected by
Melissa Warren
Collected date/time
09/07/17 15:29
Received date/time
09/08/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018707	1	09/10/17 14:56	09/10/17 14:56	ACE

1
Cp

2
Tc

3
Ss

MW-29-090717 L934953-10 GW

Collected by
Melissa Warren
Collected date/time
09/07/17 13:35
Received date/time
09/08/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018707	1	09/10/17 15:15	09/10/17 15:15	ACE

4
Cn

5
Sr

MW-44B-090717 L934953-11 GW

Collected by
Melissa Warren
Collected date/time
09/07/17 16:20
Received date/time
09/08/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018707	1	09/10/17 15:35	09/10/17 15:35	ACE

6
Qc

7
Gl

TB-090717 L934953-12 GW

Collected by
Melissa Warren
Collected date/time
09/07/17 16:34
Received date/time
09/08/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018707	1	09/10/17 11:41	09/10/17 11:41	ACE

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. 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	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	09/10/2017 12:20	WG1018707
Toluene	ND		1.00	1	09/10/2017 12:20	WG1018707
Ethylbenzene	ND		1.00	1	09/10/2017 12:20	WG1018707
Total Xylenes	ND		3.00	1	09/10/2017 12:20	WG1018707
Methyl tert-butyl ether	ND		1.00	1	09/10/2017 12:20	WG1018707
Naphthalene	ND		5.00	1	09/10/2017 12:20	WG1018707
1,2-Dichloroethane	ND		1.00	1	09/10/2017 12:20	WG1018707
(S) Toluene-d8	105		80.0-120		09/10/2017 12:20	WG1018707
(S) Dibromofluoromethane	93.9		76.0-123		09/10/2017 12:20	WG1018707
(S) 4-Bromofluorobenzene	104		80.0-120		09/10/2017 12:20	WG1018707

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	09/10/2017 12:39	WG1018707
Toluene	ND		1.00	1	09/10/2017 12:39	WG1018707
Ethylbenzene	ND		1.00	1	09/10/2017 12:39	WG1018707
Total Xylenes	ND		3.00	1	09/10/2017 12:39	WG1018707
Methyl tert-butyl ether	ND		1.00	1	09/10/2017 12:39	WG1018707
Naphthalene	ND		5.00	1	09/10/2017 12:39	WG1018707
1,2-Dichloroethane	ND		1.00	1	09/10/2017 12:39	WG1018707
(S) Toluene-d8	105		80.0-120		09/10/2017 12:39	WG1018707
(S) Dibromofluoromethane	94.7		76.0-123		09/10/2017 12:39	WG1018707
(S) 4-Bromofluorobenzene	106		80.0-120		09/10/2017 12:39	WG1018707

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	09/10/2017 12:59	WG1018707
Toluene	ND		1.00	1	09/10/2017 12:59	WG1018707
Ethylbenzene	ND		1.00	1	09/10/2017 12:59	WG1018707
Total Xylenes	ND		3.00	1	09/10/2017 12:59	WG1018707
Methyl tert-butyl ether	ND		1.00	1	09/10/2017 12:59	WG1018707
Naphthalene	ND		5.00	1	09/10/2017 12:59	WG1018707
1,2-Dichloroethane	ND		1.00	1	09/10/2017 12:59	WG1018707
(S) Toluene-d8	106		80.0-120		09/10/2017 12:59	WG1018707
(S) Dibromofluoromethane	96.4		76.0-123		09/10/2017 12:59	WG1018707
(S) 4-Bromofluorobenzene	105		80.0-120		09/10/2017 12:59	WG1018707

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	
Benzene	1110		10.0	10	09/14/2017 16:33	WG1018707
Toluene	43.1		5.00	5	09/10/2017 13:18	WG1018707
Ethylbenzene	9.25		5.00	5	09/10/2017 13:18	WG1018707
Total Xylenes	999		15.0	5	09/10/2017 13:18	WG1018707
Methyl tert-butyl ether	141		5.00	5	09/10/2017 13:18	WG1018707
Naphthalene	ND		25.0	5	09/10/2017 13:18	WG1018707
1,2-Dichloroethane	ND		5.00	5	09/10/2017 13:18	WG1018707
(S) Toluene-d8	101		80.0-120		09/14/2017 16:33	WG1018707
(S) Toluene-d8	106		80.0-120		09/10/2017 13:18	WG1018707
(S) Dibromofluoromethane	107		76.0-123		09/14/2017 16:33	WG1018707
(S) Dibromofluoromethane	95.6		76.0-123		09/10/2017 13:18	WG1018707
(S) 4-Bromofluorobenzene	105		80.0-120		09/14/2017 16:33	WG1018707
(S) 4-Bromofluorobenzene	105		80.0-120		09/10/2017 13:18	WG1018707

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



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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	09/10/2017 13:38	WG1018707
Toluene	1.65		1.00	1	09/10/2017 13:38	WG1018707
Ethylbenzene	ND		1.00	1	09/10/2017 13:38	WG1018707
Total Xylenes	5.40		3.00	1	09/10/2017 13:38	WG1018707
Methyl tert-butyl ether	ND		1.00	1	09/10/2017 13:38	WG1018707
Naphthalene	ND		5.00	1	09/10/2017 13:38	WG1018707
1,2-Dichloroethane	ND		1.00	1	09/10/2017 13:38	WG1018707
(S) Toluene-d8	106		80.0-120		09/10/2017 13:38	WG1018707
(S) Dibromofluoromethane	94.0		76.0-123		09/10/2017 13:38	WG1018707
(S) 4-Bromofluorobenzene	104		80.0-120		09/10/2017 13:38	WG1018707

- 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	
Benzene	ND		1.00	1	09/10/2017 13:57	WG1018707
Toluene	ND		1.00	1	09/10/2017 13:57	WG1018707
Ethylbenzene	ND		1.00	1	09/10/2017 13:57	WG1018707
Total Xylenes	ND		3.00	1	09/10/2017 13:57	WG1018707
Methyl tert-butyl ether	ND		1.00	1	09/10/2017 13:57	WG1018707
Naphthalene	ND		5.00	1	09/10/2017 13:57	WG1018707
1,2-Dichloroethane	ND		1.00	1	09/10/2017 13:57	WG1018707
(S) Toluene-d8	106		80.0-120		09/10/2017 13:57	WG1018707
(S) Dibromofluoromethane	94.2		76.0-123		09/10/2017 13:57	WG1018707
(S) 4-Bromofluorobenzene	107		80.0-120		09/10/2017 13:57	WG1018707

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	
Benzene	ND		1.00	1	09/10/2017 14:17	WG1018707
Toluene	ND		1.00	1	09/10/2017 14:17	WG1018707
Ethylbenzene	ND		1.00	1	09/10/2017 14:17	WG1018707
Total Xylenes	ND		3.00	1	09/10/2017 14:17	WG1018707
Methyl tert-butyl ether	ND		1.00	1	09/10/2017 14:17	WG1018707
Naphthalene	ND		5.00	1	09/10/2017 14:17	WG1018707
1,2-Dichloroethane	ND		1.00	1	09/10/2017 14:17	WG1018707
(S) Toluene-d8	104		80.0-120		09/10/2017 14:17	WG1018707
(S) Dibromofluoromethane	95.7		76.0-123		09/10/2017 14:17	WG1018707
(S) 4-Bromofluorobenzene	103		80.0-120		09/10/2017 14:17	WG1018707

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	
Benzene	ND		1.00	1	09/10/2017 14:36	WG1018707
Toluene	ND		1.00	1	09/10/2017 14:36	WG1018707
Ethylbenzene	ND		1.00	1	09/10/2017 14:36	WG1018707
Total Xylenes	ND		3.00	1	09/10/2017 14:36	WG1018707
Methyl tert-butyl ether	ND		1.00	1	09/10/2017 14:36	WG1018707
Naphthalene	ND		5.00	1	09/10/2017 14:36	WG1018707
1,2-Dichloroethane	ND		1.00	1	09/10/2017 14:36	WG1018707
(S) Toluene-d8	105		80.0-120		09/10/2017 14:36	WG1018707
(S) Dibromofluoromethane	95.5		76.0-123		09/10/2017 14:36	WG1018707
(S) 4-Bromofluorobenzene	105		80.0-120		09/10/2017 14:36	WG1018707

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	
Benzene	ND		1.00	1	09/10/2017 14:56	WG1018707
Toluene	6.35		1.00	1	09/10/2017 14:56	WG1018707
Ethylbenzene	3.73		1.00	1	09/10/2017 14:56	WG1018707
Total Xylenes	30.3		3.00	1	09/10/2017 14:56	WG1018707
Methyl tert-butyl ether	ND		1.00	1	09/10/2017 14:56	WG1018707
Naphthalene	7.54		5.00	1	09/10/2017 14:56	WG1018707
1,2-Dichloroethane	ND		1.00	1	09/10/2017 14:56	WG1018707
(S) Toluene-d8	105		80.0-120		09/10/2017 14:56	WG1018707
(S) Dibromofluoromethane	94.7		76.0-123		09/10/2017 14:56	WG1018707
(S) 4-Bromofluorobenzene	105		80.0-120		09/10/2017 14:56	WG1018707

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	
Benzene	ND		1.00	1	09/10/2017 15:15	WG1018707
Toluene	ND		1.00	1	09/10/2017 15:15	WG1018707
Ethylbenzene	ND		1.00	1	09/10/2017 15:15	WG1018707
Total Xylenes	ND		3.00	1	09/10/2017 15:15	WG1018707
Methyl tert-butyl ether	ND		1.00	1	09/10/2017 15:15	WG1018707
Naphthalene	ND		5.00	1	09/10/2017 15:15	WG1018707
1,2-Dichloroethane	ND		1.00	1	09/10/2017 15:15	WG1018707
(S) Toluene-d8	105		80.0-120		09/10/2017 15:15	WG1018707
(S) Dibromofluoromethane	93.8		76.0-123		09/10/2017 15:15	WG1018707
(S) 4-Bromofluorobenzene	105		80.0-120		09/10/2017 15:15	WG1018707

- 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	
Benzene	ND		1.00	1	09/10/2017 15:35	WG1018707
Toluene	3.07		1.00	1	09/10/2017 15:35	WG1018707
Ethylbenzene	ND		1.00	1	09/10/2017 15:35	WG1018707
Total Xylenes	ND		3.00	1	09/10/2017 15:35	WG1018707
Methyl tert-butyl ether	ND		1.00	1	09/10/2017 15:35	WG1018707
Naphthalene	ND		5.00	1	09/10/2017 15:35	WG1018707
1,2-Dichloroethane	ND		1.00	1	09/10/2017 15:35	WG1018707
(S) Toluene-d8	104		80.0-120		09/10/2017 15:35	WG1018707
(S) Dibromofluoromethane	95.3		76.0-123		09/10/2017 15:35	WG1018707
(S) 4-Bromofluorobenzene	104		80.0-120		09/10/2017 15:35	WG1018707

- 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	
Benzene	ND		1.00	1	09/10/2017 11:41	WG1018707
Toluene	ND		1.00	1	09/10/2017 11:41	WG1018707
Ethylbenzene	ND		1.00	1	09/10/2017 11:41	WG1018707
Total Xylenes	ND		3.00	1	09/10/2017 11:41	WG1018707
Methyl tert-butyl ether	ND		1.00	1	09/10/2017 11:41	WG1018707
Naphthalene	ND		5.00	1	09/10/2017 11:41	WG1018707
1,2-Dichloroethane	ND		1.00	1	09/10/2017 11:41	WG1018707
(S) Toluene-d8	103		80.0-120		09/10/2017 11:41	WG1018707
(S) Dibromofluoromethane	95.3		76.0-123		09/10/2017 11:41	WG1018707
(S) 4-Bromofluorobenzene	103		80.0-120		09/10/2017 11:41	WG1018707

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

WG1018707

QUALITY CONTROL SUMMARY

ONE LAB. NATIONWIDE.



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

L934953-01,02,03,04,05,06,07,08,09,10,11,12

Method Blank (MB)

(MB) R3249130-3 09/10/17 10:33

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL 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	95.3			76.0-123
(S) 4-Bromofluorobenzene	103			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) R3249130-1 09/10/17 09:35 • (LCSD) R3249130-2 09/10/17 09:54

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	25.4	24.4	102	97.5	70.0-130			4.13	20
1,2-Dichloroethane	25.0	26.2	26.1	105	104	70.0-130			0.230	20
Ethylbenzene	25.0	28.2	27.3	113	109	70.0-130			3.17	20
Methyl tert-butyl ether	25.0	26.1	26.0	104	104	70.0-130			0.140	20
Naphthalene	25.0	28.0	29.1	112	116	70.0-130			3.91	20
Toluene	25.0	27.0	26.0	108	104	70.0-130			3.45	20
Xylenes, Total	75.0	83.4	81.2	111	108	70.0-130			2.67	20
(S) Toluene-d8				104	103	80.0-120				
(S) Dibromofluoromethane				95.5	93.8	76.0-123				
(S) 4-Bromofluorobenzene				103	104	80.0-120				

7 GI

8 AI

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, 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.

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

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ^{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

Project Description: **Lewis Drive Groundwater**

Phone: 770-604-9182
Fax: 684910.LD.MB.GW

Collected by (print): **MELISSA WARREN**
Collected by (signature): *Melissa Warren*

Immediately Packed on Ice: Y N

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:

Client Project #
684910.LD.MB.GW

Lab Project #
KINCH2MGA-LEWIS12

P.O. #


Quote #

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

Analysis / Container / Preservative

Pres Chk	X	X	X	X	X	X	
Container	V8260BTEXMNSC-40miAmb-HCI	V8260BTEXMNSC-TB 40miAmb-HCI-Blk	BTEX	MTBE	NAPHTHALENE	1,2-DCA	



13065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

Chain of Custody Page ___ of ___

L# **L934953**

E018

Accnum: **KINCH2MGA**
Template: **T121318**
Prelogin: **P616114**
TSR: **526 - Chris McCord**
PB: **8-31176**

Shipped Via: **FedEX Ground**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
FB-090717	Grab	GW	-	9/7/17	16:36	3 X
MW-01-090717	Grab	GW	-	9/7/17	1554	3 X
MW-01B-090717	Grab	GW	-	9/7/17	1607	3 X
MW-23-090717	Grab	GW	-	9/7/17	1421	3 X
MW-23B-090717	Grab	GW	-	9/7/17	1432	3 X
MW-26-090717	Grab	GW	-	9/7/17	1408	3 X
MW-26B-090717	Grab	GW	-	9/7/17	1352	3 X
MW-26B-090717-Dup ^{Comp}		GW	-	9/7/17	1355	3 X
MW-27B-090717	Grab	GW	-	9/7/17	1529	3 X
MW-29-090717	Grab	GW	-	9/7/17	1335	3 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 #

pH _____ Temp _____

Flow _____ Other _____

Relinquished by: (Signature) <i>Melissa Warren</i>	Date: 09/07/17	Time: 1730	Received by: (Signature) <i>[Signature]</i>	Trip Blank Received: <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.4um °C / 33
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) <i>[Signature]</i>	Date: 9/8/17 / Time: 845


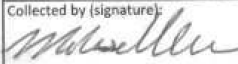
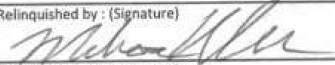



Sample Receipt Checklist

CDC Seal Present/Intact:	<input checked="" type="checkbox"/> Y / <input type="checkbox"/> N
CDC 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
<i>if Applicable</i> VOA 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

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;		Pres Chk Y Y Y Y Y Y		Analysis / Container / Preservative V8260BTEXMNSC-40mlAmb-HCl-BIK V8260BTEXMNSC-TB 40mlAmb-HCl-BIK BTEX MTBE NAPHTHALENE 1,2-DCA		Chain of Custody Page ___ of ___  12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5858 Fax: 615-758-5859 L# L934953 Table # Acctnum: KINCH2MGA Template: T121318 Prelogin: P616114 TSR: 526 - Chris McCord PB: 8-31-17 Shipped Via: FedEX Ground															
Project Description: Lewis Drive Groundwater City/State Collected: Client Project # 684910.LD.MR.60 Lab Project # KINCH2MGA-LEWIS12		Phone: 770-604-9182 Fax: Collected by (print): MEUSSA WARTEN Collected by (signature):  Site/Facility ID # LEWIS DR. P.O. # Quote # Date Results Needed		Rush? (Lab MUST Be Notified) <input type="checkbox"/> Same Day <input checked="" 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 Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>		No. of Cntrs 3 3 3 3 3 3 3 3 3 3 3		Sample ID MW-44B-090717 TB-090717		Comp/Grab Grab Grab		Matrix * GW GW		Depth - -		Date 9/7/17 9/7/17		Time 1620 1634		X X X X X X X X X		Remarks Sample # (lab only) -11 12	
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other		Remarks: Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input checked="" type="checkbox"/> Courier		Tracking #		pH _____ Temp _____ Flow _____ Other _____		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 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)  Date: 09/07/17 Time: 1730		Received by: (Signature)  Trip Blank Received: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No HCl/MeoH TBR		Temp: 24.50 °C Bottles Received: 33		If preservation required by Login: Date/Time							
Relinquished by: (Signature)  Date: _____ Time: _____		Received by: (Signature)  Date: 9-8-17 Time: 845		Hold:		Condition: NCF <input checked="" type="checkbox"/>																	

September 20, 2017

CH2M Hill- Kinder Morgan- Atlanta, GA

Sample Delivery Group: L935156
Samples Received: 09/09/2017
Project Number: 684910.LD.MR.GR
Description: Lewis Drive Site 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-37-090817 L935156-09	18
MW-38-090817 L935156-10	19
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1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc



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¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ GI⁸ AI⁹ Sc

SAMPLE SUMMARY

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
MW-02B-090817 L935156-01 GW					
			Collected by Melissa Warren	Collected date/time 09/08/17 13:21	Received date/time 09/09/17 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018707	1	09/10/17 15:55	09/10/17 15:55	ACE
MW-12B-090817 L935156-02 GW					
			Collected by Melissa Warren	Collected date/time 09/08/17 11:35	Received date/time 09/09/17 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018707	1	09/10/17 16:14	09/10/17 16:14	ACE
MW-27-090817 L935156-03 GW					
			Collected by Melissa Warren	Collected date/time 09/08/17 08:30	Received date/time 09/09/17 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018707	1	09/10/17 16:33	09/10/17 16:33	ACE
MW-28-090817 L935156-04 GW					
			Collected by Melissa Warren	Collected date/time 09/08/17 08:52	Received date/time 09/09/17 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018707	1	09/10/17 16:52	09/10/17 16:52	ACE
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018707	5	09/14/17 16:52	09/14/17 16:52	BMB
MW-15-090817 L935156-05 GW					
			Collected by Melissa Warren	Collected date/time 09/08/17 09:08	Received date/time 09/09/17 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018707	5	09/14/17 17:12	09/14/17 17:12	BMB
MW-15B-090817 L935156-06 GW					
			Collected by Melissa Warren	Collected date/time 09/08/17 09:18	Received date/time 09/09/17 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018707	50	09/14/17 17:32	09/14/17 17:32	BMB
MW-34-090817 L935156-07 GW					
			Collected by Melissa Warren	Collected date/time 09/08/17 09:32	Received date/time 09/09/17 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018707	1	09/10/17 17:51	09/10/17 17:51	ACE
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018707	10	09/14/17 17:52	09/14/17 17:52	BMB
MW-39-090817 L935156-08 GW					
			Collected by Melissa Warren	Collected date/time 09/08/17 09:41	Received date/time 09/09/17 08:45
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018722	1	09/10/17 14:26	09/10/17 14:26	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018722	50	09/11/17 23:16	09/11/17 23:16	DWR

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

SAMPLE SUMMARY

MW-37-090817 L935156-09 GW

Collected by
Melissa Warren
Collected date/time
09/08/17 09:51
Received date/time
09/09/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018722	1	09/10/17 14:46	09/10/17 14:46	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018722	1	09/11/17 23:35	09/11/17 23:35	DWR

MW-38-090817 L935156-10 GW

Collected by
Melissa Warren
Collected date/time
09/08/17 09:58
Received date/time
09/09/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018722	1	09/10/17 15:05	09/10/17 15:05	ACG

MW-24-090817 L935156-11 GW

Collected by
Melissa Warren
Collected date/time
09/08/17 10:06
Received date/time
09/09/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018722	1	09/10/17 15:25	09/10/17 15:25	ACG

MW-24B-090817 L935156-12 GW

Collected by
Melissa Warren
Collected date/time
09/08/17 10:15
Received date/time
09/09/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018722	1	09/10/17 15:45	09/10/17 15:45	ACG

MW-40-090817 L935156-13 GW

Collected by
Melissa Warren
Collected date/time
09/08/17 10:37
Received date/time
09/09/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018722	1000	09/11/17 23:55	09/11/17 23:55	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018722	20	09/10/17 16:04	09/10/17 16:04	ACG

MW-41-090817 L935156-14 GW

Collected by
Melissa Warren
Collected date/time
09/08/17 10:45
Received date/time
09/09/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018722	1	09/10/17 16:24	09/10/17 16:24	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018722	1	09/12/17 00:14	09/12/17 00:14	DWR

MW-42-090817 L935156-15 GW

Collected by
Melissa Warren
Collected date/time
09/08/17 10:56
Received date/time
09/09/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018722	1	09/10/17 16:44	09/10/17 16:44	ACG

MW-25B-090817 L935156-16 GW

Collected by
Melissa Warren
Collected date/time
09/08/17 11:06
Received date/time
09/09/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018722	1	09/10/17 17:03	09/10/17 17:03	ACG

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

SAMPLE SUMMARY

MW-25B-090817-DUP L935156-17 GW				Collected by Melissa Warren	Collected date/time 09/08/17 11:08	Received date/time 09/09/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018722	1	09/10/17 17:23	09/10/17 17:23	ACG	
MW-25-090817 L935156-18 GW				Collected by Melissa Warren	Collected date/time 09/08/17 11:10	Received date/time 09/09/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018722	1	09/10/17 17:43	09/10/17 17:43	ACG	
MW-35-090817 L935156-19 GW				Collected by Melissa Warren	Collected date/time 09/08/17 11:20	Received date/time 09/09/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018722	1	09/10/17 18:02	09/10/17 18:02	ACG	
MW-17-090817 L935156-20 GW				Collected by Melissa Warren	Collected date/time 09/08/17 14:22	Received date/time 09/09/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018722	1000	09/12/17 00:33	09/12/17 00:33	DWR	
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018722	20	09/10/17 18:22	09/10/17 18:22	ACG	
MW-02-090817 L935156-21 GW				Collected by Melissa Warren	Collected date/time 09/08/17 13:25	Received date/time 09/09/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018722	50	09/10/17 18:41	09/10/17 18:41	ACG	
MW-06-090817 L935156-22 GW				Collected by Melissa Warren	Collected date/time 09/08/17 14:00	Received date/time 09/09/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018722	1	09/12/17 00:53	09/12/17 00:53	DWR	
MW-12-090817 L935156-23 GW				Collected by Melissa Warren	Collected date/time 09/08/17 11:30	Received date/time 09/09/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018722	100	09/10/17 19:21	09/10/17 19:21	ACG	
MW-14-090817 L935156-24 GW				Collected by Melissa Warren	Collected date/time 09/08/17 12:27	Received date/time 09/09/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018725	1	09/10/17 13:34	09/10/17 13:34	JBE	

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

SAMPLE SUMMARY

MW-14B-090817 L935156-25 GW						Collected by Melissa Warren	Collected date/time 09/08/17 12:32	Received date/time 09/09/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst			
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018725	1	09/10/17 13:51	09/10/17 13:51	JBE			
MW-05-090817 L935156-26 GW						Collected by Melissa Warren	Collected date/time 09/08/17 13:50	Received date/time 09/09/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst			
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018725	1	09/10/17 14:07	09/10/17 14:07	JBE			
MW-04-090817 L935156-27 GW						Collected by Melissa Warren	Collected date/time 09/08/17 15:30	Received date/time 09/09/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst			
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018725	1	09/10/17 14:24	09/10/17 14:24	JBE			
MW-04-090817-DUP L935156-28 GW						Collected by Melissa Warren	Collected date/time 09/08/17 13:40	Received date/time 09/09/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst			
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018725	1	09/10/17 14:41	09/10/17 14:41	JBE			
FB-090817 L935156-29 GW						Collected by Melissa Warren	Collected date/time 09/08/17 15:05	Received date/time 09/09/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst			
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018725	1	09/10/17 14:57	09/10/17 14:57	JBE			
MW-31-090817 L935156-30 GW						Collected by Melissa Warren	Collected date/time 09/08/17 12:46	Received date/time 09/09/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst			
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018725	1	09/10/17 15:14	09/10/17 15:14	JBE			
MW-10-090817 L935156-31 GW						Collected by Melissa Warren	Collected date/time 09/08/17 13:05	Received date/time 09/09/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst			
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018725	1	09/10/17 15:30	09/10/17 15:30	JBE			
MW-32-090817 L935156-32 GW						Collected by Melissa Warren	Collected date/time 09/08/17 13:15	Received date/time 09/09/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst			
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018725	1	09/10/17 15:47	09/10/17 15:47	JBE			

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

SAMPLE SUMMARY



MW-08-090817 L935156-33 GW					
			Collected by Melissa Warren	Collected date/time 09/08/17 14:30	Received date/time 09/09/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018725	1	09/10/17 16:03	09/10/17 16:03	JBE
TB-090817 L935156-34 GW					
			Collected by Melissa Warren	Collected date/time 09/08/17 15:10	Received date/time 09/09/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018725	1	09/10/17 13:17	09/10/17 13:17	JBE
MW-36B-090817 L935156-35 GW					
			Collected by Melissa Warren	Collected date/time 09/08/17 15:30	Received date/time 09/09/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018725	1	09/10/17 16:20	09/10/17 16:20	JBE
MW-36-090817 L935156-37 GW					
			Collected by Melissa Warren	Collected date/time 09/08/17 15:25	Received date/time 09/09/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1018725	1	09/10/17 16:37	09/10/17 16:37	JBE
MW-21-090817 L935156-38 GW					
			Collected by Melissa Warren	Collected date/time 09/08/17 14:56	Received date/time 09/09/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1021646	1	09/18/17 14:13	09/18/17 14:13	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1021646	1	09/18/17 18:58	09/18/17 18:58	ACG

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc



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

Sample Handling and Receiving

VOC pH outside of method requirement.

<u>ESC Sample ID</u>	<u>Project Sample ID</u>	<u>Method</u>
L935156-25	MW-14B-090817	8260B

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	
Benzene	ND		1.00	1	09/10/2017 15:55	WG1018707
Toluene	ND		1.00	1	09/10/2017 15:55	WG1018707
Ethylbenzene	ND		1.00	1	09/10/2017 15:55	WG1018707
Total Xylenes	ND		3.00	1	09/10/2017 15:55	WG1018707
Methyl tert-butyl ether	ND		1.00	1	09/10/2017 15:55	WG1018707
Naphthalene	ND		5.00	1	09/10/2017 15:55	WG1018707
1,2-Dichloroethane	ND		1.00	1	09/10/2017 15:55	WG1018707
(S) Toluene-d8	104		80.0-120		09/10/2017 15:55	WG1018707
(S) Dibromofluoromethane	95.9		76.0-123		09/10/2017 15:55	WG1018707
(S) 4-Bromofluorobenzene	105		80.0-120		09/10/2017 15:55	WG1018707

- 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	
Benzene	126		1.00	1	09/10/2017 16:14	WG1018707
Toluene	16.8		1.00	1	09/10/2017 16:14	WG1018707
Ethylbenzene	3.81		1.00	1	09/10/2017 16:14	WG1018707
Total Xylenes	256		3.00	1	09/10/2017 16:14	WG1018707
Methyl tert-butyl ether	ND		1.00	1	09/10/2017 16:14	WG1018707
Naphthalene	12.0		5.00	1	09/10/2017 16:14	WG1018707
1,2-Dichloroethane	ND		1.00	1	09/10/2017 16:14	WG1018707
(S) Toluene-d8	104		80.0-120		09/10/2017 16:14	WG1018707
(S) Dibromofluoromethane	96.0		76.0-123		09/10/2017 16:14	WG1018707
(S) 4-Bromofluorobenzene	102		80.0-120		09/10/2017 16:14	WG1018707

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	
Benzene	4.96		1.00	1	09/10/2017 16:33	WG1018707
Toluene	2.13		1.00	1	09/10/2017 16:33	WG1018707
Ethylbenzene	5.75		1.00	1	09/10/2017 16:33	WG1018707
Total Xylenes	14.8		3.00	1	09/10/2017 16:33	WG1018707
Methyl tert-butyl ether	ND		1.00	1	09/10/2017 16:33	WG1018707
Naphthalene	ND		5.00	1	09/10/2017 16:33	WG1018707
1,2-Dichloroethane	ND		1.00	1	09/10/2017 16:33	WG1018707
(S) Toluene-d8	104		80.0-120		09/10/2017 16:33	WG1018707
(S) Dibromofluoromethane	94.1		76.0-123		09/10/2017 16:33	WG1018707
(S) 4-Bromofluorobenzene	105		80.0-120		09/10/2017 16:33	WG1018707

- 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	130		5.00	5	09/14/2017 16:52	WG1018707
Toluene	175		1.00	1	09/10/2017 16:52	WG1018707
Ethylbenzene	16.2		1.00	1	09/10/2017 16:52	WG1018707
Total Xylenes	388		3.00	1	09/10/2017 16:52	WG1018707
Methyl tert-butyl ether	4.77		1.00	1	09/10/2017 16:52	WG1018707
Naphthalene	13.6		5.00	1	09/10/2017 16:52	WG1018707
1,2-Dichloroethane	ND		1.00	1	09/10/2017 16:52	WG1018707
(S) Toluene-d8	96.5		80.0-120		09/10/2017 16:52	WG1018707
(S) Toluene-d8	101		80.0-120		09/14/2017 16:52	WG1018707
(S) Dibromofluoromethane	94.5		76.0-123		09/10/2017 16:52	WG1018707
(S) Dibromofluoromethane	106		76.0-123		09/14/2017 16:52	WG1018707
(S) 4-Bromofluorobenzene	104		80.0-120		09/10/2017 16:52	WG1018707
(S) 4-Bromofluorobenzene	99.4		80.0-120		09/14/2017 16:52	WG1018707

- 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	454		5.00	5	09/14/2017 17:12	WG1018707
Toluene	567		5.00	5	09/14/2017 17:12	WG1018707
Ethylbenzene	24.0		5.00	5	09/14/2017 17:12	WG1018707
Total Xylenes	338		15.0	5	09/14/2017 17:12	WG1018707
Methyl tert-butyl ether	193		5.00	5	09/14/2017 17:12	WG1018707
Naphthalene	ND		25.0	5	09/14/2017 17:12	WG1018707
1,2-Dichloroethane	ND		5.00	5	09/14/2017 17:12	WG1018707
(S) Toluene-d8	102		80.0-120		09/14/2017 17:12	WG1018707
(S) Dibromofluoromethane	107		76.0-123		09/14/2017 17:12	WG1018707
(S) 4-Bromofluorobenzene	105		80.0-120		09/14/2017 17:12	WG1018707

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	1820		50.0	50	09/14/2017 17:32	WG1018707
Toluene	3560		50.0	50	09/14/2017 17:32	WG1018707
Ethylbenzene	164		50.0	50	09/14/2017 17:32	WG1018707
Total Xylenes	1210		150	50	09/14/2017 17:32	WG1018707
Methyl tert-butyl ether	133		50.0	50	09/14/2017 17:32	WG1018707
Naphthalene	ND		250	50	09/14/2017 17:32	WG1018707
1,2-Dichloroethane	ND		50.0	50	09/14/2017 17:32	WG1018707
(S) Toluene-d8	98.9		80.0-120		09/14/2017 17:32	WG1018707
(S) Dibromofluoromethane	110		76.0-123		09/14/2017 17:32	WG1018707
(S) 4-Bromofluorobenzene	105		80.0-120		09/14/2017 17:32	WG1018707

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	
Benzene	1430		10.0	10	09/14/2017 17:52	WG1018707
Toluene	98.0		1.00	1	09/10/2017 17:51	WG1018707
Ethylbenzene	6.01		1.00	1	09/10/2017 17:51	WG1018707
Total Xylenes	264		3.00	1	09/10/2017 17:51	WG1018707
Methyl tert-butyl ether	191		1.00	1	09/10/2017 17:51	WG1018707
Naphthalene	7.33		5.00	1	09/10/2017 17:51	WG1018707
1,2-Dichloroethane	ND		1.00	1	09/10/2017 17:51	WG1018707
(S) Toluene-d8	102		80.0-120		09/14/2017 17:52	WG1018707
(S) Toluene-d8	103		80.0-120		09/10/2017 17:51	WG1018707
(S) Dibromofluoromethane	90.3		76.0-123		09/10/2017 17:51	WG1018707
(S) Dibromofluoromethane	108		76.0-123		09/14/2017 17:52	WG1018707
(S) 4-Bromofluorobenzene	105		80.0-120		09/10/2017 17:51	WG1018707
(S) 4-Bromofluorobenzene	106		80.0-120		09/14/2017 17:52	WG1018707

- 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	3380		50.0	50	09/11/2017 23:16	WG1018722
Toluene	1040		50.0	50	09/11/2017 23:16	WG1018722
Ethylbenzene	10.7		1.00	1	09/10/2017 14:26	WG1018722
Total Xylenes	2740		150	50	09/11/2017 23:16	WG1018722
Methyl tert-butyl ether	376		50.0	50	09/11/2017 23:16	WG1018722
Naphthalene	15.6		5.00	1	09/10/2017 14:26	WG1018722
1,2-Dichloroethane	ND		1.00	1	09/10/2017 14:26	WG1018722
(S) Toluene-d8	97.2		80.0-120		09/11/2017 23:16	WG1018722
(S) Toluene-d8	101		80.0-120		09/10/2017 14:26	WG1018722
(S) Dibromofluoromethane	64.2	J2	76.0-123		09/10/2017 14:26	WG1018722
(S) Dibromofluoromethane	97.0		76.0-123		09/11/2017 23:16	WG1018722
(S) 4-Bromofluorobenzene	101		80.0-120		09/10/2017 14:26	WG1018722
(S) 4-Bromofluorobenzene	98.3		80.0-120		09/11/2017 23:16	WG1018722

- 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	
Benzene	ND		1.00	1	09/10/2017 14:46	WG1018722
Toluene	ND		1.00	1	09/10/2017 14:46	WG1018722
Ethylbenzene	ND		1.00	1	09/10/2017 14:46	WG1018722
Total Xylenes	ND		3.00	1	09/10/2017 14:46	WG1018722
Methyl tert-butyl ether	1.50		1.00	1	09/11/2017 23:35	WG1018722
Naphthalene	ND		5.00	1	09/10/2017 14:46	WG1018722
1,2-Dichloroethane	ND		1.00	1	09/10/2017 14:46	WG1018722
(S) Toluene-d8	96.9		80.0-120		09/11/2017 23:35	WG1018722
(S) Toluene-d8	100		80.0-120		09/10/2017 14:46	WG1018722
(S) Dibromofluoromethane	98.7		76.0-123		09/11/2017 23:35	WG1018722
(S) Dibromofluoromethane	111		76.0-123		09/10/2017 14:46	WG1018722
(S) 4-Bromofluorobenzene	98.0		80.0-120		09/11/2017 23:35	WG1018722
(S) 4-Bromofluorobenzene	113		80.0-120		09/10/2017 14:46	WG1018722

- 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	
Benzene	ND		1.00	1	09/10/2017 15:05	WG1018722
Toluene	ND		1.00	1	09/10/2017 15:05	WG1018722
Ethylbenzene	ND		1.00	1	09/10/2017 15:05	WG1018722
Total Xylenes	ND		3.00	1	09/10/2017 15:05	WG1018722
Methyl tert-butyl ether	12.9		1.00	1	09/10/2017 15:05	WG1018722
Naphthalene	ND		5.00	1	09/10/2017 15:05	WG1018722
1,2-Dichloroethane	ND		1.00	1	09/10/2017 15:05	WG1018722
(S) Toluene-d8	101		80.0-120		09/10/2017 15:05	WG1018722
(S) Dibromofluoromethane	113		76.0-123		09/10/2017 15:05	WG1018722
(S) 4-Bromofluorobenzene	116		80.0-120		09/10/2017 15:05	WG1018722

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	
Benzene	ND		1.00	1	09/10/2017 15:25	WG1018722
Toluene	ND		1.00	1	09/10/2017 15:25	WG1018722
Ethylbenzene	ND		1.00	1	09/10/2017 15:25	WG1018722
Total Xylenes	ND		3.00	1	09/10/2017 15:25	WG1018722
Methyl tert-butyl ether	ND		1.00	1	09/10/2017 15:25	WG1018722
Naphthalene	ND		5.00	1	09/10/2017 15:25	WG1018722
1,2-Dichloroethane	ND		1.00	1	09/10/2017 15:25	WG1018722
(S) Toluene-d8	100		80.0-120		09/10/2017 15:25	WG1018722
(S) Dibromofluoromethane	113		76.0-123		09/10/2017 15:25	WG1018722
(S) 4-Bromofluorobenzene	116		80.0-120		09/10/2017 15:25	WG1018722

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	
Benzene	ND		1.00	1	09/10/2017 15:45	WG1018722
Toluene	ND		1.00	1	09/10/2017 15:45	WG1018722
Ethylbenzene	ND		1.00	1	09/10/2017 15:45	WG1018722
Total Xylenes	ND		3.00	1	09/10/2017 15:45	WG1018722
Methyl tert-butyl ether	ND		1.00	1	09/10/2017 15:45	WG1018722
Naphthalene	ND		5.00	1	09/10/2017 15:45	WG1018722
1,2-Dichloroethane	ND		1.00	1	09/10/2017 15:45	WG1018722
(S) Toluene-d8	101		80.0-120		09/10/2017 15:45	WG1018722
(S) Dibromofluoromethane	114		76.0-123		09/10/2017 15:45	WG1018722
(S) 4-Bromofluorobenzene	116		80.0-120		09/10/2017 15:45	WG1018722

- 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	14300		1000	1000	09/11/2017 23:55	WG1018722
Toluene	28700		1000	1000	09/11/2017 23:55	WG1018722
Ethylbenzene	1250		20.0	20	09/10/2017 16:04	WG1018722
Total Xylenes	9250		60.0	20	09/10/2017 16:04	WG1018722
Methyl tert-butyl ether	716		20.0	20	09/10/2017 16:04	WG1018722
Naphthalene	219		100	20	09/10/2017 16:04	WG1018722
1,2-Dichloroethane	ND		20.0	20	09/10/2017 16:04	WG1018722
(S) Toluene-d8	97.2		80.0-120		09/11/2017 23:55	WG1018722
(S) Toluene-d8	104		80.0-120		09/10/2017 16:04	WG1018722
(S) Dibromofluoromethane	96.8		76.0-123		09/11/2017 23:55	WG1018722
(S) Dibromofluoromethane	97.4		76.0-123		09/10/2017 16:04	WG1018722
(S) 4-Bromofluorobenzene	100		80.0-120		09/11/2017 23:55	WG1018722
(S) 4-Bromofluorobenzene	108		80.0-120		09/10/2017 16:04	WG1018722

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	
Benzene	189		1.00	1	09/10/2017 16:24	WG1018722
Toluene	ND		1.00	1	09/12/2017 00:14	WG1018722
Ethylbenzene	1.51		1.00	1	09/10/2017 16:24	WG1018722
Total Xylenes	90.0		3.00	1	09/10/2017 16:24	WG1018722
Methyl tert-butyl ether	3.74		1.00	1	09/10/2017 16:24	WG1018722
Naphthalene	ND		5.00	1	09/10/2017 16:24	WG1018722
1,2-Dichloroethane	ND		1.00	1	09/10/2017 16:24	WG1018722
(S) Toluene-d8	98.3		80.0-120		09/10/2017 16:24	WG1018722
(S) Toluene-d8	97.4		80.0-120		09/12/2017 00:14	WG1018722
(S) Dibromofluoromethane	112		76.0-123		09/10/2017 16:24	WG1018722
(S) Dibromofluoromethane	94.9		76.0-123		09/12/2017 00:14	WG1018722
(S) 4-Bromofluorobenzene	95.3		80.0-120		09/12/2017 00:14	WG1018722
(S) 4-Bromofluorobenzene	113		80.0-120		09/10/2017 16:24	WG1018722

- 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	
Benzene	143		1.00	1	09/10/2017 16:44	WG1018722
Toluene	ND		1.00	1	09/10/2017 16:44	WG1018722
Ethylbenzene	ND		1.00	1	09/10/2017 16:44	WG1018722
Total Xylenes	100		3.00	1	09/10/2017 16:44	WG1018722
Methyl tert-butyl ether	1.51		1.00	1	09/10/2017 16:44	WG1018722
Naphthalene	5.52		5.00	1	09/10/2017 16:44	WG1018722
1,2-Dichloroethane	ND		1.00	1	09/10/2017 16:44	WG1018722
(S) Toluene-d8	101		80.0-120		09/10/2017 16:44	WG1018722
(S) Dibromofluoromethane	112		76.0-123		09/10/2017 16:44	WG1018722
(S) 4-Bromofluorobenzene	111		80.0-120		09/10/2017 16:44	WG1018722

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	
Benzene	ND		1.00	1	09/10/2017 17:03	WG1018722
Toluene	ND		1.00	1	09/10/2017 17:03	WG1018722
Ethylbenzene	ND		1.00	1	09/10/2017 17:03	WG1018722
Total Xylenes	ND		3.00	1	09/10/2017 17:03	WG1018722
Methyl tert-butyl ether	ND		1.00	1	09/10/2017 17:03	WG1018722
Naphthalene	ND		5.00	1	09/10/2017 17:03	WG1018722
1,2-Dichloroethane	ND		1.00	1	09/10/2017 17:03	WG1018722
(S) Toluene-d8	101		80.0-120		09/10/2017 17:03	WG1018722
(S) Dibromofluoromethane	115		76.0-123		09/10/2017 17:03	WG1018722
(S) 4-Bromofluorobenzene	114		80.0-120		09/10/2017 17:03	WG1018722

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	
Benzene	ND		1.00	1	09/10/2017 17:23	WG1018722
Toluene	ND		1.00	1	09/10/2017 17:23	WG1018722
Ethylbenzene	ND		1.00	1	09/10/2017 17:23	WG1018722
Total Xylenes	ND		3.00	1	09/10/2017 17:23	WG1018722
Methyl tert-butyl ether	ND		1.00	1	09/10/2017 17:23	WG1018722
Naphthalene	ND		5.00	1	09/10/2017 17:23	WG1018722
1,2-Dichloroethane	ND		1.00	1	09/10/2017 17:23	WG1018722
(S) Toluene-d8	99.1		80.0-120		09/10/2017 17:23	WG1018722
(S) Dibromofluoromethane	114		76.0-123		09/10/2017 17:23	WG1018722
(S) 4-Bromofluorobenzene	115		80.0-120		09/10/2017 17:23	WG1018722

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	
Benzene	200		1.00	1	09/10/2017 17:43	WG1018722
Toluene	1.27		1.00	1	09/10/2017 17:43	WG1018722
Ethylbenzene	12.2		1.00	1	09/10/2017 17:43	WG1018722
Total Xylenes	214		3.00	1	09/10/2017 17:43	WG1018722
Methyl tert-butyl ether	ND		1.00	1	09/10/2017 17:43	WG1018722
Naphthalene	10.6		5.00	1	09/10/2017 17:43	WG1018722
1,2-Dichloroethane	ND		1.00	1	09/10/2017 17:43	WG1018722
(S) Toluene-d8	98.9		80.0-120		09/10/2017 17:43	WG1018722
(S) Dibromofluoromethane	109		76.0-123		09/10/2017 17:43	WG1018722
(S) 4-Bromofluorobenzene	111		80.0-120		09/10/2017 17:43	WG1018722

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	09/10/2017 18:02	WG1018722
Toluene	ND		1.00	1	09/10/2017 18:02	WG1018722
Ethylbenzene	ND		1.00	1	09/10/2017 18:02	WG1018722
Total Xylenes	ND		3.00	1	09/10/2017 18:02	WG1018722
Methyl tert-butyl ether	ND		1.00	1	09/10/2017 18:02	WG1018722
Naphthalene	ND		5.00	1	09/10/2017 18:02	WG1018722
1,2-Dichloroethane	ND		1.00	1	09/10/2017 18:02	WG1018722
(S) Toluene-d8	101		80.0-120		09/10/2017 18:02	WG1018722
(S) Dibromofluoromethane	113		76.0-123		09/10/2017 18:02	WG1018722
(S) 4-Bromofluorobenzene	117		80.0-120		09/10/2017 18:02	WG1018722

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	11400		1000	1000	09/12/2017 00:33	WG1018722
Toluene	23900		1000	1000	09/12/2017 00:33	WG1018722
Ethylbenzene	1240		20.0	20	09/10/2017 18:22	WG1018722
Total Xylenes	8460		60.0	20	09/10/2017 18:22	WG1018722
Methyl tert-butyl ether	1330		20.0	20	09/10/2017 18:22	WG1018722
Naphthalene	201		100	20	09/10/2017 18:22	WG1018722
1,2-Dichloroethane	ND		20.0	20	09/10/2017 18:22	WG1018722
(S) Toluene-d8	100		80.0-120		09/10/2017 18:22	WG1018722
(S) Toluene-d8	95.5		80.0-120		09/12/2017 00:33	WG1018722
(S) Dibromofluoromethane	97.3		76.0-123		09/12/2017 00:33	WG1018722
(S) Dibromofluoromethane	99.7		76.0-123		09/10/2017 18:22	WG1018722
(S) 4-Bromofluorobenzene	111		80.0-120		09/10/2017 18:22	WG1018722
(S) 4-Bromofluorobenzene	99.4		80.0-120		09/12/2017 00:33	WG1018722

- 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	
Benzene	2340		50.0	50	09/10/2017 18:41	WG1018722
Toluene	7120		50.0	50	09/10/2017 18:41	WG1018722
Ethylbenzene	181		50.0	50	09/10/2017 18:41	WG1018722
Total Xylenes	8510		150	50	09/10/2017 18:41	WG1018722
Methyl tert-butyl ether	ND		50.0	50	09/10/2017 18:41	WG1018722
Naphthalene	389		250	50	09/10/2017 18:41	WG1018722
1,2-Dichloroethane	ND		50.0	50	09/10/2017 18:41	WG1018722
(S) Toluene-d8	101		80.0-120		09/10/2017 18:41	WG1018722
(S) Dibromofluoromethane	111		76.0-123		09/10/2017 18:41	WG1018722
(S) 4-Bromofluorobenzene	114		80.0-120		09/10/2017 18:41	WG1018722

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	
Benzene	ND		1.00	1	09/12/2017 00:53	WG1018722
Toluene	ND		1.00	1	09/12/2017 00:53	WG1018722
Ethylbenzene	ND		1.00	1	09/12/2017 00:53	WG1018722
Total Xylenes	ND		3.00	1	09/12/2017 00:53	WG1018722
Methyl tert-butyl ether	ND		1.00	1	09/12/2017 00:53	WG1018722
Naphthalene	ND		5.00	1	09/12/2017 00:53	WG1018722
1,2-Dichloroethane	ND		1.00	1	09/12/2017 00:53	WG1018722
(S) Toluene-d8	96.4		80.0-120		09/12/2017 00:53	WG1018722
(S) Dibromofluoromethane	98.7		76.0-123		09/12/2017 00:53	WG1018722
(S) 4-Bromofluorobenzene	97.7		80.0-120		09/12/2017 00:53	WG1018722

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	648		100	100	09/10/2017 19:21	WG1018722
Toluene	3470		100	100	09/10/2017 19:21	WG1018722
Ethylbenzene	436		100	100	09/10/2017 19:21	WG1018722
Total Xylenes	4440		300	100	09/10/2017 19:21	WG1018722
Methyl tert-butyl ether	ND		100	100	09/10/2017 19:21	WG1018722
Naphthalene	ND		500	100	09/10/2017 19:21	WG1018722
1,2-Dichloroethane	ND		100	100	09/10/2017 19:21	WG1018722
(S) Toluene-d8	101		80.0-120		09/10/2017 19:21	WG1018722
(S) Dibromofluoromethane	110		76.0-123		09/10/2017 19:21	WG1018722
(S) 4-Bromofluorobenzene	115		80.0-120		09/10/2017 19:21	WG1018722

- 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	
Benzene	ND		1.00	1	09/10/2017 13:34	WG1018725
Toluene	ND		1.00	1	09/10/2017 13:34	WG1018725
Ethylbenzene	ND		1.00	1	09/10/2017 13:34	WG1018725
Total Xylenes	ND		3.00	1	09/10/2017 13:34	WG1018725
Methyl tert-butyl ether	ND		1.00	1	09/10/2017 13:34	WG1018725
Naphthalene	ND		5.00	1	09/10/2017 13:34	WG1018725
1,2-Dichloroethane	ND		1.00	1	09/10/2017 13:34	WG1018725
(S) Toluene-d8	102		80.0-120		09/10/2017 13:34	WG1018725
(S) Dibromofluoromethane	108		76.0-123		09/10/2017 13:34	WG1018725
(S) 4-Bromofluorobenzene	111		80.0-120		09/10/2017 13:34	WG1018725

- 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	
Benzene	6.81		1.00	1	09/10/2017 13:51	WG1018725
Toluene	ND		1.00	1	09/10/2017 13:51	WG1018725
Ethylbenzene	ND		1.00	1	09/10/2017 13:51	WG1018725
Total Xylenes	6.67		3.00	1	09/10/2017 13:51	WG1018725
Methyl tert-butyl ether	18.7		1.00	1	09/10/2017 13:51	WG1018725
Naphthalene	ND		5.00	1	09/10/2017 13:51	WG1018725
1,2-Dichloroethane	ND		1.00	1	09/10/2017 13:51	WG1018725
(S) Toluene-d8	103		80.0-120		09/10/2017 13:51	WG1018725
(S) Dibromofluoromethane	63.9	J2	76.0-123		09/10/2017 13:51	WG1018725
(S) 4-Bromofluorobenzene	109		80.0-120		09/10/2017 13:51	WG1018725

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	09/10/2017 14:07	WG1018725
Toluene	ND		1.00	1	09/10/2017 14:07	WG1018725
Ethylbenzene	ND		1.00	1	09/10/2017 14:07	WG1018725
Total Xylenes	ND		3.00	1	09/10/2017 14:07	WG1018725
Methyl tert-butyl ether	ND		1.00	1	09/10/2017 14:07	WG1018725
Naphthalene	ND		5.00	1	09/10/2017 14:07	WG1018725
1,2-Dichloroethane	ND		1.00	1	09/10/2017 14:07	WG1018725
(S) Toluene-d8	102		80.0-120		09/10/2017 14:07	WG1018725
(S) Dibromofluoromethane	107		76.0-123		09/10/2017 14:07	WG1018725
(S) 4-Bromofluorobenzene	112		80.0-120		09/10/2017 14:07	WG1018725

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	
Benzene	ND		1.00	1	09/10/2017 14:24	WG1018725
Toluene	ND		1.00	1	09/10/2017 14:24	WG1018725
Ethylbenzene	ND		1.00	1	09/10/2017 14:24	WG1018725
Total Xylenes	ND		3.00	1	09/10/2017 14:24	WG1018725
Methyl tert-butyl ether	ND		1.00	1	09/10/2017 14:24	WG1018725
Naphthalene	ND		5.00	1	09/10/2017 14:24	WG1018725
1,2-Dichloroethane	ND		1.00	1	09/10/2017 14:24	WG1018725
(S) Toluene-d8	102		80.0-120		09/10/2017 14:24	WG1018725
(S) Dibromofluoromethane	108		76.0-123		09/10/2017 14:24	WG1018725
(S) 4-Bromofluorobenzene	112		80.0-120		09/10/2017 14:24	WG1018725

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	
Benzene	ND		1.00	1	09/10/2017 14:41	WG1018725
Toluene	ND		1.00	1	09/10/2017 14:41	WG1018725
Ethylbenzene	ND		1.00	1	09/10/2017 14:41	WG1018725
Total Xylenes	ND		3.00	1	09/10/2017 14:41	WG1018725
Methyl tert-butyl ether	ND		1.00	1	09/10/2017 14:41	WG1018725
Naphthalene	ND		5.00	1	09/10/2017 14:41	WG1018725
1,2-Dichloroethane	ND		1.00	1	09/10/2017 14:41	WG1018725
(S) Toluene-d8	103		80.0-120		09/10/2017 14:41	WG1018725
(S) Dibromofluoromethane	108		76.0-123		09/10/2017 14:41	WG1018725
(S) 4-Bromofluorobenzene	111		80.0-120		09/10/2017 14:41	WG1018725

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	
Benzene	ND		1.00	1	09/10/2017 14:57	WG1018725
Toluene	ND		1.00	1	09/10/2017 14:57	WG1018725
Ethylbenzene	ND		1.00	1	09/10/2017 14:57	WG1018725
Total Xylenes	ND		3.00	1	09/10/2017 14:57	WG1018725
Methyl tert-butyl ether	ND		1.00	1	09/10/2017 14:57	WG1018725
Naphthalene	ND		5.00	1	09/10/2017 14:57	WG1018725
1,2-Dichloroethane	ND		1.00	1	09/10/2017 14:57	WG1018725
(S) Toluene-d8	103		80.0-120		09/10/2017 14:57	WG1018725
(S) Dibromofluoromethane	107		76.0-123		09/10/2017 14:57	WG1018725
(S) 4-Bromofluorobenzene	110		80.0-120		09/10/2017 14:57	WG1018725

- 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	
Benzene	ND		1.00	1	09/10/2017 15:14	WG1018725
Toluene	ND		1.00	1	09/10/2017 15:14	WG1018725
Ethylbenzene	ND		1.00	1	09/10/2017 15:14	WG1018725
Total Xylenes	ND		3.00	1	09/10/2017 15:14	WG1018725
Methyl tert-butyl ether	ND		1.00	1	09/10/2017 15:14	WG1018725
Naphthalene	ND		5.00	1	09/10/2017 15:14	WG1018725
1,2-Dichloroethane	ND		1.00	1	09/10/2017 15:14	WG1018725
(S) Toluene-d8	102		80.0-120		09/10/2017 15:14	WG1018725
(S) Dibromofluoromethane	108		76.0-123		09/10/2017 15:14	WG1018725
(S) 4-Bromofluorobenzene	108		80.0-120		09/10/2017 15:14	WG1018725

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	
Benzene	ND		1.00	1	09/10/2017 15:30	WG1018725
Toluene	ND		1.00	1	09/10/2017 15:30	WG1018725
Ethylbenzene	ND		1.00	1	09/10/2017 15:30	WG1018725
Total Xylenes	ND		3.00	1	09/10/2017 15:30	WG1018725
Methyl tert-butyl ether	ND		1.00	1	09/10/2017 15:30	WG1018725
Naphthalene	ND		5.00	1	09/10/2017 15:30	WG1018725
1,2-Dichloroethane	ND		1.00	1	09/10/2017 15:30	WG1018725
(S) Toluene-d8	103		80.0-120		09/10/2017 15:30	WG1018725
(S) Dibromofluoromethane	107		76.0-123		09/10/2017 15:30	WG1018725
(S) 4-Bromofluorobenzene	112		80.0-120		09/10/2017 15:30	WG1018725

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	
Benzene	ND		1.00	1	09/10/2017 15:47	WG1018725
Toluene	ND		1.00	1	09/10/2017 15:47	WG1018725
Ethylbenzene	ND		1.00	1	09/10/2017 15:47	WG1018725
Total Xylenes	ND		3.00	1	09/10/2017 15:47	WG1018725
Methyl tert-butyl ether	ND		1.00	1	09/10/2017 15:47	WG1018725
Naphthalene	ND		5.00	1	09/10/2017 15:47	WG1018725
1,2-Dichloroethane	ND		1.00	1	09/10/2017 15:47	WG1018725
(S) Toluene-d8	103		80.0-120		09/10/2017 15:47	WG1018725
(S) Dibromofluoromethane	109		76.0-123		09/10/2017 15:47	WG1018725
(S) 4-Bromofluorobenzene	106		80.0-120		09/10/2017 15:47	WG1018725

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	
Benzene	ND		1.00	1	09/10/2017 16:03	WG1018725
Toluene	ND		1.00	1	09/10/2017 16:03	WG1018725
Ethylbenzene	ND		1.00	1	09/10/2017 16:03	WG1018725
Total Xylenes	ND		3.00	1	09/10/2017 16:03	WG1018725
Methyl tert-butyl ether	ND		1.00	1	09/10/2017 16:03	WG1018725
Naphthalene	ND		5.00	1	09/10/2017 16:03	WG1018725
1,2-Dichloroethane	ND		1.00	1	09/10/2017 16:03	WG1018725
(S) Toluene-d8	102		80.0-120		09/10/2017 16:03	WG1018725
(S) Dibromofluoromethane	107		76.0-123		09/10/2017 16:03	WG1018725
(S) 4-Bromofluorobenzene	111		80.0-120		09/10/2017 16:03	WG1018725

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	
Benzene	ND		1.00	1	09/10/2017 13:17	WG1018725
Toluene	ND		1.00	1	09/10/2017 13:17	WG1018725
Ethylbenzene	ND		1.00	1	09/10/2017 13:17	WG1018725
Total Xylenes	ND		3.00	1	09/10/2017 13:17	WG1018725
Methyl tert-butyl ether	ND		1.00	1	09/10/2017 13:17	WG1018725
Naphthalene	ND		5.00	1	09/10/2017 13:17	WG1018725
1,2-Dichloroethane	ND		1.00	1	09/10/2017 13:17	WG1018725
(S) Toluene-d8	102		80.0-120		09/10/2017 13:17	WG1018725
(S) Dibromofluoromethane	111		76.0-123		09/10/2017 13:17	WG1018725
(S) 4-Bromofluorobenzene	105		80.0-120		09/10/2017 13:17	WG1018725

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	
Benzene	ND		1.00	1	09/10/2017 16:20	WG1018725
Toluene	ND		1.00	1	09/10/2017 16:20	WG1018725
Ethylbenzene	ND		1.00	1	09/10/2017 16:20	WG1018725
Total Xylenes	ND		3.00	1	09/10/2017 16:20	WG1018725
Methyl tert-butyl ether	ND		1.00	1	09/10/2017 16:20	WG1018725
Naphthalene	ND		5.00	1	09/10/2017 16:20	WG1018725
1,2-Dichloroethane	ND		1.00	1	09/10/2017 16:20	WG1018725
(S) Toluene-d8	101		80.0-120		09/10/2017 16:20	WG1018725
(S) Dibromofluoromethane	108		76.0-123		09/10/2017 16:20	WG1018725
(S) 4-Bromofluorobenzene	107		80.0-120		09/10/2017 16:20	WG1018725

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	
Benzene	4.75		1.00	1	09/10/2017 16:37	WG1018725
Toluene	6.16		1.00	1	09/10/2017 16:37	WG1018725
Ethylbenzene	ND		1.00	1	09/10/2017 16:37	WG1018725
Total Xylenes	4.62		3.00	1	09/10/2017 16:37	WG1018725
Methyl tert-butyl ether	ND		1.00	1	09/10/2017 16:37	WG1018725
Naphthalene	ND		5.00	1	09/10/2017 16:37	WG1018725
1,2-Dichloroethane	ND		1.00	1	09/10/2017 16:37	WG1018725
(S) Toluene-d8	103		80.0-120		09/10/2017 16:37	WG1018725
(S) Dibromofluoromethane	107		76.0-123		09/10/2017 16:37	WG1018725
(S) 4-Bromofluorobenzene	108		80.0-120		09/10/2017 16:37	WG1018725

- 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	
Benzene	ND		1.00	1	09/18/2017 14:13	WG1021646
Toluene	ND		1.00	1	09/18/2017 14:13	WG1021646
Ethylbenzene	ND		1.00	1	09/18/2017 14:13	WG1021646
Total Xylenes	ND		3.00	1	09/18/2017 14:13	WG1021646
Methyl tert-butyl ether	ND		1.00	1	09/18/2017 14:13	WG1021646
Naphthalene	ND		5.00	1	09/18/2017 18:58	WG1021646
1,2-Dichloroethane	ND		1.00	1	09/18/2017 14:13	WG1021646
(S) Toluene-d8	103		80.0-120		09/18/2017 18:58	WG1021646
(S) Toluene-d8	101		80.0-120		09/18/2017 14:13	WG1021646
(S) Dibromofluoromethane	105		76.0-123		09/18/2017 14:13	WG1021646
(S) Dibromofluoromethane	100		76.0-123		09/18/2017 18:58	WG1021646
(S) 4-Bromofluorobenzene	111		80.0-120		09/18/2017 14:13	WG1021646
(S) 4-Bromofluorobenzene	101		80.0-120		09/18/2017 18:58	WG1021646

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

WG1018707

QUALITY CONTROL SUMMARY

ONE LAB. NATIONWIDE.



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

L935156-01,02,03,04,05,06,07

Method Blank (MB)

(MB) R3249130-3 09/10/17 10:33

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	95.3			76.0-123
(S) 4-Bromofluorobenzene	103			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) R3249130-1 09/10/17 09:35 • (LCSD) R3249130-2 09/10/17 09:54

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	25.4	24.4	102	97.5	70.0-130			4.13	20
1,2-Dichloroethane	25.0	26.2	26.1	105	104	70.0-130			0.230	20
Ethylbenzene	25.0	28.2	27.3	113	109	70.0-130			3.17	20
Methyl tert-butyl ether	25.0	26.1	26.0	104	104	70.0-130			0.140	20
Naphthalene	25.0	28.0	29.1	112	116	70.0-130			3.91	20
Toluene	25.0	27.0	26.0	108	104	70.0-130			3.45	20
Xylenes, Total	75.0	83.4	81.2	111	108	70.0-130			2.67	20
(S) Toluene-d8				104	103	80.0-120				
(S) Dibromofluoromethane				95.5	93.8	76.0-123				
(S) 4-Bromofluorobenzene				103	104	80.0-120				

7 GI

8 AI

9 Sc

WG1018722

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

QUALITY CONTROL SUMMARY

L935156-08,09,10,11,12,13,14,15,16,17,18,19,20,21,22,23

ONE LAB. NATIONWIDE.



Method Blank (MB)

(MB) R3248227-3 09/10/17 11:01

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	99.8			80.0-120
(S) Dibromofluoromethane	115			76.0-123
(S) 4-Bromofluorobenzene	116			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) R3248227-1 09/10/17 09:42 • (LCSD) R3248227-2 09/10/17 10:02

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	28.4	28.3	114	113	70.0-130			0.610	20
1,2-Dichloroethane	25.0	29.7	30.0	119	120	70.0-130			0.850	20
Ethylbenzene	25.0	23.2	23.0	92.9	92.0	70.0-130			1.02	20
Methyl tert-butyl ether	25.0	29.3	29.7	117	119	70.0-130			1.38	20
Naphthalene	25.0	24.1	24.1	96.3	96.3	70.0-130			0.0500	20
Toluene	25.0	24.6	25.2	98.6	101	70.0-130			2.26	20
Xylenes, Total	75.0	68.4	69.9	91.2	93.2	70.0-130			2.17	20
(S) Toluene-d8				97.5	99.3	80.0-120				
(S) Dibromofluoromethane				108	111	76.0-123				
(S) 4-Bromofluorobenzene				109	106	80.0-120				

7 GI

8 AI

9 Sc

ACCOUNT:

CH2M Hill- Kinder Morgan- Atlanta, GA

PROJECT:

684910.LD.MR.GR

SDG:

L935156

DATE/TIME:

09/20/17 16:28

PAGE:

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WG1018725

QUALITY CONTROL SUMMARY

ONE LAB. NATIONWIDE.



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

L935156-24,25,26,27,28,29,30,31,32,33,34,35,37

Method Blank (MB)

(MB) R3249464-2 09/10/17 10:08

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL 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	105			76.0-123
(S) 4-Bromofluorobenzene	111			80.0-120

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

Laboratory Control Sample (LCS)

(LCS) R3249464-1 09/10/17 09:35

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	25.0	26.3	105	70.0-130	
1,2-Dichloroethane	25.0	26.1	105	70.0-130	
Ethylbenzene	25.0	23.9	95.8	70.0-130	
Methyl tert-butyl ether	25.0	25.5	102	70.0-130	
Naphthalene	25.0	18.9	75.6	70.0-130	
Toluene	25.0	23.7	94.8	70.0-130	
Xylenes, Total	75.0	71.9	95.9	70.0-130	
(S) Toluene-d8			103	80.0-120	
(S) Dibromofluoromethane			105	76.0-123	
(S) 4-Bromofluorobenzene			111	80.0-120	

7 Gl

8 Al

9 Sc

ACCOUNT:

CH2M Hill- Kinder Morgan- Atlanta, GA

PROJECT:

684910.LD.MR.GR

SDG:

L935156

DATE/TIME:

09/20/17 16:28

PAGE:

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WG1021646

QUALITY CONTROL SUMMARY

ONE LAB. NATIONWIDE.



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

L935156-38

Method Blank (MB)

(MB) R3250130-3 09/18/17 10:25

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	105			80.0-120
(S) Dibromofluoromethane	101			76.0-123
(S) 4-Bromofluorobenzene	112			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) R3250130-1 09/18/17 09:35 • (LCSD) R3250130-2 09/18/17 09:52

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	24.2	24.5	96.9	98.1	70.0-130			1.26	20
1,2-Dichloroethane	25.0	25.0	25.9	100	104	70.0-130			3.54	20
Ethylbenzene	25.0	23.4	23.4	93.8	93.5	70.0-130			0.300	20
Methyl tert-butyl ether	25.0	24.1	23.5	96.6	93.9	70.0-130			2.77	20
Toluene	25.0	22.4	22.8	89.4	91.1	70.0-130			1.90	20
Xylenes, Total	75.0	69.7	70.3	92.9	93.7	70.0-130			0.860	20
(S) Toluene-d8				102	102	80.0-120				
(S) Dibromofluoromethane				103	102	76.0-123				
(S) 4-Bromofluorobenzene				110	110	80.0-120				

7 Gl

8 Al

9 Sc

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

(LCS) R3250397-1 09/18/17 09:22 • (LCSD) R3250397-2 09/18/17 09:42

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	%	%	%			%	%
Naphthalene	25.0	23.2	23.7	92.8	94.7	70.0-130			2.05	20
(S) Toluene-d8				101	100	80.0-120				
(S) Dibromofluoromethane				101	99.9	76.0-123				
(S) 4-Bromofluorobenzene				99.1	98.4	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
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.



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.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ^{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.**



¹ Cp

² Tc

³ Ss

⁴ Cn


⁵ Sr

⁶ Qc


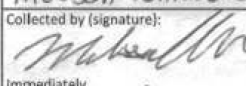

⁷ Gl

⁸ Al

⁹ Sc

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): MELISSA WARREN Collected by (signature): <i>Melissa Warren</i> Immediately Packed on Ice <input checked="" type="checkbox"/>		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 Client Project # 684910.LD.MR.GR Lab Project # KINCH2MGA-LEWIS12 Site/Facility ID # LEWIS DR. P.O. # Quote # Date Results Needed No. of Cntrs		Analysis / Container / Preservative Pres Chk <table border="1"> <tr> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td></td> </tr> <tr> <td>V8260BTEXMNSC-40mlAmb-HCl</td> <td>V8260BTEXMNSC-TB 40mlAmb-HCl-BIK</td> <td>BTEY</td> <td>MTBE</td> <td>NAPHTHALENE</td> <td>1,2-DCA</td> <td></td> </tr> </table>						<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		V8260BTEXMNSC-40mlAmb-HCl	V8260BTEXMNSC-TB 40mlAmb-HCl-BIK	BTEY	MTBE	NAPHTHALENE	1,2-DCA		Chain of Custody Page ___ of ___  12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-787-5858 Fax: 615-758-5859 L# 1935156 A069 Acctnum: KINCH2MGA Template: T121318 Prelogin: P616114 TSR: 526 - Chris McCord PB: 8-31-17 Shipped Via: FedEX Ground Remarks Sample # (lab only)	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																				
V8260BTEXMNSC-40mlAmb-HCl	V8260BTEXMNSC-TB 40mlAmb-HCl-BIK	BTEY	MTBE	NAPHTHALENE	1,2-DCA																				
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs																			
MW-02B-090816	GRAB	GW	NA	09/08/17	1321	3	X	X	X	X	X										-01				
MW-12B-090816		GW			1135	3	X														-02				
MW-27-090817		GW			0830	3	X														-03				
MW-28-090817		GW			0852	3	X														-04				
MW-15-090817		GW			0908	3	X														-05				
MW-15B-090817		GW			0918	3	X														-06				
MW-34-090817		GW			0932	3	X														-07				
MW-39-090817		GW			0941	3	X														-08				
MW-37-090817		GW			0951	3	X														-09				
MW-38-090817		GW			0958	3	X														-10				
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - Waste Water DW - Drinking Water OT - Other		Remarks: pH _____ Temp _____ Flow _____ Other _____ Samples returned via: UPS <input checked="" type="checkbox"/> FedEx _____ Courier _____ Tracking # 7474 8926 9265		Sample Receipt Checklist COC Seal Present/Intact: <input checked="" type="checkbox"/> NP <input checked="" type="checkbox"/> N COC Signed/Accurate: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N Bottles arrive intact: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N Correct bottles used: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N Sufficient volume sent: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N If Applicable VOA Zero Headpace: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N Preservation Correct/Checked: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N																					
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes/No	Temp: °C	Bottles Received:	If preservation required by Login: Date/Time																		
<i>Melissa Warren</i>	09/08/17	1750		()	2.7	108																			
Relinquished by: (Signature)	Date:	Time:	Received for Lab by: (Signature)	Date:	Time:	Hold:	Condition: <input checked="" type="checkbox"/> NCI <input checked="" type="checkbox"/> LCA																		
			<i>Tom Wiley</i>	9/9/17	084																				

AV 09/15/17

CH2M Hill- Kinder Morgan- Atlanta, GA 6600 Peachtree Dunwoody Road		Billing Information: Accounts Payable 1000 Windward Concourse Ste 450 Alpharetta, GA 30005		Pres Chk X X X X X X		Analysis / Container / Preservative		Chain of Custody Page ___ of ___	
Report to: Bethany Garvey		Email To: bgarvey@ch2m.com; tom.wiley@ch2m.com; scott.powell@ch2m.com;		City/State Collected: BELTON, SC		V8260BTEXMNSC 40miAmb-HCI		 12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859	
Project Description: Lewis Drive Groundwater		Client Project # 684910.LD.MR.GR		Lab Project # KINCH2MGA-LEWIS12		V8260BTEXMNSC-TB 40miAmb-HCI-BIK		L# L935156	
Phone: 770-604-9182 Fax:		Site/Facility ID # LEWIS DR		P.O. #		BTEX		Table #	
Collected by (print): MEUSSA WARREN		Rush? (Lab MUST Be Notified) <input checked="" 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		Quote #		MTBE		Acctnum: KINCH2MGA	
Collected by (signature): 		Date Results Needed		No. of Cntrs		NAPHTHALENE		Template: T121318	
Immediately Packed on Ice <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		Date Results Needed		No. of Cntrs		1,2-DCA		Prelogin: P616114	
Sample ID		Comp/Grab		Matrix *		Depth		Date	
Time		Date		Time		Date		Time	
MW-24-090817		GRAB		GW		NA		09/08/17	
1006		3		X		X		X	
MW-24B-090817		GW		1015		3		X	
MW-40-090817		GW		1037		3		X	
MW-41-090817		GW		1045		3		X	
MW-42-090817		GW		1056		3		X	
MW-25B-090817		GW		1106		3		X	
MW-25B-090817-DUP		GW		1108		3		X	
MW-25-090817		GW		1110		3		X	
MW-35-090817		GW		1120		3		X	
MW-13B-090817		GW		1242		3		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 <input checked="" type="checkbox"/> Courier		Tracking #		pH _____ Temp _____ Flow _____ Other _____	
Relinquished by: (Signature) 		Date: 09/08/17		Time: 1750		Received by: (Signature)		Trip Blank Received: Yes/No <input checked="" type="checkbox"/> HCl / MeOH <input type="checkbox"/> TBR	
Relinquished by: (Signature)		Date:		Time:		Received by: (Signature)		Temp: °C 21	
Relinquished by: (Signature)		Date:		Time:		Received by: (Signature)		Bottles Received: 103	
Relinquished by: (Signature)		Date:		Time:		Received by: (Signature)		If preservation required by Login: Date/Time	
Relinquished by: (Signature)		Date:		Time:		Received by: (Signature)		Hold:	
Relinquished by: (Signature)		Date:		Time:		Received by: (Signature)		Condition: <input checked="" type="checkbox"/> NCP <input type="checkbox"/> OK	

AV 09/15/17

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):
MEUSSA WAPPEL

Collected by (signature):
[Signature]

Immediately Packed on Ice Y N

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 1 of 1



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



L# **1935156**

Table #

Acctnum: **KINCH2MGA**

Template: **T121318**

Prelogin: **P616114**

TSR: **526 - Chris McCord**

PB: **8-31-17**

Shipped Via: **FedEX Ground**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260BTEXMNSC 40mlAmb-HCl	V8260BTEXMNSC-TB 40mlAmb-HCl-Bik	BTEX	MTBE	NAPHTHALENE	1,2-DCN	Remarks	Sample # (lab only)
MW-17-090817	GRAB	GW	NA	09/08/17	1422	3	X	X	X	X	X	X		-20 -21
MW-02-090817		GW			1325	3	X							21 -22
MW-06-090817		GW			1360	3	X							23 -24
MW-12-090817		GW			1130	3	X							25 -26
MW-14-090817		GW			1227	3	X							24 -25
MW-14B-090817		GW			1232	3	X							25 -26
MW-05-090817		GW			1350	3	X							26 -27
MW-04-090817		GW			1530	3	X							27 -28
MW-04-090817-DUP		GW			1340	3	X							28 -29
FB-090817		GW			1505	3	X							29 -30

* 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 #

Relinquished by: (Signature)
[Signature]

Date: **09/08/17** Time: **1750**

Received by: (Signature)

Trip Blank Received: No Yes
40C / MeOH TBR

Relinquished by: (Signature)

Date: Time:

Received by: (Signature)

Temp: **21** °C Bottles Received: **103**

Relinquished by: (Signature)

Date: Time:

Received for lab by: (Signature)
[Signature]

Date: **9/9/17** Time: **0845**

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

If preservation required by Login: Date/Time

Hold: Condition:
 NCF TOX

AV 09/15/17

CH2M Hill- Kinder Morgan- Atlanta, GA

6600 Peachtree Dunwoody Road

Report to:
Bethany Garvey

Project
Description: **Lewis Drive Groundwater**

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

Client Project #
684910.LD.MLGR

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

Lab Project #
KINCH2MGA-LEWIS12

Collected by (print):
MELISSA WARREN

Site/Facility ID #
LEWIS DR

P.O. #
Quote #

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
MW-31-090817	GRAB	GW	NA	09/08/17	1246	3
MW-10-090817		GW			1305	3
MW-32-090817		GW			1315	3
MW-08-090817		GW			1430	3
TB-090817		GW			1510	17
MW-36B-090817		GW			1530	32
MW-36-090817		GW			1525	3

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

Analysis / Container / Preservative	Pres Chk
V8260BTEXMNSC 40mlAmb-HCl	
V8260BTEXMNSC-TB 40mlAmb-HCl-Bik	
BTEX	
MTBG	
NAPHTHALENE	
1,2-DCA	

Chain of Custody Page ___ of ___



LAB SCIENCES
a subsidiary of *[Logo]*

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

L# **L935156**

Table #

Acctnum: **KINCH2MGA**

Template: **T121318**

Prelogin: **P616114**

TSR: **526 - Chris McCord**

PB: **8-31-17**

Shipped Via: **FedEX Ground**

* 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

pH _____ Temp _____
Flow _____ Other _____

Sample Receipt Checklist

ECC Seal Present/Intact: Y N

ECC 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) *[Signature]* Date: **09/08/17** Time: **1750**

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

Relinquished by: (Signature) Date: Time: Received for lab by: (Signature) *[Signature]*

Trip Blank Received: No Yes
MeOH TBR

Temp: **2-1** °C Bottles Received: **108**

Date: **9/9/17** Time: **0845**

If preservation required by Login: Date/Time

Hold: Condition: **NCF/1-0**

ESC Lab Sciences Non-Conformance Form

Login #: L935156	Client: KINCH2MGA	Date: 9/9/17	Evaluated by: Troy Dunlap
------------------	-------------------	--------------	---------------------------

Non-Conformance (check applicable items)

Sample Integrity		Chain of Custody Clarification	
Parameter(s) past holding time	X	Login Clarification Needed	If Broken Container:
Improper temperature		Chain of custody is incomplete	Insufficient packing material around container
Improper container type		Please specify Metals requested.	Insufficient packing material inside cooler
Improper preservation		Please specify TCLP requested.	Improper handling by carrier (FedEx / UPS / Couri
Insufficient sample volume.		Received additional samples not listed on coc.	Sample was frozen
Sample is biphasic.		Sample ids on containers do not match ids on coc	Container lid not intact
Vials received with headspace.		Trip Blank not received.	If no Chain of Custody:
Broken container		Client did not "X" analysis.	Received by:
Broken container:		Chain of Custody is missing	Date/Time:
Sufficient sample remains			Temp./Cont. Rec./pH:
			Carrier:
			Tracking#

Login Comments: 1.) **Did not receive MW-13B-090817.**
2.) **Received MW-21-090817** at 1456 not listed on the COC.

Client informed by:	Call	x	Email	Voice Mail	Date: 9/11/17	Time:
TSR Initials: CM	Client Contact: Bethany Garvey					

Login Instructions:

Client notified of missing containers. Please correct COC to note NCF and correct container count.
2. Log MW-21-090817 for V8260BTEXMNSC.

This E-mail and any attached files are confidential, and may be copyright protected. If you are not the addressee, any dissemination of this communication is strictly prohibited. If you have received this message in error, please contact the sender immediately and delete/destroy all information received.

Attachment C
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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Discharge Permit and Expiration Date
7/12/17 0840	Scott Swick	_____	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	ECS	
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	March 18	
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 Lewis Drive, Belton, South Carolina
Lewis Drive	Belton, SC	Bill Waldron/RAL	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
7/6/2017 0840 1415	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	yes
Air Compressor 1 Run Time	(hours)	NA	NA	2538:54	-
Air Compressor 1 Load Time	(hours)	NA	NA	940:36	-
Air Compressor 1 Discharge Temp	(F)	60 - 100	110	NOT operating	-
Air Compressor 1 Pressure	(psig)	90 - 110	100	Not operating	-
Air Compressor 2 Run Time	(hours)	NA	NA	301:49	307:07
Air Compressor 2 Load Time	(hours)	NA	NA	108:51	112:30
Air Compressor 2 Temp	(F)	60 - 100	110	190	191 -
Air Compressor 2 Pressure	(psig)	90 - 110	100	111	111
Receiver Tank Pressure	(psig)	90 - 110	100	115	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	110	110
Manifold Temperature	(F)	60 - 100	110	90	100
Manifold Flow Rate	(scfm)	TBD	TBD	420.6	536.7
Horizontal Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
HAS-1 Target Flow Rate	(scfm)	TBD	TBD	113.6	135.0
HAS-1 Actual Flow Rate	(scfm)	TBD	TBD	124.7	137.2
HAS-1 Valve Position	(%)	TBD	TBD	9.0	9.4
HAS-1 Pressure	(psig)	10 - 20	30	21	21
HAS-2 Target Flow Rate	(scfm)	TBD	TBD	108.0	129.0
HAS-2 Actual Flow Rate	(scfm)	TBD	TBD	107.6	126.1
HAS-2 Valve Position	(%)	TBD	TBD	6.6	8.4
HAS-2 Pressure	(psig)	10 - 20	30	21	22
HAS-3 Target Flow Rate	(scfm)	TBD	TBD	56.0	67.5
HAS-3 Actual Flow Rate	(scfm)	TBD	TBD	42.9	61.2
HAS-3 Valve Position	(%)	TBD	TBD	1.9	5.2
HAS-3 Pressure	(psig)	10 - 20	30	17	15

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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
6/22/2017 1315	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	NOT OPERATING	
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	5.1	
VAS-11 Pressure	(psig)	10 - 20	30	10	
VAS-12 Flow Rate	(scfm)	TBD	TBD	2.2	
VAS-12 Pressure	(psig)	10 - 20	30	5	
VAS-13 Flow Rate	(scfm)	TBD	TBD	2.2	
VAS-13 Pressure	(psig)	10 - 20	30	3	
VAS-14 Flow Rate	(scfm)	TBD	TBD	2.2	
VAS-14 Pressure	(psig)	10 - 20	30	3	
VAS-15 Flow Rate	(scfm)	TBD	TBD	2.2	
VAS-15 Pressure	(psig)	10 - 20	30	5	
VAS-16 Flow Rate	(scfm)	TBD	TBD	1.6	
VAS-16 Pressure	(psig)	10 - 20	30	5	
VAS-17 Flow Rate	(scfm)	TBD	TBD	1.6	
VAS-17 Pressure	(psig)	10 - 20	30	5	



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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
6/22/2017 1315	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	Departure
VAS-18 Flow Rate	(scfm)	TBD	TBD	Not Operating	
VAS-18 Pressure	(psig)	10 - 20	30	11	
VAS-19 Flow Rate	(scfm)	TBD	TBD	5.1	
VAS-19 Pressure	(psig)	10 - 20	30	9	
VAS-20 Flow Rate	(scfm)	TBD	TBD	5.1	
VAS-20 Pressure	(psig)	10 - 20	30	17	
VAS-21 Flow Rate	(scfm)	TBD	TBD	5.4	
VAS-21 Pressure	(psig)	10 - 20	30	22	
VAS-22 Flow Rate	(scfm)	TBD	TBD	5.4	
VAS-22 Pressure	(psig)	10 - 20	30	21	
VAS-23 Flow Rate	(scfm)	TBD	TBD	5.0	
VAS-23 Pressure	(psig)	10 - 20	30	28	
VAS-24 Flow Rate	(scfm)	TBD	TBD	4.9	
VAS-24 Pressure	(psig)	10 - 20	30	28	
VAS-25 Flow Rate	(scfm)	TBD	TBD	4.9	
VAS-25 Pressure	(psig)	10 - 20	30	20	
VAS-26 Flow Rate	(scfm)	TBD	TBD	5.4	
VAS-26 Pressure	(psig)	10 - 20	30	24	
VAS-27 Flow Rate	(scfm)	TBD	TBD	5.0	
VAS-27 Pressure	(psig)	10 - 20	30	25	
VAS-28 Flow Rate	(scfm)	TBD	TBD	4.5	
VAS-28 Pressure	(psig)	10 - 20	30	10	
VAS-29 Flow Rate	(scfm)	TBD	TBD	5.0	
VAS-29 Pressure	(psig)	10 - 20	30	9	
VAS-30 Flow Rate	(scfm)	TBD	TBD	4.6	
VAS-30 Pressure	(psig)	10 - 20	30	0	
VAS-31 Flow Rate	(scfm)	TBD	TBD	5.3	
VAS-31 Pressure	(psig)	10 - 20	30	28	
VAS-32 Flow Rate	(scfm)	TBD	TBD	NOT OPERATING	
VAS-32 Pressure	(psig)	10 - 20	30	↓	
VAS-33 Flow Rate	(scfm)	TBD	TBD	↓	
VAS-33 Pressure	(psig)	10 - 20	30	↓	
VAS-34 Flow Rate	(scfm)	TBD	TBD	↓	
VAS-34 Pressure	(psig)	10 - 20	30	↓	



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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
6/22/2017 1345	SCOTT SIMPSON		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	NOT OPERATING ↓	
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		
VAS-42 Pressure	(psig)	10 - 20	30		
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	4.8	
VAS-45 Pressure	(psig)	10 - 20	30	6	
Brown's Creek Aerators	(Units)	Optimal Level	Max Level	Arrival	Departure
BCA-01 Flow Rate	(scfm)	TBD	TBD	3.8	
BCA-01 Pressure	(psig)	0 - 5	5	5	
BCA-02 Flow Rate	(scfm)	TBD	TBD	3.8	
BCA-02 Pressure	(psig)	0 - 5	5	5	
Bedrock Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
BRS-01 Flow Rate	(scfm)	TBD	TBD	NOT OPERATING ↓	
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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Discharge Permit and Expiration Date
7/12/2017 0900	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	ECS	
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	December 2017	
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	March 2018	
Inspect flow meters per Section X.X.X. Verify calibration.	Annually	Yes / No	Yes / No		
Calibrate EAD	Quarterly / Annually	Yes / No	Yes / No	September 2017	

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 Lewis Drive, Belton, South Carolina
Lewis Drive	Belton, SC	Bill Waldron/RAL	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
7/16/17 0900 1400	Scott Smida		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	2538:54 - NOT OPERATING	-
Air Compressor 1 Load Time	(hours)	NA	NA	940.36	-
Air Compressor 1 Discharge Temp	(F)	60 - 100	110	-	-
Air Compressor 1 Pressure	(psig)	90 - 110	100	-	-
Air Compressor 2 Run Time	(hours)	NA	NA	445:53	450:53
Air Compressor 2 Load Time	(hours)	NA	NA	190:20	193:24
Air Compressor 2 Temp	(F)	60 - 100	110	186	191
Air Compressor 2 Pressure	(psig)	90 - 110	100	110	110
Receiver Tank Pressure	(psig)	90 - 110	100	115	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	112	112
Manifold Temperature	(F)	60 - 100	110	90	180
Manifold Flow Rate	(scfm)	TBD	TBD	485.7	471.1
Horizontal Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
HAS-1 Target Flow Rate	(scfm)	TBD	TBD	135.0	150.0
HAS-1 Actual Flow Rate	(scfm)	TBD	TBD	148.7	155.3
HAS-1 Valve Position	(%)	TBD	TBD	9.7	16.7
HAS-1 Pressure	(psig)	10 - 20	30	20	20
HAS-2 Target Flow Rate	(scfm)	TBD	TBD	129.0	143.5
HAS-2 Actual Flow Rate	(scfm)	TBD	TBD	131.5	148.8
HAS-2 Valve Position	(%)	TBD	TBD	7.8	9.3
HAS-2 Pressure	(psig)	10 - 20	30	21.5	22
HAS-3 Target Flow Rate	(scfm)	TBD	TBD	67.5	75.0
HAS-3 Actual Flow Rate	(scfm)	TBD	TBD	68.1	73.7
HAS-3 Valve Position	(%)	TBD	TBD	4.2	4.7
HAS-3 Pressure	(psig)	10 - 20	30	15	16

Parts Needed:	
Parts Installed:	

Notes (include alarms since previous visit):
Following arrival data collection. Increase HAS well flows from 0.18 SCFM/FT to 0.20 SCFM/FT screen.



Select cupboard or creek wells kept between 2.5-3 scfm

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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
7/12/2017 0900 1400	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	6.6	Not operating
VAS-01 Pressure	(psig)	10 - 20	30	17	
VAS-02 Flow Rate	(scfm)	TBD	TBD	5.8	
VAS-02 Pressure	(psig)	10 - 20	30	18	
VAS-03 Flow Rate	(scfm)	TBD	TBD	3.6	
VAS-03 Pressure	(psig)	10 - 20	30	4	
VAS-04 Flow Rate	(scfm)	TBD	TBD	2.8	
VAS-04 Pressure	(psig)	10 - 20	30	0	
VAS-05 Flow Rate	(scfm)	TBD	TBD	2.9	
VAS-05 Pressure	(psig)	10 - 20	30	1	
VAS-06 Flow Rate	(scfm)	TBD	TBD	3.1	
VAS-06 Pressure	(psig)	10 - 20	30	3	
VAS-07 Flow Rate	(scfm)	TBD	TBD	2.1	
VAS-07 Pressure	(psig)	10 - 20	30	5	
VAS-08 Flow Rate	(scfm)	TBD	TBD	2.0	
VAS-08 Pressure	(psig)	10 - 20	30	8	
VAS-09 Flow Rate	(scfm)	TBD	TBD	4.0	
VAS-09 Pressure	(psig)	10 - 20	30	5	
VAS-10 Flow Rate	(scfm)	TBD	TBD	5.9	
VAS-10 Pressure	(psig)	10 - 20	30	7	
VAS-11 Flow Rate	(scfm)	TBD	TBD	Not operating	5.5
VAS-11 Pressure	(psig)	10 - 20	30		10
VAS-12 Flow Rate	(scfm)	TBD	TBD		2.9
VAS-12 Pressure	(psig)	10 - 20	30		4
VAS-13 Flow Rate	(scfm)	TBD	TBD		3.1
VAS-13 Pressure	(psig)	10 - 20	30		4
VAS-14 Flow Rate	(scfm)	TBD	TBD		2.8
VAS-14 Pressure	(psig)	10 - 20	30		4
VAS-15 Flow Rate	(scfm)	TBD	TBD		2.9
VAS-15 Pressure	(psig)	10 - 20	30		5
VAS-16 Flow Rate	(scfm)	TBD	TBD		2.9
VAS-16 Pressure	(psig)	10 - 20	30		5
VAS-17 Flow Rate	(scfm)	TBD	TBD		2.3
VAS-17 Pressure	(psig)	10 - 20	30		5



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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
7/12/07 0900 1400	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	6.2	NOT operating
VAS-18 Pressure	(psig)	10 - 20	30	0	" "
VAS-19 Flow Rate	(scfm)	TBD	TBD	NOT operating	6.0
VAS-19 Pressure	(psig)	10 - 20	30		10
VAS-20 Flow Rate	(scfm)	TBD	TBD		NOT operating
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		
VAS-22 Pressure	(psig)	10 - 20	30		
VAS-23 Flow Rate	(scfm)	TBD	TBD		
VAS-23 Pressure	(psig)	10 - 20	30		
VAS-24 Flow Rate	(scfm)	TBD	TBD		
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	6.3	
VAS-32 Pressure	(psig)	10 - 20	30	18	
VAS-33 Flow Rate	(scfm)	TBD	TBD	5.7	
VAS-33 Pressure	(psig)	10 - 20	30	24	
VAS-34 Flow Rate	(scfm)	TBD	TBD	6.0	
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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
7/12/17 0910 1400	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	6.4	NOT OPERATING
VAS-35 Pressure	(psig)	10 - 20	30	18	↓
VAS-36 Flow Rate	(scfm)	TBD	TBD	6.5	↓
VAS-36 Pressure	(psig)	10 - 20	30	12	↓
VAS-37 Flow Rate	(scfm)	TBD	TBD	6.5	↓
VAS-37 Pressure	(psig)	10 - 20	30	5	↓
VAS-38 Flow Rate	(scfm)	TBD	TBD	6.1	↓
VAS-38 Pressure	(psig)	10 - 20	30	5	↓
VAS-39 Flow Rate	(scfm)	TBD	TBD	6.4	↓
VAS-39 Pressure	(psig)	10 - 20	30	11	↓
VAS-40 Flow Rate	(scfm)	TBD	TBD	4.0	↓
VAS-40 Pressure	(psig)	10 - 20	30	5	↓
VAS-41 Flow Rate	(scfm)	TBD	TBD	NOT OPERATING	6.0
VAS-41 Pressure	(psig)	20-Oct	30	↓	4
VAS-42 Flow Rate	(scfm)	TBD	TBD	5.7	NOT OPERATING
VAS-42 Pressure	(psig)	10 - 20	30	9	↓
VAS-43 Flow Rate	(scfm)	TBD	TBD	NOT OPERATING	4.7
VAS-43 Pressure	(psig)	10 - 20	30	↓	32
VAS-44 Flow Rate	(scfm)	TBD	TBD	↓	3.9
VAS-44 Pressure	(psig)	10 - 20	30	↓	32
VAS-45 Flow Rate	(scfm)	TBD	TBD	↓	5.5
VAS-45 Pressure	(psig)	10 - 20	30	↓	5
Brown's Creek Aerators	(Units)	Optimal Level	Max Level	Arrival	Departure
BCA-01 Flow Rate	(scfm)	TBD	TBD	4.2	3.7
BCA-01 Pressure	(psig)	0 - 5	5	5	4
BCA-02 Flow Rate	(scfm)	TBD	TBD	4.0	3.8
BCA-02 Pressure	(psig)	0 - 5	5	5	4
Bedrock Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
BRS-01 Flow Rate	(scfm)	TBD	TBD	NOT OPERATING	NOT OPERATING
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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Discharge Permit and Expiration Date
7/25/17 1540	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	ECS	
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: → cleaned compressor air inlet filters
 → began building group 7 manifold
 → treated compound for brush control and applied snake repellent
 → re attached portions of compound fence privacy screen



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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
7/25/2017 0840 1540	SCOTT SWINDA	_____	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	2538:54	
Air Compressor 1 Load Time	(hours)	NA	NA	940:36	
Air Compressor 1 Discharge Temp	(F)	60 - 100	110	- not operating	
Air Compressor 1 Pressure	(psig)	90 - 110	100	- not operating	
Air Compressor 2 Run Time	(hours)	NA	NA	757:39	764:20
Air Compressor 2 Load Time	(hours)	NA	NA	371:08	375:03
Air Compressor 2 Temp	(F)	60 - 100	110	185	196
Air Compressor 2 Pressure	(psig)	90 - 110	100	111	112
Receiver Tank Pressure	(psig)	90 - 110	100	115	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	112	112
Manifold Temperature	(F)	60 - 100	110	90	100
Manifold Flow Rate	(scfm)	TBD	TBD	558.7	587.6
Horizontal Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
HAS-1 Target Flow Rate	(scfm)	TBD	TBD	150.0	165.0
HAS-1 Actual Flow Rate	(scfm)	TBD	TBD	155.6	167.3
HAS-1 Valve Position	(%)	TBD	TBD	11.1	11.5
HAS-1 Pressure	(psig)	10 - 20	30	20	20
HAS-2 Target Flow Rate	(scfm)	TBD	TBD	143.5	158.0
HAS-2 Actual Flow Rate	(scfm)	TBD	TBD	142.1	151.2
HAS-2 Valve Position	(%)	TBD	TBD	8.4	9.2
HAS-2 Pressure	(psig)	10 - 20	30	21	21
HAS-3 Target Flow Rate	(scfm)	TBD	TBD	75.0	82.5
HAS-3 Actual Flow Rate	(scfm)	TBD	TBD	94.9	67.0
HAS-3 Valve Position	(%)	TBD	TBD	4.7	5.1
HAS-3 Pressure	(psig)	10 - 20	30	15	15

Parts Needed:	
Parts Installed:	

Notes (include alarms since previous visit):



Find flow very hard to control. Inspect area of VAS04 and find no issues w/ surfering or excess vapor.

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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
7/25/2017 0840 1540	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	4.2	NOT Operating
VAS-01 Pressure	(psig)	10 - 20	30	17	
VAS-02 Flow Rate	(scfm)	TBD	TBD	4.1	
VAS-02 Pressure	(psig)	10 - 20	30	15	
VAS-03 Flow Rate	(scfm)	TBD	TBD	2.7	
VAS-03 Pressure	(psig)	10 - 20	30	3	
VAS-04 Flow Rate	(scfm)	TBD	TBD	6.8 - see header	
VAS-04 Pressure	(psig)	10 - 20	30	0	
VAS-05 Flow Rate	(scfm)	TBD	TBD	2.9	
VAS-05 Pressure	(psig)	10 - 20	30	1	
VAS-06 Flow Rate	(scfm)	TBD	TBD	3.1	
VAS-06 Pressure	(psig)	10 - 20	30	3	
VAS-07 Flow Rate	(scfm)	TBD	TBD	2.4	
VAS-07 Pressure	(psig)	10 - 20	30	6	
VAS-08 Flow Rate	(scfm)	TBD	TBD	2.1	
VAS-08 Pressure	(psig)	10 - 20	30	8	
VAS-09 Flow Rate	(scfm)	TBD	TBD	4.6	
VAS-09 Pressure	(psig)	10 - 20	30	4	
VAS-10 Flow Rate	(scfm)	TBD	TBD	4.8	
VAS-10 Pressure	(psig)	10 - 20	30	6	
VAS-11 Flow Rate	(scfm)	TBD	TBD	NOT Operating	5.0
VAS-11 Pressure	(psig)	10 - 20	30		10
VAS-12 Flow Rate	(scfm)	TBD	TBD		3.4
VAS-12 Pressure	(psig)	10 - 20	30		5
VAS-13 Flow Rate	(scfm)	TBD	TBD		3.2
VAS-13 Pressure	(psig)	10 - 20	30		4
VAS-14 Flow Rate	(scfm)	TBD	TBD		3.1
VAS-14 Pressure	(psig)	10 - 20	30		4
VAS-15 Flow Rate	(scfm)	TBD	TBD		3.4
VAS-15 Pressure	(psig)	10 - 20	30		5
VAS-16 Flow Rate	(scfm)	TBD	TBD		3.3
VAS-16 Pressure	(psig)	10 - 20	30		5
VAS-17 Flow Rate	(scfm)	TBD	TBD		2.7
VAS-17 Pressure	(psig)	10 - 20	30		5



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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
7/25/2017 0840 1340	Scott Swinburn	✓	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	4.5	NOT operating
VAS-18 Pressure	(psig)	10 - 20	30	0	"
VAS-19 Flow Rate	(scfm)	TBD	TBD	NOT operating	5.4
VAS-19 Pressure	(psig)	10 - 20	30	"	10
VAS-20 Flow Rate	(scfm)	TBD	TBD	4.9	NOT operating
VAS-20 Pressure	(psig)	10 - 20	30	18	
VAS-21 Flow Rate	(scfm)	TBD	TBD	3.1	
VAS-21 Pressure	(psig)	10 - 20	30	20	
VAS-22 Flow Rate	(scfm)	TBD	TBD	3.6	
VAS-22 Pressure	(psig)	10 - 20	30	23	
VAS-23 Flow Rate	(scfm)	TBD	TBD	4.2	
VAS-23 Pressure	(psig)	10 - 20	30	21	
VAS-24 Flow Rate	(scfm)	TBD	TBD	3.4	
VAS-24 Pressure	(psig)	10 - 20	30	26	
VAS-25 Flow Rate	(scfm)	TBD	TBD	5.0	
VAS-25 Pressure	(psig)	10 - 20	30	22	
VAS-26 Flow Rate	(scfm)	TBD	TBD	3.2	
VAS-26 Pressure	(psig)	10 - 20	30	24	
VAS-27 Flow Rate	(scfm)	TBD	TBD	2.4	
VAS-27 Pressure	(psig)	10 - 20	30	30	
VAS-28 Flow Rate	(scfm)	TBD	TBD	4.4	
VAS-28 Pressure	(psig)	10 - 20	30	10	
VAS-29 Flow Rate	(scfm)	TBD	TBD	4.3	
VAS-29 Pressure	(psig)	10 - 20	30	9	
VAS-30 Flow Rate	(scfm)	TBD	TBD	4.5	
VAS-30 Pressure	(psig)	10 - 20	30	1	
VAS-31 Flow Rate	(scfm)	TBD	TBD	4.4	
VAS-31 Pressure	(psig)	10 - 20	30	28	↓
VAS-32 Flow Rate	(scfm)	TBD	TBD	4.6	4.3
VAS-32 Pressure	(psig)	10 - 20	30	13	11
VAS-33 Flow Rate	(scfm)	TBD	TBD	NOT operating	7.2
VAS-33 Pressure	(psig)	10 - 20	30	↓	24
VAS-34 Flow Rate	(scfm)	TBD	TBD	↓	6.5
VAS-34 Pressure	(psig)	10 - 20	30	↓	21



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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
7/25/2017 0840 1540	Scott Smita	_____	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	NOT OPERATING	5.7
VAS-35 Pressure	(psig)	10 - 20	30		17
VAS-36 Flow Rate	(scfm)	TBD	TBD		5.2
VAS-36 Pressure	(psig)	10 - 20	30		11
VAS-37 Flow Rate	(scfm)	TBD	TBD		5.1
VAS-37 Pressure	(psig)	10 - 20	30		2
VAS-38 Flow Rate	(scfm)	TBD	TBD		5.2
VAS-38 Pressure	(psig)	10 - 20	30		3
VAS-39 Flow Rate	(scfm)	TBD	TBD		5.8
VAS-39 Pressure	(psig)	10 - 20	30		10
VAS-40 Flow Rate	(scfm)	TBD	TBD		6.1
VAS-40 Pressure	(psig)	10 - 20	30		22
VAS-41 Flow Rate	(scfm)	TBD	TBD		NOT OPERATING
VAS-41 Pressure	(psig)	20-Oct	30		11
VAS-42 Flow Rate	(scfm)	TBD	TBD		4.8
VAS-42 Pressure	(psig)	10 - 20	30		8
VAS-43 Flow Rate	(scfm)	TBD	TBD		NOT OPERATING
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	4.0	3.8
BCA-01 Pressure	(psig)	0 - 5	5	5	3
BCA-02 Flow Rate	(scfm)	TBD	TBD	3.9	3.8
BCA-02 Pressure	(psig)	0 - 5	5	5	4
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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Discharge Permit and Expiration Date
8/1/2017 155	Scott Swigg	—	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	ECS	
Activate and inspect condition of receiver auto drain.	Each visit	Yes / No	Yes / No		Working properly
...	...				
...	...				

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 inlet filters
- re attach privacy screen to fence
- install 3rd video monitoring camera
- increase #AS flows to 0.24 / secum / ET



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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
8/1/2017 0830	RSIS	Scott Smith A	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	2538:54	- not operating
Air Compressor 1 Load Time	(hours)	NA	NA	940:36	- not operating
Air Compressor 1 Discharge Temp	(F)	60 - 100	110	-	-
Air Compressor 1 Pressure	(psig)	90 - 110	100	-	-
Air Compressor 2 Run Time	(hours)	NA	NA	925:36	932:10
Air Compressor 2 Load Time	(hours)	NA	NA	472:32	476:49
Air Compressor 2 Temp	(F)	60 - 100	110	191	192
Air Compressor 2 Pressure	(psig)	90 - 110	100	111	111
Receiver Tank Pressure	(psig)	90 - 110	100	115	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	112	112
Manifold Temperature	(F)	60 - 100	110	87	94
Manifold Flow Rate	(scfm)	TBD	TBD	567.6	603.2
Horizontal Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
HAS-1 Target Flow Rate	(scfm)	TBD	TBD	165.0	180.0
HAS-1 Actual Flow Rate	(scfm)	TBD	TBD	174.6	183.7
HAS-1 Valve Position	(%)	TBD	TBD	12.1	13.4
HAS-1 Pressure	(psig)	10 - 20	30	21	20
HAS-2 Target Flow Rate	(scfm)	TBD	TBD	158.0	173.0
HAS-2 Actual Flow Rate	(scfm)	TBD	TBD	157.8	168.7
HAS-2 Valve Position	(%)	TBD	TBD	9.0	9.5
HAS-2 Pressure	(psig)	10 - 20	30	23	22
HAS-3 Target Flow Rate	(scfm)	TBD	TBD	82.5	90.0
HAS-3 Actual Flow Rate	(scfm)	TBD	TBD	98.1	103.5
HAS-3 Valve Position	(%)	TBD	TBD	4.0	4.5
HAS-3 Pressure	(psig)	10 - 20	30	14	16

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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
8/1/2017 0830 1515	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	4.1	5.4
VAS-01 Pressure	(psig)	10 - 20	30	10	15
VAS-02 Flow Rate	(scfm)	TBD	TBD	4.3	NOT OPERATING
VAS-02 Pressure	(psig)	10 - 20	30	17	
VAS-03 Flow Rate	(scfm)	TBD	TBD	4.1	↓
VAS-03 Pressure	(psig)	10 - 20	30	3	
VAS-04 Flow Rate	(scfm)	TBD	TBD	3.9	
VAS-04 Pressure	(psig)	10 - 20	30	0	
VAS-05 Flow Rate	(scfm)	TBD	TBD	4.5	
VAS-05 Pressure	(psig)	10 - 20	30	2	
VAS-06 Flow Rate	(scfm)	TBD	TBD	4.0	
VAS-06 Pressure	(psig)	10 - 20	30	4	
VAS-07 Flow Rate	(scfm)	TBD	TBD	3.2	
VAS-07 Pressure	(psig)	10 - 20	30	7	
VAS-08 Flow Rate	(scfm)	TBD	TBD	3.4	
VAS-08 Pressure	(psig)	10 - 20	30	11	
VAS-09 Flow Rate	(scfm)	TBD	TBD	5.0	
VAS-09 Pressure	(psig)	10 - 20	30	5	
VAS-10 Flow Rate	(scfm)	TBD	TBD	5.0	
VAS-10 Pressure	(psig)	10 - 20	30	7	
VAS-11 Flow Rate	(scfm)	TBD	TBD	NOT OPERATING	
VAS-11 Pressure	(psig)	10 - 20	30		10
VAS-12 Flow Rate	(scfm)	TBD	TBD		3.9
VAS-12 Pressure	(psig)	10 - 20	30		5
VAS-13 Flow Rate	(scfm)	TBD	TBD		4.1
VAS-13 Pressure	(psig)	10 - 20	30		5
VAS-14 Flow Rate	(scfm)	TBD	TBD		4.2
VAS-14 Pressure	(psig)	10 - 20	30		5
VAS-15 Flow Rate	(scfm)	TBD	TBD		4.0
VAS-15 Pressure	(psig)	10 - 20	30		5
VAS-16 Flow Rate	(scfm)	TBD	TBD		3.7
VAS-16 Pressure	(psig)	10 - 20	30		5
VAS-17 Flow Rate	(scfm)	TBD	TBD		3.2
VAS-17 Pressure	(psig)	10 - 20	30		5



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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
8/12/17 0836 1515	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	6.5	Not Operating
VAS-18 Pressure	(psig)	10 - 20	30	0	"
VAS-19 Flow Rate	(scfm)	TBD	TBD	Not Operating	5.5
VAS-19 Pressure	(psig)	10 - 20	30	"	10
VAS-20 Flow Rate	(scfm)	TBD	TBD	3.4	Not Operating
VAS-20 Pressure	(psig)	10 - 20	30	18	
VAS-21 Flow Rate	(scfm)	TBD	TBD	3.7	
VAS-21 Pressure	(psig)	10 - 20	30	21	
VAS-22 Flow Rate	(scfm)	TBD	TBD	4.2	
VAS-22 Pressure	(psig)	10 - 20	30	24	
VAS-23 Flow Rate	(scfm)	TBD	TBD	5.0	
VAS-23 Pressure	(psig)	10 - 20	30	22	
VAS-24 Flow Rate	(scfm)	TBD	TBD	2.7	
VAS-24 Pressure	(psig)	10 - 20	30	27	
VAS-25 Flow Rate	(scfm)	TBD	TBD	5.2	
VAS-25 Pressure	(psig)	10 - 20	30	22	
VAS-26 Flow Rate	(scfm)	TBD	TBD	3.1	
VAS-26 Pressure	(psig)	10 - 20	30	27	
VAS-27 Flow Rate	(scfm)	TBD	TBD	4.4	
VAS-27 Pressure	(psig)	10 - 20	30	31	
VAS-28 Flow Rate	(scfm)	TBD	TBD	4.4	
VAS-28 Pressure	(psig)	10 - 20	30	11	
VAS-29 Flow Rate	(scfm)	TBD	TBD	3.6	
VAS-29 Pressure	(psig)	10 - 20	30	9	
VAS-30 Flow Rate	(scfm)	TBD	TBD	4.5	
VAS-30 Pressure	(psig)	10 - 20	30	2	
VAS-31 Flow Rate	(scfm)	TBD	TBD	3.9	
VAS-31 Pressure	(psig)	10 - 20	30	28	↓
VAS-32 Flow Rate	(scfm)	TBD	TBD	Not Operating	4.0
VAS-32 Pressure	(psig)	10 - 20	30		15
VAS-33 Flow Rate	(scfm)	TBD	TBD		5.5
VAS-33 Pressure	(psig)	10 - 20	30		22
VAS-34 Flow Rate	(scfm)	TBD	TBD		5.1
VAS-34 Pressure	(psig)	10 - 20	30		21



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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
8/1/2017 0830 1515	SCOTT EMODA	_____	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	Not operating ↓	5.3
VAS-35 Pressure	(psig)	10 - 20	30		15
VAS-36 Flow Rate	(scfm)	TBD	TBD		5.2
VAS-36 Pressure	(psig)	10 - 20	30		10
VAS-37 Flow Rate	(scfm)	TBD	TBD		4.5
VAS-37 Pressure	(psig)	10 - 20	30		1
VAS-38 Flow Rate	(scfm)	TBD	TBD		4.4
VAS-38 Pressure	(psig)	10 - 20	30		2
VAS-39 Flow Rate	(scfm)	TBD	TBD		5.1
VAS-39 Pressure	(psig)	10 - 20	30		10
VAS-40 Flow Rate	(scfm)	TBD	TBD		5.9
VAS-40 Pressure	(psig)	10 - 20	30		22
VAS-41 Flow Rate	(scfm)	TBD	TBD		Not operating "
VAS-41 Pressure	(psig)	20-Oct	30		
VAS-42 Flow Rate	(scfm)	TBD	TBD		4.5
VAS-42 Pressure	(psig)	10 - 20	30		9
VAS-43 Flow Rate	(scfm)	TBD	TBD		Not operating ↓
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	4.1	3.4
BCA-01 Pressure	(psig)	0 - 5	5	6	4
BCA-02 Flow Rate	(scfm)	TBD	TBD	3.8	3.4
BCA-02 Pressure	(psig)	0 - 5	5	5	4
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		

Time	Description																
08/07/17	<p>Arrive at the site. Nothing out of the ordinary. GM on site working on a gravel driveway adjacent to the system compound. A&D stopped by the site to get keys to the wellheads and gates for the vac truck operators.</p> <ul style="list-style-type: none"> - High sump pressure alarm on AC #2. This is typical with hard stops. Possibly a result when the main PLC shut down the compressor. - High condensate level alarm at the receiver tank. Checked receiver. Condensate level was only as high as the strainer/drain. - Removed strainer. Nothing in it. Opened/closed valve on the receiver. Condensate appeared to be free-flowing as the pressure equalized. - Checked alarms at the HMI. Other than low-flow alarms for the AS wells, the condensate high-level was the only system alarm. Reset the alarm. No subsequent issues. - Reset the alarm at AC #2. Verified that the AUTO and REMOTE settings were active. - Spoke with Scott Smida to give him an update. - Inspected the condensate OWS units. Both units clear. No trash or oil/grease clumping. Water levels at the normal range. - Set the compressor to ENABLE and restart system. Set the HAS well flow rates to half for startup. Slowly ramped up flow at the HAS wells over the next few hours. - HAS-1 sticking. Either the internals of the actuator or the valve plunger, itself. Can change flow at the HMI the controller will alter the "valve-open" percentage, but response from the valve will be delayed. The controller will continue to adjust the percentage until the valve finally "pops/clunks". When that happens, the flow goes well past the setpoint (for exampme: 250 cfm versus the 120 cfm set point). The controller then overcompensates for flow, but slowly balances out. - There's a fluctuation in airflow to the actuators. Every 4-5 seconds there's a the regulators shutter at the regulator gauges and flow is audible. This may be normal, but it was mentioned to Scott Smida. I don't remember this being an issue during the June site visit. 																
	SYSTEM OPS: 08/07/17, 12:30 pm																
	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Load: 539:33 hrs</td> <td style="width: 50%;">FLOWS:</td> </tr> <tr> <td>Run: 1026:23 hrs</td> <td>HAS-1 ~180 cfm</td> </tr> <tr> <td>Air temp: 186 F</td> <td>HAS-2 ~1600 cfm</td> </tr> <tr> <td>Oil temp: 154 F</td> <td>HAS-3 ~90 cfm</td> </tr> <tr> <td>AC Pressure: ~107 psig</td> <td>Main line ~450 cfm</td> </tr> <tr> <td>Reciever Press: ~108 psig</td> <td>~90 psi</td> </tr> <tr> <td>Separator dP: 4-8 psig</td> <td></td> </tr> <tr> <td>Oil filter dP: 1 psig</td> <td></td> </tr> </table>	Load: 539:33 hrs	FLOWS:	Run: 1026:23 hrs	HAS-1 ~180 cfm	Air temp: 186 F	HAS-2 ~1600 cfm	Oil temp: 154 F	HAS-3 ~90 cfm	AC Pressure: ~107 psig	Main line ~450 cfm	Reciever Press: ~108 psig	~90 psi	Separator dP: 4-8 psig		Oil filter dP: 1 psig	
Load: 539:33 hrs	FLOWS:																
Run: 1026:23 hrs	HAS-1 ~180 cfm																
Air temp: 186 F	HAS-2 ~1600 cfm																
Oil temp: 154 F	HAS-3 ~90 cfm																
AC Pressure: ~107 psig	Main line ~450 cfm																
Reciever Press: ~108 psig	~90 psi																
Separator dP: 4-8 psig																	
Oil filter dP: 1 psig																	



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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
8/11/2017 0900	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	NO	
Air Compressor 1 Run Time	(hours)	NA	NA	Not operating	
Air Compressor 1 Temp	(F)	60 - 100	110		
Air Compressor 1 Pressure	(psig)	90 - 110	100		
Air Compressor 2 Run Time	/ LOAD TIME (hours)	NA	NA	1090:58	1581:18
Air Compressor 2 Temp	(F)	60 - 100	110	Not operating	
Air Compressor 2 Pressure	(psig)	90 - 110	100		
Receiver Tank Pressure	(psig)	90 - 110	100		
Receiver Tank Temperature	(F)	60 - 100	110		
				↓	
Interior Manifold	(Units)	Optimal Level	Max Level	Arrival	Departure
Manifold Pressure	(psig)	90 - 110	100		
Manifold Temperature	(F)	60 - 100	110		
Manifold Flow Rate	(scfm)	TBD	TBD		
Horizontal Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
HAS-1 Target Flow Rate	(scfm)	TBD	TBD		
HAS-1 Actual Flow Rate	(scfm)	TBD	TBD		
HAS-1 Valve Position	(%)	TBD	TBD		
HAS-1 Pressure	(psig)	10 - 20	30		
HAS-2 Target Flow Rate	(scfm)	TBD	TBD		
HAS-2 Actual Flow Rate	(scfm)	TBD	TBD		
HAS-2 Valve Position	(%)	TBD	TBD		
HAS-2 Pressure	(psig)	10 - 20	30		
HAS-3 Target Flow Rate	(scfm)	TBD	TBD		
HAS-3 Actual Flow Rate	(scfm)	TBD	TBD		
HAS-3 Valve Position	(%)	TBD	TBD		
HAS-3 Pressure	(psig)	10 - 20	30		

Parts Needed:	
Parts Installed:	

Notes (include alarms since previous visit):

Power Monitor Alarm occurred 0445 on 8/10/2017
 → find the issue to be a power condition issue. Power monitor showing unbalanced / single phase
 → Contact Duke Energy for repair
 → refer to log book for details.



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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Discharge Permit and Expiration Date
8/17/2017 1045	Scott Sm... <i>Scott Sm...</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	Yes / No	Yes / No		
Perform air monitoring near Cupboard Creek.	Each visit	Yes / No	Yes / No	ECS	
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 → Troubleshoot H4501 sticking positioning valve over phone w/
G.I.E. Inc.
→ clean Act#2 inlet filters



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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
8/17/2017 1045	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	2538:54 - not operating	
Air Compressor 1 Load Time	(hours)	NA	NA	940:36	
Air Compressor 1 Discharge Temp	(F)	60 - 100	110	—	
Air Compressor 1 Pressure	(psig)	90 - 110	100	—	
Air Compressor 2 Run Time	(hours)	NA	NA	1229:07	
Air Compressor 2 Load Time	(hours)	NA	NA	677:17	
Air Compressor 2 Temp	(F)	60 - 100	110	194	
Air Compressor 2 Pressure	(psig)	90 - 110	100	110	
Receiver Tank Pressure	(psig)	90 - 110	100	112	
Receiver Tank Temperature	(F)	60 - 100	110	N/A	

Interior Manifold	(Units)	Optimal Level	Max Level	Arrival	Departure
Manifold Pressure	(psig)	90 - 110	100	110	
Manifold Temperature	(F)	60 - 100	110	102	
Manifold Flow Rate	(scfm)	TBD	TBD	640.2	

Horizontal Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
HAS-1 Target Flow Rate	(scfm)	TBD	TBD	195	
HAS-1 Actual Flow Rate	(scfm)	TBD	TBD	263	
HAS-1 Valve Position	(%)	TBD	TBD	17.3	
HAS-1 Pressure	(psig)	10 - 20	30	21	
HAS-2 Target Flow Rate	(scfm)	TBD	TBD	186	
HAS-2 Actual Flow Rate	(scfm)	TBD	TBD	185.7	
HAS-2 Valve Position	(%)	TBD	TBD	11.2	
HAS-2 Pressure	(psig)	10 - 20	30	23	
HAS-3 Target Flow Rate	(scfm)	TBD	TBD	97.5	
HAS-3 Actual Flow Rate	(scfm)	TBD	TBD	103.7	
HAS-3 Valve Position	(%)	TBD	TBD	7.4	
HAS-3 Pressure	(psig)	10 - 20	30	17	

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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
8/7/2017 1045	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	6.1	
VAS-01 Pressure	(psig)	10 - 20	30	15	
VAS-02 Flow Rate	(scfm)	TBD	TBD	4.7	
VAS-02 Pressure	(psig)	10 - 20	30	15	
VAS-03 Flow Rate	(scfm)	TBD	TBD	3.2	
VAS-03 Pressure	(psig)	10 - 20	30	1	
VAS-04 Flow Rate	(scfm)	TBD	TBD	3.4	
VAS-04 Pressure	(psig)	10 - 20	30	1	
VAS-05 Flow Rate	(scfm)	TBD	TBD	4.1	
VAS-05 Pressure	(psig)	10 - 20	30	0	
VAS-06 Flow Rate	(scfm)	TBD	TBD	3.1	
VAS-06 Pressure	(psig)	10 - 20	30	1	
VAS-07 Flow Rate	(scfm)	TBD	TBD	3.8	
VAS-07 Pressure	(psig)	10 - 20	30	6	
VAS-08 Flow Rate	(scfm)	TBD	TBD	3.4	
VAS-08 Pressure	(psig)	10 - 20	30	8	
VAS-09 Flow Rate	(scfm)	TBD	TBD	4.0	
VAS-09 Pressure	(psig)	10 - 20	30	2	
VAS-10 Flow Rate	(scfm)	TBD	TBD	4.2	
VAS-10 Pressure	(psig)	10 - 20	30	5	
VAS-11 Flow Rate	(scfm)	TBD	TBD	Not operating	
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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
8/17/2017 1045	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	5.2	
VAS-18 Pressure	(psig)	10 - 20	30	0	
VAS-19 Flow Rate	(scfm)	TBD	TBD	Not Operating	
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		
VAS-22 Pressure	(psig)	10 - 20	30		
VAS-23 Flow Rate	(scfm)	TBD	TBD		
VAS-23 Pressure	(psig)	10 - 20	30		
VAS-24 Flow Rate	(scfm)	TBD	TBD		
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		
VAS-32 Pressure	(psig)	10 - 20	30		
VAS-33 Flow Rate	(scfm)	TBD	TBD		
VAS-33 Pressure	(psig)	10 - 20	30		
VAS-34 Flow Rate	(scfm)	TBD	TBD		
VAS-34 Pressure	(psig)	10 - 20	30		



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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
8/17/17 1045	Scott Shook	_____	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	NOT Operating ↓	
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	5.3	
VAS-41 Pressure	(psig)	20-Oct	30	3	
VAS-42 Flow Rate	(scfm)	TBD	TBD		
VAS-42 Pressure	(psig)	10 - 20	30		
VAS-43 Flow Rate	(scfm)	TBD	TBD	3.1	
VAS-43 Pressure	(psig)	10 - 20	30	32	
VAS-44 Flow Rate	(scfm)	TBD	TBD	5.4	
VAS-44 Pressure	(psig)	10 - 20	30	31	
VAS-45 Flow Rate	(scfm)	TBD	TBD	4.7	
VAS-45 Pressure	(psig)	10 - 20	30	4	
Brown's Creek Aerators	(Units)	Optimal Level	Max Level	Arrival	Departure
BCA-01 Flow Rate	(scfm)	TBD	TBD	3.8	
BCA-01 Pressure	(psig)	0 - 5	5	4	
BCA-02 Flow Rate	(scfm)	TBD	TBD	3.8	
BCA-02 Pressure	(psig)	0 - 5	5	3	
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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Discharge Permit and Expiration Date
01/20/2017 0815	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: → try to increase flow to aerators briefly to clear;
 → clean compressor inlet filters w/ onsite water.
 → replace expandable wall caps RS07 and RT1C -
 → place KM lock on entrance gate to concrete Arroyo
 → remove trail cam from operation.



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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
08/20/17 0815 1515	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	NO	Yes
Air Compressor 1 Run Time	(hours)	NA	NA	2538:54	2543:26
Air Compressor 1 Load Time	(hours)	NA	NA	940:36	943:27
Air Compressor 1 Discharge Temp	(F)	60 - 100	110		192
Air Compressor 1 Pressure	(psig)	90 - 110	100		110
Air Compressor 2 Run Time	(hours)	NA	NA	1446:01	Not Operating
Air Compressor 2 Load Time	(hours)	NA	NA	041:48	-
Air Compressor 2 Temp	(F)	60 - 100	110		=
Air Compressor 2 Pressure	(psig)	90 - 110	100		-
Receiver Tank Pressure	(psig)	90 - 110	100		112
Receiver Tank Temperature	(F)	60 - 100	110		N/A
Interior Manifold	(Units)	Optimal Level	Max Level	Arrival	Departure
Manifold Pressure	(psig)	90 - 110	100		110
Manifold Temperature	(F)	60 - 100	110		90
Manifold Flow Rate	(scfm)	TBD	TBD		691.2
Horizontal Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
HAS-1 Target Flow Rate	(scfm)	TBD	TBD		210.0
HAS-1 Actual Flow Rate	(scfm)	TBD	TBD		209.4
HAS-1 Valve Position	(%)	TBD	TBD		20.5
HAS-1 Pressure	(psig)	10 - 20	30		25
HAS-2 Target Flow Rate	(scfm)	TBD	TBD		201.0
HAS-2 Actual Flow Rate	(scfm)	TBD	TBD		200.2
HAS-2 Valve Position	(%)	TBD	TBD		13.1
HAS-2 Pressure	(psig)	10 - 20	30		21
HAS-3 Target Flow Rate	(scfm)	TBD	TBD		105.0
HAS-3 Actual Flow Rate	(scfm)	TBD	TBD		105.0
HAS-3 Valve Position	(%)	TBD	TBD		7.3
HAS-3 Pressure	(psig)	10 - 20	30		19

Parts Needed:	
Parts Installed:	

Notes (include alarms since previous visit):
Alarm: AC#2 Run Fail 8/20/2017 @ 1152. Found to be bad blowdown valve. Schedule Arrive on 9/6 for replacement.



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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
8/28/2017 O&M 1515	Scott Smit	_____	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		Not Operating
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		4.1
VAS-11 Pressure	(psig)	10 - 20	30		9
VAS-12 Flow Rate	(scfm)	TBD	TBD		3.1
VAS-12 Pressure	(psig)	10 - 20	30		6
VAS-13 Flow Rate	(scfm)	TBD	TBD		4.8
VAS-13 Pressure	(psig)	10 - 20	30		5
VAS-14 Flow Rate	(scfm)	TBD	TBD		3.8
VAS-14 Pressure	(psig)	10 - 20	30		5
VAS-15 Flow Rate	(scfm)	TBD	TBD		4.7
VAS-15 Pressure	(psig)	10 - 20	30		5
VAS-16 Flow Rate	(scfm)	TBD	TBD		3.6
VAS-16 Pressure	(psig)	10 - 20	30		5
VAS-17 Flow Rate	(scfm)	TBD	TBD		2.7
VAS-17 Pressure	(psig)	10 - 20	30		5



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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
8/28/17 0915 1515	Scott S.M.O.A	_____	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	.	NOT operating
VAS-18 Pressure	(psig)	10 - 20	30		
VAS-19 Flow Rate	(scfm)	TBD	TBD		5.4
VAS-19 Pressure	(psig)	10 - 20	30		10
VAS-20 Flow Rate	(scfm)	TBD	TBD		3.4
VAS-20 Pressure	(psig)	10 - 20	30		18
VAS-21 Flow Rate	(scfm)	TBD	TBD		3-6
VAS-21 Pressure	(psig)	10 - 20	30		19
VAS-22 Flow Rate	(scfm)	TBD	TBD		4.4
VAS-22 Pressure	(psig)	10 - 20	30		22
VAS-23 Flow Rate	(scfm)	TBD	TBD		4.9
VAS-23 Pressure	(psig)	10 - 20	30		21
VAS-24 Flow Rate	(scfm)	TBD	TBD		4.3
VAS-24 Pressure	(psig)	10 - 20	30		27
VAS-25 Flow Rate	(scfm)	TBD	TBD		4.7
VAS-25 Pressure	(psig)	10 - 20	30		21
VAS-26 Flow Rate	(scfm)	TBD	TBD		3.3
VAS-26 Pressure	(psig)	10 - 20	30		21
VAS-27 Flow Rate	(scfm)	TBD	TBD		4.0
VAS-27 Pressure	(psig)	10 - 20	30		29
VAS-28 Flow Rate	(scfm)	TBD	TBD		3.7
VAS-28 Pressure	(psig)	10 - 20	30		9
VAS-29 Flow Rate	(scfm)	TBD	TBD		4.0
VAS-29 Pressure	(psig)	10 - 20	30		8
VAS-30 Flow Rate	(scfm)	TBD	TBD		4.1
VAS-30 Pressure	(psig)	10 - 20	30		0
VAS-31 Flow Rate	(scfm)	TBD	TBD		3.5
VAS-31 Pressure	(psig)	10 - 20	30		27
VAS-32 Flow Rate	(scfm)	TBD	TBD		4.9
VAS-32 Pressure	(psig)	10 - 20	30		13
VAS-33 Flow Rate	(scfm)	TBD	TBD		NOT operating
VAS-33 Pressure	(psig)	10 - 20	30		↓
VAS-34 Flow Rate	(scfm)	TBD	TBD		
VAS-34 Pressure	(psig)	10 - 20	30		



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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
01/28/2017 0815 1515	SCOTT SM 16A	✓	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		NOT OPERATING
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		
VAS-42 Pressure	(psig)	10 - 20	30		
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		4.2
BCA-01 Pressure	(psig)	0 - 5	5		5
BCA-02 Flow Rate	(scfm)	TBD	TBD		4.0
BCA-02 Pressure	(psig)	0 - 5	5		4
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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Discharge Permit and Expiration Date
9/6/2017 1545	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: → Airite replaced blowdown valve on AC#2. AC#2 is now getting a Run Alarm after restart. This will need troubleshooting further w/ Service. It's a program/remote mode issue. Compressor will run normally if remote is off. AC#1 will remain compressor in use.
→ repaired BCA-02 tubing.



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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
9/1/2017 1545	Scott Simola	—	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		2748:51
Air Compressor 1 Load Time	(hours)	NA	NA		1102:19
Air Compressor 1 Discharge Temp	(F)	60 - 100	110		106
Air Compressor 1 Pressure	(psig)	90 - 110	100		105
Air Compressor 2 Run Time	(hours)	NA	NA		1448:07
Air Compressor 2 Load Time	(hours)	NA	NA		843:08
Air Compressor 2 Temp	(F)	60 - 100	110		NOT OPERATING
Air Compressor 2 Pressure	(psig)	90 - 110	100		"
Receiver Tank Pressure	(psig)	90 - 110	100		115
Receiver Tank Temperature	(F)	60 - 100	110		N/A
Interior Manifold	(Units)	Optimal Level	Max Level	Arrival	Departure
Manifold Pressure	(psig)	90 - 110	100		105
Manifold Temperature	(F)	60 - 100	110		80
Manifold Flow Rate	(scfm)	TBD	TBD		754.1
Horizontal Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
HAS-1 Target Flow Rate	(scfm)	TBD	TBD		232.5
HAS-1 Actual Flow Rate / Totalized Flow (SCF)	(scfm)	TBD	TBD		213.3 / 21563657.0
HAS-1 Valve Position	(%)	TBD	TBD		20.7
HAS-1 Pressure	(psig)	10 - 20	30		21.5
HAS-2 Target Flow Rate	(scfm)	TBD	TBD		222.5
HAS-2 Actual Flow Rate / Totalized Flow (SCF)	(scfm)	TBD	TBD		225.9 / 19400849.0
HAS-2 Valve Position	(%)	TBD	TBD		12.9
HAS-2 Pressure	(psig)	10 - 20	30		22
HAS-3 Target Flow Rate	(scfm)	TBD	TBD		116.5
HAS-3 Actual Flow Rate / Totalized Flow (SCF)	(scfm)	TBD	TBD		128.6 / 11131581.0
HAS-3 Valve Position	(%)	TBD	TBD		4.5
HAS-3 Pressure	(psig)	10 - 20	30		18

Parts Needed:	
Parts Installed:	

Notes (include alarms since previous visit):
→ Act 1 shutdown occurred 9/1 @ 2257. Likely power outage. Restarted manually w/out incident on 9/2 @ 0830.



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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
9/6/2017 1545	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		Not Operating	
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			4.9
VAS-11 Pressure	(psig)	10 - 20	30			9
VAS-12 Flow Rate	(scfm)	TBD	TBD			3.3
VAS-12 Pressure	(psig)	10 - 20	30			6
VAS-13 Flow Rate	(scfm)	TBD	TBD			4.3
VAS-13 Pressure	(psig)	10 - 20	30			5
VAS-14 Flow Rate	(scfm)	TBD	TBD			5.0
VAS-14 Pressure	(psig)	10 - 20	30		5	
VAS-15 Flow Rate	(scfm)	TBD	TBD		5.0	
VAS-15 Pressure	(psig)	10 - 20	30		5	
VAS-16 Flow Rate	(scfm)	TBD	TBD		4.3	
VAS-16 Pressure	(psig)	10 - 20	30		5	
VAS-17 Flow Rate	(scfm)	TBD	TBD		3.2	
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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
9/6/2017 1545	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	.	Not operating
VAS-18 Pressure	(psig)	10 - 20	30		"
VAS-19 Flow Rate	(scfm)	TBD	TBD		6.1
VAS-19 Pressure	(psig)	10 - 20	30		"
VAS-20 Flow Rate	(scfm)	TBD	TBD		Not operating
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		
VAS-22 Pressure	(psig)	10 - 20	30		
VAS-23 Flow Rate	(scfm)	TBD	TBD		
VAS-23 Pressure	(psig)	10 - 20	30		
VAS-24 Flow Rate	(scfm)	TBD	TBD		
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		5.1
VAS-32 Pressure	(psig)	10 - 20	30		15
VAS-33 Flow Rate	(scfm)	TBD	TBD		Not operating
VAS-33 Pressure	(psig)	10 - 20	30		↓
VAS-34 Flow Rate	(scfm)	TBD	TBD		
VAS-34 Pressure	(psig)	10 - 20	30		↓



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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
9/14/17 15:4	Scott Swanson	—	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		Not Operating ↓	
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			5.9
VAS-41 Pressure	(psig)	20-Oct	30			4
VAS-42 Flow Rate	(scfm)	TBD	TBD			Not Operating
VAS-42 Pressure	(psig)	10 - 20	30			
VAS-43 Flow Rate	(scfm)	TBD	TBD		2.4	
VAS-43 Pressure	(psig)	10 - 20	30		33	
VAS-44 Flow Rate	(scfm)	TBD	TBD		5.1	
VAS-44 Pressure	(psig)	10 - 20	30		32	
VAS-45 Flow Rate	(scfm)	TBD	TBD		5.1	
VAS-45 Pressure	(psig)	10 - 20	30		6	
Brown's Creek Aerators	(Units)	Optimal Level	Max Level	Arrival	Departure	
BCA-01 Flow Rate	(scfm)	TBD	TBD		4.4	
BCA-01 Pressure	(psig)	0 - 5	5		5	
BCA-02 Flow Rate	(scfm)	TBD	TBD		4.2	
BCA-02 Pressure	(psig)	0 - 5	5		5	
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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Discharge Permit and Expiration Date
9/13/2017 0910	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		recent storm, trees/debris down
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		OK
...	...				
...	...				

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	Quarterly Annually	Yes / No	Yes / No	12/2017	

NOTE: Please check the manufacturer's instructions for the specific maintenance schedule and instructions.

Additional Comments: → Cleaned air compressor inlet filters
 → removed all compressed polypropylene fence, came against driveway
 storm and became wrapped in barbed wire



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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
9/15/2017 0910 1630	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	Departure
System Operating	(Yes/No)	NA	NA	yes	yes
Air Compressor 1 Run Time	(hours)	NA	NA	2909:57	2917:18
Air Compressor 1 Load Time	(hours)	NA	NA	1245:34	1252:54
Air Compressor 1 Discharge Temp	(F)	60 - 100	110	185	191
Air Compressor 1 Pressure	(psig)	90 - 110	100	106	105
Air Compressor 2 Run Time	(hours)	NA	NA	1448:07 - not operating	1449:17
Air Compressor 2 Load Time	(hours)	NA	NA	843:08 - not operating	843:08
Air Compressor 2 Temp	(F)	60 - 100	110	—	—
Air Compressor 2 Pressure	(psig)	90 - 110	100	—	—
Receiver Tank Pressure	(psig)	90 - 110	100	110	110
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	110	105
Manifold Temperature	(F)	60 - 100	110	84	92
Manifold Flow Rate	(scfm)	TBD	TBD	796.8	816.4
Horizontal Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
HAS-1 Target Flow Rate	(scfm)	TBD	TBD	232.5	255
HAS-1 Actual Flow Rate	(scfm)	TBD	TBD	244.1	254.1
HAS-1 Valve Position	(%)	TBD	TBD	18.8	25.8
HAS-1 Pressure	(psig)	10 - 20	30	21	22
HAS-2 Target Flow Rate	(scfm)	TBD	TBD	222.5	244
HAS-2 Actual Flow Rate	(scfm)	TBD	TBD	224.5	245.0
HAS-2 Valve Position	(%)	TBD	TBD	13.5	14.8
HAS-2 Pressure	(psig)	10 - 20	30	23	23
HAS-3 Target Flow Rate	(scfm)	TBD	TBD	116.5	127.5
HAS-3 Actual Flow Rate	(scfm)	TBD	TBD	110.1	126.6
HAS-3 Valve Position	(%)	TBD	TBD	7.5	24.6
HAS-3 Pressure	(psig)	10 - 20	30	16	17

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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
9/13/2017 0610 1630	Scott Smita	✓	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	5.4	Not Operating
VAS-01 Pressure	(psig)	10 - 20	30	16	
VAS-02 Flow Rate	(scfm)	TBD	TBD	4.0	
VAS-02 Pressure	(psig)	10 - 20	30	15	
VAS-03 Flow Rate	(scfm)	TBD	TBD	4.4	
VAS-03 Pressure	(psig)	10 - 20	30	2	
VAS-04 Flow Rate	(scfm)	TBD	TBD	4.2	
VAS-04 Pressure	(psig)	10 - 20	30	2	
VAS-05 Flow Rate	(scfm)	TBD	TBD	4.7	
VAS-05 Pressure	(psig)	10 - 20	30	2	
VAS-06 Flow Rate	(scfm)	TBD	TBD	4.7	
VAS-06 Pressure	(psig)	10 - 20	30	3	
VAS-07 Flow Rate	(scfm)	TBD	TBD	3.8	
VAS-07 Pressure	(psig)	10 - 20	30	8	
VAS-08 Flow Rate	(scfm)	TBD	TBD	3.4	
VAS-08 Pressure	(psig)	10 - 20	30	10	
VAS-09 Flow Rate	(scfm)	TBD	TBD	4.1	
VAS-09 Pressure	(psig)	10 - 20	30	2	
VAS-10 Flow Rate	(scfm)	TBD	TBD	4.8	
VAS-10 Pressure	(psig)	10 - 20	30	5	
VAS-11 Flow Rate	(scfm)	TBD	TBD	Not Operating	4.1
VAS-11 Pressure	(psig)	10 - 20	30	8	
VAS-12 Flow Rate	(scfm)	TBD	TBD	↓	2.8
VAS-12 Pressure	(psig)	10 - 20	30	5	
VAS-13 Flow Rate	(scfm)	TBD	TBD	4.5	4.0
VAS-13 Pressure	(psig)	10 - 20	30	5	5
VAS-14 Flow Rate	(scfm)	TBD	TBD	Not Operating	3.9
VAS-14 Pressure	(psig)	10 - 20	30	4	
VAS-15 Flow Rate	(scfm)	TBD	TBD	5.0	4.7
VAS-15 Pressure	(psig)	10 - 20	30	5	3
VAS-16 Flow Rate	(scfm)	TBD	TBD	Not Operating	3.7
VAS-16 Pressure	(psig)	10 - 20	30	5	
VAS-17 Flow Rate	(scfm)	TBD	TBD	↓	2.5
VAS-17 Pressure	(psig)	10 - 20	30	5	



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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
9/15/2017 0910	1636 SWT SmioA	✓	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	5.5	Not Operating
VAS-18 Pressure	(psig)	10 - 20	30	0	-
VAS-19 Flow Rate	(scfm)	TBD	TBD	Not Operating	5.6
VAS-19 Pressure	(psig)	10 - 20	30		9
VAS-20 Flow Rate	(scfm)	TBD	TBD		Not Operating
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		
VAS-22 Pressure	(psig)	10 - 20	30		
VAS-23 Flow Rate	(scfm)	TBD	TBD		
VAS-23 Pressure	(psig)	10 - 20	30		
VAS-24 Flow Rate	(scfm)	TBD	TBD		
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	5.3	
VAS-32 Pressure	(psig)	10 - 20	30	12	
VAS-33 Flow Rate	(scfm)	TBD	TBD	4.8	
VAS-33 Pressure	(psig)	10 - 20	30	23	
VAS-34 Flow Rate	(scfm)	TBD	TBD	4.1	
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 Lewis Drive, Belton, South Carolina
Lewis Drive	Belton, SC	Bill Waldron/RAL	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
9/13/2017 0910 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-35 Flow Rate	(scfm)	TBD	TBD	4.9	Not operating
VAS-35 Pressure	(psig)	10 - 20	30	17	
VAS-36 Flow Rate	(scfm)	TBD	TBD	4.9	
VAS-36 Pressure	(psig)	10 - 20	30	11	
VAS-37 Flow Rate	(scfm)	TBD	TBD	4.5	
VAS-37 Pressure	(psig)	10 - 20	30	2	
VAS-38 Flow Rate	(scfm)	TBD	TBD	4.2	
VAS-38 Pressure	(psig)	10 - 20	30	5	
VAS-39 Flow Rate	(scfm)	TBD	TBD	5.4	
VAS-39 Pressure	(psig)	10 - 20	30	12	
VAS-40 Flow Rate	(scfm)	TBD	TBD	4.7	
VAS-40 Pressure	(psig)	10 - 20	30	23	
VAS-41 Flow Rate	(scfm)	TBD	TBD	Not operating	5.0
VAS-41 Pressure	(psig)	20-Oct	30	—	2
VAS-42 Flow Rate	(scfm)	TBD	TBD	4.7	Not operating
VAS-42 Pressure	(psig)	10 - 20	30	9	
VAS-43 Flow Rate	(scfm)	TBD	TBD	Not operating	1.8
VAS-43 Pressure	(psig)	10 - 20	30		33
VAS-44 Flow Rate	(scfm)	TBD	TBD		4.6
VAS-44 Pressure	(psig)	10 - 20	30		31
VAS-45 Flow Rate	(scfm)	TBD	TBD		4.5
VAS-45 Pressure	(psig)	10 - 20	30		4
Brown's Creek Aerators	(Units)	Optimal Level	Max Level	Arrival	Departure
BCA-01 Flow Rate	(scfm)	TBD	TBD	4.3	3.8
BCA-01 Pressure	(psig)	0 - 5	5	5	4
BCA-02 Flow Rate	(scfm)	TBD	TBD	4.0	3.6
BCA-02 Pressure	(psig)	0 - 5	5	5	4
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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Discharge Permit and Expiration Date
9/19/2017 1615	Scott Smoot	Jacob Patterson	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 AC#1 + AC#2 inlet air filters
→



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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
9/19/11 1010 1615	SWT Smoa	Jacob Paterson	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	3055:08	3059:55
Air Compressor 1 Load Time	(hours)	NA	NA	1389:57	1394:41
Air Compressor 1 Discharge Temp	(F)	60 - 100	110	199	207
Air Compressor 1 Pressure	(psig)	90 - 110	100	102	102
Air Compressor 2 Run Time	(hours)	NA	NA	1449:17	-
Air Compressor 2 Load Time	(hours)	NA	NA	843:08	-
Air Compressor 2 Temp	(F)	60 - 100	110	NOT operating	-
Air Compressor 2 Pressure	(psig)	90 - 110	100	NOT operating	-
Receiver Tank Pressure	(psig)	90 - 110	100	108	108
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	102	102
Manifold Temperature	(F)	60 - 100	110	98	108
Manifold Flow Rate	(scfm)	TBD	TBD	944.5	898.6
Horizontal Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
HAS-1 Target Flow Rate	(scfm)	TBD	TBD	277.5	277.5
HAS-1 Actual Flow Rate	(scfm)	TBD	TBD	277.2	278.1
HAS-1 Valve Position	(%)	TBD	TBD	27.8	28.0
HAS-1 Pressure	(psig)	10 - 20	30	21.5	21.5
HAS-2 Target Flow Rate	(scfm)	TBD	TBD	265.0	265.0
HAS-2 Actual Flow Rate	(scfm)	TBD	TBD	262.5	261.5
HAS-2 Valve Position	(%)	TBD	TBD	15.7	15.9
HAS-2 Pressure	(psig)	10 - 20	30	24	22.5
HAS-3 Target Flow Rate	(scfm)	TBD	TBD	139.0	139.0
HAS-3 Actual Flow Rate	(scfm)	TBD	TBD	136.3	136.1
HAS-3 Valve Position	(%)	TBD	TBD	21.3	11.5
HAS-3 Pressure	(psig)	10 - 20	30	16	17

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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
9/19/2017 1010 1615	Scott Swinton	Jacob Patterson	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	5.3	Not operating
VAS-01 Pressure	(psig)	10 - 20	30	15	
VAS-02 Flow Rate	(scfm)	TBD	TBD	3.9	
VAS-02 Pressure	(psig)	10 - 20	30	15	
VAS-03 Flow Rate	(scfm)	TBD	TBD	3.7	
VAS-03 Pressure	(psig)	10 - 20	30	2	
VAS-04 Flow Rate	(scfm)	TBD	TBD	1.6	
VAS-04 Pressure	(psig)	10 - 20	30	0	
VAS-05 Flow Rate	(scfm)	TBD	TBD	3.2	
VAS-05 Pressure	(psig)	10 - 20	30	0	
VAS-06 Flow Rate	(scfm)	TBD	TBD	4.0	
VAS-06 Pressure	(psig)	10 - 20	30	1	
VAS-07 Flow Rate	(scfm)	TBD	TBD	3.4	
VAS-07 Pressure	(psig)	10 - 20	30	6	
VAS-08 Flow Rate	(scfm)	TBD	TBD	3.3	
VAS-08 Pressure	(psig)	10 - 20	30	0	
VAS-09 Flow Rate	(scfm)	TBD	TBD	3.7	
VAS-09 Pressure	(psig)	10 - 20	30	0	
VAS-10 Flow Rate	(scfm)	TBD	TBD	4.3	
VAS-10 Pressure	(psig)	10 - 20	30	5	
VAS-11 Flow Rate	(scfm)	TBD	TBD	Not operating	3.5
VAS-11 Pressure	(psig)	10 - 20	30	↓	0
VAS-12 Flow Rate	(scfm)	TBD	TBD	↓	2.4
VAS-12 Pressure	(psig)	10 - 20	30	↓	5
VAS-13 Flow Rate	(scfm)	TBD	TBD	3.8	3.4
VAS-13 Pressure	(psig)	10 - 20	30	5	4
VAS-14 Flow Rate	(scfm)	TBD	TBD	Not operating	3.6
VAS-14 Pressure	(psig)	10 - 20	30	↓	3
VAS-15 Flow Rate	(scfm)	TBD	TBD	4.7	4.4
VAS-15 Pressure	(psig)	10 - 20	30	4	3
VAS-16 Flow Rate	(scfm)	TBD	TBD	Not operating	3.0
VAS-16 Pressure	(psig)	10 - 20	30	↓	4
VAS-17 Flow Rate	(scfm)	TBD	TBD	↓	2.2
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 Lewis Drive, Belton, South Carolina
Lewis Drive	Belton, SC	Bill Waldron/RAL	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
9/19/2017 1010	Scott Smith	Jacob Phillips	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	4.7	Not operating
VAS-18 Pressure	(psig)	10 - 20	30	0	
VAS-19 Flow Rate	(scfm)	TBD	TBD	Not operating	4.7
VAS-19 Pressure	(psig)	10 - 20	30	9	
VAS-20 Flow Rate	(scfm)	TBD	TBD	4.8	Not operating
VAS-20 Pressure	(psig)	10 - 20	30	14	
VAS-21 Flow Rate	(scfm)	TBD	TBD	3.9	
VAS-21 Pressure	(psig)	10 - 20	30	17	
VAS-22 Flow Rate	(scfm)	TBD	TBD	4.7	
VAS-22 Pressure	(psig)	10 - 20	30	20	
VAS-23 Flow Rate	(scfm)	TBD	TBD	5.2	
VAS-23 Pressure	(psig)	10 - 20	30	19	
VAS-24 Flow Rate	(scfm)	TBD	TBD	5.9	
VAS-24 Pressure	(psig)	10 - 20	30	24	
VAS-25 Flow Rate	(scfm)	TBD	TBD	5.7	
VAS-25 Pressure	(psig)	10 - 20	30	17	
VAS-26 Flow Rate	(scfm)	TBD	TBD	4.5	
VAS-26 Pressure	(psig)	10 - 20	30	24	
VAS-27 Flow Rate	(scfm)	TBD	TBD	5.4	
VAS-27 Pressure	(psig)	10 - 20	30	28	
VAS-28 Flow Rate	(scfm)	TBD	TBD	3.2	
VAS-28 Pressure	(psig)	10 - 20	30	8	
VAS-29 Flow Rate	(scfm)	TBD	TBD	4.4	
VAS-29 Pressure	(psig)	10 - 20	30	6	
VAS-30 Flow Rate	(scfm)	TBD	TBD	3.0	
VAS-30 Pressure	(psig)	10 - 20	30	0	
VAS-31 Flow Rate	(scfm)	TBD	TBD	4.6	
VAS-31 Pressure	(psig)	10 - 20	30	27	
VAS-32 Flow Rate	(scfm)	TBD	TBD	4.5	4.3
VAS-32 Pressure	(psig)	10 - 20	30	11	10
VAS-33 Flow Rate	(scfm)	TBD	TBD	Not operating	5.0
VAS-33 Pressure	(psig)	10 - 20	30		22
VAS-34 Flow Rate	(scfm)	TBD	TBD		4.3
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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
9/19/2017 10:10 1415	Scott Smith	Jacob R. Hanson	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	Not operating ↓	3.4
VAS-35 Pressure	(psig)	10 - 20	30		15
VAS-36 Flow Rate	(scfm)	TBD	TBD		3.7
VAS-36 Pressure	(psig)	10 - 20	30		9
VAS-37 Flow Rate	(scfm)	TBD	TBD		4.0
VAS-37 Pressure	(psig)	10 - 20	30		1
VAS-38 Flow Rate	(scfm)	TBD	TBD		3.6
VAS-38 Pressure	(psig)	10 - 20	30		2
VAS-39 Flow Rate	(scfm)	TBD	TBD		4.1
VAS-39 Pressure	(psig)	10 - 20	30		9
VAS-40 Flow Rate	(scfm)	TBD	TBD		4.8
VAS-40 Pressure	(psig)	10 - 20	30		21
VAS-41 Flow Rate	(scfm)	TBD	TBD		Not operating
VAS-41 Pressure	(psig)	20-Oct	30		1
VAS-42 Flow Rate	(scfm)	TBD	TBD		3.8
VAS-42 Pressure	(psig)	10 - 20	30		6
VAS-43 Flow Rate	(scfm)	TBD	TBD		5.5
VAS-43 Pressure	(psig)	10 - 20	30		30
VAS-44 Flow Rate	(scfm)	TBD	TBD		Not operating
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	3.2 Adjust to ~ 4.5 scfm	4.2
BCA-01 Pressure	(psig)	0 - 5	5	4	4
BCA-02 Flow Rate	(scfm)	TBD	TBD	3.3	4.3
BCA-02 Pressure	(psig)	0 - 5	5	5	4
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 Lewis Drive, Belton, South Carolina
Lewis Drive	Belton, SC	Bill Waldron/RAL	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Discharge Permit and Expiration Date
9/26/2017 0900	Scott Smiler	_____	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 Lewis Drive, Belton, South Carolina
Lewis Drive	Belton, SC	Bill Waldron/RAL	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
9/26/2017 0900 1600	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	yes
Air Compressor 1 Run Time	(hours)	NA	NA	3220:39	3223:13
Air Compressor 1 Load Time	(hours)	NA	NA	1535:25	1555:59
Air Compressor 1 Discharge Temp	(F)	60 - 100	110	196	182
Air Compressor 1 Pressure	(psig)	90 - 110	100	102	112
Air Compressor 2 Run Time	(hours)	NA	NA	1450:23	1453:08
Air Compressor 2 Load Time	(hours)	NA	NA	843:58	844:17
Air Compressor 2 Temp	(F)	60 - 100	110	NOT OPERATING	—
Air Compressor 2 Pressure	(psig)	90 - 110	100	—	—
Receiver Tank Pressure	(psig)	90 - 110	100	108	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	102	108
Manifold Temperature	(F)	60 - 100	110	98	90
Manifold Flow Rate	(scfm)	TBD	TBD	903.5	81.89
Horizontal Wells	(Units)	Optimal Level	Max Level	Arrival	Departure
HAS-1 Target Flow Rate	(scfm)	TBD	TBD	277.5	OFF —
HAS-1 Actual Flow Rate	(scfm)	TBD	TBD	276.4	Well Installs/
HAS-1 Valve Position	(%)	TBD	TBD	27.1	Drilling
HAS-1 Pressure	(psig)	10 - 20	30	23	↓
HAS-2 Target Flow Rate	(scfm)	TBD	TBD	265.0	
HAS-2 Actual Flow Rate	(scfm)	TBD	TBD	265.1	
HAS-2 Valve Position	(%)	TBD	TBD	15.5	
HAS-2 Pressure	(psig)	10 - 20	30	24	
HAS-3 Target Flow Rate	(scfm)	TBD	TBD	139.0	
HAS-3 Actual Flow Rate	(scfm)	TBD	TBD	137.9	
HAS-3 Valve Position	(%)	TBD	TBD	7.3	
HAS-3 Pressure	(psig)	10 - 20	30	17	

Parts Needed:	
Parts Installed:	

Notes (include alarms since previous visit):
 OAK, shut off HAS well operation for Bedrock monitoring well installation. Adjust all operating VAS wells to ~4 scfm after recording the initial data.



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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
9/26/2017 0900 1600	Scott Smith A	_____	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	5.4	Not Operating
VAS-01 Pressure	(psig)	10 - 20	30	15	
VAS-02 Flow Rate	(scfm)	TBD	TBD	3.6	
VAS-02 Pressure	(psig)	10 - 20	30	15	
VAS-03 Flow Rate	(scfm)	TBD	TBD	3.8	
VAS-03 Pressure	(psig)	10 - 20	30	3	
VAS-04 Flow Rate	(scfm)	TBD	TBD	1.6	
VAS-04 Pressure	(psig)	10 - 20	30	0	
VAS-05 Flow Rate	(scfm)	TBD	TBD	3.9	
VAS-05 Pressure	(psig)	10 - 20	30	1	
VAS-06 Flow Rate	(scfm)	TBD	TBD	4.8	
VAS-06 Pressure	(psig)	10 - 20	30	3	
VAS-07 Flow Rate	(scfm)	TBD	TBD	3.6	
VAS-07 Pressure	(psig)	10 - 20	30	7	
VAS-08 Flow Rate	(scfm)	TBD	TBD	3.5	
VAS-08 Pressure	(psig)	10 - 20	30	9	
VAS-09 Flow Rate	(scfm)	TBD	TBD	3.9	
VAS-09 Pressure	(psig)	10 - 20	30	2	
VAS-10 Flow Rate	(scfm)	TBD	TBD	4.5	
VAS-10 Pressure	(psig)	10 - 20	30	6	
VAS-11 Flow Rate	(scfm)	TBD	TBD	NOT OPERATING	4.0
VAS-11 Pressure	(psig)	10 - 20	30		6
VAS-12 Flow Rate	(scfm)	TBD	TBD		3.6
VAS-12 Pressure	(psig)	10 - 20	30		5
VAS-13 Flow Rate	(scfm)	TBD	TBD		3.8
VAS-13 Pressure	(psig)	10 - 20	30		5
VAS-14 Flow Rate	(scfm)	TBD	TBD		3.8
VAS-14 Pressure	(psig)	10 - 20	30		3
VAS-15 Flow Rate	(scfm)	TBD	TBD		4.2
VAS-15 Pressure	(psig)	10 - 20	30		3
VAS-16 Flow Rate	(scfm)	TBD	TBD		3.4
VAS-16 Pressure	(psig)	10 - 20	30		4
VAS-17 Flow Rate	(scfm)	TBD	TBD		3.5
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 Lewis Drive, Belton, South Carolina
Lewis Drive	Belton, SC	Bill Waldron/RAL	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
9/26/17 0900 1000	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	Not OPERATING	Not operating
VAS-18 Pressure	(psig)	10 - 20	30	—	—
VAS-19 Flow Rate	(scfm)	TBD	TBD	4.8	4.9
VAS-19 Pressure	(psig)	10 - 20	30	2	9
VAS-20 Flow Rate	(scfm)	TBD	TBD	—	—
VAS-20 Pressure	(psig)	10 - 20	30	—	—
VAS-21 Flow Rate	(scfm)	TBD	TBD	3.7	—
VAS-21 Pressure	(psig)	10 - 20	30	17	—
VAS-22 Flow Rate	(scfm)	TBD	TBD	3.1	—
VAS-22 Pressure	(psig)	10 - 20	30	18	—
VAS-23 Flow Rate	(scfm)	TBD	TBD	4.4	—
VAS-23 Pressure	(psig)	10 - 20	30	20	—
VAS-24 Flow Rate	(scfm)	TBD	TBD	4.7	—
VAS-24 Pressure	(psig)	10 - 20	30	27	—
VAS-25 Flow Rate	(scfm)	TBD	TBD	4.5	—
VAS-25 Pressure	(psig)	10 - 20	30	21	—
VAS-26 Flow Rate	(scfm)	TBD	TBD	2.9	—
VAS-26 Pressure	(psig)	10 - 20	30	26	—
VAS-27 Flow Rate	(scfm)	TBD	TBD	3.4	—
VAS-27 Pressure	(psig)	10 - 20	30	29	—
VAS-28 Flow Rate	(scfm)	TBD	TBD	3.2	—
VAS-28 Pressure	(psig)	10 - 20	30	9	—
VAS-29 Flow Rate	(scfm)	TBD	TBD	4.1	—
VAS-29 Pressure	(psig)	10 - 20	30	8	—
VAS-30 Flow Rate	(scfm)	TBD	TBD	4.2	—
VAS-30 Pressure	(psig)	10 - 20	30	0	—
VAS-31 Flow Rate	(scfm)	TBD	TBD	3.9	—
VAS-31 Pressure	(psig)	10 - 20	30	28	↓
VAS-32 Flow Rate	(scfm)	TBD	TBD	↓	4.7
VAS-32 Pressure	(psig)	10 - 20	30	↓	11
VAS-33 Flow Rate	(scfm)	TBD	TBD	↓	5.5
VAS-33 Pressure	(psig)	10 - 20	30	↓	22
VAS-34 Flow Rate	(scfm)	TBD	TBD	↓	4.5
VAS-34 Pressure	(psig)	10 - 20	30	↓	21



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	Chris Shores/RAL	

Date & Time	O&M Technician #1	O&M Technician #2	Equipment Type	Equipment Model	Permits
4/11/17 0900 1000	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	NOT OPERATING ↓	3.9
VAS-35 Pressure	(psig)	10 - 20	30		15
VAS-36 Flow Rate	(scfm)	TBD	TBD		4.2
VAS-36 Pressure	(psig)	10 - 20	30		10
VAS-37 Flow Rate	(scfm)	TBD	TBD		3.6
VAS-37 Pressure	(psig)	10 - 20	30		0
VAS-38 Flow Rate	(scfm)	TBD	TBD		3.7
VAS-38 Pressure	(psig)	10 - 20	30		1
VAS-39 Flow Rate	(scfm)	TBD	TBD		4.7
VAS-39 Pressure	(psig)	10 - 20	30		9
VAS-40 Flow Rate	(scfm)	TBD	TBD		4.6
VAS-40 Pressure	(psig)	10 - 20	30		22
VAS-41 Flow Rate	(scfm)	TBD	TBD		—
VAS-41 Pressure	(psig)	20-Oct	30		—
VAS-42 Flow Rate	(scfm)	TBD	TBD		4.2
VAS-42 Pressure	(psig)	10 - 20	30		7
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	4.4	
VAS-45 Pressure	(psig)	10 - 20	30	2	
Brown's Creek Aerators	(Units)	Optimal Level	Max Level	Arrival	Departure
BCA-01 Flow Rate	(scfm)	TBD	TBD	4.7	4.0
BCA-01 Pressure	(psig)	0 - 5	5	6	4
BCA-02 Flow Rate	(scfm)	TBD	TBD	4.5	4.3
BCA-02 Pressure	(psig)	0 - 5	5	6	4
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		

Attachment D
Bills of Lading



A&D Environmental Services

Bill of Lading / Material Manifest

A&D Job No. **219094** Generator ID Number _____ Page 1 of _____ Emergency Response Phone **800-434-7750** Tracking Number **07377**

Generator's Name and Mailing Address: **Kinder Morgan, 112 Lewis Dr., Belton, SC 29627**
 Generator's site address (if different from mailing address): _____

Transporter 1 2 Company Name: **A&D Environmental Services, Inc.** US EPA ID No: **NCD98623222**

Transporter 1 2 Company Name: **A&D Environmental Services (SC), LLC** US EPA ID No: **SCD987598331**

Designated Facility	Designated Facility	Designated Facility	Designated Facility	Designated Facility
A&D Environmental Services, Inc. 2718 Uwharrie Road Archdale, NC 27263 336-434-7750 NCD986232221	A&D Environmental Services, Inc. 3149 Lear Drive Burlington, NC 27215 336-229-0058 NCR000138628	A&D Environmental Services (SC), LLC 1915 Brentwood Street High Point, NC 27260 336-882-8000 NCR000002501	A&D Environmental Services (SC), LLC 1741 Calks Ferry Road Lexington, SC 29073 803-957-9175 SCD987598331	A&D Environmental Services (SC), LLC 305 B South Main Street Mauldin, SC 29662 803-967-3500 SCR000765677

HM	Hazardous Materials Shipping Name and Description (if applicable)	No.	Type	QTY	Wt/Vol	Profile Number
	waste water and Petroleum mix	1	TT	5011	gal	

Petroleum Products for Recycle						
	No.	Type	QTY	Wt/Vol	Profile Number	
X	NA1993, Diesel fuel, 3, III					ERG# 128
X	NA1993, Fuel oil (No.1,2,4,5 or 6), 3, III					ERG# 128
X	UN1203, Gasoline, 3, II					ERG# 128
X	NA1270, Petroleum Oil, 3, III					ERG# 128

Universal Waste Lamps, Batteries, Ballasts, and Electronics for Recycle							
HM	No.	Type	Est. Wt.	Count	Shipping Name and Description (if applicable)	Common Name	Discrepancy
X					RQ, UN2809, Mercury contained in manufactured articles, 8, III	Mercury Containing Articles	
X					RQ, UN2809, Mercury, 8, III	Mercury	
X					RQ, UN3432, Polychlorinated biphenyls, solid, 9, II	TSCA Exempt PCB Lamp Ballasts	
X					UN2800, Batteries, wet, nonspillable, 8, III	Sealed Lead Acid Batteries	
X					UN2794, Batteries, wet, filled with acid, 8, III	Lead Acid Batteries	
X					UN2795, Batteries, wet, filled with alkali, 8, III	Wet NiCad Batteries	
X					UN3090, Lithium batteries, 9, II	Lithium Batteries	
X					UN3028, Batteries, dry, containing potassium hydroxide solid, 8, III	Alkaline Batteries	
X					UN3028, Batteries, dry, containing potassium hydroxide solid, 8, III	NiCad Batteries	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Fluorescent lamps 4' or <	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Fluorescent lamps 4' or >	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Circular/U-tube lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Compact Lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Shattershield	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	HID/MV/JV Lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Incandescent Lamps	
					Non-PCB Light Ballasts for Recycle (Not DOT-Regulated)	Non-PCB Light Ballasts	
					Electronic Equipment for Recycle (Not DOT-Regulated)	Electronics	

Generator's Certification: This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. I further certify that none of the materials described above are a hazardous waste as defined by EPA 40CFR Part 261 or any applicable state law, and unless specifically identified above the materials contain less than 1,000 ppm total halogens and do not contain quantifiable levels (2ppm) of PCBs as defined by EPA 40 CFR Parts 279 and 761.

Generator's/Officer's Printed/Typed Name: _____ Signature: _____ Month: _____ Day: _____ Year: _____

Transporter 1 Printed/Typed Name: **Richard Williams** Signature: _____ Month: **8** Day: **1** Year: **17**

Transporter 2 Printed/Typed Name: _____ Signature: _____ Month: _____ Day: _____ Year: _____

Discrepancy Indication / Additional Information: _____ Month: _____ Day: _____ Year: _____

Designated Facility Certification: I hereby acknowledge receipt of the materials covered by this manifest except for any discrepancy indicated above.

Printed/Typed Name: **Travis Clapp** Signature: _____ Month: **08** Day: **02** Year: **17**

DESIGNATED FACILITY TO GENERATOR



A&D Environmental Services

Bill of Lading / Material Manifest

A&D Job No: 219094	Generator ID Number	Page 1 of	Emergency Response Phone 800-434-7750	Tracking Number 07690
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Generator's Name and Mailing Address Kindor Morgan 112 Lewis Dr. Belton, SC 29627		Generator's site address (if different from mailing address)
-------------------------------------------------------------------------------------------------	--	--------------------------------------------------------------

Transporter 1 <input type="checkbox"/> 2 <input type="checkbox"/>	Company Name A&D Environmental Services, Inc.	US EPA ID No: NCD98623222
Transporter 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/>	Company Name A&D Environmental Services (SC), LLC	US EPA ID No: SCD987598331

Designated Facility	Designated Facility	Designated Facility	Designated Facility	Designated Facility
A&D Environmental Services, Inc. 2718 Uwharrie Road Archdale, NC 27263 336-434-7750 NCD986232221	A&D Environmental Services, Inc. 3149 Lear Drive Burlington, NC 27215 336-229-0058 NCR000138628	A&D Environmental Services (SC), LLC 1915 Brentwood Street High Point, NC 27260 336-882-8000 NCR000002501	A&D Environmental Services (SC), LLC 1741 Calks Ferry Road Lexington, SC 29073 803-957-9175 SCD987598331	A&D Environmental Services (SC), LLC 305 B South Main Street Mauldin, SC 29662 803-967-3500 SCR000765677

HM	Hazardous Materials Shipping Name and Description (if applicable)	No.	Type	QTY	Wt/Vol	Profile Number
	Petroleum Products for Recycle					
X	NA1993, Diesel fuel, 3, III					
X	NA1993, Fuel oil (No.1,2,4,5 or 6), 3, III					
X	UN1203, Gasoline, 3, II					
X	NA1270, Petroleum Oil, 3, III					
				1	TT 4895 G	

HM	No.	Type	Est. Wt.	Count	Shipping Name and Description (if applicable)	Common Name	Discrepancy
X					RQ, UN2809, Mercury contained in manufactured articles, 8, III	Mercury Containing Articles	
X					RQ, UN2809, Mercury, 8, III	Mercury	
X					RQ, UN3432, Polychlorinated biphenyls, solid, 9, II	TSCA Exempt PCB Lamp Ballasts	
X					UN2800, Batteries, wet, nonspillable, 8, III	Sealed Lead Acid Batteries	
X					UN2794, Batteries, wet, filled with acid, 8, III	Lead Acid Batteries	
X					UN2795, Batteries, wet, filled with alkali, 8, III	Wet NiCad Batteries	
X					UN3090, Lithium batteries, 9, II	Lithium Batteries	
X					UN3028, Batteries, dry, containing potassium hydroxide solid, 8, III	Alkaline Batteries	
X					UN3028, Batteries, dry, containing potassium hydroxide solid, 8, III	NiCad Batteries	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Fluorescent lamps 4' or <	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Fluorescent lamps 4' or >	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Circular/U-tube lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Compact Lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Shattershield	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	HID/MV/U/V Lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Incandescent Lamps	
					Non-PCB Light Ballasts for Recycle (Not DOT-Regulated)	Non-PCB Light Ballasts	
					Electronic Equipment for Recycle (Not DOT-Regulated)	Electronics	

Generator's Certification: This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. I further certify that none of the materials described above are a hazardous waste as defined by EPA 40CFR Part 261 or any applicable state law, and unless specifically identified above the materials contain less than 1,000 ppm total halogens and do not contain quantifiable levels (2ppm) of PCBs as defined by EPA 40 CFR Parts 279 and 761.

Generator's/Officer's Printed/Typed Name	Signature	Month	Day	Year
Transporter 1 Printed/Typed Name	Signature	Month	Day	Year
Transporter 2 Printed/Typed Name	Signature	Month	Day	Year
Discrepancy Indication / Additional Information:		Month	Day	Year

Designated Facility Certification: I hereby acknowledge receipt of the materials covered by this manifest except for any discrepancy indicated above.

Printed/Typed Name	Signature	Month	Day	Year
Travis C. Clegg	<i>[Signature]</i>	11	01	17



A&D Environmental Services

Bill of Lading / Material Manifest

A&D Job No: **219094** Generator ID Number: _____ Page 1 of _____ Emergency Response Phone: **800-434-7750** Tracking Number: **07690**

Generator's Name and Mailing Address: **Kindle Morgan 112 Lewis Dr Beaufort, SC 29627** Generator's site address (if different from mailing address): _____

Transporter 1 2 Company Name: **A&D Environmental Services, Inc.** US EPA ID No. **NCD98623222**

Transporter 1 2 Company Name: **A&D Environmental Services (SC), LLC** US EPA ID No. **SCD987598331**

Designated Facility	Designated Facility	Designated Facility	Designated Facility	Designated Facility
A&D Environmental Services, Inc. 2718 Uwaharrie Road Archdale, NC 27263 336-434-7750 NCD986232221	A&D Environmental Services, Inc. 3149 Lear Drive Burlington, NC 27215 336-229-0058 NCR000138628	A&D Environmental Services (SC), LLC 1915 Brentwood Street High Point, NC 27260 336-882-8000 NCR000002501	A&D Environmental Services (SC), LLC 1741 Calks Ferry Road Lexington, SC 29073 803-957-9175 SCD987598331	A&D Environmental Services (SC), LLC 305 B South Main Street Mauldin, SC 29662 803-967-3500 SCR000765677

HM	Hazardous Materials Shipping Name and Description (if applicable)	No.	Type	QTY	Wt/Vol	Profile Number
	Petroleum Products for Recycle					
X	NA1993, Diesel fuel, 3, III		ERG# 128			
X	NA1993, Fuel oil (No. 1, 2, 4, 5 or 6), 3, III		ERG# 128			
X	UN1203, Gasoline, 3, II		ERG# 128	1	TT 4895	E
X	NA1270, Petroleum Oil, 3, III		ERG# 128			

HM	No.	Type	Est. Wt.	Count	Shipping Name and Description (if applicable)	Common Name	Discrepancy
X					RQ, UN2809, Mercury contained in manufactured articles, 8, III	Mercury Containing Articles	
X					RQ, UN2809, Mercury, 8, III	Mercury	
X					RQ, UN3432, Polychlorinated biphenyls, solid, 8, II	TSCA Exempt PCB Lamp Ballasts	
X					UN2800, Batteries, wet, nonspillable, 8, III	Sealed Lead Acid Batteries	
X					UN2734, Batteries, wet, filled with acid, 8, III	Lead Acid Batteries	
X					UN2795, Batteries, wet, filled with alkali, 8, III	Wet NiCad Batteries	
X					UN3090, Lithium batteries, 8, II	Lithium Batteries	
X					UN3028, Batteries, dry, containing potassium hydroxide solid, 8, III	Alkaline Batteries	
X					UN3025, Batteries, dry, containing potassium hydroxide solid, 8, III	NiCad Batteries	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Fluorescent lamps 4' or <	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Fluorescent lamps 4' or >	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Circular/U-tube lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Compact Lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Shatterfield	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	HID/MV/UUV Lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Incandescent Lamps	
					Non-PCB Light Ballasts for Recycle (Not DOT-Regulated)	Non-PCB Light Ballasts	
					Electronic Equipment for Recycle (Not DOT-Regulated)	Electronics	

Generator's Certification: This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. I further certify that none of the materials described above are a hazardous waste as defined by EPA 40CFR Part 261 or any applicable state law, and unless specifically identified above the materials contain less than 1,000 ppm total halogens and do not contain quantifiable levels (ppm) of PCBs as defined by EPA 40 CFR Parts 279 and 751.

Generator's/Owner's Printed / Typed Name: **Doug Johnson** Signature: _____ Month: **8** Day: **1** Year: **17**

Transporter 1 Printed / Typed Name: **Doug Johnson** Signature: _____ Month: **8** Day: **1** Year: **17**

Transporter 2 Printed / Typed Name: _____ Signature: _____ Month: _____ Day: _____ Year: _____

Discrepancy Indication / Additional Information: _____ Month: _____ Day: _____ Year: _____

Designated Facility Certification: I hereby acknowledge receipt of the materials covered by this manifest except for any discrepancy indicated above.

Printed / Typed Name: **Travis Clapp** Signature: _____ Month: **08** Day: **01** Year: **17**



A&D Environmental Services

Bill of Lading / Material Manifest

A&D Job No: **AD219094** Generator ID Number: _____ Page 1 of 1 Emergency Response Phone: **800-434-7750** Tracking Number: **16105**

Generator's Name and Mailing Address: **Kinden Morgan, 112 Lewis Dr, Delton SC 29627**
 Generator's site address (if different from mailing address): _____

Transporter 1 2 Company Name: **A&D Environmental Services, Inc.** US EPA ID No: **NCD98623222**

Transporter 1 2 Company Name: **A&D Environmental Services (SC), LLC** US EPA ID No: **SCD987598331**

Designated Facility	Designated Facility	Designated Facility	Designated Facility	Designated Facility
A&D Environmental Services, Inc. 2718 Uwharrie Road Archdale, NC 27263 336-434-7750 NCD986232221	A&D Environmental Services, Inc. 3149 Lear Drive Burlington, NC 27215 336-229-0058 NCR000138628	A&D Environmental Services (SC), LLC 1915 Brentwood Street High Point, NC 27260 336-882-8000 NCR000002501	A&D Environmental Services (SC), LLC 1741 Calks Ferry Road Lexington, SC 29073 803-957-9175 SCD987598331	A&D Environmental Services (SC), LLC 305 B South Main Street Mauldin, SC 29662 803-967-3500 SCR000765677

HM	Hazardous Materials Shipping Name and Description (if applicable)	No.	Type	QTY	Wt/Vol	Profile Number
	waste ground water	1	TT	4923	9AL	

Petroleum Products for Recycle						
X	NA1993, Diesel fuel, 3, III	ERG# 128	No.	Type	QTY	Wt/Vol
X	NA1993, Fuel oil (No. 1, 2, 4, 5 or 6), 3, III	ERG# 128				
X	UN1203, Gasoline, 3, II	ERG# 128				
X	NA1270, Petroleum Oil, 3, III	ERG# 128				

Universal Waste Lamps, Batteries, Ballasts, and Electronics for Recycle							
HM	No.	Type	Est. Wt.	Count	Shipping Name and Description (if applicable)	Common Name	Discrepancy
X					RQ, UN2809, Mercury contained in manufactured articles, 8, III ERG# 172	Mercury Containing Articles	
X					RQ, UN2809, Mercury, 8, III ERG# 172	Mercury	
X					RQ, UN3432, Polychlorinated biphenyls, solid, 9, II ERG# 171	TSCA Exempt PCB Lamp Ballasts	
X					UN2800, Batteries, wet, nonspillable, 8, III ERG# 154	Sealed Lead Acid Batteries	
X					UN2794, Batteries, wet, filled with acid, 8, III ERG# 154	Lead Acid Batteries	
X					UN2795, Batteries, wet, filled with alkali, 8, III ERG# 154	Wet NiCad Batteries	
X					UN3090, Lithium batteries, 9, II ERG# 138	Lithium Batteries	
X					UN3028, Batteries, dry, containing potassium hydroxide solid, 8, III ERG# 154	Alkaline Batteries	
X					UN3028, Batteries, dry, containing potassium hydroxide solid, 8, III ERG# 154	NiCad Batteries	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Fluorescent lamps 4' or <	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Fluorescent lamps 4' or >	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Circular/U-tube lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Compact Lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Shattershield	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	HID/MV/UV Lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Incandescent Lamps	
					Non-PCB Light Ballasts for Recycle (Not DOT-Regulated)	Non-PCB Light Ballasts	
					Electronic Equipment for Recycle (Not DOT-Regulated)	Electronics	

Generator's Certification: This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. I further certify that none of the materials described above are a hazardous waste as defined by EPA 40CFR Part 261 or any applicable state law, and unless specifically identified above the materials contain less than 1,000 ppm total halogens and do not contain quantifiable levels (2ppm) of PCBs as defined by EPA 40 CFR Parts 279 and 761.

Generator's/Offoror's Printed / Typed Name: _____ Signature: _____ Month: _____ Day: _____ Year: _____

Transporter 1 Printed / Typed Name: **Richard Williams** Signature: _____ Month: **8** Day: **2** Year: **17**

Transporter 2 Printed / Typed Name: _____ Signature: _____ Month: _____ Day: _____ Year: _____

Discrepancy Indication / Additional Information: _____ Month: _____ Day: _____ Year: _____

Designated Facility Certification: I hereby acknowledge receipt of the materials covered by this manifest except for any discrepancy indicated above.

Designated Facility Printed / Typed Name: **Thomas Clapp** Signature: _____ Month: **08** Day: **02** Year: **17**



A&D Environmental Services

Bill of Lading / Material Manifest

A&D Job No: **AD219094** Generator ID Number: _____ Page 1 of 1 Emergency Response Phone: **800-434-7750** Tracking Number: **16106**

Generator's Name and Mailing Address: **Kindce Morgan**
112 Lewis Dr
Beltom NC 29627

Generator's site address (if different from mailing address): _____

Transporter 1 2 Company Name: **A&D Environmental Services, Inc.** US EPA ID No: **NCD98623222**

Transporter 1 2 Company Name: **A&D Environmental Services (SC), LLC** US EPA ID No: **SCD987598331**

Designated Facility	Designated Facility	Designated Facility	Designated Facility	Designated Facility
A&D Environmental Services, Inc. 2718 Uwharrie Road Archdale, NC 27263 336-434-7750 NCD986232221	A&D Environmental Services, Inc. 3149 Lear Drive Burlington, NC 27215 336-229-0058 NCR000138628	A&D Environmental Services (SC), LLC 1915 Brentwood Street High Point, NC 27260 336-882-8000 NCR000002501	A&D Environmental Services (SC), LLC 1741 Calks Ferry Road Lexington, SC 29073 803-957-9175 SCD987598331	A&D Environmental Services (SC), LLC 305 B South Main Street Mauldin, SC 29662 803-967-3500 SCR000765677

HM	Hazardous Materials Shipping Name and Description (if applicable)	No.	Type	QTY	Wt/Vol	Profile Number
X	UN203 Gasoline 3, II waste water mix	1	TT	4060	9AL	

Petroleum Products for Recycle						
	No.	Type	QTY	Wt/Vol	Profile Number	
X	NA1993, Diesel fuel, 3, III					ERG# 128
X	NA1993, Fuel oil (No.1,2,4,5 or 6), 3, III					ERG# 128
X	UN1203, Gasoline, 3, II					ERG# 128
X	NA1270, Petroleum Oil, 3, III					ERG# 128

Universal Waste Lamps, Batteries, Ballasts, and Electronics for Recycle							
HM	No.	Type	Est. Wt.	Count	Shipping Name and Description (if applicable)	Common Name	Discrepancy
X					RQ, UN2809, Mercury contained in manufactured articles, 8, III	Mercury Containing Articles	
X					RQ, UN2809, Mercury, 8, III	Mercury	
X					RQ, UN3432, Polychlorinated biphenyls, solid, 9, II	TSCA Exempt PCB Lamp Ballasts	
X					UN2800, Batteries, wet, nonspillable, 8, III	Sealed Lead Acid Batteries	
X					UN2794, Batteries, wet, filled with acid, 8, III	Lead Acid Batteries	
X					UN2795, Batteries, wet, filled with alkali, 8, III	Wet NiCad Batteries	
X					UN3090, Lithium batteries, 9, II	Lithium Batteries	
X					UN3028, Batteries, dry, containing potassium hydroxide solid, 8, III	Alkaline Batteries	
X					UN3028, Batteries, dry, containing potassium hydroxide solid, 8, III	NiCad Batteries	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Fluorescent lamps 4' or <	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Fluorescent lamps 4' or >	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Circular/U-tube lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Compact Lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Shattershield	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	HID/MV/UV Lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Incandescent Lamps	
					Non-PCB Light Ballasts for Recycle (Not DOT-Regulated)	Non-PCB Light Ballasts	
					Electronic Equipment for Recycle (Not DOT-Regulated)	Electronics	

Generator's Certification: This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. I further certify that none of the materials described above are a hazardous waste as defined by EPA 40CFR Part 261 or any applicable state law, and unless specifically identified above the materials contain less than 1,000 ppm total halogens and do not contain quantifiable levels (2ppm) of PCBs as defined by EPA 40 CFR Parts 279 and 761.

Generator's Printed / Typed Name: _____ Signature: _____ Month: _____ Day: _____ Year: _____

Transporter 1 Printed / Typed Name: **Richard Williams** Signature: _____ Month: **8** Day: **4** Year: **17**

Transporter 2 Printed / Typed Name: _____ Signature: _____ Month: _____ Day: _____ Year: _____

Discrepancy Indication / Additional Information: _____ Month: _____ Day: _____ Year: _____

Designated Facility Certification: I hereby acknowledge receipt of the materials covered by this manifest except for any discrepancy indicated above.

Printed / Typed Name: **Rashell Parcell** Signature: _____ Month: **8** Day: **4** Year: **17**

111612

A&D Environmental Services Bill of Lading / Material Manifest

A&D Job No: 219094	Generator ID Number	Page 1 of	Emergency Response Phone 800-434-7750	Tracking Number 04305
Generator's Name and Mailing Address Winder Morgan 112 Lewis Drive Belton, SC 29627		Generator's site address (if different from mailing address)		

Transporter 1 <input type="checkbox"/> 2 <input type="checkbox"/>	Company Name A&D Environmental Services, Inc.	US EPA ID No: NCD98623222
Transporter 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/>	Company Name A&D Environmental Services (SC), LLC	US EPA ID No: SCD987598331

Designated Facility	Designated Facility	Designated Facility	Designated Facility	Designated Facility
A&D Environmental Services, Inc. 2718 Uwharrie Road Archdale, NC 27263 336-434-7750 NCD986232221	A&D Environmental Services, Inc. 3149 Lear Drive Burlington, NC 27215 336-229-0058 NCR000138628	A&D Environmental Services (SC), LLC 1915 Brentwood Street High Point, NC 27260 336-882-8000 NCR000002501	A&D Environmental Services (SC), LLC 1741 Calks Ferry Road Lexington, SC 29073 803-957-9175 SCD987598331	A&D Environmental Services (SC), LLC 305 B South Main Street Mauldin, SC 29662 803-967-3500 SCR000765677

HM	Hazardous Materials Shipping Name and Description (if applicable)	No.	Type	QTY	Wt/Vol	Profile Number
	Petroleum Products for Recycle					

X	NA1993, Diesel fuel, 3, III	ERG# 128	No.	Type	QTY	Wt/Vol	Profile Number
X	NA1993, Fuel oil (No. 1, 2, 4, 5 or 6), 3, III	ERG# 128					
X	UN1203, Gasoline, 3, II	ERG# 128	1	TT	2306		
X	NA1270, Petroleum Oil, 3, III	ERG# 128					

HM	No.	Type	Est. Wt.	Count	Shipping Name and Description (if applicable)	Common Name	Discrepancy
X					RQ, UN2809, Mercury contained in manufactured articles, 8, III ERG# 172	Mercury Containing Articles	
X					RQ, UN2809, Mercury, 8, III ERG# 172	Mercury	
X					RQ, UN3432, Polychlorinated biphenyls, solid, 9, II ERG# 171	TSCA Exempt PCB Lamp Ballasts	
X					UN2800, Batteries, wet, nonspillable, 8, III ERG# 154	Sealed Lead Acid Batteries	
X					UN2794, Batteries, wet, filled with acid, 8, III ERG# 154	Lead Acid Batteries	
X					UN2795, Batteries, wet, filled with alkali, 8, III ERG# 154	Wet NiCad Batteries	
X					UN3090, Lithium batteries, 9, II ERG# 138	Lithium Batteries	
X					UN3028, Batteries, dry, containing potassium hydroxide solid, 8, III ERG# 154	Alkaline Batteries	
X					UN3028, Batteries, dry, containing potassium hydroxide solid, 8, III ERG# 154	NiCad Batteries	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Fluorescent lamps 4' or <	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Fluorescent lamps 4' or >	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Circular/U-tube lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Compact Lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Shattershield	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	HID/MV/UV Lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Incandescent Lamps	
					Non-PCB Light Ballasts for Recycle (Not DOT-Regulated)	Non-PCB Light Ballasts	
					Electronic Equipment for Recycle (Not DOT-Regulated)	Electronics	

Generator's Certification: This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. I further certify that none of the materials described above are a hazardous waste as defined by EPA 40CFR Part 261 or any applicable state law, and unless specifically identified above the materials contain less than 1,000 ppm total halogens and do not contain quantifiable levels (2ppm) of PCBs as defined by EPA 40 CFR Parts 279 and 761.

Generator's/Officer's Printed/Typed Name Ian Cromedy	Signature 	Month 8	Day 25	Year 17
Transporter 1 Printed/Typed Name Ian Cromedy	Signature 	Month 8	Day 25	Year 17
Transporter 2 Printed/Typed Name	Signature	Month	Day	Year

Discrepancy Indication / Additional Information: _____

Designated Facility Certification: I hereby acknowledge receipt of the materials covered by this manifest except for any discrepancy indicated above.

Printed/Typed Name Travis Clapp	Signature 	Month 08	Day 25	Year 17
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DESIGNATED FACILITY TO GENERATOR



A&D Environmental Services

Bill of Lading / Material Manifest

0117773

A&D Job No: 219094	Generator ID Number	Page 1 of 1	Emergency Response Phone 800-434-7750	Tracking Number 07375
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Generator's Name and Mailing Address Kinder Morgan 112 Lewis Ave Belton, SC	Generator's site address (if different from mailing address) Same
-----------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------

Transporter 1 <input type="checkbox"/> 2 <input type="checkbox"/> Company Name A&D Environmental Services, Inc.	US EPA ID No: NCD98623222
-------------------------------------------------------------------------------------------------------------------------------	----------------------------------

Transporter 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> Company Name A&D Environmental Services (SC), LLC	US EPA ID No: SCD987598331
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Designated Facility	Designated Facility	Designated Facility	Designated Facility	Designated Facility
A&D Environmental Services, Inc. 2718 Uwharrie Road Archdale, NC 27263 336-434-7750 NCD98623221	A&D Environmental Services, Inc. 3149 Lear Drive Burlington, NC 27215 336-229-0058 NCR000138628	A&D Environmental Services (SC), LLC 1915 Brentwood Street High Point, NC 27260 336-882-8000 NCR000002501	A&D Environmental Services (SC), LLC 1741 Calks Ferry Road Lexington, SC 29073 803-957-9175 SCD987598331	A&D Environmental Services (SC), LLC 305 B South Main Street Mauldin, SC 29662 803-967-3500 SCR000765677

HM	Hazardous Materials Shipping Name and Description (if applicable)	No.	Type	QTY	Wt/Vol	Profile Number
	Petroleum Contact Water	1	TT	2837	P	20150163

Petroleum Products for Recycle		No.	Type	QTY	Wt/Vol	Profile Number
X	NA1993, Diesel fuel, 3, III					ERG# 128
X	NA1993, Fuel oil (No.1,2,4,5 or 6), 3, III					ERG# 128
X	UN1203, Gasoline, 3, II					ERG# 128
X	NA1270, Petroleum Oil, 3, III					ERG# 128

Universal Waste Lamps, Batteries, Ballasts, and Electronics for Recycle							
HM	No.	Type	Est. Wt.	Count	Shipping Name and Description (if applicable)	Common Name	Discrepancy
X					RQ, UN2809, Mercury contained in manufactured articles, 8, III	Mercury Containing Articles	
X					RQ, UN2809, Mercury, 8, III	Mercury	
X					RQ, UN3432, Polychlorinated biphenyls, solid, 9, II	TSCA Exempt PCB Lamp Ballasts	
X					UN2800, Batteries, wet, nonspillable, 8, III	Sealed Lead Acid Batteries	
X					UN2794, Batteries, wet, filled with acid, 8, III	Lead Acid Batteries	
X					UN2795, Batteries, wet, filled with alkali, 8, III	Wet NiCad Batteries	
X					UN3090, Lithium batteries, 9, II	Lithium Batteries	
X					UN3028, Batteries, dry, containing potassium hydroxide solid, 8, III	Alkaline Batteries	
X					UN3028, Batteries, dry, containing potassium hydroxide solid, 8, III	NiCad Batteries	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Fluorescent lamps 4' or <	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Fluorescent lamps 4' or >	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Circular/U-tube lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Compact Lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Shattershield	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	HID/MV/UV Lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Incandescent Lamps	
					Non-PCB Light Ballasts for Recycle (Not DOT-Regulated)	Non-PCB Light Ballasts	
					Electronic Equipment for Recycle (Not DOT-Regulated)	Electronics	

Generator's Certification: This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. I further certify that none of the materials described above are a hazardous waste as defined by EPA 40CFR Part 261 or any applicable state law, and unless specifically identified above the materials contain less than 1,000 ppm total halogens and do not contain quantifiable levels (2ppm) of PCBs as defined by EPA 40 CFR Parts 279 and 761.

Generator's/Officer's Printed/Typed Name Alan Gilstrap	Signature 	Month 9	Day 8	Year 17
Transporter 1 Printed/Typed Name Alan Gilstrap	Signature 	Month 9	Day 8	Year 17
Transporter 2 Printed/Typed Name Rudolf Williams	Signature 	Month 9	Day 11	Year 17
Discrepancy Indication / Additional Information:		Month	Day	Year

Designated Facility Certification: I hereby acknowledge receipt of the materials covered by this manifest except for any discrepancy indicated above.

Printed/Typed Name TRAULS Chapp	Signature 	Month 09	Day 11	Year 17
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DESIGNATED FACILITY TO GENERATOR

Attachment E
Soil Boring Logs and Well Completion
Diagrams (MW-46, MW-47, and
MW 49)

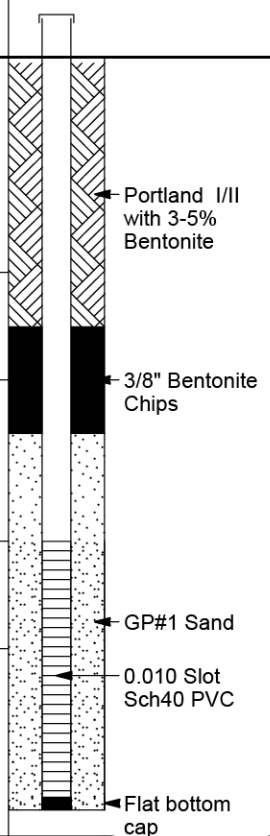


CH2M HILL
6600 Peachtree Dunwoody Road, 400 Embassy Row, Suite 600
Atlanta, GA 30328

CLIENT Plantation Pipe Line Company **PROJECT NAME** Lewis Drive Remediation
PROJECT NUMBER 684910 **PROJECT LOCATION** Belton, South Carolina
DATE STARTED 9/13/17 **COMPLETED** 9/13/17 **GROUND ELEVATION** 842.43 ft **HOLE SIZE** 8.5 inches
DRILLING CONTRACTOR AE Drilling, Piedmont, SC **GROUND WATER LEVELS:**
DRILLING METHOD Geoprobe 8040DT with 4.25-in ID HSA **AT TIME OF DRILLING** ---
LOGGED BY J. McCann **CHECKED BY** --- **AT END OF DRILLING** ---
NOTES --- **AFTER DRILLING** ---

GENERAL_BH / TP / WELL - GINT STD US LAB.GDT - 11/9/17 12:48 - \\ATLEFP01\PROJ\KINDERMORGAN\65458\LEWISDRIVE\ISA BORING LOGS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA	WELL DIAGRAM
0								
5	SPT 1	100	10-9-9-8 (18)	SM		(SM) SILTY SAND: yellowish brown, dry, medium dense, non-plastic 6.0	PID = 0.7 836.4	Portland I/II with 3-5% Bentonite
10	SPT 2	63	2-2-3-3 (5)	SP		(SP) SAND WITH SILT: white and black with some yellowish brown weathering, wet, loose non-plastic 11.0	PID = 0.4 831.4	3/8" Bentonite Chips GP#1 Sand 0.010 Slot Sch40 PVC
Bottom of borehole at 14.5 feet.								





CH2M HILL
6600 Peachtree Dunwoody Road, 400 Embassy Row, Suite 600
Atlanta, GA 30328

CLIENT Plantation Pipe Line Company **PROJECT NAME** Lewis Drive Remediation
PROJECT NUMBER 684910 **PROJECT LOCATION** Belton, South Carolina
DATE STARTED 9/14/17 **COMPLETED** 9/14/17 **GROUND ELEVATION** 839.89 ft **HOLE SIZE** 8.5 inches
DRILLING CONTRACTOR AE Drilling, Piedmont, SC **GROUND WATER LEVELS:**
DRILLING METHOD Geoprobe 8040DT with 4.25-in ID HSA **AT TIME OF DRILLING** ---
LOGGED BY M. Karafa **CHECKED BY** --- **AT END OF DRILLING** ---
NOTES --- **AFTER DRILLING** ---

GENERAL BH / TP / WELL - GINT STD US LAB.GDT - 11/9/17 12:48 - \\ATLFP001\PROJ\KINDERMORGAN\65458LEWISDRR\GINT9-26-17\DATABASE\LEWIS DRIVE ISA BORING LOGS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA	WELL DIAGRAM
0									
5	SPT 1	100	4-6-7-9 (13)		ML	6.5	(ML) SILTY CLAY: 2.5Y 4/6 red, dry, fine grained, dense, micaceous, low plasticity	PID = 0.8	Portland I/II with 3-5% Bentonite
10	SPT 2	75	2-2-3-4 (5)	Collected sample MW-47-09-11 for BTEX and Naphthalene	ML	11.5	(ML) CLAYEY SILT: 7.5YR 7/8 reddish yellow, 2.5YR 4/6 red, white and black bands, dry, fine grained, moderate dense, banded saprolite	PID = 0.7	3/8" Bentonite Chips
15	SPT 3	100	1-1-2-4 (3)		ML	16.0	(ML) SILTY CLAY: 7.5 Y 7/8 reddish yellow, wet, fine grained, soft, slightly banded, low plasticity	PID = 1.2	GP#1 Sand
					ML	16.5	(ML) CLAYEY SILT: 2.5 YR 4/6 red, 7.5 YR 5/4 brown, black bands, wet, fine grained, soft, micaceous saprolite	823.9	0.010 Slot Sch40 PVC
20	SPT 4	71	3-4-3-5 (7)		SM	21.2	(SM) SILTY SAND: white, grey and black bands, wet, fine grained, loose, some weathered rock, fray, micaceous saprolite	PID = 1	Flat bottom cap
					ML	21.5	(ML) SILTY CLAY: 7.5 YR 6/6 reddish yellow, wet, fine grained, soft	818.7	
							Bottom of borehole at 21.5 feet.	818.4	



CH2M HILL
6600 Peachtree Dunwoody Road, 400 Embassy Row, Suite 600
Atlanta, GA 30328

CLIENT Plantation Pipe Line Company **PROJECT NAME** Lewis Drive Remediation
PROJECT NUMBER 684910 **PROJECT LOCATION** Belton, South Carolina
DATE STARTED 9/14/17 **COMPLETED** 9/14/17 **GROUND ELEVATION** 843.65 ft **HOLE SIZE** 8.5 inches
DRILLING CONTRACTOR AE Drilling, Piedmont, SC **GROUND WATER LEVELS:**
DRILLING METHOD Geoprobe 8040DT with 4.25-in ID HSA **AT TIME OF DRILLING** ---
LOGGED BY M. Karafa **CHECKED BY** --- **AT END OF DRILLING** ---
NOTES --- **AFTER DRILLING** ---

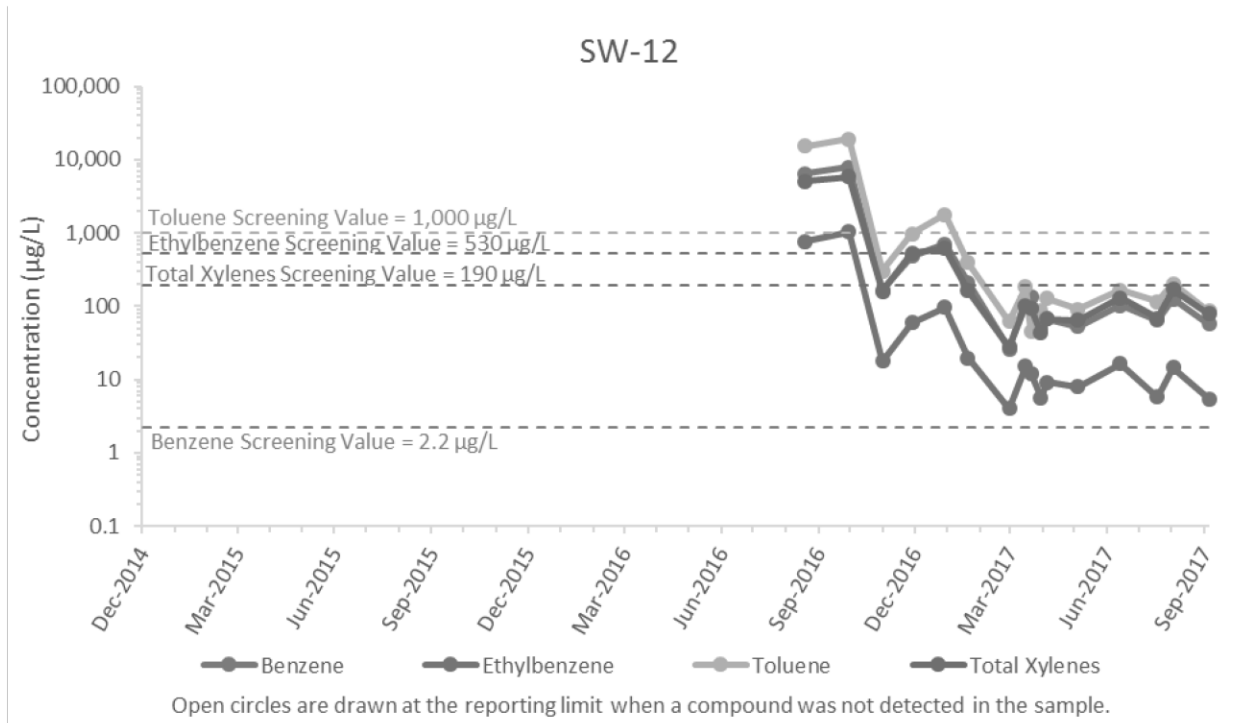
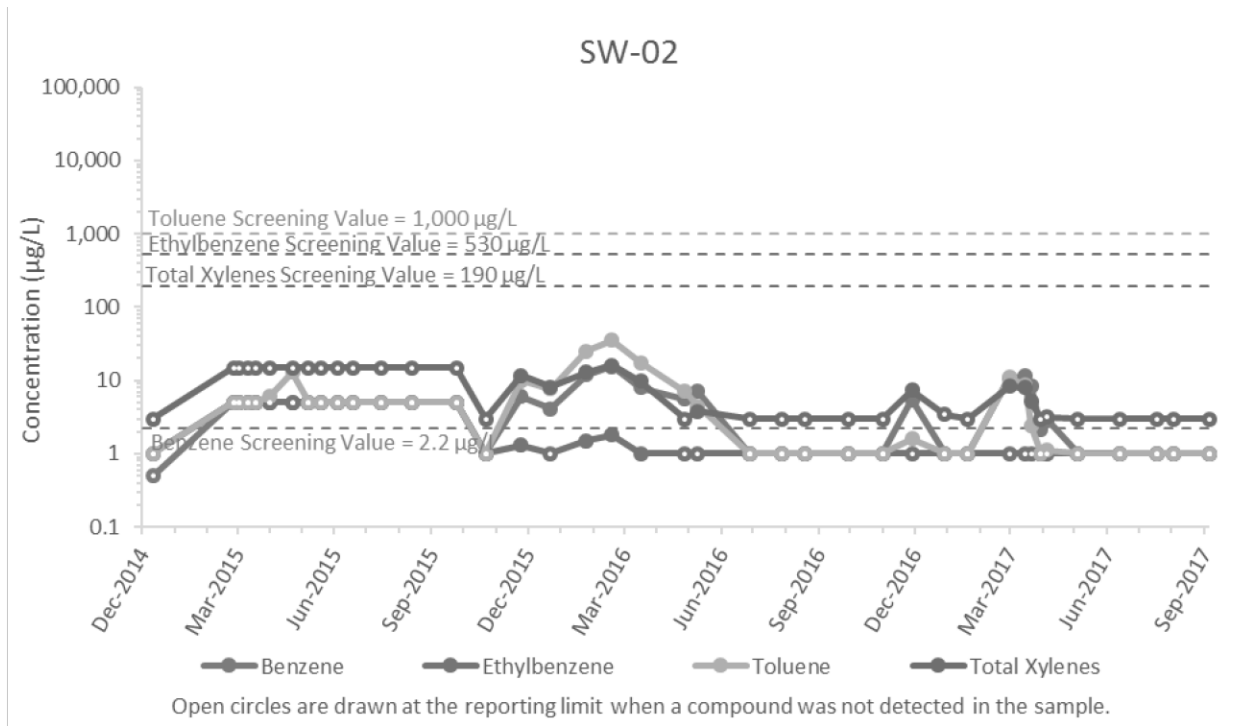
GENERAL BH / TP / WELL - GINT STD US LAB.GDT - 11/9/17 12:48 - \\ATLEFP01\PROJ\KINDERMORGAN\65458LEWISDRR\GINT9-26-17\DATABASE\LEWIS DRIVE ISA BORING LOGS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA	WELL DIAGRAM
0									
5	SPT 1	83	4-4-4-4 (8)	Collected sample MW-49-4-6 and MW-49-4-6-FD for BTEX and Naphthalene	SM		(SM) SILTY SAND (SM), 10YR 6/8 brownish yellow, dry, fine grained, loose, micaceous	PID = 130.5	<p>Portland I/II with 3-5% Bentonite</p> <p>3/8" Bentonite Chips</p> <p>GP#1 Sand</p> <p>0.010 Slot Sch40 PVC</p>
6.0								837.7	
10	SPT 2	75	2-2-3-5 (5)		SM		(SM) SAME AS ABOVE	PID = 13.1	
11.0								832.7	
15	SPT 3	100	1-3-5-6 (8)	SM		(SM) SAME AS ABOVE: moist to very moist	PID = 4.5		
16.0							827.7		
20	SPT 4	100	3-4-5-6 (9)	SM		(SM) SAME AS ABOVE: wet	PID = 184		
21.0							822.7		

Bottom of borehole at 21.0 feet.

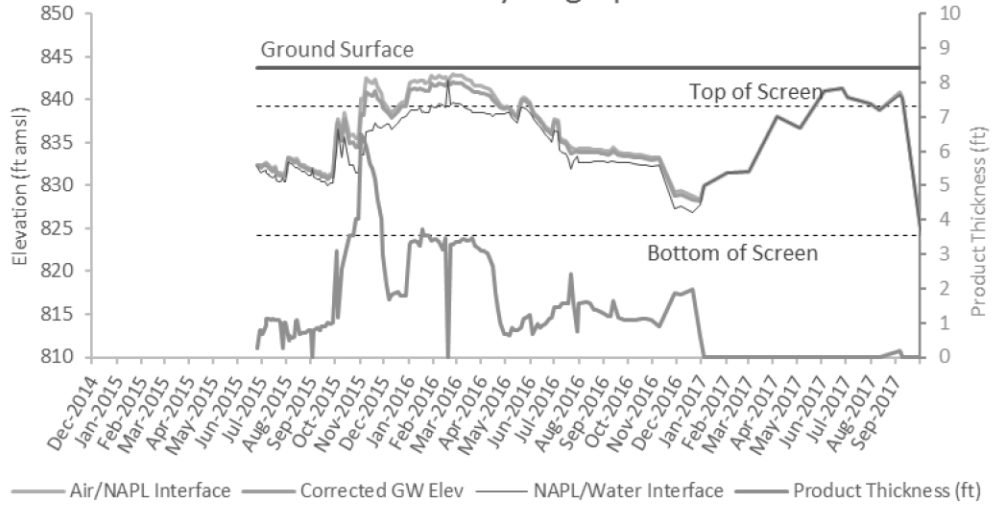
Flat bottom cap

Attachment F
Surface Water Analytical Trends

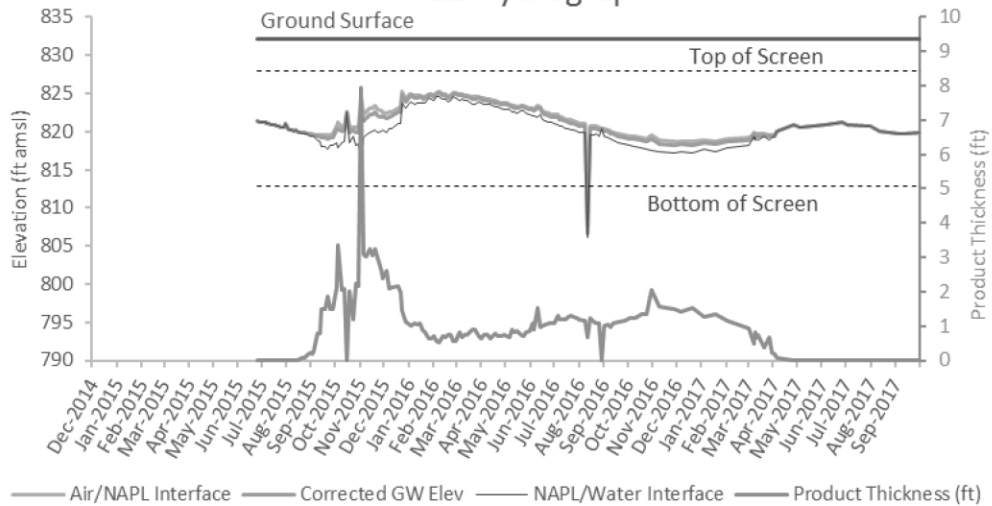


Attachment G
Product Thickness Trends

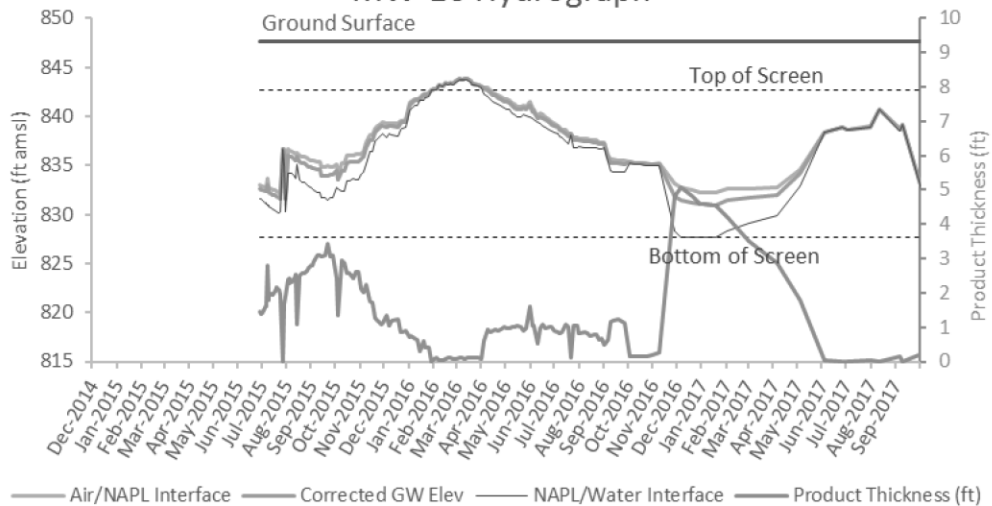
MW-09 Hydrograph

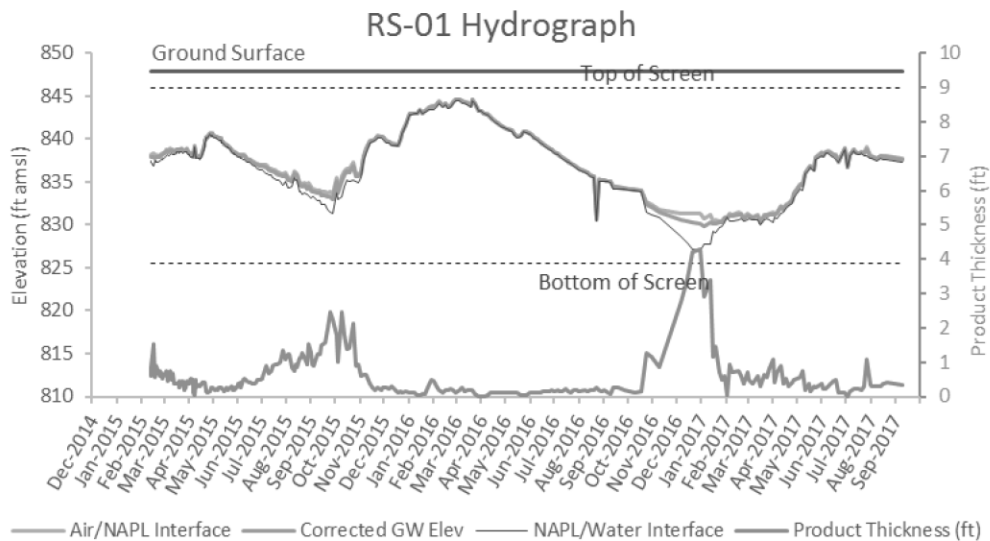
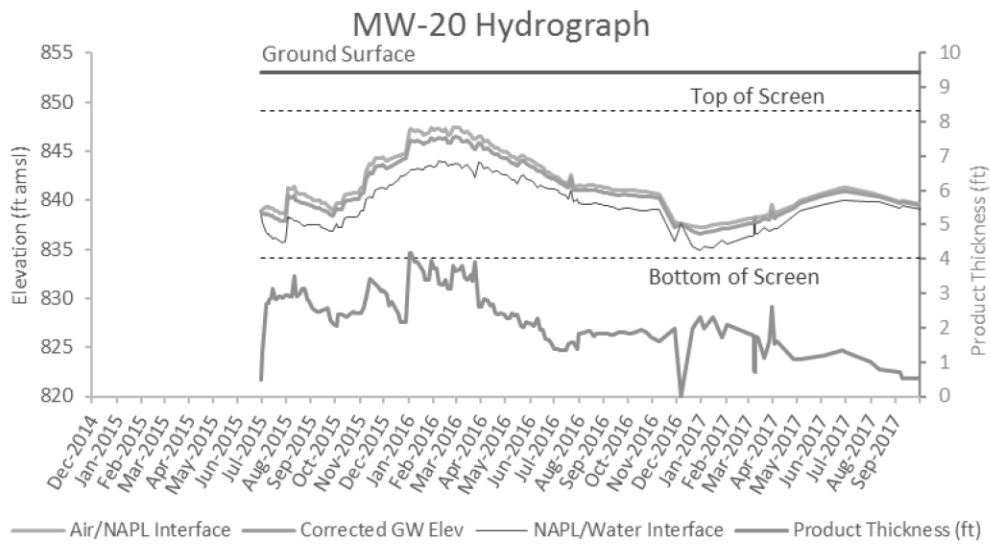
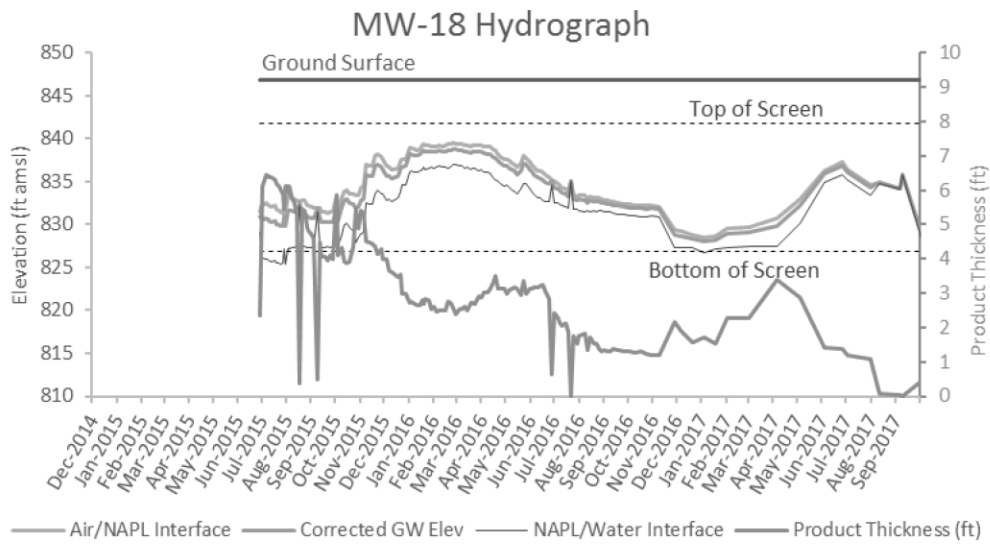


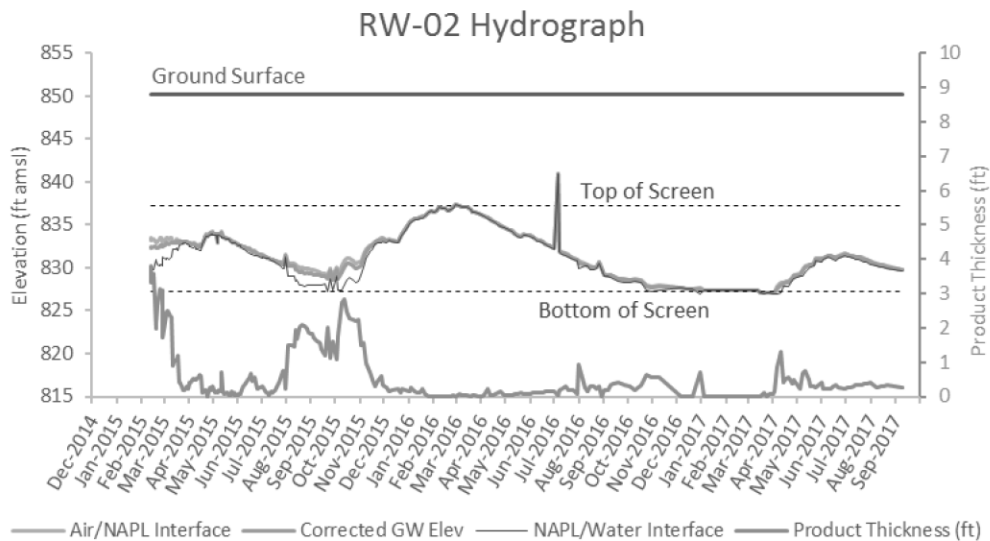
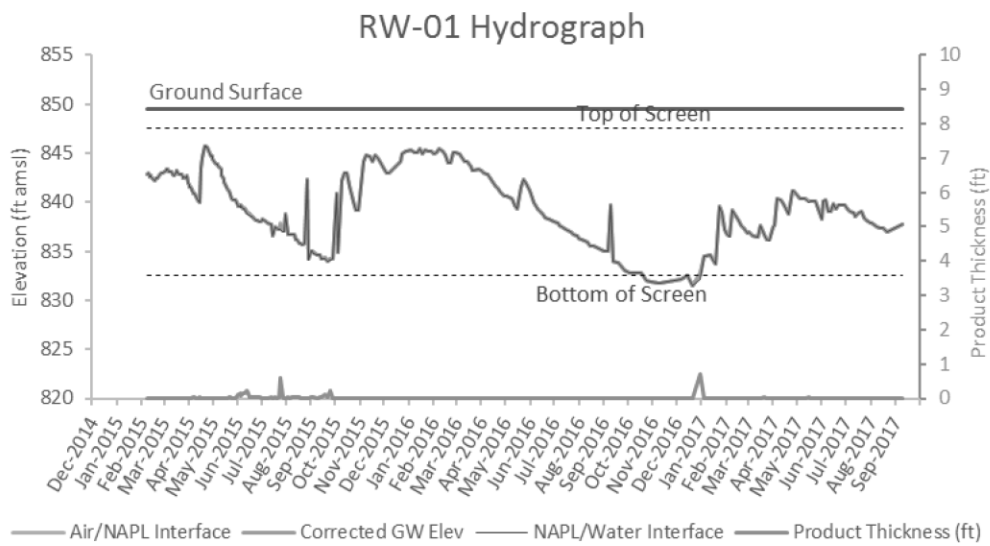
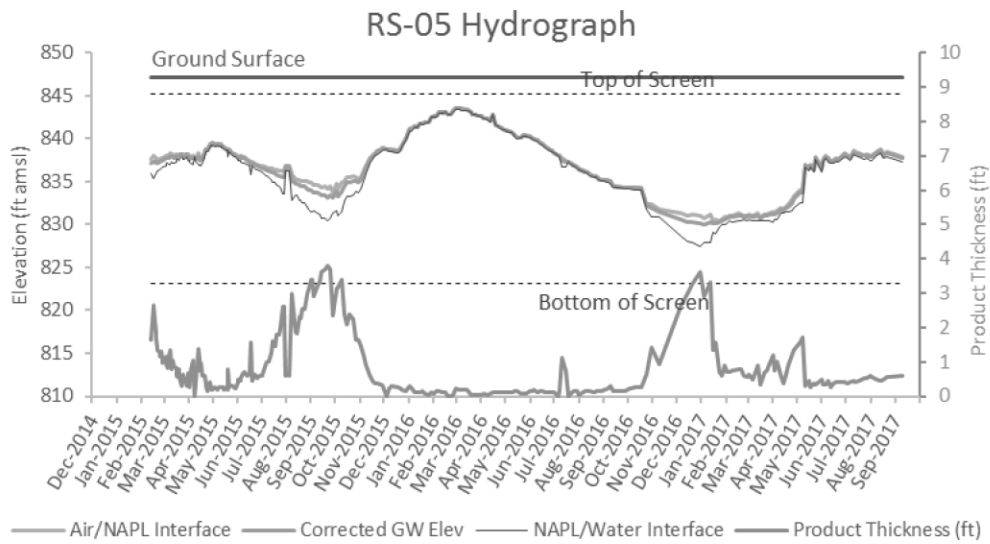
MW-12 Hydrograph



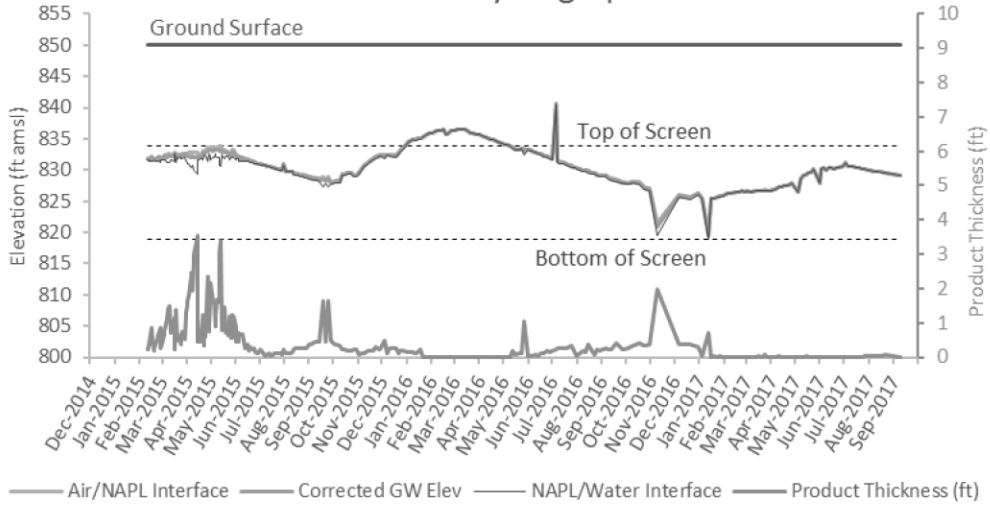
MW-16 Hydrograph



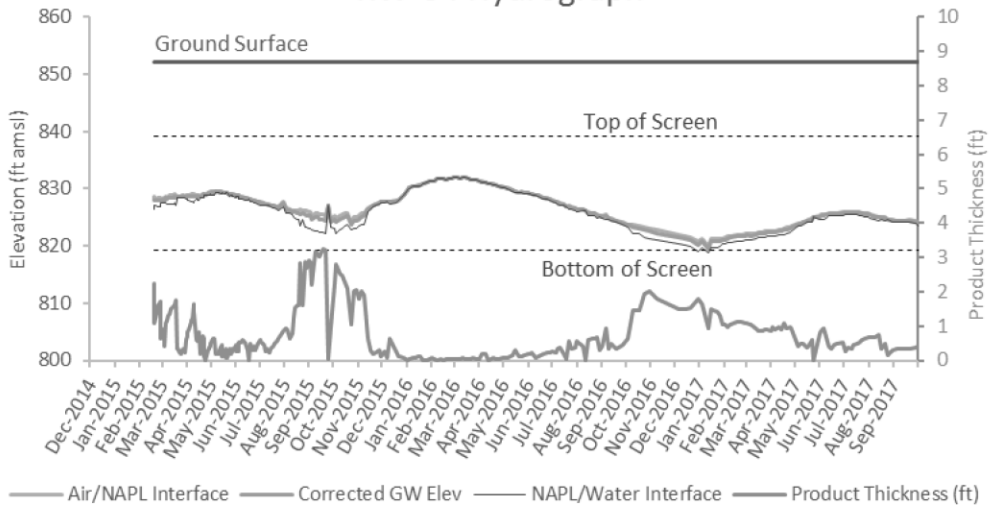




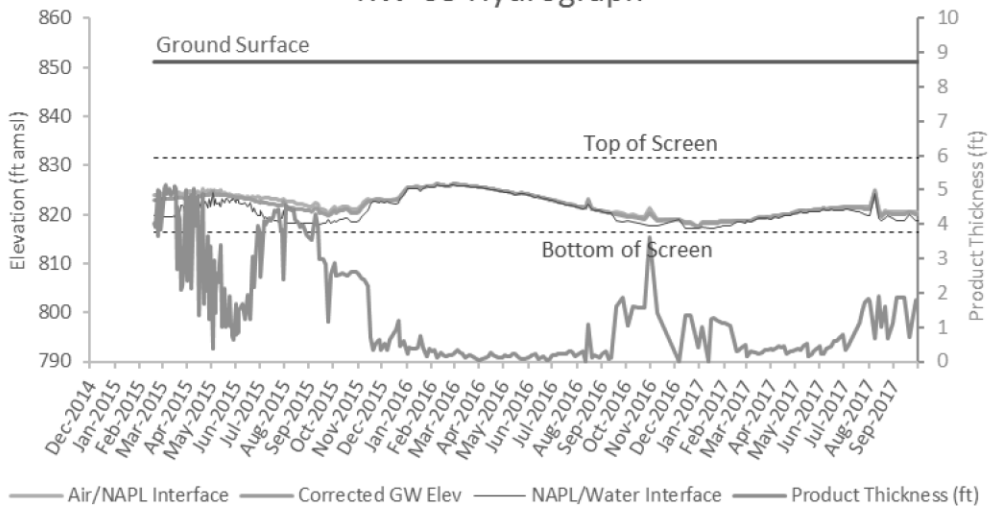
RW-03 Hydrograph



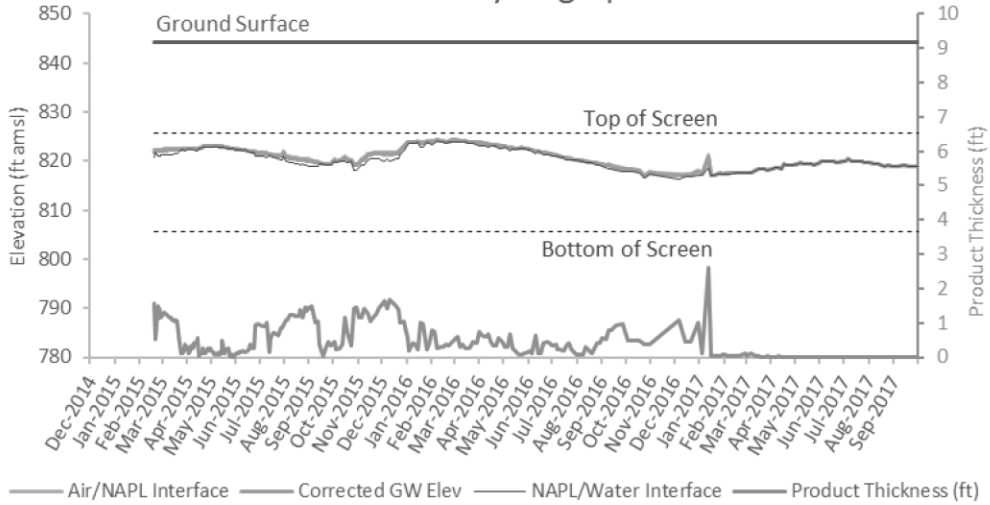
RW-04 Hydrograph



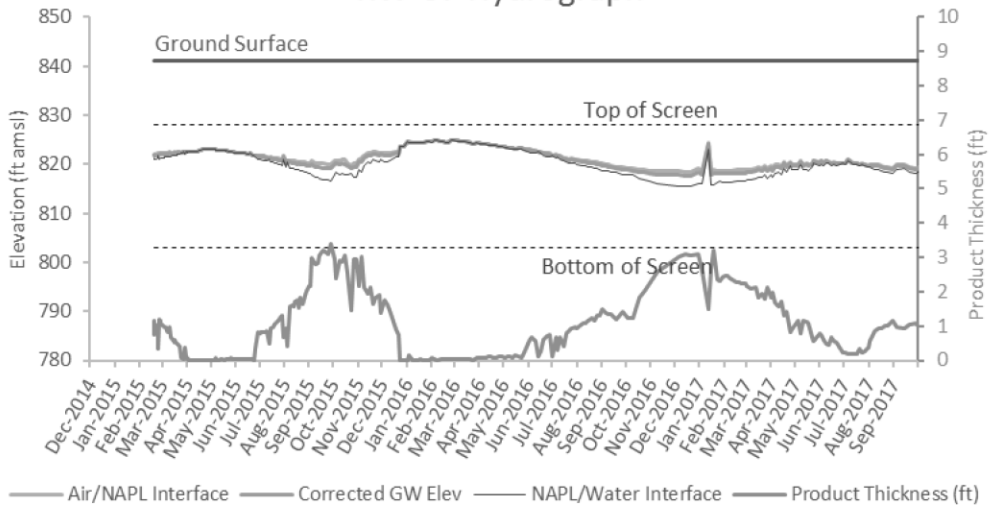
RW-05 Hydrograph



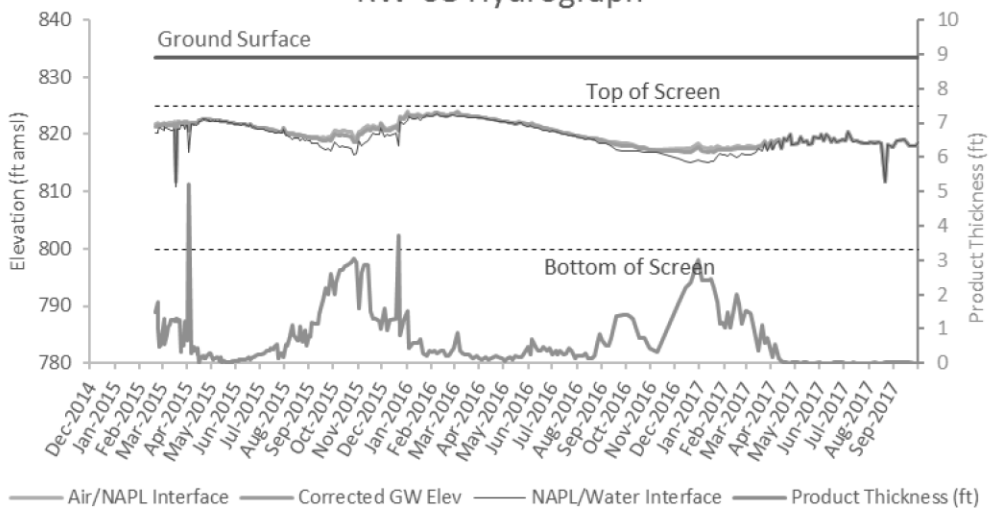
RW-06 Hydrograph



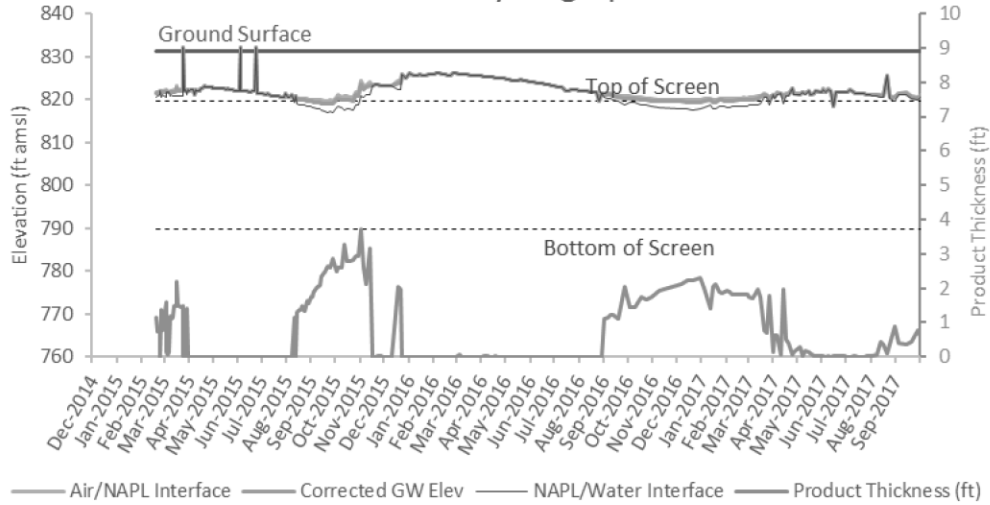
RW-07 Hydrograph



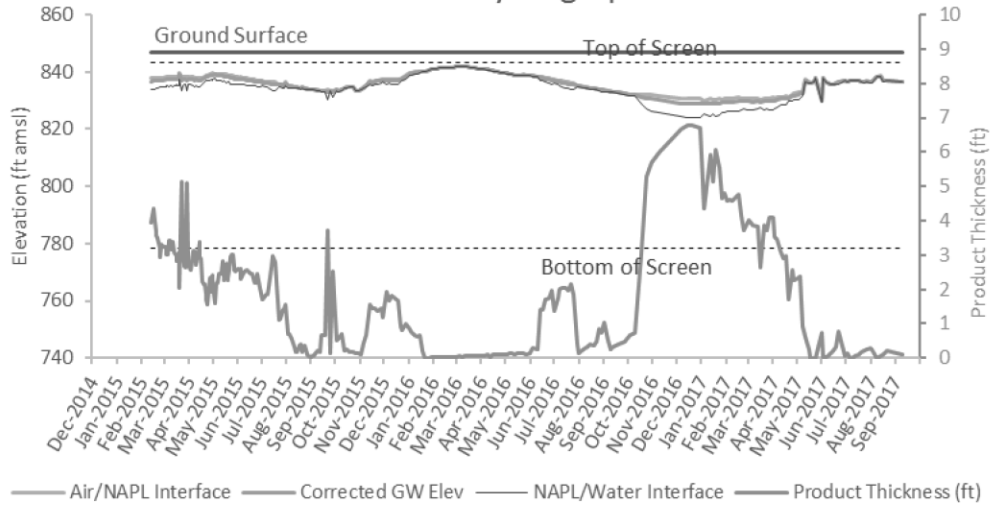
RW-08 Hydrograph



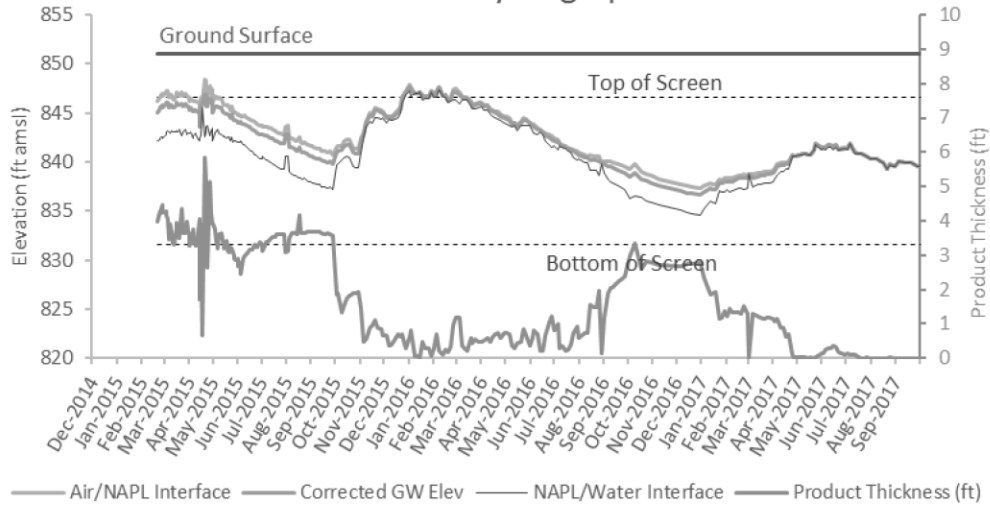
RW-09 Hydrograph



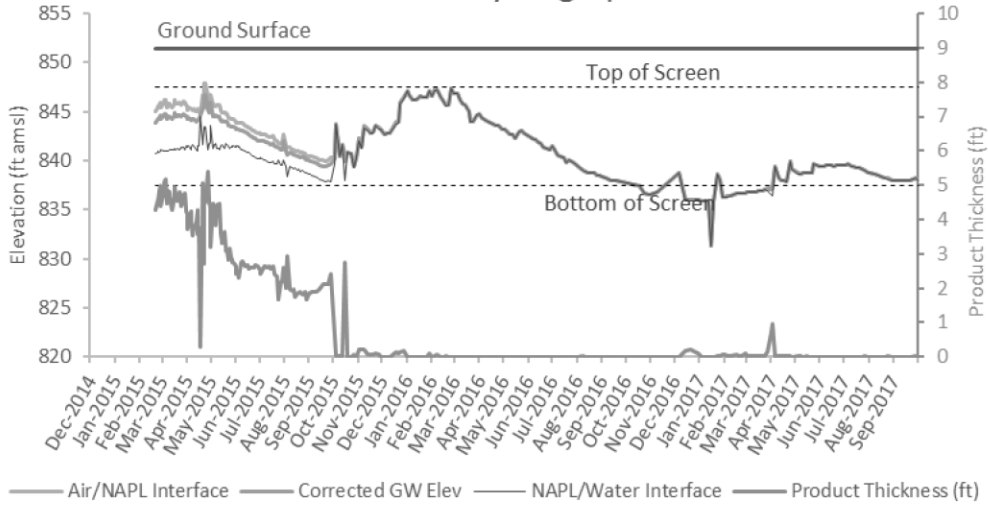
RW-10 Hydrograph



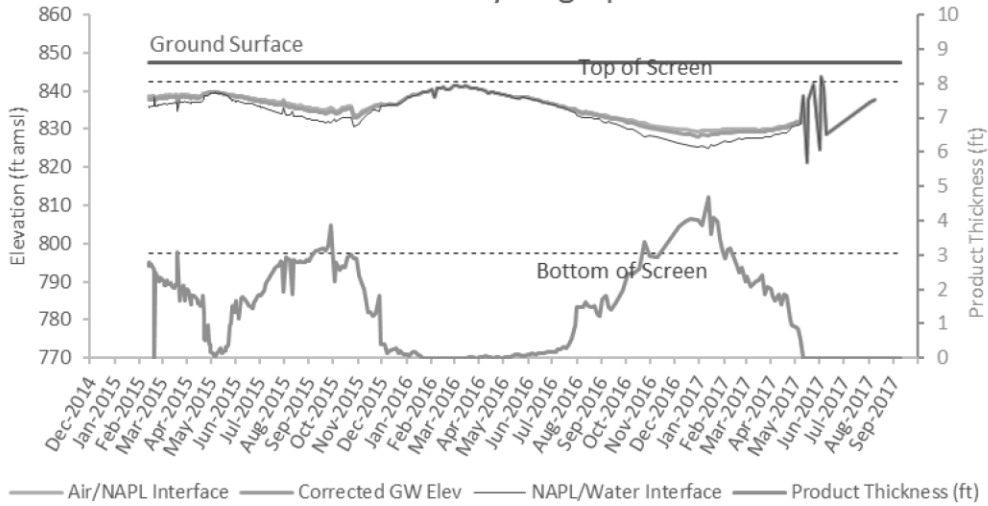
RW-11 Hydrograph



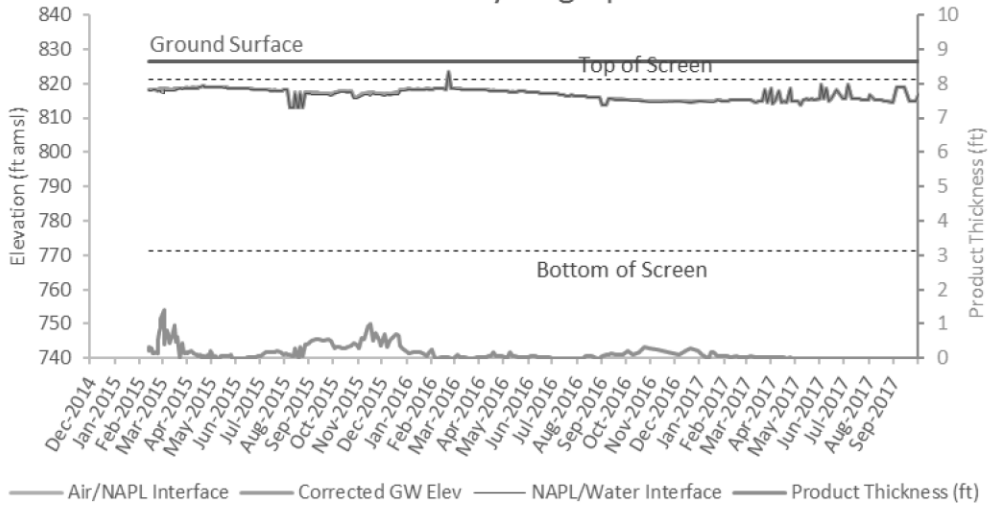
RW-12 Hydrograph



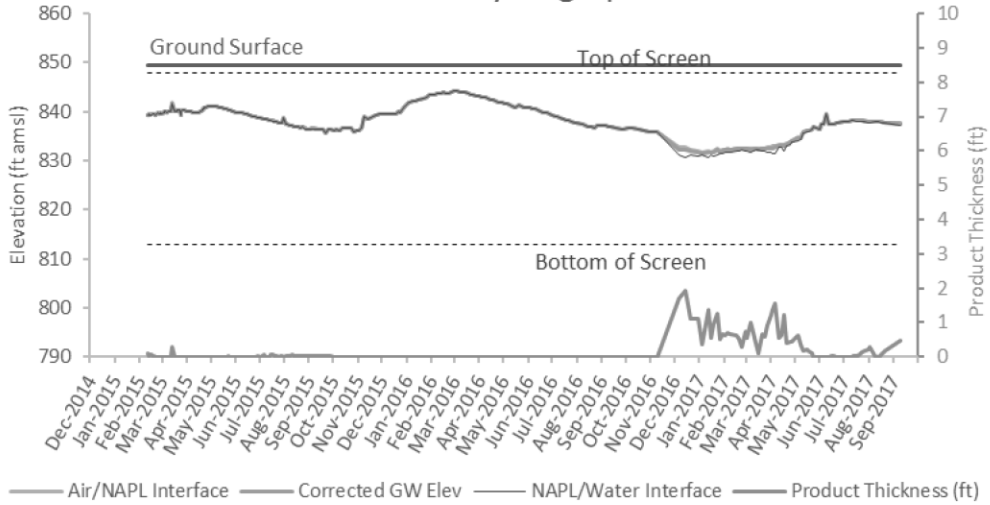
RW-13 Hydrograph



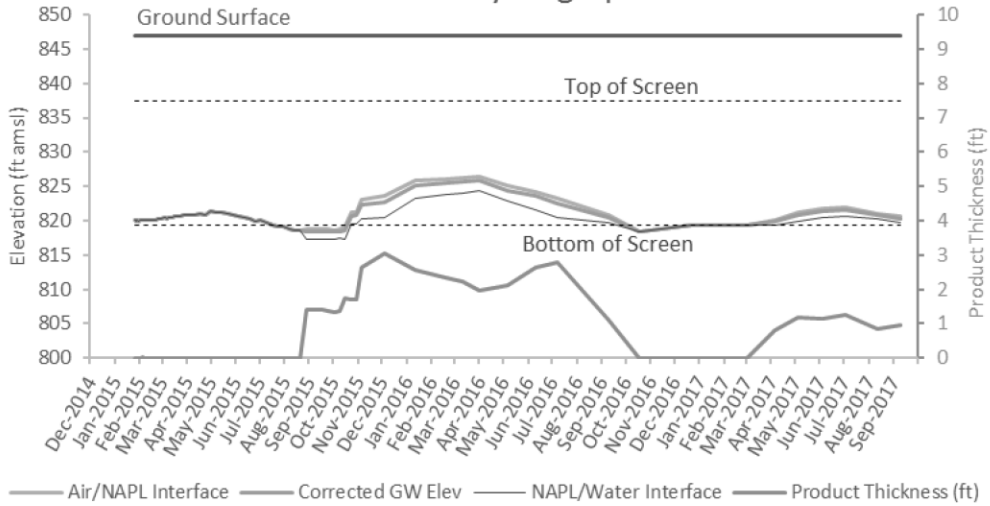
RW-14 Hydrograph



RW-15 Hydrograph



TW-42 Hydrograph



TW-45 Hydrograph

