# 3R – 444

# 2014 AGWMR

# 03 / 17 / 2015

188 County Road 4900
Bloomfield, NM 87413
(505) 632-4700
Fax (505) 632-4782

March 17, 2014

Glenn Von Gonten
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

**RE: Online Submission of 2014 Annual Groundwater Report (3R-444)**

Dear Mr. Von Gonten,

LT Environmental (LTE), Inc., on behalf of Williams Four Corners LLC (Williams), is electronically submitting the attached 2014 annual groundwater monitoring report covering the period from January 1, 2014 to December 31, 2014 for the Dogie Compressor Station J-Vent Condensate Release (3R-444).

If you have any questions regarding this report please contact Ashley Ager with LTE at 970-385-1096 or aager@ltenv.com or Kelsey Christiansen with Williams at Kelsey.Christiansen@williams.com.

Best Regards,

Kelsey Christiansen
Environmental Specialist

cc: Matt Webre, Supervisor Environmental Services

# 2014 ANNUAL GROUNDWATER REPORT

## DOGIE COMPRESSOR STATION J VENT CONDENSATE RELEASE

## ADMINISTRATIVE/ENVIRONMENTAL ORDER NUMBER 3R-444

**FEBRUARY 2015**

**Prepared for:**

**WILLIAMS FOUR CORNERS LLC**
**Bloomfield, New Mexico**

# 2014 ANNUAL GROUNDWATER REPORT

## DOGIE COMPRESSOR STATION J VENT CONDENSATE RELEASE

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**FEBRUARY 2015**

**Prepared for:**

**WILLIAMS FOUR CORNERS LLC**
**188 County Road 4900**
**Bloomfield, New Mexico 87413**

**Prepared by:**

**LT ENVIRONMENTAL, INC.**
**2243 Main Avenue, Suite 3**
**Durango, Colorado 81301**
**(970) 385-1096**

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## EXECUTIVE SUMMARY

LT Environmental Inc., (LTE) was retained by Williams Four Corners LLC (Williams) to apply BOS 200® to remediate impacted soil and groundwater and monitor groundwater quality for site closure at the former J Vent in the Dogie Compressor Station (Site). The New Mexico Oil Conservation Division (NMOCD) assigned Administrative/Environmental Order Number 3R-444 to the Site.

In 2011, Williams observed visible petroleum hydrocarbon staining on the ground surface during maintenance work to relocate and upgrade blowdown equipment at the Site. In September 2012, Williams excavated soil beneath the former J Vent until groundwater was encountered. A groundwater sample was collected from the groundwater seeping into the excavation and analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX). Concentrations of benzene, toluene, and total xylenes exceeded the New Mexico Water Quality Control Commission (NMWQCC) standards.

In September 2013, LTE applied a total of 1,000 pounds of BOS 200® to the bottom of the excavation prior to backfilling in accordance with the *Revised Work Plan for BOS 200® Amendment* dated April 23, 2013, and approved by NMOCD on May 31, 2013. The BOS 200® was mixed into the smear zone soil and groundwater in powder form using a trackhoe. Once the BOS 200® was applied, the excavation was backfilled with clean overburden stockpiled on site during the original excavation and additional clean fill material obtained from an offsite location. A groundwater sample was collected from within the excavation prior to the application of BOS 200® for analysis of BTEX, nitrate/nitrite as N, chloride, iron, sulfate, and total dissolved solids (TDS) to determine existing water quality characteristics.

In October 2013, LTE installed and surveyed four monitoring wells to monitor groundwater remediation and document groundwater quality for site closure. The monitoring wells were sampled in November 2013 and then quarterly in 2014.

During 2014, depth to groundwater data from the monitoring wells indicated the groundwater flow was consistently to the northwest. Concentrations of BTEX, nitrate/nitrite as N, and chloride in groundwater samples collected from the four monitoring wells were compliant with the NMWQCC standards every quarter. Iron, sulfate, and TDS concentrations exceeded the NMWQCC standards in all groundwater samples every quarter, including the upgradient monitoring well sample. Background groundwater quality for the Site was documented on December 17, 1997, with a groundwater sample from former monitoring well MW-1 and from the sample collected from the excavation just prior to the application of BOS 200® in September 2013. The background samples indicate iron, sulfate, and TDS naturally exceed the NMWQCC standards. Iron concentrations in groundwater samples fluctuated during 2014, increasing from May through August as compared to the concentrations detected in initial samples. However, concentrations decreased again in November. The fluctuations in iron concentration were observed in all monitoring wells, including the upgradient well, suggesting the changes are naturally occurring.

The addition of BOS 200® to impacted groundwater at the Site has decreased concentrations of BTEX in groundwater to below laboratory detection limits as documented by quarterly

groundwater sampling results. Concentrations of iron, sulfate, and TDS in groundwater are monitored to demonstrate consumption of electron acceptors as remediation progresses. These constituents exceed NMWQCC standards in groundwater samples, but are consistent with background concentrations and appear to be naturally occurring. Williams proposes to continue quarterly groundwater sampling at the Site until NMWQCC standards have been met for eight consecutive quarters.

# 1.0 INTRODUCTION

LT Environmental, Inc. (LTE), on behalf of Williams Four Corners LLC (Williams), has prepared this report detailing groundwater remediation and monitoring activities completed from January 2014 through December 2014 at the former J Vent in the Dogie Compressor Station (Site). The scope of work for this project includes quarterly monitoring of historical petroleum hydrocarbon impacts to groundwater resulting from the operation of a former blowdown stack.

## 1.1 LOCATION

The Site is located in the northwest quarter of the northwest quarter of Section 4, Township 25 North, and Range 6 West in Rio Arriba County, New Mexico, in Largo Canyon as depicted on Figure 1. Largo Wash, which drains into the San Juan River approximately 28 miles to the north, is approximately 900 feet north-northeast of the Site.

## 1.2 HISTORY

The former J Vent was periodically used to vent natural gas at the Site during emergency shutdown. In 2011, the venting equipment was updated and moved south approximately 75 feet. When the equipment was relocated, visible petroleum hydrocarbon staining was observed on the ground surface. Natural gas condensate is often a byproduct of the blowdown process and is the most likely source of the staining.

In September 2012, Williams excavated soil beneath the former J Vent to the extent mapped on Figure 2. The excavation was approximately 80 feet long and 60 feet wide. The total depth of the excavation ranged from 5 feet to 7 feet below ground surface (bgs). Confirmation soil samples were collected above the smear zone along the sidewalls of the excavation. Groundwater was encountered in the excavation at approximately 6 feet bgs and LTE collected a grab sample labeled GW-1 for analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX). Analytical results are included in Table 1 and indicated BTEX concentrations exceeded the New Mexico Water Quality Control Commission (NMWQCC) standards. Additional details of the excavation, including analytical results from confirmation soil samples, are included in the *Revised Work Plan for BOS 200® Amendment* (Appendix A). The *Revised Work Plan for BOS 200® Amendment* was approved by the NMOCD on May 31, 2013 (Appendix B).

In September 2013 prior to implementation of the work plan, LTE collected a subsequent grab sample, GW-1, of the groundwater within the excavation for analysis of BTEX, nitrate/nitrite as N, chloride, iron, sulfate, and TDS to determine pre-application water quality characteristics. LTE then applied a total of 1,000 pounds of BOS 200® to the base of the excavation prior to backfilling. LTE designed the application to reduce benzene concentrations from 630 micrograms per liter (µg/L) to less than 10 µg/L by applying approximately 20 pounds of BOS 200® to every 10-foot square area of the exposed smear zone using a trackhoe to mix the BOS 200® into soil and groundwater at the smear zone. Once the BOS 200® was applied, the excavation was backfilled with clean overburden stockpiled on site during the original excavation and additional clean fill material obtained from an offsite location. The backfilled excavation was graded to match the surrounding topography upon completion.

In October 2013, LTE installed four groundwater monitoring wells (MW-13, MW-14, MW-15, and MW-16) at the Site to assess groundwater remediation quarterly. During 2014, LTE continued quarterly groundwater sampling.

# 2.0 METHODOLOGY

During 2014, LTE conducted quarterly groundwater monitoring activities at the Site. The activities included measuring groundwater elevations and collecting groundwater samples at the four monitoring wells.

## 2.1 GROUNDWATER AND PRODUCT LEVEL MEASUREMENTS

Groundwater level monitoring included recording depth to groundwater measurements with a Keck oil/water interface probe. The interface probe was decontaminated with Alconox™ soap and rinsed with de-ionized water prior to each measurement. Groundwater elevation data are summarized in Table 2.

## 2.2 GROUNDWATER SAMPLING

Prior to sampling groundwater, depth to groundwater and total depth of monitoring wells were measured with a Keck oil/water interface probe. The volume of water in each monitoring well was calculated, and a minimum of three well casing volumes of water was purged from each well using a new disposable PVC bailer. As water was removed from the monitoring well, pH, electric conductivity, and temperature were monitored. Monitoring wells were purged until these properties stabilized, indicating the purge water was representative of aquifer conditions. Stabilization was defined as three consecutive stable readings for each water property: plus or minus (±)0.4 units for pH, ±10 percent for electric conductivity, and ±2 degrees Celsius (º C) for temperature. All purge water was disposed of in an on-site produced water tank. Copies of the groundwater sampling field notes are presented in Appendix C.

Once each monitoring well was properly purged, groundwater samples were collected by filling laboratory-supplied bottles. Samples were labeled with the date and time of collection, monitoring well designation, project name, collector's name, and parameters to be analyzed. They were immediately sealed and packed on ice. The samples were transferred to Hall Environmental Analysis Laboratory (HEAL) for analysis. Samples were stored on ice in a sealed cooler and maintained under strict chain-of-custody (COC) procedures. COC forms were completed documenting the date and time sampled, sample number, type of sample, sampler's name, preservative used (if any), analyses required, and sampler's signature. Samples were analyzed for BTEX by United States Environmental Protection Agency (EPA) Method 8021B; chloride, nitrate, and sulfate by EPA Method 300.0, iron by EPA Method 200.7, and TDS by Method SM2540C. Copies of the 2014 laboratory analytical reports are included in Appendix D.

## 2.3 GROUNDWATER CONTOUR MAPS

LTE used top-of-casing well elevations and groundwater elevations to draft groundwater contours and determine groundwater flow direction for the February, May, August, and November 2014 quarterly monitoring events (Figures 2 through 5). Contours were inferred based

on groundwater elevations obtained and observations of physical characteristics at the Site (topography, proximity to irrigation ditches, etc.).

## 3.0 RESULTS

Groundwater analytical results indicate concentrations of BTEX in groundwater samples collected after the BOS 200® application from monitoring wells MW-13, MW-14, MW-15, and MW-16 were below laboratory detection limits during 2014. Additionally, chloride and nitrate concentrations in MW-13, MW-14, MW-15, and MW-16 were compliant with the NMWQCC standards. Iron, sulfate, and TDS concentrations exceeded the NMWQCC standards in the groundwater samples for each quarterly sampling event including the upgradient samples. The sulfate and TDS concentrations are consistent with background concentrations represented by analytical results from a grab sample collected from the open excavation prior to the BOS 200® application on September 17, 2013, and a groundwater sample collected from former monitoring well MW-1 on September 17, 1997. Iron concentrations fluctuated during 2014, increasing from May through August as compared to the concentrations detected in initial samples. However, concentrations decreased again in November. The fluctuations in iron concentrations were observed in all monitoring wells, including the upgradient well. Table 1 summarizes the groundwater analytical results and copies of the laboratory reports are included in Appendix D.

Depth to groundwater data obtained during the 2014 quarterly monitoring events are summarized in Table 2. Groundwater flow direction was determined to be to the northwest as depicted on Figures 2 through 5.

## 4.0 CONCLUSIONS

The addition of BOS 200® to impacted groundwater at the Site has remediated BTEX concentrations. Sulfate, chloride, iron, nitrate, and TDS concentrations are monitored to demonstrate consumption of electron acceptors as remediation progresses. The groundwater analytical results indicate the BOS 200® has not affected these groundwater quality parameters, which remain consistent with naturally-occurring background conditions.

## 5.0 RECOMMENDATIONS

LTE recommends Williams continue quarterly groundwater sampling until NMWQCC standards have been meet for eight consecutive quarters as required in the NMOCD-approved work plan.

**FIGURES**

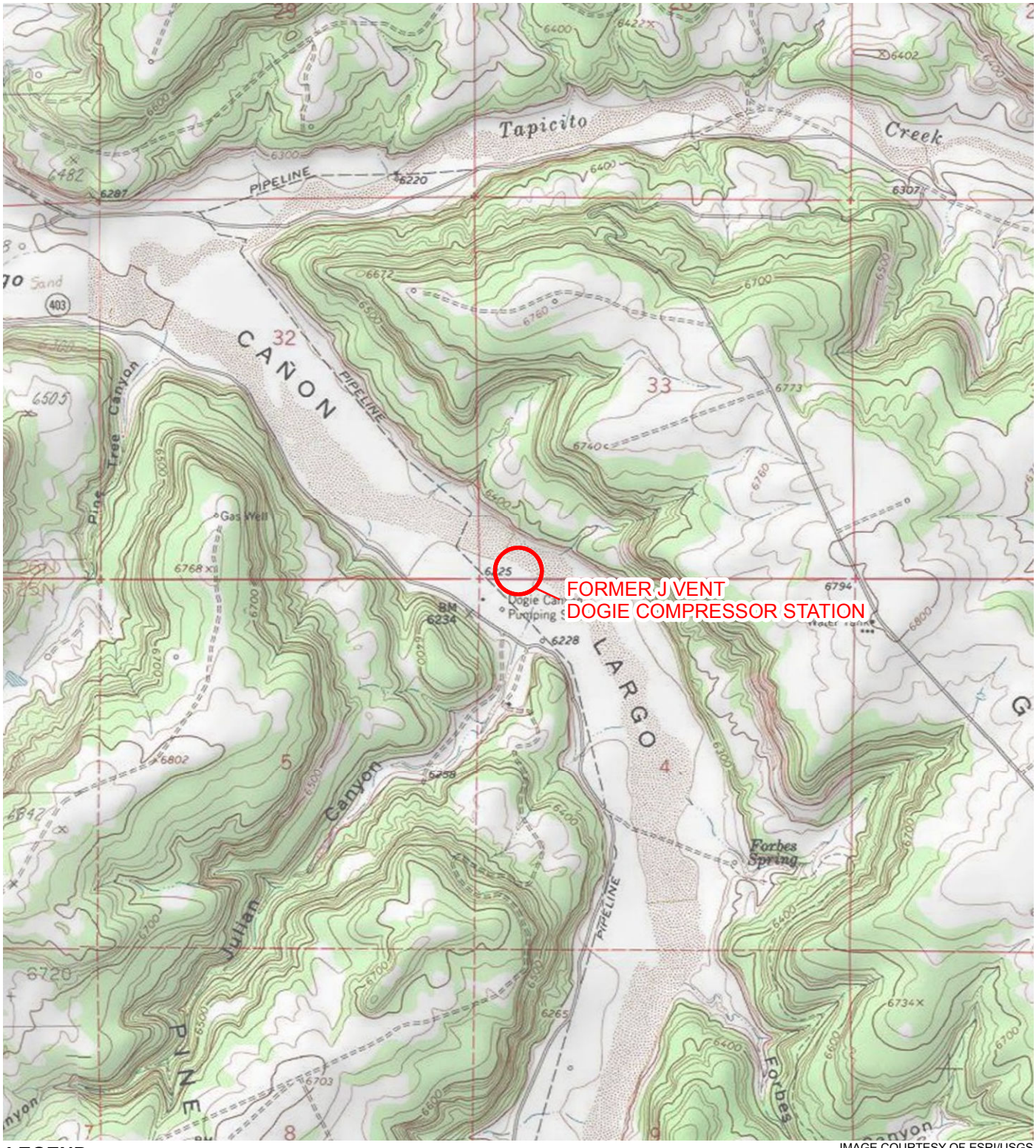


IMAGE COURTESY OF ESRI/USGS

**LEGEND**

SITE LOCATION

0 2,000 4,000

Feet

N

NEW MEXICO

FIGURE 1
SITE LOCATION MAP
FORMER J VENT
DOGIE COMPRESSOR STATION
RIO ARRIBA COUNTY, NEW MEXICO
**WILLIAMS FOUR CORNERS LLC**

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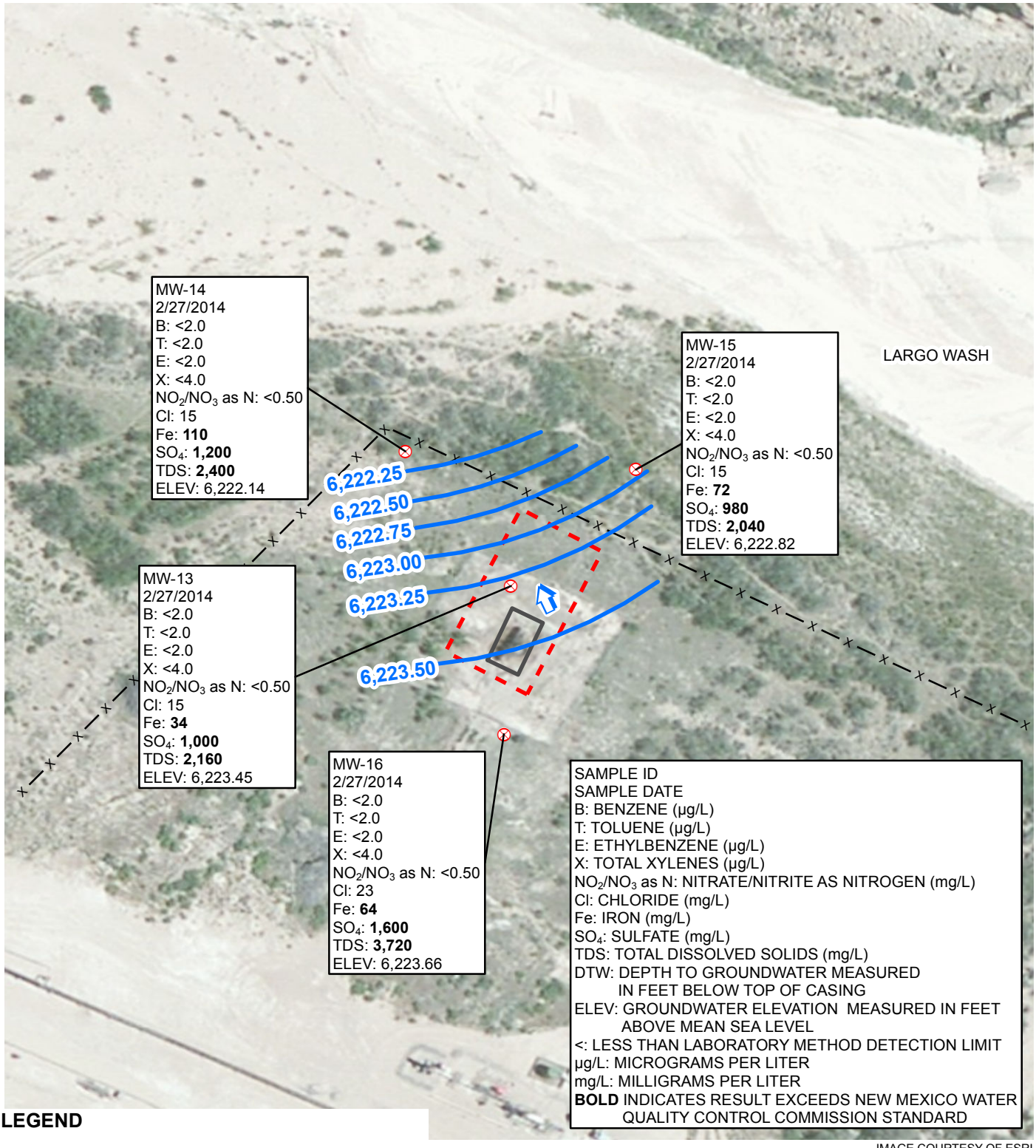



**LEGEND**

- MONITORING WELL
- ESTIMATED GROUNDWATER FLOW DIRECTION
- GROUNDWATER ELEVATION CONTOUR
  CONTOUR INTERVAL = 0.25 FEET
- FENCE
- EXCAVATION EXTENT
- FORMER J VENT

FIGURE 2
GROUNDWATER ELEVATION
& ANALYTICAL RESULTS (FEBRUARY 2014)
FORMER J VENT
DOGIE COMPRESSOR STATION
RIO ARRIBA COUNTY, NEW MEXICO
**WILLIAMS FOUR CORNERS LLC**

P:\Williams Four Corners\GIS\MXD\034015007_JVENT\034015007_J_VENT_FIG02_GWE_GWA_2014_Q1.mxd

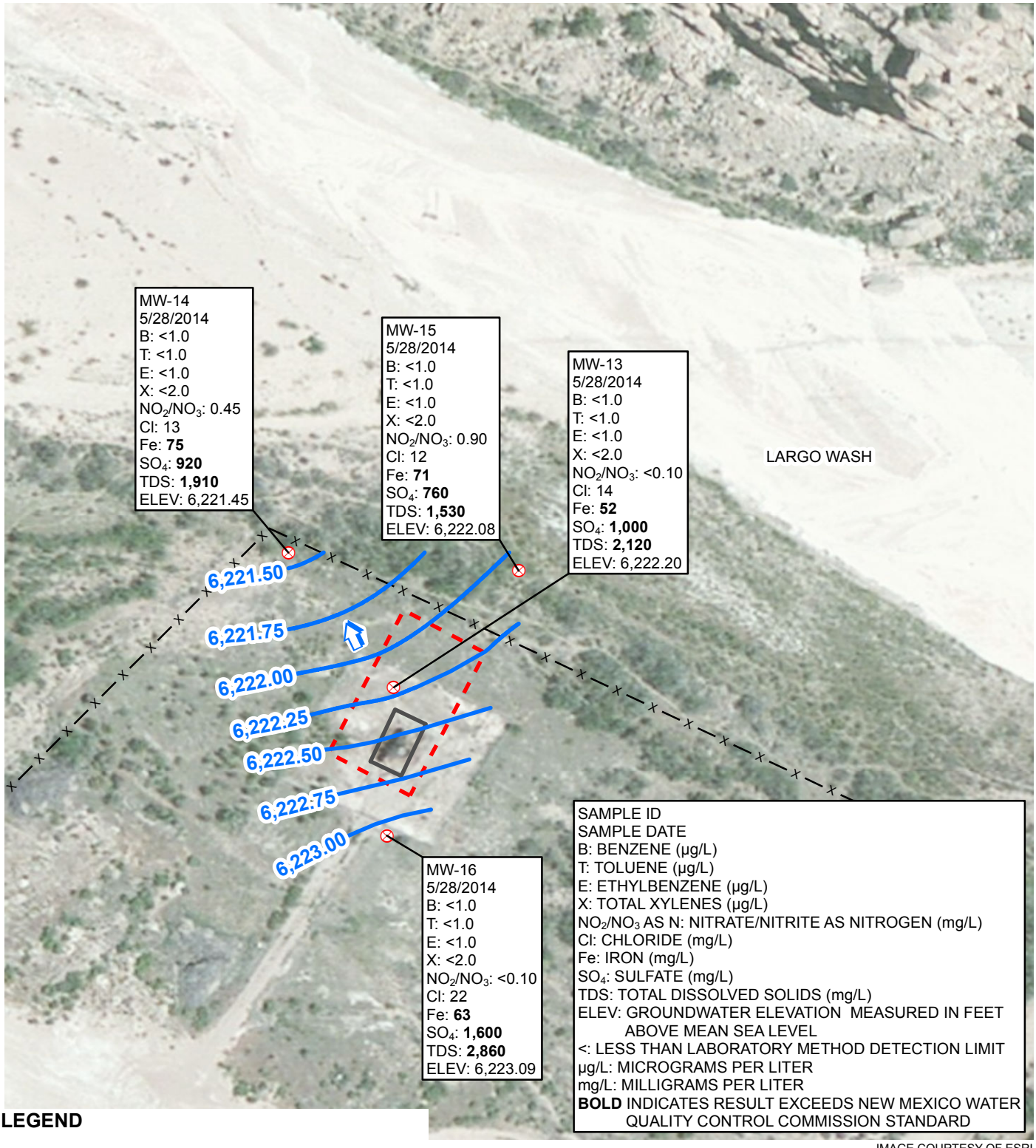



IMAGE COURTESY OF ESRI

**LEGEND**

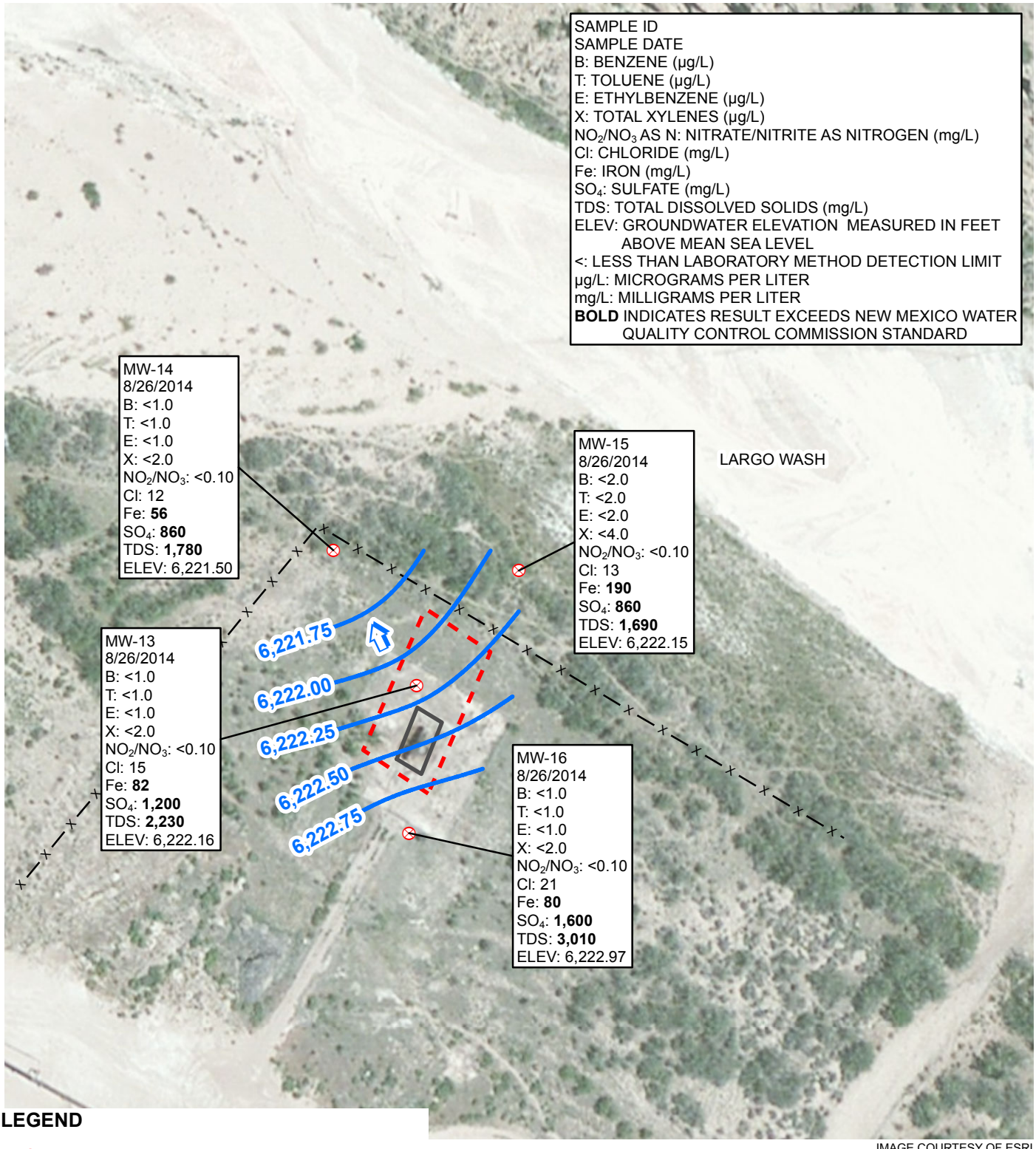
- MONITORING WELL
- ESTIMATED GROUNDWATER FLOW DIRECTION
- GROUNDWATER ELEVATION CONTOUR
  CONTOUR INTERVAL = 0.25 FEET
- FENCE
- EXCAVATION EXTENT
- FORMER J VENT

0 100 200
Feet

N

FIGURE 3
GROUNDWATER ELEVATION MAP
& ANALYTICAL RESULTS (MAY 2014)
FORMER J VENT
DOGIE COMPRESSOR STATION
RIO ARRIBA COUNTY, NEW MEXICO
**WILLIAMS FOUR CORNERS LLC**

P:\Williams Four Corners\GIS\MXD\034015007_JVENT\034015007_J_VENT_FIG03_GWE_GWA_2014_Q2.mxd




**LEGEND**

- MONITORING WELL
- ESTIMATED GROUNDWATER FLOW DIRECTION
- GROUNDWATER ELEVATION CONTOUR
  CONTOUR INTERVAL = 0.25 FEET
- FENCE
- EXCAVATION EXTENT
- FORMER J VENT

IMAGE COURTESY OF ESRI

0 100 200
Feet

N

FIGURE 4
GROUNDWATER ELEVATION & ANALYTICAL RESULTS (AUGUST 2014)
FORMER J VENT
DOGIE COMPRESSOR STATION
RIO ARRIBA COUNTY, NEW MEXICO
**WILLIAMS FOUR CORNERS LLC**

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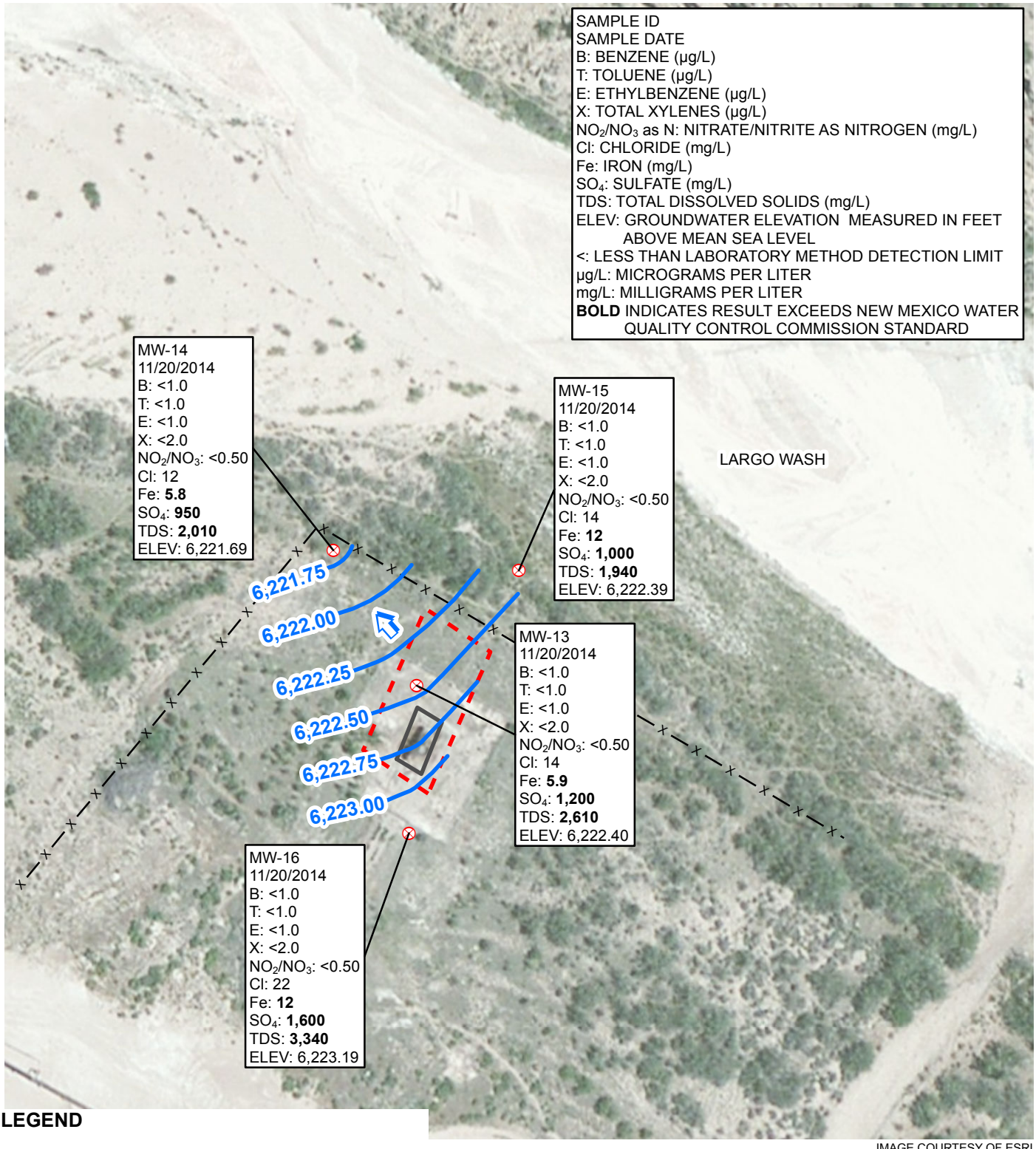


**LEGEND**

- MONITORING WELL
- ESTIMATED GROUNDWATER FLOW DIRECTION
- x — x FENCE
- GROUNDWATER ELEVATION CONTOUR
  CONTOUR INTERVAL = 0.25 FEET
- EXCAVATION EXTENT
- FORMER J VENT

IMAGE COURTESY OF ESRI

0 100 200
Feet

N

FIGURE 5
GROUNDWATER ELEVATION & ANALYTICAL RESULTS (NOVEMBER 2014)
FORMER J VENT
DOGIE COMPRESSOR STATION
RIO ARRIBA COUNTY, NEW MEXICO
**WILLIAMS FOUR CORNERS LLC**

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**TABLES**

**TABLE 1**

**GROUNDWATER ANALYTICAL RESULTS**
**FORMER J-VENT**
**WILLIAMS FOUR CORNERS LLC**

| Sample Identification | Sample Date | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Total Xylenes (µg/L) | Nitrate + Nitrite as N (mg/L) | Chloride (mg/L) | Iron (mg/L) | Sulfate (mg/L) | Total Dissolved Solids (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|
| NMWQCC Standard | NA | 10 | 750 | 750 | 620 | 10 | 250 | 1.0 | 600 | 1,000 |
| Background MW-1 | 9/17/1997 | <0.2 | <0.2 | <0.2 | <0.4 | NT | 13.6 | NT | **889** | **1,983** |
| | | | | | | | | | | |
| GW-1 | 9/17/2012 | **630** | **2,800** | 190 | **2,000** | NT | NT | NT | NT | NT |
| GW-1 | 9/17/2013 | <1.0 | <1.0 | <1.0 | <2.0 | <0.50 | 34 | **4.9** | **2,200** | **4,120** |
| | | | | | | | | | | |
| MW-13 | 11/4/2013 | <1.0 | <1.0 | <1.0 | <2.0 | <0.50 | 17 | **12** | **1,200** | **2,440** |
| MW-13 | 2/27/2014 | <2.0 | <2.0 | <2.0 | <4.0 | <0.50 | 15 | **34** | **1,000** | **2,160** |
| MW-13 | 5/28/2014 | <1.0 | <1.0 | <1.0 | <2.0 | <0.10 | 14 | **52** | **1,000** | **2,120** |
| MW-13 | 8/26/2014 | <1.0 | <1.0 | <1.0 | <2.0 | <0.10 | 15 | **82** | **1,200** | **2,230** |
| MW-13 | 11/20/2014 | <1.0 | <1.0 | <1.0 | <2.0 | <0.50 | 14 | **5.9** | **1,200** | **2,610** |
| | | | | | | | | | | |
| MW-14 | 11/4/2013 | <1.0 | <1.0 | <1.0 | <2.0 | <1.0 | 13 | **4.6** | **1,000** | **2,290** |
| MW-14 | 2/27/2014 | <2.0 | <2.0 | <2.0 | <4.0 | <0.50 | 15 | **110** | **1,200** | **2,400** |
| MW-14 | 5/28/2014 | <1.0 | <1.0 | <1.0 | <2.0 | 0.45 | 13 | **75** | **920** | **1,910** |
| MW-14 | 8/26/2014 | <1.0 | <1.0 | <1.0 | <2.0 | <0.10 | 12 | **56** | **860** | **1,780** |
| MW-14 | 11/20/2014 | <1.0 | <1.0 | <1.0 | <2.0 | <0.50 | 12 | **5.8** | **950** | **2,010** |
| | | | | | | | | | | |
| MW-15 | 11/4/2013 | <1.0 | <1.0 | <1.0 | <2.0 | <0.50 | 13 | **3.6** | **930** | **1,960** |
| MW-15 | 2/27/2014 | <2.0 | <2.0 | <2.0 | <4.0 | <0.50 | 15 | **72** | **980** | **2,040** |
| MW-15 | 5/28/2014 | <1.0 | <1.0 | <1.0 | <2.0 | 0.90 | 12 | **71** | **760** | **1,530** |
| MW-15 | 8/26/2014 | <2.0 | <2.0 | <2.0 | <4.0 | <0.10 | 13 | **190** | **860** | **1,690** |
| MW-15 | 11/20/2014 | <1.0 | <1.0 | <1.0 | <2.0 | <0.50 | 14 | **12** | **1,000** | **1,940** |
| | | | | | | | | | | |
| MW-16 | 11/4/2013 | <1.0 | <1.0 | <1.0 | <2.0 | <0.50 | 26 | **14** | **1,700** | **3,600** |
| MW-16 | 2/27/2014 | <2.0 | <2.0 | <2.0 | <4.0 | <0.50 | 23 | **64** | **1,600** | **3,720** |
| MW-16 | 5/28/2014 | <1.0 | <1.0 | <1.0 | <2.0 | <0.10 | 22 | **63** | **1,600** | **2,860** |
| MW-16 | 8/26/2014 | <1.0 | <1.0 | <1.0 | <2.0 | <0.10 | 21 | **80** | **1,600** | **3,010** |
| MW-16 | 11/20/2014 | <1.0 | <1.0 | <1.0 | <2.0 | <0.50 | 22 | **12** | **1,600** | **3,340** |

**Notes:**
**Bold -** indicates sample exceeds NMWQCC standard
mg/L - milligrams per liter
NA - not applicable
NMWQCC - New Mexico Water Quality Control Commission
NT - not tested
µg/L - micrograms per liter
< - indicates result is less than the stated laboratory method detection limit

**TABLE 2**

**GROUNDWATER ELEVATION SUMMARY**
**FORMER J VENT**
**WILLIAMS FOUR CORNERS LLC**

| Well Number | Date | Top of Casing Elevation (feet) | Depth to Groundwater (feet BTOC) | Adjusted Groundwater Elevation (feet AMSL) |
|---|---|---|---|---|
| MW-13 | 11/4/2013 | 6,229.48 | 7.14 | 6,222.34 |
| MW-13 | 2/27/2014 | 6,229.48 | 6.03 | 6,223.45 |
| MW-13 | 5/28/2014 | 6,229.48 | 7.28 | 6,222.20 |
| MW-13 | 8/26/2014 | 6,229.48 | 7.32 | 6,222.16 |
| MW-13 | 11/20/2014 | 6,229.48 | 7.08 | 6,222.40 |
| | | | | |
| MW-14 | 11/4/2013 | 6,228.00 | 6.37 | 6,221.63 |
| MW-14 | 2/27/2014 | 6,228.00 | 5.86 | 6,222.14 |
| MW-14 | 5/28/2014 | 6,228.00 | 6.55 | 6,221.45 |
| MW-14 | 8/26/2014 | 6,228.00 | 6.50 | 6,221.50 |
| MW-14 | 11/20/2014 | 6,228.00 | 6.31 | 6,221.69 |
| | | | | |
| MW-15 | 11/4/2013 | 6,228.81 | 6.50 | 6,222.31 |
| MW-15 | 2/27/2014 | 6,228.81 | 5.99 | 6,222.82 |
| MW-15 | 5/28/2014 | 6,228.81 | 6.73 | 6,222.08 |
| MW-15 | 8/26/2014 | 6,228.81 | 6.66 | 6,222.15 |
| MW-15 | 11/20/2014 | 6,228.81 | 6.42 | 6,222.39 |
| | | | | |
| MW-16 | 11/4/2013 | 6,229.15 | 6.00 | 6,223.15 |
| MW-16 | 2/27/2014 | 6,229.15 | 5.49 | 6,223.66 |
| MW-16 | 5/28/2014 | 6,229.15 | 6.06 | 6,223.09 |
| MW-16 | 8/26/2014 | 6,229.15 | 6.18 | 6,222.97 |
| MW-16 | 11/20/2014 | 6,229.15 | 5.96 | 6,223.19 |

**Notes:**
AMSL - Above Mean Sea Level
BTOC - Below Top of Casing

**APPENDIX A**

**REVISED WORK PLAN FOR BOS 200® AMENDMENT**

COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental Inc.

2243 Main Avenue, Suite 3
Durango, Colorado 81301
T 970.385.1096 / F 970.385.1873

April 23, 2013

Mr. Matt Webre
Williams Four Corners, LLC
188 County Road 4900
Bloomfield, NM 87413

**RE: Revised Work Plan for BOS 200® Amendment**
**Williams Four Corners, LLC**
**Dogie Compressor Station**
**Rio Arriba County, New Mexico**

Dear Mr. Webre:

LT Environmental, Inc. (LTE) is providing the following work plan to Williams Four Corners, LLC (Williams) to apply BOS 200® to an open excavation at the former J Vent at the Dogie Compressor Station (Site) to address historical petroleum hydrocarbon impacts to groundwater. The BOS 200® application and subsequent groundwater monitoring is proposed as a groundwater remediation program since a majority of the impacted soil has been removed and groundwater infiltration is impeding additional excavation progress. The following work plan provides details of the proposed remediation for which Williams is requesting temporary permission for a discharge for a period not to exceed 120 days from the New Mexico Oil Conservation Division (NMOCD) under 20.6.2.3106B of the New Mexico Administrative Code (NMAC).

## Site Description and Background

The Site is located in the northwest quarter of the northwest quarter of Section 4, Township 25N, and Range 6W in Rio Arriba County, New Mexico in Largo Canyon as depicted in Figure 1. The former J Vent was periodically used to vent natural gas at the Site during emergency shutdown. In 2011, the venting equipment was updated and moved to the south approximately 75 feet. Petroleum hydrocarbon staining was visible at the location of the former J Vent, most likely the source of natural gas condensate, which is often a byproduct of the blow down process.

Williams excavated soil beneath the former J Vent to the extent shown on Figure 2. The excavation is approximately 80 feet long and 60 feet wide. The total depth of the excavation ranges from 5 feet to 7 feet below ground surface (bgs). Confirmation soil samples were collected above the smear zone along the sidewalls of the excavation by depositing five aliquots of soil into plastic bags, thoroughly mixing the contents and sampling into four ounce glass jars. Soil samples were stored on ice and delivered to Hall Environmental Analysis Laboratory (HEAL) in Albuquerque, New Mexico following strict chain-of-custody procedures. The soil samples were analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX) by United States Environmental Protection Agency (USEPA) Method 8021B and total petroleum hydrocarbons (TPH) by USEPA Method 8015B. Laboratory analytical results are listed in

Table 1 and indicate soil samples did not exceed NMOCD standards. The complete laboratory analytical report is included in Attachment A.

Groundwater was encountered in the excavation at approximately 6 feet bgs. No sheen or odor was observed on the pooling groundwater. Groundwater was sampled by collecting a grab sample identified as GW-1 on September 17, 2012 from the location presented in Figure 2 in a decontaminated glass jar and immediately filling three pre-cleaned and pre-preserved 40-milliliter (ml) glass vials with zero headspace to prevent degradation of the sample. The groundwater sample was delivered on ice to HEAL and analyzed for BTEX according to USEPA Method 8021B. Table 2 includes the laboratory analytical results and indicates benzene, toluene, and total xylenes concentrations exceeded New Mexico Water Quality Control Commission (NMWQCC) standards. The complete laboratory analytical report is included in Attachment A.

**Proposed Work Plan**

To address the remaining impacted soil present on the bottom of the excavation and impacted groundwater, LTE proposes to apply an amendment in a single application for no more than 120 days to the excavation floor to enhance bioremediation of the smear zone, then backfill and monitor groundwater quality to document remediation progress and final closure. The BOS 200® product is a mix of activated carbon, petroleum-consuming microbes, calcium sulfate (gypsum), and nutrients. A material safety data sheet is included in Attachment B. The product removes hydrocarbons from the groundwater and saturated sediments through biological degradation of the hydrocarbon compounds. The product is applied directly to the smear zone during backfilling and the activated carbon attracts the hydrocarbons and adsorbs them where the hydrocarbons are co-located with microbes, nutrients, and electron acceptors. As the hydrocarbons are adsorbed into the activated carbon, microbes will use the hydrocarbons as a food source for respiratory and metabolic processes.

The following sections provide detailed information for a discharge as required by 20.6.2.3106C NMAC. It is important to note that the proposed addition of BOS 200® to the groundwater exposed by the open excavation is not designed as a slurry injection, but rather addition of the powder form of BOS 200® directly to the smear zone.

**20.6.2.3106C (1)**

LTE will apply a total of 1,000 pounds of BOS 200® to the base of the excavation prior to backfilling. The BOS 200® will be mixed into the smear zone soil and groundwater in powder form using a trackhoe. Once the BOS 200® has been applied, the excavation will be backfilled with clean overburden stockpiled onsite during the original excavation and additional clean fill material obtained from an offsite location. The backfilled excavation will be graded to match the surrounding topography upon completion.

In evaluating the Site, LTE has designed the application to reduce benzene concentrations from 630 micrograms per liter (µg/l) to less than 10 µg/l by applying approximately 20 pounds of BOS 200® to each 10-foot square area of the exposed smear zone.

BOS 200® is a mixture of approximately 80 percent (%) powdered or granulated activated carbon which is combined with a blend of sulfate reduction material and micronutrients at the factory. The selected nutrients include phosphorus (calcium phosphate), nitrogen (ammonium nitrate), and potassium (potassium chloride). Additional electron acceptors include iron, nitrate, and a time-release source of sulfate. The source of the time-release sulfate is gypsum or calcium sulfate.

When the BOS 200® is applied to the groundwater, the resulting mixture will have elevated concentrations of nitrate, sulfate, and chloride, but the effects will be minimal and temporary. At first, microbes will utilize oxygen during aerobic degradation. When oxygen is depleted, nitrate is the next highest energy electron acceptor. The first step in the de-nitrification is the formation of nitrite. Over the first month or two (post application), nitrate concentrations typically drop and low levels of nitrite are often observed. Finally, fermentation, sulfate reduction, and methanogenic respiration become the dominant pathways.

Metabolic by-products of the application will vary depending on what metabolic pathway is being used for hydrocarbon degradation. Carbon dioxide and water are the ultimate products of aerobic and most anaerobic biodegradations of hydrocarbons. The intermediate products of aerobic degradation may include simple acids, alcohols, and fatty acids. Acetate is produced by aerobic conditions, anaerobic fermentation, and methanogenic respiration. Other products include lactate, formate, butyrate, isobutyrate, pyruvate, and proprionate, along with methane.

Remediation Products, Inc. (RPI), the manufacturer of BOS 200®, used the following site-specific characteristics and design criteria of the application to estimate the concentrations of ingredients of concern for this application:

- The excavation area is approximately 4,800 square feet
- The open excavation contains approximately 1 foot of standing groundwater
- The default porosity value of the silty sand is 0.3
- LTE will apply 1,000 pounds of product.

Based on these assumptions and the composition of BOS 200®, RPI estimated concentrations of ingredients of concern as shown on Table 3. The remaining ingredients are activated carbon, calcium from the gypsum, and a proprietary blend of microbes.

LTE compared the ingredients of BOS 200® and associated by-products of the remediation process to the list of constituents identified in Subsections A and B of 20.6.2.3103 NMAC. The only constituents that are included in BOS 200® are nitrate, sulfate, chloride, and iron. These concentrations do not exceed NMWQCC standards (Table 4). Additionally, there are not enough water-soluble salts in BOS 200® given the parameters of this application to exceed 1,000 ppm total dissolved solids (TDS).

Once added to the groundwater, the BOS 200® application will migrate downgradient as part of normal groundwater flow behavior. However, the ingredients of concern will not exceed

NMWQCC standards. Additionally, the BOS 200® application will help prevent migration of petroleum hydrocarbon impacts by remediating the source.

**20.6.2.3106C (2)**

Groundwater monitoring wells were installed previously to address impacted groundwater unrelated to the J-Vent. Currently there are six existing monitoring wells (MW-3, MW-9, MW-10, MW-11, MW-12, and TMW-1) at the Site. These monitoring wells were installed north, east, and west of the J-Vent as part of the Dogie North Pit groundwater remediation (NMOCD Administrative/Environmental Order 3RP-313). Monitoring of these wells is no longer performed. Depth to groundwater is approximately 6 feet bgs and groundwater flow direction is toward the northwest based on previous groundwater monitoring events. Groundwater quality was analyzed from a sample collected on December 17, 1997 from monitoring well MW-1, which appears to have not been impacted from releases associated with operations at the Site. The approximate location of former MW-1 is depicted on Figure 2. The laboratory analytical results are included on Table 4 as background water quality data and indicate the sulfate concentration is 889 milligrams per liter (mg/l) and total dissolved solids (TDS) are 1,983 mg/l. The background concentrations indicate that sulfate and TDS naturally exceed the NMWQCC standards of 600 mg/l and 1,000 mg/l, respectively.

It should be noted that sulfate concentrations already exceed the NMWQCC standard at the Site. The addition of sulfate through the BOS 200® application may not increase sulfate concentrations above existing concentrations. Chloride was detected in former monitoring well MW-1 at a concentration of 13.6 mg/l; therefore, an additional 1.15 parts per million (ppm) from the BOS 200® application will not cause the chloride concentration to exceed the NMWQCC standard of 250 mg/l. Nitrate and iron concentrations were not analyzed in the groundwater sample from MW-1; however, the concentrations estimated to be added through the BOS 200® application (6.6 mg/l and 0.4 mg/l respectively) do not exceed the NMWQCC standards of 10 mg/l for nitrate and 1 mg/l for iron.

**20.6.2.3106C (4)**

The Site is located within the Largo Canyon floodplain. Excessive precipitation, such as a 100-year flood event could result in flooding of the Site.

**20.6.2.3106C (5)**

Following the BOS 200® application and backfilling, LTE proposes to install four groundwater monitoring wells to monitor groundwater quality (Figure 3). The monitoring wells will be constructed of schedule 40, two-inch diameter polyvinyl-chloride (PVC) and will include 15 feet of 0.01-inch machine slotted flush-threaded PVC well screen. At least ten feet of screen will be set beneath the water table and approximately three feet above to allow for seasonal fluctuations and a proper seal during well construction. A clean 10-20 grade silica sand gravel pack will be placed from the bottom of the boring to two feet above the top of the screen. One foot of 3/8-inch natural bentonite chips will be set above the gravel pack to the surface and completed with a

locking protective steel casing. Wells located within or near vehicle right-of-ways will be surrounded by three protective posts to prevent vehicle impact to the well. The new wells will be surveyed after construction. Top-of-casing elevations will be determined to an accuracy of no less than plus or minus 0.01 feet so that groundwater flow direction and gradient can be determined.

Following installation of monitoring wells, each new well will be developed utilizing a clean, disposable PVC bailer. LTE will purge fluid until the pH, specific conductivity and temperature is stabilized and turbidity is reduced to the greatest extent possible. All purge water will be collected and properly disposed of in accordance with applicable regulations.

Post-excavation groundwater monitoring will be conducted quarterly with the goal of observing eight consecutive quarters with analytical results in compliance with NMWQCC standards. Results will be presented in subsequent monitoring reports. Depth to water and total depth of the wells will be measured with a Keck oil-water interface probe. The interface probe will be decontaminated with Aloconox™ soap and rinsed with de-ionized water prior to each measurement. A minimum of three casing volumes will be removed from each well while pH, specific conductivity and temperature are monitored for stabilization. Once these parameters stabilize, the wells will be sampled by filling three pre-cleaned and pre-preserved 40 milliliter (ml) glass vials with zero headspace. The groundwater samples will be shipped on ice to a laboratory and analyzed for BTEX according to USEPA Method 8021B. Additionally, sulfate, chloride, iron, nitrate, and TDS will be analyzed to monitor concentrations in groundwater and demonstrate eventual consumption of the electron acceptors. Strict chain-of-custody procedures will be followed during transport of the samples to the laboratory. Groundwater will be monitored quarterly until eight consecutive quarters show results that are below NMWQCC standards.

Although metabolic by-products are likely to occur, acetate, lactate, formate, butyrate, isobutyrate, pyruvate, and methane are not regulated by NMWQCC and will not be monitored. Concentrations are not expected to be significantly elevated.

Quarterly groundwater monitoring will be documented and submitted in annual reports to the NMOCD. Reports will include groundwater elevations, relevant figures including site location and potentiometric surface maps, and analytical results. The initial annual report will include soil boring and monitoring well completion logs as well as cross sections.

**20.6.2.3106C (6)**

Shallow groundwater occurs at approximately 6 feet bgs. Depth to bedrock is unknown.

**20.6.2.3106C (7)**

See Sections 20.6.2.3106C (1), 20.6.2.3106C (3), and 20.6.2.3106C (5).

**20.6.2.3106C (8)**

No injection wells are being installed.

If you have any questions or comments regarding the scope of work, please do not hesitate to contact me at (970) 385-1096 or via email at aager@ltenv.com. You may also contact Matt Webre at (505) 632-4442 or at matt.webre@williams.com.

Sincerely,

LT ENVIRONMENTAL, INC.

Ashley L. Ager, M.S.
Senior Geologist

Attachments (9)

Figure 1 – Site Location Map
Figure 2 – Site Map
Figure 3 – Proposed Monitoring Well Locations

Table 1 – Soil Analytical Results
Table 2 – Groundwater Analytical Results
Table 3 – Concentrations of Ionic Ingredients of BOS 200® Amendment When Applied at the Site
Table 4 – Composition of BOS 200® Amendment Compared to NMWQCC Standards and Background Water Quality

Attachment A – Laboratory Analytical Reports

Attachment B - BOS 200® Material Safety Data Sheet

**FIGURES**

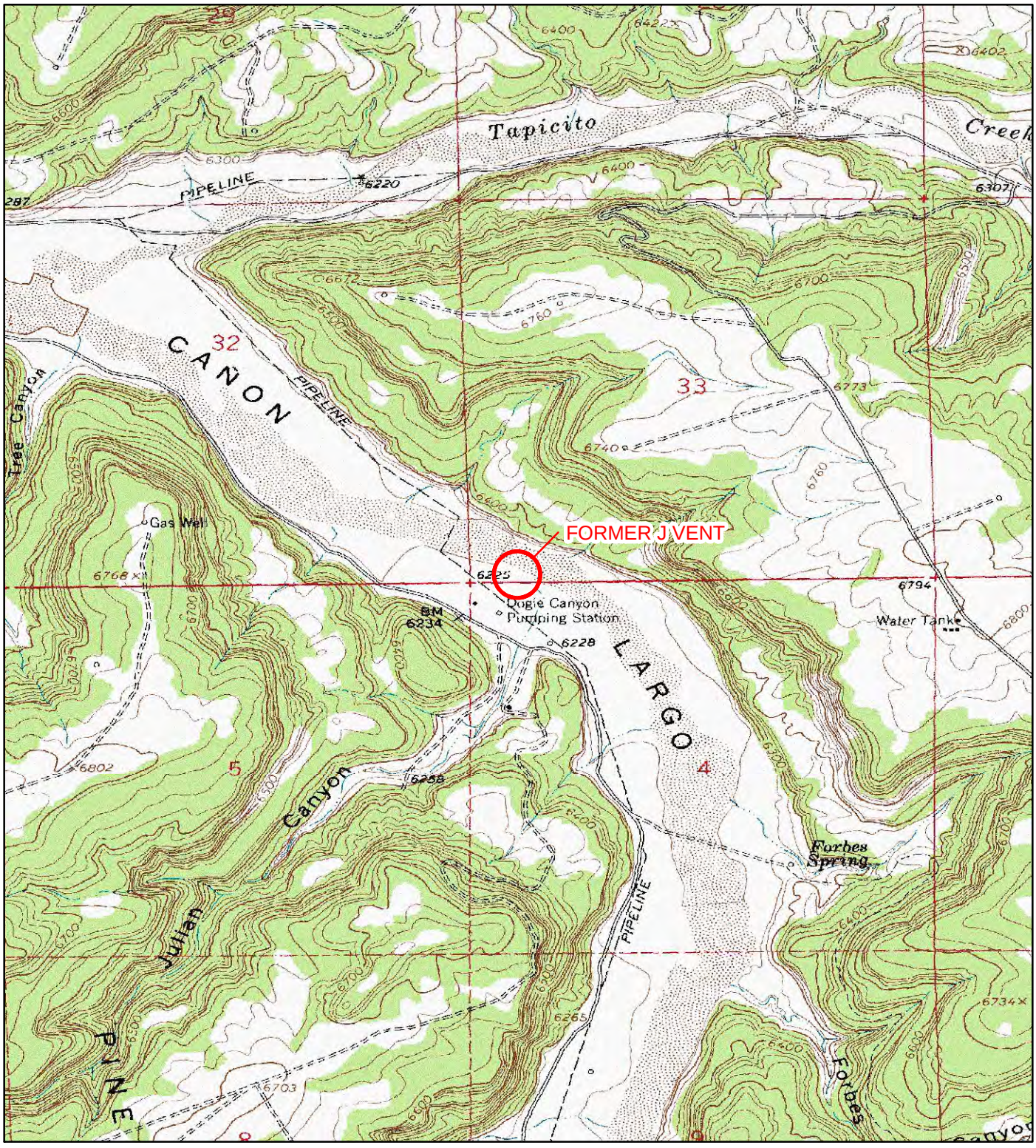


IMAGE COURTESY OF USDA/NRCS, VARIOUS DATES

**LEGEND**

SITE LOCATION

0 2,000 4,000

Feet

N

FIGURE 1
SITE LOCATION MAP
FORMER J VENT
DOGIE COMPRESSOR STATION
RIO ARRIBA COUNTY, NEW MEXICO
**WILLIAMS FOUR CORNERS, LLC**

P:\Williams Four Corners\GIS\MXD\034012001_DOGIE\034012002_DOGIE_FIG01_SL_MAP.mxd


IMAGE COURTESY OF ESRI/BING MAPS

**LEGEND**

- FORMER MONITORING WELL
- EXISTING MONITORING WELL
- GRAB SAMPLE FROM EXCAVATION
- FENCE
- FORMER J VENT
- EXCAVATION EXTENT

0 100 200
Feet

N

FIGURE 2
SITE MAP
FORMER J VENT
DOGIE COMPRESSOR STATION
RIO ARRIBA COUNTY, NEW MEXICO
**WILLIAMS FOUR CORNERS, LLC**

P:\Williams Four Corners\GIS\MXD\034012001_DOGIE\034012002_DOGIE_FIG02_SITE_MAP.mxd


IMAGE COURTESY OF ESRI/BING MAPS

**LEGEND**

- PROPOSED MONITORING WELL
- FENCE
- FORMER J VENT
- EXCAVATION EXTENT

0 100 200

Feet

N

FIGURE 3
PROPOSED MONITORING WELLS
FORMER J VENT
DOGIE COMPRESSOR STATION
RIO ARRIBA COUNTY, NEW MEXICO
**WILLIAMS FOUR CORNERS, LLC**

P:\Williams Four Corners\GIS\MXD\034012001_DOGIE\034012002_DOGIE_FIG03_PROP_MW.mxd

# TABLES

**TABLE 1**

**EXCAVATION SOIL ANALYTICAL RESULTS**
**FORMER J-VENT**
**WILLIAMS FOUR CORNERS, LLC**

| Sample ID | Date Sampled | Benzene (mg/kg) | Toluene (mg/kg) | Ethylbenzene (mg/kg) | Total Xylenes (mg/kg) | Total BTEX (mg/kg) | GRO (mg/kg) | DRO (mg/kg) | MRO (mg/kg) | TPH (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| North Wall | 9/17/2012 | < 0.050 | < 0.050 | < 0.050 | < 0.10 | 0 - < 0.25 | < 5.0 | < 9.6 | < 48 | 0 - < 62.6 |
| South Wall | 9/17/2012 | < 0.050 | < 0.050 | < 0.050 | < 0.10 | 0 - < 0.25 | < 5.0 | < 9.9 | < 50 | 0 - < 64.9 |
| East Wall | 9/17/2012 | < 0.050 | < 0.050 | < 0.050 | < 0.10 | 0 - < 0.25 | < 5.0 | < 9.7 | < 49 | 0 - < 63.7 |
| West Wall | 9/17/2012 | < 0.050 | < 0.050 | < 0.050 | < 0.10 | 0 - < 0.25 | < 5.0 | < 10.0 | < 50 | 0 - < 65.0 |
| **NMOCD Standard** | | **10** | | | | **50** | | | | **100** |

**Notes:**
BTEX - benzene, toluene, ethylbenzene, and total xylenes
DRO - diesel range organics
GRO - gasoline range organics
mg/kg - milligrams per kilogram
MRO - motor oil range organics
NMOCD - New Mexico Oil Conservation Commission
TPH - total petroleum hydrocarbons
< - indicates result is less than the stated laboratory method detection limit

**TABLE 2**

**EXCAVATION GROUNDWATER ANALYTICAL RESULTS**
**FORMER J-VENT**
**WILLIAMS FOUR CORNERS, LLC**

| Sample ID | Date Sampled | Benzene (µg/l ) | Toluene (µg/l ) | Ethylbenzene (µg/l ) | Total Xylenes (µg/l ) |
|---|---|---|---|---|---|
| GW-1 | 9/17/2012 | **630** | **2,800** | 190 | **2,000** |
| **NMWQCC Standard** | | **10** | **750** | **750** | **620** |

**Notes:**

NMWQCC - New Mexico Water Quality Control Commission

µg/l - micrograms per liter

< - indicates result is less than the stated laboratory method detection limit

**Bold -** indicates sample exceeds NMWQCC standard

**TABLE 3**

**ESTIMATED SITE-SPECIFIC CONCENTRATIONS OF BOS 200® INGREDIENTS**
**FORMER J-VENT**
**WILLIAMS FOUR CORNERS, LLC**

| Constituent | BOS 200® Application (ppm) |
|---|---|
| Nitrate:Nitrogen | 6.6 |
| Chloride | 1.15 |
| Sulfate | 210 |
| Iron | 0.8 |
| Potassium | 1.26 |
| Phosphate | ND |

**Notes:**
ND - Not Detectable
ppm - parts per million
Activated carbon, gypsum, and microbes are the primary constituents of BOS 200®
Concentrations listed above are estimated based on the following assumptions:
- The excavation area is approximately 4,800 square feet
- The open excavation contains approximately 1 foot of standing groundwater
- The default porosity value of the silty sand is 0.3
- Application of 1,000 pounds of BOS 200®

**TABLE 4**

**COMPOSITION OF BOS 200® AMENDMENT COMPARED TO NMWQCC STANDARDS AND BACKGROUND WATER QUALITY FORMER J-VENT WILLIAMS FOUR CORNERS, LLC**

| Subsection A & B of 20.6.2.3103 Constituent | NMWQCC Standard (mg/l) | BOS 200® Application (ppm) | Background Sample (MW-1) September 17, 1997 |
|---|---|---|---|
| Arsenic (As) | 0.1 | NA | NT |
| Barium (Ba) | 1.0 | NA | NT |
| Cadmium (Cd) | 0.01 | NA | NT |
| Chromium (Cr) | 0.05 | NA | NT |
| Cyanide (CN) | 0.2 | NA | NT |
| Fluoride (F) | 1.6 | NA | NT |
| Lead (Pb) | 0.05 | NA | NT |
| Total Mercury (Hg) | 0.002 | NA | NT |
| Nitrate (NO3 as N) | 10 | 6.6 | NT |
| Selenium (Se | 0.05 | NA | NT |
| Silver (Ag) | 0.05 | NA | NT |
| Uranium (U) | 0.03 | NA | NT |
| Benzene | 0.01 | NA | <0.0002 |
| Polychlorinated biphenyls (PCB's) | 0.001 | NA | NT |
| Toluene | 0.75 | NA | <0.0002 |
| Carbon Tetrachloride | 0.01 | NA | NT |
| 1,2-dichloroethane (EDC) | 0.01 | NA | NT |
| 1,1-dichloroethylene (1,1-DCE) | 0.005 | NA | NT |
| 1,1,2,2-tetrachloroethylene (PCE) | 0.02 | NA | NT |
| 1,1,2-trichloroethylene (TCE) | 0.1 | NA | NT |
| ethylbenzene | 0.75 | NA | <0.0002 |
| total xylenes | 0.62 | NA | <0.0004 |
| methylene chloride | 0.1 | NA | NT |
| chloroform | 0.1 | NA | NT |
| 1,1-dichloroethane | 0.025 | NA | NT |
| ethylene dibromide (EDB) | 0.0001 | NA | NT |
| 1,1,1-trichloroethane | 0.06 | NA | NT |
| 1,1,2-tetrachloroethane | 0.01 | NA | NT |
| 1,1,2,2-tetrachloroethane | 0.01 | NA | NT |
| vinyl chloride | 0.001 | NA | NT |
| PAHs: total naphthalene plus monomethylnaphthalenes | 0.03 | NA | NT |
| benzo-a-pyrene | 0.0007 | NA | NT |
| Chloride (Cl) | 250 | 1.15 | 13.6 |
| Copper (Cu) | 1.0 | NA | NT |
| Iron (Fe) | 1.0 | 0.4 | NT |
| Manganese (Mn) | 0.2 | NA | NT |
| Phenols | 0.005 | NA | NT |
| Sulfate (SO4) | 600 | 210 | **889** |
| Total Dissolved Solids (TDS) | 1,000 | <1,000 | **1,983** |
| Zinc (Zn) | 10 | NA | NT |
| pH | between 6 and 9 | NA | 7.66 |

**Notes:**
NA - Not Applicable
NMWQCC - New Mexico Water Quality Control Commission
NT - Not Tested
mg/l - milligrams per liter
ppm - parts per million
< - indicates result is less than the stated laboratory method detection limit
**Bold -** indicates sample exceeds NMWQCC standard
Concentrations for BOS 200® listed above are estimated based on the following assumptions:
- The excavation area is approximately 4,800 square feet
- The open excavation contains approximately 1 foot of standing groundwater
- The default porosity value of the silty sand is 0.3
- Application of 1,000 pounds of BOS 200®

# ATTACHMENT A

# LABORATORY ANALYTICAL REPORTS

*Hall Environmental Analysis Laboratory*
*4901 Hawkins NE*
*Albuquerque, NM 87109*
*TEL: 505-345-3975 FAX: 505-345-4107*
*Website: www.hallenvironmental.com*

September 19, 2012

Ashley Ager

LTE
2243 Main Ave Suite 3
Durango, CO 81301
TEL: (970) 946-1093
FAX

RE: J Vent OrderNo.: 1209694

Dear Ashley Ager:

Hall Environmental Analysis Laboratory received 4 sample(s) on 9/18/2012 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** LTE
**Client Sample ID:** North Walll
**Project:** J Vent
**Collection Date:** 9/17/2012 10:27:00 AM
**Lab ID:** 1209694-001
**Matrix:** MEOH (SOIL)
**Received Date:** 9/18/2012 10:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **EPA METHOD 8015B: DIESEL RANGE ORGANICS** | | | | | | Analyst: **JMP** |
| Diesel Range Organics (DRO) | ND | 9.6 | | mg/Kg | 1 | 9/19/2012 7:30:09 AM |
| Motor Oil Range Organics (MRO) | ND | 48 | | mg/Kg | 1 | 9/19/2012 7:30:09 AM |
| Surr: DNOP | 111 | 77.6-140 | | %REC | 1 | 9/19/2012 7:30:09 AM |
| **EPA METHOD 8015B: GASOLINE RANGE** | | | | | | Analyst: **NSB** |
| Gasoline Range Organics (GRO) | ND | 5.0 | | mg/Kg | 1 | 9/18/2012 2:01:25 PM |
| Surr: BFB | 100 | 84-116 | | %REC | 1 | 9/18/2012 2:01:25 PM |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** |
| Benzene | ND | 0.050 | | mg/Kg | 1 | 9/18/2012 2:01:25 PM |
| Toluene | ND | 0.050 | | mg/Kg | 1 | 9/18/2012 2:01:25 PM |
| Ethylbenzene | ND | 0.050 | | mg/Kg | 1 | 9/18/2012 2:01:25 PM |
| Xylenes, Total | ND | 0.10 | | mg/Kg | 1 | 9/18/2012 2:01:25 PM |
| Surr: 4-Bromofluorobenzene | 99.1 | 80-120 | | %REC | 1 | 9/18/2012 2:01:25 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| P | Sample pH greater than 2 | R | RPD outside accepted recovery limits |
| RL | Reporting Detection Limit | S | Spike Recovery outside accepted recovery limits |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** LTE
**Client Sample ID:** South Wall
**Project:** J Vent
**Collection Date:** 9/17/2012 10:33:00 AM
**Lab ID:** 1209694-002
**Matrix:** MEOH (SOIL)
**Received Date:** 9/18/2012 10:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **EPA METHOD 8015B: DIESEL RANGE ORGANICS** | | | | | | Analyst: **JMP** |
| Diesel Range Organics (DRO) | ND | 9.9 | | mg/Kg | 1 | 9/19/2012 7:51:37 AM |
| Motor Oil Range Organics (MRO) | ND | 50 | | mg/Kg | 1 | 9/19/2012 7:51:37 AM |
| Surr: DNOP | 104 | 77.6-140 | | %REC | 1 | 9/19/2012 7:51:37 AM |
| **EPA METHOD 8015B: GASOLINE RANGE** | | | | | | Analyst: **NSB** |
| Gasoline Range Organics (GRO) | ND | 5.0 | | mg/Kg | 1 | 9/18/2012 2:30:11 PM |
| Surr: BFB | 100 | 84-116 | | %REC | 1 | 9/18/2012 2:30:11 PM |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** |
| Benzene | ND | 0.050 | | mg/Kg | 1 | 9/18/2012 2:30:11 PM |
| Toluene | ND | 0.050 | | mg/Kg | 1 | 9/18/2012 2:30:11 PM |
| Ethylbenzene | ND | 0.050 | | mg/Kg | 1 | 9/18/2012 2:30:11 PM |
| Xylenes, Total | ND | 0.10 | | mg/Kg | 1 | 9/18/2012 2:30:11 PM |
| Surr: 4-Bromofluorobenzene | 102 | 80-120 | | %REC | 1 | 9/18/2012 2:30:11 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| P | Sample pH greater than 2 | R | RPD outside accepted recovery limits |
| RL | Reporting Detection Limit | S | Spike Recovery outside accepted recovery limits |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** LTE
**Client Sample ID:** East Wall
**Project:** J Vent
**Collection Date:** 9/17/2012 9:40:00 AM
**Lab ID:** 1209694-003
**Matrix:** MEOH (SOIL)
**Received Date:** 9/18/2012 10:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **EPA METHOD 8015B: DIESEL RANGE ORGANICS** | | | | | | Analyst: **JMP** |
| Diesel Range Organics (DRO) | ND | 9.7 | | mg/Kg | 1 | 9/19/2012 8:13:18 AM |
| Motor Oil Range Organics (MRO) | ND | 49 | | mg/Kg | 1 | 9/19/2012 8:13:18 AM |
| Surr: DNOP | 109 | 77.6-140 | | %REC | 1 | 9/19/2012 8:13:18 AM |
| **EPA METHOD 8015B: GASOLINE RANGE** | | | | | | Analyst: **NSB** |
| Gasoline Range Organics (GRO) | ND | 5.0 | | mg/Kg | 1 | 9/18/2012 2:59:02 PM |
| Surr: BFB | 101 | 84-116 | | %REC | 1 | 9/18/2012 2:59:02 PM |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** |
| Benzene | ND | 0.050 | | mg/Kg | 1 | 9/18/2012 2:59:02 PM |
| Toluene | ND | 0.050 | | mg/Kg | 1 | 9/18/2012 2:59:02 PM |
| Ethylbenzene | ND | 0.050 | | mg/Kg | 1 | 9/18/2012 2:59:02 PM |
| Xylenes, Total | ND | 0.10 | | mg/Kg | 1 | 9/18/2012 2:59:02 PM |
| Surr: 4-Bromofluorobenzene | 102 | 80-120 | | %REC | 1 | 9/18/2012 2:59:02 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| P | Sample pH greater than 2 | R | RPD outside accepted recovery limits |
| RL | Reporting Detection Limit | S | Spike Recovery outside accepted recovery limits |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** LTE
**Client Sample ID:** West Wall
**Project:** J Vent
**Collection Date:** 9/17/2012 10:30:00 AM
**Lab ID:** 1209694-004
**Matrix:** MEOH (SOIL)
**Received Date:** 9/18/2012 10:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **EPA METHOD 8015B: DIESEL RANGE ORGANICS** | | | | | | Analyst: **JMP** |
| Diesel Range Organics (DRO) | ND | 10 | | mg/Kg | 1 | 9/19/2012 8:34:50 AM |
| Motor Oil Range Organics (MRO) | ND | 50 | | mg/Kg | 1 | 9/19/2012 8:34:50 AM |
| Surr: DNOP | 111 | 77.6-140 | | %REC | 1 | 9/19/2012 8:34:50 AM |
| **EPA METHOD 8015B: GASOLINE RANGE** | | | | | | Analyst: **NSB** |
| Gasoline Range Organics (GRO) | ND | 5.0 | | mg/Kg | 1 | 9/18/2012 3:27:52 PM |
| Surr: BFB | 101 | 84-116 | | %REC | 1 | 9/18/2012 3:27:52 PM |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** |
| Benzene | ND | 0.050 | | mg/Kg | 1 | 9/18/2012 3:27:52 PM |
| Toluene | ND | 0.050 | | mg/Kg | 1 | 9/18/2012 3:27:52 PM |
| Ethylbenzene | ND | 0.050 | | mg/Kg | 1 | 9/18/2012 3:27:52 PM |
| Xylenes, Total | ND | 0.10 | | mg/Kg | 1 | 9/18/2012 3:27:52 PM |
| Surr: 4-Bromofluorobenzene | 103 | 80-120 | | %REC | 1 | 9/18/2012 3:27:52 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| P | Sample pH greater than 2 | R | RPD outside accepted recovery limits |
| RL | Reporting Detection Limit | S | Spike Recovery outside accepted recovery limits |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1209694**

***19-Sep-12***

**Client:** LTE

**Project:** J Vent

| Sample ID | **MB-3802** | SampType: | **MBLK** | | TestCode: | **EPA Method 8015B: Diesel Range Organics** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBS** | Batch ID: | **3802** | | RunNo: | **5617** | | | | |
| Prep Date: | **9/18/2012** | Analysis Date: | **9/19/2012** | | SeqNo: | **161020** | Units: | **mg/Kg** | | |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics (DRO) | ND | 10 | | | | | | | | |
| Motor Oil Range Organics (MRO) | ND | 50 | | | | | | | | |
| Surr: DNOP | 10 | | 10.00 | | 103 | 77.6 | 140 | | | |

| Sample ID | **LCS-3802** | SampType: | **LCS** | | TestCode: | **EPA Method 8015B: Diesel Range Organics** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSS** | Batch ID: | **3802** | | RunNo: | **5617** | | | | |
| Prep Date: | **9/18/2012** | Analysis Date: | **9/19/2012** | | SeqNo: | **161021** | Units: | **mg/Kg** | | |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics (DRO) | 29 | 10 | 50.00 | 0 | 58.5 | 52.6 | 130 | | | |
| Surr: DNOP | 4.2 | | 5.000 | | 84.2 | 77.6 | 140 | | | |

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| P | Sample pH greater than 2 | R | RPD outside accepted recovery limits |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1209694**

***19-Sep-12***

**Client:** LTE

**Project:** J Vent

| Sample ID | **MB-3765** | SampType: | **MBLK** | TestCode: | **EPA Method 8015B: Gasoline Range** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBS** | Batch ID: | **3765** | RunNo: | **5612** | | | | | |
| Prep Date: | **9/14/2012** | Analysis Date: | **9/18/2012** | SeqNo: | **160814** | Units: | **mg/Kg** | | | |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) | ND | 5.0 | | | | | | | | |
| Surr: BFB | 990 | | 1000 | | 99.3 | 84 | 116 | | | |

| Sample ID | **LCS-3765** | SampType: | **LCS** | TestCode: | **EPA Method 8015B: Gasoline Range** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSS** | Batch ID: | **3765** | RunNo: | **5612** | | | | | |
| Prep Date: | **9/14/2012** | Analysis Date: | **9/18/2012** | SeqNo: | **160815** | Units: | **mg/Kg** | | | |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) | 25 | 5.0 | 25.00 | 0 | 101 | 74 | 117 | | | |
| Surr: BFB | 1000 | | 1000 | | 103 | 84 | 116 | | | |

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| P | Sample pH greater than 2 | R | RPD outside accepted recovery limits |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1209694**

***19-Sep-12***

**Client:** LTE

**Project:** J Vent

| Sample ID | **MB-3765** | SampType: | **MBLK** | TestCode: | **EPA Method 8021B: Volatiles** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBS** | Batch ID: | **3765** | RunNo: | **5612** | | | | | |
| Prep Date: | **9/14/2012** | Analysis Date: | **9/18/2012** | SeqNo: | **160837** | Units: | **mg/Kg** | | | |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | 0.050 | | | | | | | | |
| Toluene | ND | 0.050 | | | | | | | | |
| Ethylbenzene | ND | 0.050 | | | | | | | | |
| Xylenes, Total | ND | 0.10 | | | | | | | | |
| Surr: 4-Bromofluorobenzene | 1.0 | | 1.000 | | 102 | 80 | 120 | | | |

| Sample ID | **LCS-3765** | SampType: | **LCS** | TestCode: | **EPA Method 8021B: Volatiles** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSS** | Batch ID: | **3765** | RunNo: | **5612** | | | | | |
| Prep Date: | **9/14/2012** | Analysis Date: | **9/18/2012** | SeqNo: | **160838** | Units: | **mg/Kg** | | | |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 1.0 | 0.050 | 1.000 | 0 | 100 | 76.3 | 117 | | | |
| Toluene | 1.0 | 0.050 | 1.000 | 0 | 101 | 80 | 120 | | | |
| Ethylbenzene | 1.0 | 0.050 | 1.000 | 0 | 103 | 77 | 116 | | | |
| Xylenes, Total | 3.1 | 0.10 | 3.000 | 0 | 104 | 76.7 | 117 | | | |
| Surr: 4-Bromofluorobenzene | 1.1 | | 1.000 | | 109 | 80 | 120 | | | |

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| P | Sample pH greater than 2 | R | RPD outside accepted recovery limits |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1209694**

***19-Sep-12***

**Client:** LTE

**Project:** J Vent

| Sample ID **mb-3765** | SampType: **MBLK** | TestCode: **EPA Method 8260B: VOLATILES** |
|---|---|---|
| Client ID: **PBS** | Batch ID: **3765** | RunNo: **5580** |
| Prep Date: **9/14/2012** | Analysis Date: **9/17/2012** | SeqNo: **160199** Units: **%REC** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Surr: 1,2-Dichloroethane-d4 | 0.43 | | 0.5000 | | 85.0 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 0.42 | | 0.5000 | | 83.7 | 70 | 130 | | | |
| Surr: Dibromofluoromethane | 0.43 | | 0.5000 | | 85.9 | 70 | 130 | | | |
| Surr: Toluene-d8 | 0.38 | | 0.5000 | | 75.9 | 70 | 130 | | | |

| Sample ID **lcs-3765** | SampType: **LCS** | TestCode: **EPA Method 8260B: VOLATILES** |
|---|---|---|
| Client ID: **LCSS** | Batch ID: **3765** | RunNo: **5580** |
| Prep Date: **9/14/2012** | Analysis Date: **9/17/2012** | SeqNo: **160219** Units: **%REC** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Surr: 1,2-Dichloroethane-d4 | 0.42 | | 0.5000 | | 83.5 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 0.42 | | 0.5000 | | 83.5 | 70 | 130 | | | |
| Surr: Dibromofluoromethane | 0.43 | | 0.5000 | | 86.8 | 70 | 130 | | | |
| Surr: Toluene-d8 | 0.36 | | 0.5000 | | 72.6 | 70 | 130 | | | |

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| P | Sample pH greater than 2 | R | RPD outside accepted recovery limits |

**HALL ENVIRONMENTAL ANALYSIS LABORATORY**

*Hall Environmental Analysis Laboratory*
*4901 Hawkins NE*
*Albuquerque, NM 87109*
*TEL: 505-345-3975 FAX: 505-345-4107*
*Website: www.hallenvironmental.com*

# Sample Log-In Check List

Client Name: LTE — Work Order Number: 1209694

Received by/date: LM 09/18/12

Logged By: **Michelle Garcia** 9/18/2012 10:00:00 AM Michelle Garcia

Completed By: **Michelle Garcia** 9/18/2012 10:25:57 AM Michelle Garcia

Reviewed By: 09/18/12

## Chain of Custody

| | | | |
|---|---|---|---|
| 1. Were seals intact? | Yes ☐ | No ☐ | Not Present ☑ |
| 2. Is Chain of Custody complete? | Yes ☑ | No ☐ | Not Present ☐ |
| 3. How was the sample delivered? | Courier | | |

## Log In

| | | | |
|---|---|---|---|
| 4. Coolers are present? (see 19. for cooler specific information) | Yes ☑ | No ☐ | NA ☐ |
| 5. Was an attempt made to cool the samples? | Yes ☑ | No ☐ | NA ☐ |
| 6. Were all samples received at a temperature of >0° C to 6.0°C | Yes ☑ | No ☐ | NA ☐ |
| 7. Sample(s) in proper container(s)? | Yes ☑ | No ☐ | |
| 8. Sufficient sample volume for indicated test(s)? | Yes ☑ | No ☐ | |
| 9. Are samples (except VOA and ONG) properly preserved? | Yes ☑ | No ☐ | |
| 10. Was preservative added to bottles? | Yes ☐ | No ☑ | NA ☐ |
| 11. VOA vials have zero headspace? | Yes ☐ | No ☐ | No VOA Vials ☑ |
| 12. Were any sample containers received broken? | Yes ☐ | No ☑ | |
| 13. Does paperwork match bottle labels? (Note discrepancies on chain of custody) | Yes ☑ | No ☐ | |
| 14. Are matrices correctly identified on Chain of Custody? | Yes ☑ | No ☐ | |
| 15. Is it clear what analyses were requested? | Yes ☑ | No ☐ | |
| 16. Were all holding times able to be met? (If no, notify customer for authorization.) | Yes ☑ | No ☐ | |

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

## Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

18. Additional remarks:

19. **Cooler Information**

| Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 1.8 | Good | Yes | | | |

# Chain-of-Custody Record

Client: LTE

Mailing Address: 2243 Main Ave #3
Durango, CO 81301

Phone #: 970 385 1096

email or Fax#:

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☐ Standard ☒ Rush 24 hrs

Project Name:
J Vent

Project #:

Project Manager:
Ashley Ager

Sampler: Ashley Ager
On Ice: ☒ Yes ☐ No
Sample Temperature: 1.8


**HALL ENVIRONMENTAL ANALYSIS LABORATORY**
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107


| Date | Time | Matrix | Sample Request ID | Container Type and # | Preservative Type | HEAL No 1209094 | BTEX + ~~MTBE + TMB's~~ (8021) | BTEX + MTBE + TPH (Gas only) | TPH Method 8015B (Gas/Diesel) + MRO | TPH (Method 418.1) | EDB (Method 504.1) | 8310 (PNA or PAH) | RCRA 8 Metals | Anions (F,Cl,$NO_3$,$NO_2$,$PO_4$,$SO_4$) | 8081 Pesticides / 8082 PCB's | 8260B (VOA) | 8270 (Semi-VOA) | | | | | Air Bubbles (Y or N) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9-17-12 | 10:27 | soil | North Wall | 4oz/1 | cool | -001 | ✓ | | ✓ | | | | | | | | | | | | | |
| 9-17-12 | 10:33 | soil | South Wall | 4oz/1 | cool | -002 | ✓ | | ✓ | | | | | | | | | | | | | |
| 9-17-12 | 9:40 | soil | East Wall | 4oz/1 | cool | -003 | ✓ | | ✓ | | | | | | | | | | | | | |
| 9-17-12 | 10:30 | soil | West Wall | 4oz/1 | cool | -004 | ✓ | | ✓ | | | | | | | | | | | | | |
| ~~9-17-12~~ | | ~~soil~~ | | ~~4oz/1~~ | ~~cool~~ | | | | | | | | | | | | | | | | | |

Remarks:

| Date: | Time: | Relinquished by: | Received by: | Date | Time |
|---|---|---|---|---|---|
| 9-17-12 | 13:50 | Ashley L Ager | Christie Walker | 9/17/12 | 1350 |
| 9/17/12 | 1740 | Christie Walker | | 09/18/12 | 1000 |

*Hall Environmental Analysis Laboratory*
*4901 Hawkins NE*
*Albuquerque, NM 87109*
*TEL: 505-345-3975 FAX: 505-345-4107*
*Website: www.hallenvironmental.com*

September 21, 2012

Ashley Ager

LTE
2243 Main Ave Suite 3
Durango, CO 81301
TEL: (970) 946-1093
FAX

RE: J Vent OrderNo.: 1209693

Dear Ashley Ager:

Hall Environmental Analysis Laboratory received 1 sample(s) on 9/18/2012 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

**Analytical Report**
Lab Order **1209693**
Date Reported: **9/21/2012**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** LTE
**Client Sample ID:** GW-1
**Project:** J Vent
**Collection Date:** 9/17/2012 12:11:00 PM
**Lab ID:** 1209693-001
**Matrix:** AQUEOUS
**Received Date:** 9/18/2012 10:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** |
| Benzene | 630 | 50 | | µg/L | 50 | 9/18/2012 12:38:57 PM |
| Toluene | 2800 | 50 | | µg/L | 50 | 9/18/2012 12:38:57 PM |
| Ethylbenzene | 190 | 50 | | µg/L | 50 | 9/18/2012 12:38:57 PM |
| Xylenes, Total | 2000 | 100 | | µg/L | 50 | 9/18/2012 12:38:57 PM |
| Surr: 4-Bromofluorobenzene | 102 | 69.7-152 | | %REC | 50 | 9/18/2012 12:38:57 PM |

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| P | Sample pH greater than 2 | R | RPD outside accepted recovery limits |
| RL | Reporting Detection Limit | S | Spike Recovery outside accepted recovery limits |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1209693**

***21-Sep-12***

**Client:** LTE

**Project:** J Vent

| Sample ID | **5ML RB** | SampType: | **MBLK** | TestCode: | **EPA Method 8015B: Gasoline Range** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBW** | Batch ID: | **R5614** | RunNo: | **5614** | | | | | |
| Prep Date: | | Analysis Date: | **9/18/2012** | SeqNo: | **160860** | Units: | **%REC** | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: BFB | 19 | | 20.00 | | 93.2 | 69.8 | 119 | | | |

| Sample ID | **2.5UG GRO LCS** | SampType: | **LCS** | TestCode: | **EPA Method 8015B: Gasoline Range** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSW** | Batch ID: | **R5614** | RunNo: | **5614** | | | | | |
| Prep Date: | | Analysis Date: | **9/18/2012** | SeqNo: | **160861** | Units: | **%REC** | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: BFB | 21 | | 20.00 | | 104 | 69.8 | 119 | | | |

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| P | Sample pH greater than 2 | R | RPD outside accepted recovery limits |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1209693**

***21-Sep-12***

**Client:** LTE

**Project:** J Vent

| Sample ID | **5ML RB** | SampType: | **MBLK** | TestCode: | **EPA Method 8021B: Volatiles** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBW** | Batch ID: | **R5614** | RunNo: | **5614** | | | | | |
| Prep Date: | | Analysis Date: | **9/18/2012** | SeqNo: | **160875** | Units: | **µg/L** | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | ND | 1.0 | | | | | | | | |
| Toluene | ND | 1.0 | | | | | | | | |
| Ethylbenzene | ND | 1.0 | | | | | | | | |
| Xylenes, Total | ND | 2.0 | | | | | | | | |
| Surr: 4-Bromofluorobenzene | 19 | | 20.00 | | 94.2 | 69.7 | 152 | | | |

| Sample ID | **100NG BTEX LCS** | SampType: | **LCS** | TestCode: | **EPA Method 8021B: Volatiles** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSW** | Batch ID: | **R5614** | RunNo: | **5614** | | | | | |
| Prep Date: | | Analysis Date: | **9/18/2012** | SeqNo: | **160876** | Units: | **µg/L** | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | 20 | 1.0 | 20.00 | 0 | 98.5 | 80 | 120 | | | |
| Toluene | 20 | 1.0 | 20.00 | 0 | 102 | 80 | 120 | | | |
| Ethylbenzene | 21 | 1.0 | 20.00 | 0 | 105 | 80 | 120 | | | |
| Xylenes, Total | 64 | 2.0 | 60.00 | 0 | 107 | 80 | 120 | | | |
| Surr: 4-Bromofluorobenzene | 19 | | 20.00 | | 92.6 | 69.7 | 152 | | | |

| Sample ID | **1209693-001AMS** | SampType: | **MS** | TestCode: | **EPA Method 8021B: Volatiles** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **GW-1** | Batch ID: | **R5614** | RunNo: | **5614** | | | | | |
| Prep Date: | | Analysis Date: | **9/18/2012** | SeqNo: | **160881** | Units: | **µg/L** | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | 1700 | 50 | 1000 | 626.5 | 104 | 74.1 | 124 | | | |
| Toluene | 4000 | 50 | 1000 | 2847 | 112 | 75.2 | 124 | | | |
| Ethylbenzene | 1200 | 50 | 1000 | 187.4 | 105 | 69 | 125 | | | |
| Xylenes, Total | 5300 | 100 | 3000 | 1997 | 109 | 73.1 | 126 | | | |
| Surr: 4-Bromofluorobenzene | 930 | | 1000 | | 93.3 | 69.7 | 152 | | | |

| Sample ID | **1209693-001AMSD** | SampType: | **MSD** | TestCode: | **EPA Method 8021B: Volatiles** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **GW-1** | Batch ID: | **R5614** | RunNo: | **5614** | | | | | |
| Prep Date: | | Analysis Date: | **9/18/2012** | SeqNo: | **160882** | Units: | **µg/L** | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | 1600 | 50 | 1000 | 626.5 | 100 | 74.1 | 124 | 2.08 | 11.2 | |
| Toluene | 3900 | 50 | 1000 | 2847 | 110 | 75.2 | 124 | 0.523 | 11.9 | |
| Ethylbenzene | 1200 | 50 | 1000 | 187.4 | 103 | 69 | 125 | 1.91 | 13.5 | |
| Xylenes, Total | 5200 | 100 | 3000 | 1997 | 106 | 73.1 | 126 | 1.63 | 13 | |
| Surr: 4-Bromofluorobenzene | 1000 | | 1000 | | 99.8 | 69.7 | 152 | 0 | 0 | |

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| P | Sample pH greater than 2 | R | RPD outside accepted recovery limits |

HALL ENVIRONMENTAL ANALYSIS LABORATORY

*Hall Environmental Analysis Laboratory*
*4901 Hawkins NE*
*Albuquerque, NM 87109*
*TEL: 505-345-3975 FAX: 505-345-4107*
*Website: www.hallenvironmental.com*

# Sample Log-In Check List

Client Name: LTE

Work Order Number: 1209693

Received by/date: 09/18/12

Logged By: **Lindsay Mangin** 9/18/2012 10:00:00 AM

Completed By: **Lindsay Mangin** 9/18/2012 10:22:24 AM

Reviewed By: 09/18/12

## Chain of Custody

| | | | |
|---|---|---|---|
| 1. Were seals intact? | Yes | No | Not Present ✔ |
| 2. Is Chain of Custody complete? | Yes ✔ | No | Not Present |
| 3. How was the sample delivered? | Courier | | |

## Log In

| | | | |
|---|---|---|---|
| 4. Coolers are present? (see 19. for cooler specific information) | Yes ✔ | No | NA |
| 5. Was an attempt made to cool the samples? | Yes ✔ | No | NA |
| 6. Were all samples received at a temperature of >0° C to 6.0°C | Yes ✔ | No | NA |
| 7. Sample(s) in proper container(s)? | Yes ✔ | No | |
| 8. Sufficient sample volume for indicated test(s)? | Yes ✔ | No | |
| 9. Are samples (except VOA and ONG) properly preserved? | Yes ✔ | No | |
| 10. Was preservative added to bottles? | Yes | No ✔ | NA |
| 11. VOA vials have zero headspace? | Yes ✔ | No | No VOA Vials |
| 12. Were any sample containers received broken? | Yes | No ✔ | |
| 13. Does paperwork match bottle labels? (Note discrepancies on chain of custody) | Yes ✔ | No | # of preserved bottles checked for pH: |
| 14. Are matrices correctly identified on Chain of Custody? | Yes ✔ | No | (<2 or >12 unless noted) |
| 15. Is it clear what analyses were requested? | Yes ✔ | No | Adjusted? |
| 16. Were all holding times able to be met? (If no, notify customer for authorization.) | Yes ✔ | No | Checked by: |

## Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes No NA ✔

Person Notified: Date:

By Whom: Via: eMail Phone Fax In Person

Regarding:

Client Instructions:

18. Additional remarks:

19. **Cooler Information**

| Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 1.8 | Good | Yes | | | |

# Chain-of-Custody Record

Client: LTE

Mailing Address: 2243 Main Ave #3
Durango, CO 81301

Phone #: 970 385 1096

email or Fax#:

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☒ Rush 24 hr

Project Name:
J Vint

Project #:

Project Manager:
Ashley Ager

Sampler: Ashley Ager

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.8


**HALL ENVIRONMENTAL ANALYSIS LABORATORY**
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107


**Analysis Request**

| Date | Time | Matrix | Sample Request ID | Container Type and # | Preservative Type | HEAL No. 1209693 | BTEX + ~~MTBE + TMB's~~ (8021) | BTEX + MTBE + TPH (Gas only) | TPH Method 8015B (Gas/Diesel) | TPH (Method 418.1) | EDB (Method 504.1) | 8310 (PNA or PAH) | RCRA 8 Metals | Anions ($F,Cl,NO_3,NO_2,PO_4,SO_4$) | 8081 Pesticides / 8082 PCB's | 8260B (VOA) | 8270 (Semi-VOA) | Air Bubbles (Y or N) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9-17-12 | 12:11 | GW | GW-1 | 40mL/3 | HCl | -001 | ✓ | | | | | | | | | | | |

| Date | Time | Relinquished by: | Received by: | Date | Time |
|---|---|---|---|---|---|
| 9-17-12 | 1351 | Ashley L Ager | Christine Walters | 9/17/12 | 1351 |
| 9/17/12 | 1740 | Christine Walters | | 09/18/12 | 1000 |

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

**ATTACHMENT B**

**BOS 200® MATERIAL SAFETY DATA SHEET**

# Material Safety Data Sheet
# Trap & Treat® BOS-200®

## Section I

| | |
|---|---|
| Manufacturer's Name<br>*Remediation Products Inc.* | Emergency Telephone Number<br>*303.487.1000* |
| Address *(Number, Street, City, State, and ZIP Code)*<br>*6390 Joyce Drive, Suite 150 W, Golden, CO 80403* | Telephone Number for Information<br>*303-487-1000* |
| Prepared by<br>*B. Elliott* | Date Prepared<br>*11/8/2012* |
| | Signature of Preparer *(optional)* |

## Section II - Hazard Ingredients/Identity Information

Non-hazardous components are listed at 3 percent (%) or greater. This is not intended to be a complete compositional disclosure.

| Hazardous Components (Specific Chemical Identity; Common Name(s)) | OSHA PEL | ACGIH TLV | Other Limits Recommended | %*(optional)* |
|---|---|---|---|---|
| Carbon | 5mg/$M^3$ (respirable) | 10mg/$M^3$ (Total) | N/A | 77 |
| Calcium Sulfate (Gypsum) | " | " | N/A | 19 |
| N/A = Not Applicable<br>PELs and TLVs are 8-hour TWAs unless otherwise noted. | | | | |

## Section III - Physical/Chemical Characteristics

| | | | |
|---|---|---|---|
| Boiling Point | N/A | Specific Gravity ($H_2O$ = 1) | 2.33 g/cc real density |
| Vapor Pressure (mm Hg.) | N/A | Melting Point | Decomposes at 1450°C |
| Vapor Density (AIR = 1) | N/A | Evaporation Rate (Butyl Acetate = 1) | N/A |
| Solubility in Water: Negligible | | | |
| Appearance and Odor: Black powder. No odor. | | | |

## Section IV - Fire and Explosion Hazard Data

| | | | |
|---|---|---|---|
| Flash Point (Method Used)<br>Not combustible | Flammable Limits | LEL<br>N/A | UEL<br>N/A |
| Extinguishing Media<br>Flood with plenty of water | | | |
| Special Fire Fighting Procedures<br>None | | | |
| Unusual Fire and Explosion Hazards | | | |

| |
|---|
| Contact with strong oxidizer, such as ozone, liquid oxygen, chlorine, permanganate, etc., may result in fire. |
| NFPA Rating:<br>Health=0; Reactivity=0; Flammability=1 |

## Section V - Reactivity Data

| | | | |
|---|---|---|---|
| Stability | Unstable | | Conditions to Avoid |
| | Stable | X | None |
| Incompatibility *(Materials to Avoid)* | | | |
| Strong oxidizers, such as ozone, liquid oxygen, chlorine, permanganate, etc., and acids. | | | |
| Hazardous Decomposition | May Occur | X | Conditions to Avoid<br>Above 1450° - $SO_2$ & CaO |
| | Will Not Occur | | |

## Section VI - Health Hazard Data

| | | | |
|---|---|---|---|
| Route(s) of Entry: | Inhalation?<br>Yes | Skin?<br>Yes | Ingestion?<br>Yes |
| Health Hazards *(Acute and Chronic)* | | | |
| The effects of long-term, low-level exposures to carbon have not been determined. Safe handling of this material on a long-term basis should emphasize the avoidance of all effects from repetitive acute exposures.<br><br>Persons subjected to excessive dust will be forced to leave area because of nuisance; i.e., coughing, sneezing and nasal irritation.<br><br>**CAUTION!!!** This material, when wet, removes oxygen from air causing a severe hazard to workers inside carbon vessels and enclosed or confined spaces. Before entering such an area, sampling and work procedures for low oxygen levels should be taken to ensure ample oxygen availability, observing all local, state, and federal regulations. | | | |
| Carcinogenicity: | NTP? | IARC Monographs? | OSHA Regulated? |
| | N/A | N/A | No |
| Signs and Symptoms of Exposure | | | |
| **Effects and Hazards of Eye Contact:** The physical nature of this product may produce eye irritation, if exposed to dusting conditions without protective eye equipment.<br>**Effects and Hazards of Skin Contact:** The product is not a primary skin irritant. The primary skin irritation (Rabbit) is 0.<br>**Effects and Hazards of Inhalation Breathing):** This product is practically non-toxic through inhalation. The acute inhalation $LD_{50}$ (Rat) is >6.4 mg/l (nominal concentration). Could cause irritation to respiratory passages, if exposed to dusting conditions without protective respiratory equipment.<br>**Effects and Hazards of Ingestion (Swallowing):** Material is non-toxic through ingestion. The acute oral $LD_{50}$ (Rat) is >10g/kg. | | | |
| Medical Conditions Generally Aggravated by Exposure | | | |
| N/A | | | |
| Emergency and First Aid Procedures | | | |
| Eyes: Flush with plenty of water for at least 15 minutes. Call physician if irritation continues.<br>Skin: Wash with soap and water.<br>Inhalation: Move to fresh air. | | | |

| |
|---|
| Ingestion: N/A |

## Section VII - Precautions for Safe Handling and Use

| |
|---|
| Steps to Be Taken in Case Material is Released or Spilled |
| Sweep or vacuum material from spillages into a waste container for disposal or repackage. Avoid dusting conditions. |
| Waste Disposal Method |
| Dispose of unused product in waste container. Dispose of in accordance with local, state, and federal or national regulations. |
| Precautions to Be Taken in Handling and Storing |
| **CAUTION!!!** This product, when wet, removes oxygen from air causing a severe hazard to workers inside carbon vessels and enclosed or confined spaces. Before entering such an area, sampling and work procedures for low oxygen levels should be taken to ensure ample oxygen availability, observing all local, state, and federal or national regulations.<br>Be sure proper ventilation and respiratory and eye protection are used under dusting conditions. |
| Other Precautions |
| Wash thoroughly after handling. Exercise caution in the storage and handling of all chemical substances. |

## Section VIII - Control Measures

| | | |
|---|---|---|
| Respiratory Protection *(Specify Type)*<br>Carbon-A NIOSH-approved particulate filter respirator is recommended, if excessive dust is generated. | | |
| Ventilation | Local Exhaust<br>Recommended, when used indoors or in confined spaces | Special<br>Not Required |
| | Mechanical *(General)*<br>Recommended, when used indoors or in confined spaces | Other<br>Not required |
| Protective Gloves<br>Recommended | Eye Protection<br>Safety glasses or goggles recommended | |
| Other Protective Clothing or Equipment<br>Not required | | |
| Work/Hygienic Practices<br>Use of Tyvek® or Nomex® suits is suggested to protect skin from becoming excessively dirty and clothing from being ruined by contact with product. | | |

**APPENDIX B**

**LETTER OF APPROVAL FROM NMOCD**

State of New Mexico
Energy, Minerals and Natural Resources Department

**Susana Martinez**
Governor

**David Martin**
Cabinet Secretary-Designate

**Brett F. Woods, Ph.D.**
Deputy Cabinet Secretary

**Jami Bailey, Division Director**
Oil Conservation Division

**MAY 31, 2013**

Mr. Matt Webre
Williams Four Corners, LLC
188 CR 4900
Bloomfield, NM 87413

**Re: Revised Work Plan for BOS 200® Amendment**
**Dogie Compressor Station J Vent Condensate Release**
**UL "D", Section 4, Township 25 North, Range 6 West NMPM**
**Rio Arriba County, New Mexico**
**3R-444**

Dear Mr. Webre:

The Oil Conservation Division (OCD) has reviewed Williams Four Corners (Williams) revised remediation plan of April 23, 2013, submitted by LT Environmental Inc. to address ground water contamination at the Dogie Compressor Station J Vent condensate release site, located at UL "D", Section 4, Township 25 North, Range 6 West NMPM. OCD has determined that Williams has adequately addressed OCD concerns with the previous version. OCD hereby approves Williams remediation plan pursuant to 19.15.29 NMAC and approves Williams request for temporary permission for a discharge pursuant to 20.6.2.3106B NMAC.

Williams may proceed with its remediation program at the J Vent release site at the Dogie Compressor Station. To differentiate between the remediation program at the two pits at the compressor station (3R-312 and 3R-313), OCD has assigned a new case number – **3R-444.** Please use this case number in all future correspondence.

Sincerely,

**Glenn von Gonten**
Senior Hydrologist

GvG/gvg
CC: Brandon Powell

**APPENDIX C**

**2014 GROUNDWATER SAMPLING FIELD NOTES**

# Water Sample Collection Form

| | | | |
|---|---|---|---|
| Sample Location | J-VENT | Client | Williams |
| Sample Date | 2/27/14 | Project Name | J-VENT |
| Sample Time | 1135 | Project # | 034013012 |
| Sample ID | MW-13 | Sampler | DN |
| Analyses | BTEX, Sulfate, chloride, Total Iron, Nitrate/Nitrite, TDS | | |
| Matrix | GW | Laboratory | HALL |
| Turn Around Time | Standard | Shipping Method | christine |
| Trip Blank | yes | Other QA/QC | Standard |
| Depth to Water | ~~19.28~~ DN 6.03 | TD of Well | ~~6~~ DN 19.28 |
| Time | ~~1050~~ DN 1100 | Depth to Product | N/A |
| Vol. of H2O to purge | 19.28 - 6.03 = 13.25 x 0.1631 = 2.161075 x 3 = 6.48 | | |

*(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols*

Method of Purging: Bailer

Method of Sampling: Bailer

| Time | Vol. Removed (gal.) | Total Vol H2O removed (gal.) | pH (std. units) | Temp. (C) F° | Conductivity (us or ms) | Comments | PPt |
|---|---|---|---|---|---|---|---|
| 1100 | 0.25 | 0.25 | 7.54 | 49.8 | 3.94 | clear/Black, Black specs, No odor | 1.97 |
| | 0.25 | 0.50 | 7.75 | 49.1 | 3.94 | " " | 1.98 |
| | 0.25 | 0.75 | 7.79 | 48.9 | 3.84 | Black/gray, Black specs, No odor | DN 1.93 |
| | 0.25 | 1.00 | 7.81 | 48.9 | 3.90 | Black, Black specs, Black sediment, No odor | 1.95 |
| | 0.50 | 1.50 | 7.81 | 49.1 | 3.88 | " " | 1.95 |
| | 0.50 | 2.00 | 7.82 | 49.5 | 3.92 | " " | 1.95 |
| | 1.00 | 3.00 | 7.81 | 49.6 | 3.96 | " " | 1.97 |
| | 1.00 | 4.00 | 7.83 | 49.6 | 3.94 | Black, B.specs, Cloudy No odor " | 1.97 |
| | 1.00 | 5.00 | 7.85 | 49.6 | 3.92 | " " | 1.97 |
| | 0.50 | 5.50 | 7.81 | 49.6 | 3.91 | " " | 1.96 |
| | 0.25 | 5.75 | 7.85 | 49.6 | 3.95 | " " | 1.97 |
| | 0.25 | 6.00 | 7.83 | 49.6 | 3.89 | " " | 1.95 |
| | 0.25 | 6.25 | 7.82 | 49.5 | 3.92 | " " | 1.97 |
| 1135 | 0.25 | 6.50 | 7.83 | 49.6 | 3.90 | " " | 1.96 |
| | | | | | | | |
| | | | | | | | |

**Comments:** Filter samples → Filter BTEX Sample

**Describe Deviations from SOP:** N/A

**Signature:** _____ **Date:** 2/27/14

# Water Sample Collection Form

| | | | |
|---|---|---|---|
| Sample Location | J-VENT | Client | Williams |
| Sample Date | 2/27/14 | Project Name | ~~034013012DW~~ J-VENT |
| Sample Time | 1250 | Project # | 03401302 |
| Sample ID | MW-14 | Sampler | Daniel Newman |
| Analyses | BTEX, SULFATE, chloride, TOTAL IRON, Nitrate/Nitrite, TDS | | |
| Matrix | GW | Laboratory | HALL |
| Turn Around Time | Standard | Shipping Method | KRISTINE |
| Trip Blank | yes | Other QA/QC | Standard |
| Depth to Water | 5.86 | TD of Well | 20.22 |
| Time | 1220 | Depth to Product | N/A |

Vol. of H2O to purge: 20.22-5.86 = 14.36 x 0.1631 = 2.342116 x 3 = 7.02

*(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols*

Method of Purging: Bailer

Method of Sampling: Bailer

| Time | Vol. Removed (gal.) | Total Vol H2O removed (gal.) | pH (std. units) | Temp. (C)F | Conductivity (us or ms) | Comments | |
|---|---|---|---|---|---|---|---|
| 1220 | | 0.25 | 7.83 | 47.8 | 408 | clear/orange/orange flakes, No odor | 2.11 |
| | | 0.50 | 7.68 | 46.2 | 4.13 | Lite Brown / slight sheen / No odor | 2.06 |
| | | 0.75 | 7.72 | 46.2 | 4.06 | " " | 2.03 |
| | | 1.00 | 7.72 | 46.0 | 4.10 | Lite Brown, slight sheen/cloudy No odor | 2.05 |
| | | 1.50 | 7.71 | 6DW 46.2 | 4.17 | " " | 2.09 |
| | | 2.00 | 7.72 | 46.1 | 4.16 | " " | 2.07 |
| | | 3.00 | 7.72 | 46.4 | 4.17 | " " | 2.07 |
| | | 4.00 | 7.73 | 46.6 | 4.11 | Brown, Cloudy, slight sheen | 2.06 |
| | | 5.00 | 7.74 | 46.5 | 4.04 | " " | 2.02 |
| | | 6.00 | 7.74 | 46.9 | 4.01 | " " | 2.00 |
| | | 6.25 | 7.75 | 46.8 | 4.01 | " " | 2.01 |
| | | 6.50 | 7.74 | 46.9 | 3.98 | " " | 1.99 |
| | | 6.75 | 7.74 | 46.8 | 4.03 | " " | 2.00 |
| 1250 | | 7.00 | 7.75 | 46.9 | 4.01 | " " | 2.01 |
| | | | | | | | |
| | | | | | | | |

**Comments:** Filter BTEX sample

**Describe Deviations from SOP:** N/A

**Signature:** _____ **Date:** 2/27/14

LTE

# Water Sample Collection Form

| | | | |
|---|---|---|---|
| Sample Location | J-Vent | Client | Williams |
| Sample Date | 2/27/14 | Project Name | J-Vent |
| Sample Time | 1350 | Project # | 034013012 |
| Sample ID | MW-15 | Sampler | DN |
| Analyses | BTEX, SULFATE, CHLORIDE, TOTAL IRON, NITRATE/NITRITE, TDS | | |
| Matrix | GW | Laboratory | HALL |
| Turn Around Time | Standard | Shipping Method | Christine |
| Trip Blank | yes | Other QA/QC | Standard |
| Depth to Water | 5.99 | TD of Well | 19.43 |
| Time | 1315 | Depth to Product | N/A |

Vol. of H2O to purge: 19.43 - 5.99 = 13.44 x 0.1631 = 2.192064 x 3 = 6.57

*(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols*

Method of Purging: Bailer

Method of Sampling: Bailer

| Time | Vol. Removed (gal.) | Total Vol H2O removed (gal.) | pH (std. units) | Temp. (C) F | Conductivity (us or ms) | Comments | PPB |
|---|---|---|---|---|---|---|---|
| 1315 | 0.25 | 0.25 | 7.47 | 45.9 | 3.59 | clear/Brown, no odor | 1.78 |
| | 0.25 | 0.50 | 7.53 | 44.4 | 3.61 | " " | 1.79 |
| | 0.25 | 0.75 | 7.60 | 44.1 | 3.67 | " " | 1.84 |
| | 0.50 | 1.00 | 7.65 | 44.2 | 3.68 | LtBrown, No odor | 1.83 |
| | 0.50 | 1.50 | 7.66 | 43.9 | 3.64 | LtBrown, Cloudy No odor | 1.83 |
| | 0.50 | 2.00 | 7.66 | 44.1 | 3.67 | " " | 1.83 |
| | 1.00 | 3.00 | 7.68 | 44.2 | 3.66 | BROWN, Cloudy, NO odor | 1.82 |
| | 1.00 | 4.00 | 7.66 | 44.2 | 3.70 | " " | 1.86 |
| | 1.00 | 5.00 | 7.66 | 44.2 | 3.70 | " " | 1.84 |
| | 0.50 | 5.50 | 7.67 | 44.1 | 3.69 | " " | 1.81 |
| | 0.25 | 5.75 | 7.67 | 44.2 | 3.67 | " " | 1.83 |
| | 0.25 | 6.00 | 7.66 | 44.2 | 3.68 | " " | 1.81 |
| | 0.25 | 6.25 | 7.59 | 44.2 | 3.67 | " " | 1.84 |
| 1350 | 0.25 | 6.50 | 7.61 | 44.2 | 3.69 | " " | 1.83 |
| | | | | | | | |
| | | | | | | | |

**Comments:** Filter BTEX SAMPLE

**Describe Deviations from SOP:** N/A

**Signature:** _____ **Date:** 2/27/14

# Water Sample Collection Form

| | | | |
|---|---|---|---|
| Sample Location | J-VENT | Client | Williams |
| Sample Date | 2/27/14 | Project Name | J-VENT |
| Sample Time | 1030 | Project # | 034013012 |
| Sample ID | MW-16 | Sampler | DN |
| Analyses | BTEX, Sulfate, Chloride, total Iron, Nitrate/Nitrite, TDS | | |
| Matrix | GW | Laboratory | HALL |
| Turn Around Time | Standard | Shipping Method | Christine |
| Trip Blank | Yes | Other QA/QC | Standard |
| Depth to Water | 5.49 | TD of Well | 19.56 |
| Time | 10.01 | Depth to Product | N/A |

Vol. of H2O to purge: 19.56 - 5.49 = 14.07 x 0.1631 = 2.294817 x 3 = 6.88

*(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols*

Method of Purging: Bailer

Method of Sampling: Bailer

| Time | Vol. Removed (gal.) | Total Vol H2O removed (gal.) | pH (std. units) | Temp. (C/F°) | Conductivity (us or ms) | Comments | PPE |
|---|---|---|---|---|---|---|---|
| 10.01 | 0.25 | 0.25 | 7.45 | 45.7 | 5.34 | clear/Brown, small Brown flecks, No odor | 2.66 |
| | 0.25 | 0.50 | 7.60 | 44.6 | 5.40 | lite Brown, small Brown flecks No odor | 2.70 |
| | 0.25 | 0.75 | 7.62 | 44.1 | 5.42 | " " | 2.71 |
| | 0.25 | 1.00 | 7.65 | 44.1 | 5.42 | " " | 2.72 |
| | 0.50 | 1.50 | 7.63 | 44.2 | 5.42 | " " | 2.71 |
| | 0.50 | 2.00 | 7.72 | 44.4 | 5.42 | lite Brown, cloudy | 2.71 |
| | 0.50 | 2.50 | 7.70 | 44.2 | 5.45 | " " | 2.73 |
| | 0.50 | DUP 0.50 | 7.72 | 44.6 | 5.44 | " " | 2.72 |
| | 0.50 | 3.00 | 7.72 | 44.6 | 5.49 | Brown, cloudy | 2.73 |
| | 1.00 | 4.00 | 7.74 | 45.3 | 5.44 | " " | 2.70 |
| | 1.00 | 5.00 | 7.60 | 44.6 | 5.50 | " " | 2.74 |
| | 1.00 | 6.00 | 7.62 | 44.7 | 5.48 | " " | 2.71 |
| | 0.25 | 6.25 | 7.70 | 44.4 | 5.50 | " " | 2.75 |
| | 0.25 | 6.50 | 7.71 | 44.4 | 5.49 | " " | 2.75 |
| | 0.25 | 6.75 | 7.75 | 44.2 | 5.50 | " " | 2.75 |
| 1030 | 0.25 | 7.00 | 7.75 | 44.2 | 5.48 | Brown, Cloudy | 2.74 |

**Comments:** N/A NO SAMPLES FILTERED

**Describe Deviations from SOP:** N/A

**Signature:** _____ **Date:** 2/27/14

# Water Sample Collection Form

| | | | |
|---|---|---|---|
| Sample Location | J-Vent | Client | Williams Field Services |
| Sample Date | 5/28/2014 | Project Name | San Juan Basin Remediation |
| Sample Time | 1154 | Project # | 034013010 |
| Sample ID | MW-13 | Sampler | Daniel Newman |
| Analyses | BTEX 8021, Sulfate, Chloride, Total Iron, Nitrate/Nitrite, TDS | | |
| Matrix | Groundwater | Laboratory | Hall Environmental |
| Turn Around Time | Standard | Shipping Method | Hand delivery |
| Depth to Water | 7.28 | TD of Well | 19.28 |
| Time | 1117 | Depth to Product | N/A |
| Vol. of H2O to purge | 19.28 - 7.28 = 12 x 0.1631 = 1.9572 x 3 = 5.8716 | | |

*(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols*

Method of Purging: PVC Bailer

Method of Sampling: PVC Bailer

| Time | Vol. Removed (gal.) | Total Vol H2O removed (gal.) | pH (std. units) | Temp. (C) F | Conductivity (us or ms) | Comments |
|---|---|---|---|---|---|---|
| 1117 | 0.25 | 0.25 | 7.65 | 61.2 | 3.16 | clear/gray slight odor, slight sed |
| | 0.25 | 0.50 | 7.57 | 57.8 | 3.08 | gray/Black, cloudy, sed, no odor |
| | 0.25 | 0.75 | 7.55 | 57.4 | 3.06 | Dark Gray, cloudy sed, slight odor |
| | 0.25 | 1.00 | 7.51 | 56.8 | 3.07 | NO change |
| | 1.00 | 2.00 | 7.58 | 55.6 | 3.10 | NO change |
| | 1.00 | 3.00 | 7.62 | 55.9 | 3.09 | NO change |
| | 1.00 | 4.00 | 7.63 | 55.4 | 3.03 | NO change |
| | 1.00 | 5.00 | 7.67 | 55.9 | 3.03 | NO change |
| | 0.25 | 5.25 | 7.62 | 55.8 | 3.04 | NO change |
| | 0.25 | 5.50 | 7.65 | 55.0 | 3.01 | NO change |
| | 0.25 | 5.75 | 7.62 | 55.7 | 3.02 | GRAY/Brown, cloudy, Sed, NO odor |
| 1143 | 0.25 | 6.00 | 7.67 | 56.9 | 3.04 | NO change |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

**Comments:** Sampled @ 1154 BTEX samples Filtere 0.45um Filter

**Describe Deviations from SOP:** NO

**Signature:** [signature] **Date:** 5/28/14

# Water Sample Collection Form

| | | | |
|---|---|---|---|
| Sample Location | J-Vent | Client | Williams Field Services |
| Sample Date | 5/28/2014 | Project Name | San Juan Basin Remediation |
| Sample Time | 1250 | Project # | 034013010 |
| Sample ID | MW-14 | Sampler | Daniel Newman |
| Analyses | BTEX 8021, Sulfate, Chloride, Total Iron, Nitrate/Nitrite, TDS | | |
| Matrix | Groundwater | Laboratory | Hall Environmental |
| Turn Around Time | Standard | Shipping Method | Hand delivery |
| Depth to Water | 6.55 | TD of Well | 20.22 |
| Time | 1214 | Depth to Product | N/A |

Vol. of H2O to purge: 20.22 - 6.55 = 13.67 x 0.1631 = 2.229577 x 3 = 6.688

*(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols*

Method of Purging: PVC Bailer

Method of Sampling: PVC Bailer

| Time | Vol. Removed (gal.) | Total Vol H2O removed (gal.) | pH (std. units) | Temp. (C)F | Conductivity (us or ms) | Comments |
|---|---|---|---|---|---|---|
| 1214 | 0.25 | ~~0.50~~ 0.25 | 7.20 | 59.2 | 2.45 | clear/yellow, little sed, no odor |
| | 0.25 | 0.50 | 7.30 | 57.8 | 2.43 | lite Brown, cloudy, no odor, slight sheen |
| | 0.25 | 0.75 | 7.31 | 56.1 | 2.52 | NO change |
| | 0.25 | 1.00 | 7.30 | 55.8 | 2.53 | NO change |
| | 1.00 | 2.00 | 7.29 | 54.7 | 2.54 | NO change |
| | 1.00 | 3.00 | 7.35 | 54.5 | 2.64 | NO change |
| | 1.00 | 4.00 | 7.31 | 54.7 | 2.64 | NO change |
| | 1.00 | 5.00 | 7.34 | 54.0 | 2.63 | NO change |
| | 1.00 | 6.00 | 7.37 | 53.4 | 2.62 | NO change |
| | 0.25 | 6.25 | 7.32 | 54.0 | 2.63 | NO change |
| | 0.25 | 6.50 | 7.35 | 53.7 | 2.64 | NO change |
| | 0.25 | 6.75 | 7.29 | 54.3 | 2.58 | NO change |
| 1237 | 0.25 | 7.00 | 7.31 | 54.1 | 2.60 | NO change |
| | | | | | | |
| | | | | | | |
| | | | | | | |

**Comments:** Samples collected @ 1250

BTEX Samples filtered 0.45um

**Describe Deviations from SOP:** NO

**Signature:** _____ **Date:** 5/28/14

# Water Sample Collection Form

| | | | |
|---|---|---|---|
| Sample Location | J-Vent | Client | Williams Field Services |
| Sample Date | 5/28/2014 | Project Name | San Juan Basin Remediation |
| Sample Time | 1357 | Project # | 034013010 |
| Sample ID | MW-15 | Sampler | Daniel Newman |
| Analyses | BTEX 8021, Sulfate, Chloride, Total Iron, Nitrate/Nitrite, TDS | | |
| Matrix | Groundwater | Laboratory | Hall Environmental |
| Turn Around Time | Standard | Shipping Method | Hand delivery |
| Depth to Water | 6.73 | TD of Well | 19.43 |
| Time | 1312 | Depth to Product | N/A |

Vol. of H2O to purge: 19.43-6.73=12.70x0.1631=2.07137 x 3 =6.21411

*(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols*

Method of Purging: PVC Bailer

Method of Sampling: PVC Bailer

| Time | Vol. Removed (gal.) | Total Vol H2O removed (gal.) | pH (std. units) | Temp. (C) F | Conductivity (us or ms) | Comments |
|---|---|---|---|---|---|---|
| 1312 | 0.25 | 0.25 | 7.38 | 59.7 | 2.15 | clear, little sed, No odor |
| | 0.25 | 0.50 | 7.40 | 55.0 | 2.20 | lite Brown, cloudy no odor |
| | 0.25 | 0.75 | 7.42 | 54.3 | 2.27 | No change |
| | 0.25 | 1.00 | 7.40 | 54.5 | 2.30 | lite Brown, cloudy, Sed, No odor |
| | 1.00 | 2.00 | 7.37 | 55.6 | 2.35 | No change |
| | 1.00 | 3.00 | 7.37 | 53.6 | 2.40 | NO change |
| | 1.00 | 4.00 | 7.40 | 53.8 | 2.35 | NO change |
| | 1.00 | 5.00 | ~~7.41~~ 7.41 | 53.6 | 2.37 | NO change |
| | 0.25 | 5.25 | 7.41 | 53.7 | 2.39 | NO change |
| | 0.25 | 5.50 | ~~7.40~~ 7.40 | 53.7 | 2.37 | NO change |
| | 0.25 | 5.75 | ~~7.41~~ 7.41 | 53.8 | 2.38 | NO change |
| | 0.25 | 6.00 | 7.40 | 53.8 | 2.39 | NO change |
| 1342 | 0.25 | 6.25 | 7.40 | 53.8 | 2.38 | NO change |
| | | | | | | |
| | | | | | | |
| | | | | | | |

**Comments:** Sample @ 1357
BTEX sample Filtered by 0.45um Filter

**Describe Deviations from SOP:** NO

**Signature:** [signature] **Date:** 5/28/14

LTE

# Water Sample Collection Form

| | | | |
|---|---|---|---|
| Sample Location | J-Vent | Client | Williams Field Services |
| Sample Date | 5/28/2014 | Project Name | San Juan Basin Remediation |
| Sample Time | 1055 | Project # | 034013010 |
| Sample ID | MW-16 | Sampler | Daniel Newman |
| Analyses | BTEX 8021, Sulfate, Chloride, Total Iron, Nitrate/Nitrite, TDS | | |
| Matrix | Groundwater | Laboratory | Hall Environmental |
| Turn Around Time | Standard | Shipping Method | Hand delivery |
| Depth to Water | 6.06 | TD of Well | 19.56 |
| Time | 1023 | Depth to Product | N/A |

Vol. of H2O to purge: 19.56-6.06 = 13.05 x 0.1631 = 2.20185 x 3 = 6.60555

*(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols*

Method of Purging: PVC Bailer

Method of Sampling: PVC Bailer

| Time | Vol. Removed (gal.) | Total Vol H2O removed (gal.) | pH (std. units) | Temp. ~~°C~~ °F | Conductivity (us or ~~ms~~) | Comments |
|---|---|---|---|---|---|---|
| 1023 | 0.25 | 0.25 | 7.59 | 58.6 | 3.90 | Lt Brown, slight sed, No odor |
| | 0.25 | 0.50 | 7.62 | 57.2 | 3.90 | Brown, cloudy, No odor |
| | 0.25 | 0.75 | 7.64 | 55.0 | 4.02 | NO change |
| | 0.25 | 1.00 | 7.64 | 55.1 | 4.00 | NO change |
| | 1.00 | 2.00 | 7.68 | 54.1 | 4.13 | NO change |
| | 1.00 | 3.00 | 7.67 | 54.7 | 4.16 | NO change |
| | 1.00 | 4.00 | 7.69 | 54.1 | 4.20 | NO change |
| | 1.00 | 5.00 | 7.67 | 54.5 | 4.16 | NO change |
| | 1.00 | 6.00 | 7.68 | 54.9 | 4.23 | NO change |
| | 0.25 | 6.25 | 7.64 | 55.8 | 4.17 | NO change |
| | 0.25 | 6.50 | 7.67 | 54.5 | 4.28 | NO change |
| 1049 | 0.25 | 6.75 | 7.63 | 54.9 | 4.30 | NO change |
| | | | | | | |
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**Comments:** Samples collected @ 1055 BTEX Filtered through 0.45um Filter

**Describe Deviations from SOP:** NO

**Signature:** _____ **Date:** 5/28/14

# Water Sample Collection Form

| | | | |
|---|---|---|---|
| Sample Location | Jvent | Client | Williams Four Corners |
| Sample Date | 8/26/14 | Project Name | San Juan Basin Remediation |
| Sample Time | 1155 | Project # | 034014001 |
| Sample ID | MW-13 | Sampler | AE |
| Analyses | BTEX 8021 | | |
| Matrix | Groundwater | Laboratory | Hall Environmental |
| Turn Around Time | Standard | Shipping Method | Hand delivery |
| Depth to Water | 7.32 | TD of Well | 19.28 |
| Time | 1115 | Depth to Product | N/A |

Vol. of H2O to purge: 19.28 - 7.32 = 11.96 X .1631 = 1.95 X 3 = 5.9941

*(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols*

Method of Purging: PVC Bailer

Method of Sampling: PVC Bailer

| Time | Vol. Removed (gal.) | Total Vol H2O removed (gal.) | pH (std. units) | Temp. (C) | Conductivity (us or ms) | Comments |
|---|---|---|---|---|---|---|
| 1140 | 1 | 1 | 7.63 | ~~68~~.68.9 | 3.26 | Slightly cloudy/ Hydrocarbon Sheen |
| 1143 | 2 | 2 | 7.62 | 63.6 | 3.13 | Black/A cloudy/ Strong odor |
| 1147 | 3 | 3 | 7.59 | 63.8 | 3.15 | " |
| 1149 | 4 | 4 | 7.45 | 63.2 | 3.09 | " |
| 1152 | 5 | 5 | 7.50 | 59.9 | 3.10 | " |
| 1155 | 6 | 6 | 7.62 | 59.5 | 3.12 | Tore Sample |
| | | | | | | |
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**Comments:** Sample @ 1155 BTEX Samples filtered 0.45mm filter

**Describe Deviations from SOP:** NO

**Signature:** Alex Cooper **Date:** 08/26/14

LTE

# Water Sample Collection Form

| | | | |
|---|---|---|---|
| Sample Location | Jvent | Client | Williams Four Corners |
| Sample Date | 8/26/14 | Project Name | San Juan Basin Remediation |
| Sample Time | 1415 | Project # | 034014001 |
| Sample ID | MW-14 | Sampler | AC |
| Analyses | BTEX 8021 | | |
| Matrix | Groundwater | Laboratory | Hall Environmental |
| Turn Around Time | Standard | Shipping Method | Hand delivery |
| Depth to Water | 6.50 | TD of Well | 20.22 |
| Time | 1115 | Depth to Product | N/A |

Vol. of H2O to purge: 20.22 - 6.50 = 13.72 x 0.1631 = 2.24 x 3 = 6.71 gal

*(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols*

Method of Purging: PVC Bailer

Method of Sampling: PVC Bailer

| Time | Vol. Removed (gal.) | Total Vol H2O removed (gal.) | pH (std. units) | Temp. ( C) | Conductivity (us or ms) | Comments |
|---|---|---|---|---|---|---|
| 0345 | .50 | .50 | 7.60 | 63.5 | 3.15 | Clear, Slightly cloudy, No odor |
| | .50 | 1 | 7.59 | 60.1 | 3.09 | Slight color, Slight cloud, No odor |
| | .50 | 1.50 | 7.65 | 59.8 | 3.07 | No change |
| | .50 | 2 | 7.61 | 58.9 | 3.07 | " |
| | .50 | 2.50 | 7.58 | 58.5 | 3.10 | " |
| | 1 | 3 | 7.58 | 57.7 | 3.11 | " |
| | 1 | 4 | 7.55 | 57.8 | 3.05 | " |
| | 1 | 5 | 7.59 | 58.1 | 3.06 | " |
| | 1 | 6 | 7.58 | 57.9 | 3.09 | light brown, Slight Cloudy |
| 1415 | 1 | 7 | 7.57 | 57.5 | 3.06 | Took Sample |
| | | | | | | |
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**Comments:** Sampled @ 1415 BTEX filtered 0.45mm

**Describe Deviations from SOP:** NO

**Signature:** Celia Crawford **Date:** 8/26/14

# Water Sample Collection Form

| | | | |
|---|---|---|---|
| Sample Location | Jvent | Client | Williams Four Corners |
| Sample Date | 8/26/14 | Project Name | San Juan Basin Remediation |
| Sample Time | 1503 | Project # | 034014001 |
| Sample ID | MW-15 | Sampler | AC |
| Analyses | BTEX 8021 | | |
| Matrix | Groundwater | Laboratory | Hall Environmental |
| Turn Around Time | Standard | Shipping Method | Hand delivery |
| Depth to Water | 6.66 | TD of Well | 19.43 |
| Time | 1115 | Depth to Product | N/A |
| Vol. of H2O to purge | 19.43 - 6.66 = 12.77 x .1631 = 2.08 x 3 = 6.25 gal | | |

*(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols*

Method of Purging: PVC Bailer

Method of Sampling: PVC Bailer

| Time | Vol. Removed (gal.) | Total Vol H2O removed (gal.) | pH (std. units) | Temp. ( C) | Conductivity (us or ms) | Comments |
|---|---|---|---|---|---|---|
| 1423 | .50 | .50 | 7.43 | 61.5 | 2.45 | Cloudy, No color, Slight odor |
| | .50 | 1 | 7.45 | 60.00 | 2.37 | Cloudy, Brown, Slight odor |
| | .50 | 1.50 | 7.40 | 58.9 | 2.35 | No change |
| | .50 | 2 | 7.41 | 59.1 | 2.39 | " |
| | 1 | 3 | 7.43 | ~~59~~ 59.7 | 2.36 | " |
| | 1 | 4 | 7.44 | 59.5 | 2.35 | " |
| | 1 | 5 | 7.40 | 58.6 | 2.33 | " |
| | 1 | 6 | 7.39 | 58.5 | 2.34 | " |
| 1503 | .50 | 6.5 | 7.36 | 58.3 | 2.35 | Sampled |
| | | | | | | |
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**Comments:** Sampled @ 1503 BTEX sample filtered by 0.45mm filter

**Describe Deviations from SOP:** ND

**Signature:** Allie Cooper **Date:** 8/26/14

# Water Sample Collection Form

| | | | |
|---|---|---|---|
| Sample Location | Jvent | Client | Williams Four Corners |
| Sample Date | 8/26/14 | Project Name | San Juan Basin Remediation |
| Sample Time | 1537 | Project # | 034014001 |
| Sample ID | MW-16 | Sampler | Ac |
| Analyses | BTEX 8021 | | |
| Matrix | Groundwater | Laboratory | Hall Environmental |
| Turn Around Time | Standard | Shipping Method | Hand delivery |
| Depth to Water | 6.18 | TD of Well | 19.56 |
| Time | 1115 | Depth to Product | N/A |

Vol. of H2O to purge: 19.56 - 6.18 = 13.38 x .1631 = 2.18 x 3 = 6.55 gal

*(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols*

Method of Purging: PVC Bailer

Method of Sampling: PVC Bailer

| Time | Vol. Removed (gal.) | Total Vol H2O removed (gal.) | pH (std. units) | Temp. ( C) | Conductivity (us or ms) | Comments |
|---|---|---|---|---|---|---|
| 1515 | .50 | .50 | 7.69 | 56.0 | 4.13 | Light Brown/Cloudy/Slight odor |
| | .50 | 1 | 7.73 | 55.8 | 4.09 | Dark brown/Cloudy/Slight odor |
| | .50 | 1.50 | 7.71 | 53.6 | 4.05 | No Change |
| | .50 | 2 | 7.68 | 53.5 | 4.10 | " |
| | 1 | 3 | | | | Water quality meter not work |
| | 1 | 4 | | | | " |
| | 1 | 5 | | Ac | | " |
| | 1 | 6 | | | | " |
| | .50 | 6.50 | | | | " |
| 1537 | .25 | 6.75 | | | | Took Sample |
| | | | | | | |
| | | | | | | |
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| | | | | | | |
| | | | | | | |
| | | | | | | |

**Comments:** Sampled @ 1537 BTEX Filtered 0.45mm Water Quality meter Stopped working ~~and~~ Ac at . Have no batteries to change out old ones

**Describe Deviations from SOP:** NO

**Signature:** [signature] **Date:** 8/26/14

# Water Sample Collection Form

Sample Location: MW-13 J-VENT
Client: Williams
Sample Date: 11/20/14
Project Name: J-Vent Quarterly monitoring
Sample Time: 1230
Project #: 03401400 1
Sample ID: MW-13
Sampler: Daniel Newman
Analyses: BTEX, Chloride, TDS, Sulfate, Nitrite, Nitrate, Total IRON
Matrix: GW
Laboratory: HALL
Turn Around Time: Standard
Shipping Method: Christine
Trip Blank: Yes
Other QA/QC: Standard
Depth to Water: 7.08
TD of Well: 19.28
Time: 1150
Depth to Product: N/A
Vol. of H2O to purge: 19.28-7.08 = 12.2 x 0.1631 = 1.98 = 5.96
*(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols*
Method of Purging: Bailer
Method of Sampling: Bailer

| Time | Vol. Removed (gal.) | Total Vol H2O removed (gal.) | pH (std. units) | Temp. (C) F | Conductivity (us or ms) | Comments |
|---|---|---|---|---|---|---|
| 1150 | 0.25 | 0.25 | 7.73 | 59.2 | 1.47 | dk/Blk, Blk specs, NO odor NO sheen |
| | 0.25 | 0.50 | 7.70 | 59.2 | 1.44 | NO change |
| | 0.25 | 0.75 | 7.58 | 59.4 | 1.47 | Blk cloudy, less HC odor, NO sheen |
| | 0.25 | 1.00 | 7.57 | 59.7 | 1.49 | Blk cloudy, slight HC odor, NO sheen |
| | 1.00 | 2.00 | 7.51 | 59.2 | 1.52 | NO change |
| | 1.00 | 3.00 | 7.52 | 59.5 | 1.52 | Blk BRWN sed/cloudy, NO odor sheen |
| | 1.00 | 4.00 | 7.53 | 59.5 | 1.52 | NO change |
| | 1.00 | 5.00 | 7.52 | 60.1 | 1.49 | NO change |
| | 0.50 | 5.50 | 7.52 | 59.9 | 1.50 | NO change |
| | 0.50 | 6.00 | 7.52 | 59.9 | 1.50 | NO change |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

**Comments:** Sampled @ 6.0 gallons
Filtered BTEX & IRON Sample
Relabel Well Casing
Decon Equipment
Dump Purge H2O on site

**Describe Deviations from SOP:** N/A

**Signature:** _____ **Date:** 11/20/14

LTE

# Water Sample Collection Form

Sample Location: ~~J-vent~~ J vent DW MW-14
Client: Williams
Sample Date: 11/20/14
Project Name: J-vent Quarterly monitoring
Sample Time: 1120
Project #: 03401400I
Sample ID: MW-14
Sampler: Daniel Newmen
Analyses: BTEX. TDS. Chloride. Sulfate. Nitrate. Nitrite. Total Iron
Matrix: GW
Laboratory: Hall
Turn Around Time: Standard
Shipping Method: Christine
Trip Blank: Yes
Other QA/QC: Standard
Depth to Water: 6.31
TD of Well: 20.22
Time: 1045
Depth to Product: N/A
Vol. of H2O to purge: 20.22 - 6.31 = 13.91 x 0.1631 = 2.26 x 3 = 6.80
*(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols*
Method of Purging: Bailer
Method of Sampling: Bailer

| Time | Vol. Removed (gal.) | Total Vol H2O removed (gal.) | pH (std. units) | Temp. (C) ~~F~~ | Conductivity (us or ms) | Comments |
|---|---|---|---|---|---|---|
| 1045 | 0.25 | 0.25 | 7.30 | 56.7 | 1.12 | lite Brwn Sed. NO ODOR NO Sheen |
| | 0.25 | 0.50 | 7.35 | 57.4 | 1.16 | Brown sed NO odor/sheen |
| | 0.25 | 0.75 | 7.39 | 57.2 | 1.16 | NO change |
| | 0.25 | 1.00 | 7.39 | 57.4 | 1.17 | Brown clady sed. NO odor, NO sheen |
| | 1.00 | 2.00 | 7.40 | 56.8 | 1.22 | NO change |
| | 1.00 | 3.00 | 7.35 | 57.5 | 1.23 | NO change |
| | 1.00 | 4.00 | 7.37 | 58.3 | 1.24 | NO change |
| | 1.00 | 5.00 | 7.40 | 58.1 | 1.22 | NO change |
| | 1.00 | 6.00 | 7.41 | 58.3 | 1.23 | NO change |
| | .50 | 6.50 | 7.42 | 58.3 | 1.23 | NO change |
| | .50 | 7.00 | 7.41 | 58.3 | 1.23 | NO change |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

**Comments:** Bailed 7.0 gallons before sample
Relabel well casing
Filter samples = Total IRON & BTEX
Decon Equipment

**Describe Deviations from SOP:** N/A

**Signature:** [signature] **Date:** 11/20/14

## Water Sample Collection Form

| | | | |
|---|---|---|---|
| Sample Location | Williams J-Vent | Client | Williams |
| Sample Date | 11/20/14 | Project Name | 03401400 1 |
| Sample Time | 1000 | Project # | J-VENT Quarterly monitoring |
| Sample ID | MW-15 | Sampler | Daniel Newman |
| Analyses | BTEX, TDS, chloride, sulfate, Nitrate, Nitrite, Total Fe | | |
| Matrix | GW | Laboratory | HALL |
| Turn Around Time | Standard | Shipping Method | Christine |
| Trip Blank | yes | Other QA/QC | Standard 2 |
| Depth to Water | 6.42 | TD of Well | 19.42 |
| Time | 930 | Depth to Product | N/A |

Vol. of H2O to purge: 19.42 - 6.42 = 13 x 0.1631 = 2.12 x 3 = 6.36

*(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols*

Method of Purging: Bailer

Method of Sampling: Bailer

| Time | Vol. Removed (gal.) | Total Vol H2O removed (gal.) | pH (std. units) | Temp. (c) F | Conductivity (us or ms) | Comments |
|---|---|---|---|---|---|---|
| 930 | 0.25 | 0.25 | 7.30 | 55.0 | 1.21 | lite Brown, cloudy, sed. No odor sheen |
| | 0.25 | 0.50 | 7.33 | 55.0 | 1.22 | No change |
| | 0.25 | 0.75 | 7.36 | 55.4 | 1.22 | No change |
| | 0.25 | 1.00 | 7.35 | 55.4 | 1.25 | No change |
| | 1.00 | 2.00 | 7.41 | 55.1 | 1.29 | No change |
| | 1.00 | 3.00 | 7.44 | 55.2 | 1.23 | Brown, cloudy, sed No odor sheen |
| | 1.00 | 4.00 | 7.44 | 55.2 | 1.24 | No change |
| | 1.00 | 5.00 | 7.42 | 55.2 | 1.20 | No change |
| | 1.00 | 6.00 | 7.44 | 55.2 | 1.21 | No change |
| 1000 | .50 | 6.50 | 7.44 | 55.2 | 1.20 | No change |
| | | | | | | |
| | | Sampled @ | 1000 | | 6.5 gallons | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

**Comments:** Bailed 6.5 gallons then sampled
relabled well caseing
Filtered BTEX & IRON samples
Decon equipment
Dump Purge H2O water on site

**Describe Deviations from SOP:** N/A

**Signature:** _____ **Date:** 11/20/14

# Water Sample Collection Form

| | | | |
|---|---|---|---|
| Sample Location | Juent Qua | Client | Williams |
| Sample Date | 11/20/14 | Project Name | Juent Quarterly samplins |
| Sample Time | 1330 | Project # | 03401401 |
| Sample ID | MW-16 | Sampler | Daniel Newman |
| Analyses | BTEX, TDS, chloride, sulfate, Nitrate Nitrite, Total Iron | | |
| Matrix | GW | Laboratory | HALL |
| Turn Around Time | Standard | Shipping Method | Christine |
| Trip Blank | YES | Other QA/QC | Standard |
| Depth to Water | 5.96 | TD of Well | 19.56 |
| Time | 1255 | Depth to Product | N/A |

Vol. of H2O to purge: 19.56 - 5.96 = 13.60 x 0.1631 = 2.21 x 3 = 6.65

*(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols*

Method of Purging: Bailer

Method of Sampling: Bailer

| Time | Vol. Removed (gal.) | Total Vol H2O removed (gal.) | pH (std. units) | Temp. (C) F | Conductivity (us or ms) | Comments |
|---|---|---|---|---|---|---|
| 1255 | 0.25 | 0.25 | 7.38 | 57.7 | 1.76 | Brown/Red, sed. No odor sheen |
| | 0.25 | 0.50 | 7.45 | 57.2 | 1.74 | lte Brown, sed. cloudy, No sheen odor |
| | 0.25 | 0.75 | 7.45 | 57.0 | 1.76 | No change |
| | 0.25 | 1.00 | 7.49 | 56.8 | 1.79 | Brown, clady, sed. No odor sheen |
| | 1.00 | 2.00 | 7.49 | 57.2 | 1.87 | No change |
| | 1.00 | 3.00 | 7.49 | 57.2 | 1.91 | NO change |
| | 1.00 | 4.00 | 7.46 | 57.2 | 1.85 | NO change |
| | 1.00 | 5.00 | 7.47 | 57.4 | 1.87 | NO change |
| | 1.00 | 6.00 | 7.43 | 57.4 | 1.97 | NO change |
| | 0.50 | 6.50 | 7.44 | 57.2 | 1.89 | NO change |
| | ~~0.50~~ | ~~6.50~~ | | | | ~~DW~~ |
| | 0.50 | 7.00 | 7.44 | 57.2 | 1.85 | No change |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

**Comments:** Decon Equipment
Filter BTEX & IRON samples
Re label well casing
Sampel @ 7.0 gallons
Dump Purge $H_2O$ @ on site containment

**Describe Deviations from SOP:** N/A

**Signature:** _____ **Date:** 11/20/14

LTE

**APPENDIX D**

**2014 ANALYTICAL LABORATORY REPORTS**

HALL ENVIRONMENTAL ANALYSIS LABORATORY

*Hall Environmental Analysis Laboratory*
*4901 Hawkins NE*
*Albuquerque, NM 87109*
*TEL: 505-345-3975 FAX: 505-345-4107*
*Website: www.hallenvironmental.com*

March 11, 2014

Ashley Ager
LTE
2243 Main Ave Suite 3
Durango, CO 81301
TEL: (970) 946-1093
FAX

RE: J-Vent OrderNo.: 1402B46

Dear Ashley Ager:

Hall Environmental Analysis Laboratory received 4 sample(s) on 2/28/2014 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** LTE
**Client Sample ID:** MW-16
**Project:** J-Vent
**Collection Date:** 2/27/2014 10:30:00 AM
**Lab ID:** 1402B46-001
**Matrix:** AQUEOUS
**Received Date:** 2/28/2014 10:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **JMP** | |
| Benzene | ND | 2.0 | | µg/L | 2 | 3/3/2014 9:14:28 PM | R17069 |
| Toluene | ND | 2.0 | | µg/L | 2 | 3/3/2014 9:14:28 PM | R17069 |
| Ethylbenzene | ND | 2.0 | | µg/L | 2 | 3/3/2014 9:14:28 PM | R17069 |
| Xylenes, Total | ND | 4.0 | | µg/L | 2 | 3/3/2014 9:14:28 PM | R17069 |
| Surr: 4-Bromofluorobenzene | 110 | 85-136 | | %REC | 2 | 3/3/2014 9:14:28 PM | R17069 |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **JRR** | |
| Chloride | 23 | 2.5 | | mg/L | 5 | 3/1/2014 12:28:05 AM | R17054 |
| Nitrogen, Nitrite (As N) | ND | 0.50 | | mg/L | 5 | 3/1/2014 12:28:05 AM | R17054 |
| Nitrogen, Nitrate (As N) | ND | 0.50 | | mg/L | 5 | 3/1/2014 12:28:05 AM | R17054 |
| Sulfate | 1600 | 25 | * | mg/L | 50 | 3/5/2014 10:25:02 PM | R17140 |
| **EPA METHOD 200.7: TOTAL METALS** | | | | | | Analyst: **JLF** | |
| Iron | 64 | 2.0 | * | mg/L | 100 | 3/5/2014 1:06:50 PM | 11998 |
| **SM2540C MOD: TOTAL DISSOLVED SOLIDS** | | | | | | Analyst: **KS** | |
| Total Dissolved Solids | 3720 | 200 | * | mg/L | 1 | 3/10/2014 10:55:00 AM | 12072 |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| O | RSD is greater than RSDlimit | P | Sample pH greater than 2. |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** LTE
**Client Sample ID:** MW-13
**Project:** J-Vent
**Collection Date:** 2/27/2014 11:35:00 AM
**Lab ID:** 1402B46-002
**Matrix:** AQUEOUS
**Received Date:** 2/28/2014 10:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **JMP** | |
| Benzene | ND | 2.0 | | µg/L | 2 | 3/3/2014 10:44:53 PM | R17069 |
| Toluene | ND | 2.0 | | µg/L | 2 | 3/3/2014 10:44:53 PM | R17069 |
| Ethylbenzene | ND | 2.0 | | µg/L | 2 | 3/3/2014 10:44:53 PM | R17069 |
| Xylenes, Total | ND | 4.0 | | µg/L | 2 | 3/3/2014 10:44:53 PM | R17069 |
| Surr: 4-Bromofluorobenzene | 110 | 85-136 | | %REC | 2 | 3/3/2014 10:44:53 PM | R17069 |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **JRR** | |
| Chloride | 15 | 2.5 | | mg/L | 5 | 3/1/2014 12:52:55 AM | R17054 |
| Nitrogen, Nitrite (As N) | ND | 0.50 | | mg/L | 5 | 3/1/2014 12:52:55 AM | R17054 |
| Nitrogen, Nitrate (As N) | ND | 0.50 | | mg/L | 5 | 3/1/2014 12:52:55 AM | R17054 |
| Sulfate | 1000 | 25 | * | mg/L | 50 | 3/5/2014 10:37:27 PM | R17140 |
| **EPA METHOD 200.7: TOTAL METALS** | | | | | | Analyst: **JLF** | |
| Iron | 34 | 1.0 | * | mg/L | 50 | 3/5/2014 1:08:34 PM | 11998 |
| **SM2540C MOD: TOTAL DISSOLVED SOLIDS** | | | | | | Analyst: **KS** | |
| Total Dissolved Solids | 2160 | 200 | * | mg/L | 1 | 3/5/2014 4:42:00 PM | 12000 |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| O | RSD is greater than RSDlimit | P | Sample pH greater than 2. |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** LTE
**Client Sample ID:** MW-14
**Project:** J-Vent
**Collection Date:** 2/27/2014 12:50:00 PM
**Lab ID:** 1402B46-003
**Matrix:** AQUEOUS
**Received Date:** 2/28/2014 10:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **JMP** | |
| Benzene | ND | 2.0 | | µg/L | 2 | 3/3/2014 11:15:06 PM | R17069 |
| Toluene | ND | 2.0 | | µg/L | 2 | 3/3/2014 11:15:06 PM | R17069 |
| Ethylbenzene | ND | 2.0 | | µg/L | 2 | 3/3/2014 11:15:06 PM | R17069 |
| Xylenes, Total | ND | 4.0 | | µg/L | 2 | 3/3/2014 11:15:06 PM | R17069 |
| Surr: 4-Bromofluorobenzene | 108 | 85-136 | | %REC | 2 | 3/3/2014 11:15:06 PM | R17069 |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **JRR** | |
| Chloride | 15 | 2.5 | | mg/L | 5 | 3/1/2014 1:17:44 AM | R17054 |
| Nitrogen, Nitrite (As N) | ND | 0.50 | | mg/L | 5 | 3/1/2014 1:17:44 AM | R17054 |
| Nitrogen, Nitrate (As N) | ND | 0.50 | | mg/L | 5 | 3/1/2014 1:17:44 AM | R17054 |
| Sulfate | 1200 | 25 | * | mg/L | 50 | 3/5/2014 10:49:51 PM | R17140 |
| **EPA METHOD 200.7: TOTAL METALS** | | | | | | Analyst: **JLF** | |
| Iron | 110 | 4.0 | * | mg/L | 200 | 3/5/2014 1:10:19 PM | 11998 |
| **SM2540C MOD: TOTAL DISSOLVED SOLIDS** | | | | | | Analyst: **KS** | |
| Total Dissolved Solids | 2400 | 200 | * | mg/L | 1 | 3/5/2014 4:42:00 PM | 12000 |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| O | RSD is greater than RSDlimit | P | Sample pH greater than 2. |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** LTE
**Client Sample ID:** MW-15
**Project:** J-Vent
**Collection Date:** 2/27/2014 1:50:00 PM
**Lab ID:** 1402B46-004
**Matrix:** AQUEOUS
**Received Date:** 2/28/2014 10:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **JMP** | |
| Benzene | ND | 2.0 | | µg/L | 2 | 3/3/2014 11:45:12 PM | R17069 |
| Toluene | ND | 2.0 | | µg/L | 2 | 3/3/2014 11:45:12 PM | R17069 |
| Ethylbenzene | ND | 2.0 | | µg/L | 2 | 3/3/2014 11:45:12 PM | R17069 |
| Xylenes, Total | ND | 4.0 | | µg/L | 2 | 3/3/2014 11:45:12 PM | R17069 |
| Surr: 4-Bromofluorobenzene | 106 | 85-136 | | %REC | 2 | 3/3/2014 11:45:12 PM | R17069 |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **JRR** | |
| Chloride | 15 | 2.5 | | mg/L | 5 | 3/1/2014 1:42:33 AM | R17054 |
| Nitrogen, Nitrite (As N) | ND | 0.50 | | mg/L | 5 | 3/1/2014 1:42:33 AM | R17054 |
| Nitrogen, Nitrate (As N) | ND | 0.50 | | mg/L | 5 | 3/1/2014 1:42:33 AM | R17054 |
| Sulfate | 980 | 25 | * | mg/L | 50 | 3/5/2014 11:02:16 PM | R17140 |
| **EPA METHOD 200.7: TOTAL METALS** | | | | | | Analyst: **JLF** | |
| Iron | 72 | 2.0 | * | mg/L | 100 | 3/5/2014 1:12:05 PM | 11998 |
| **SM2540C MOD: TOTAL DISSOLVED SOLIDS** | | | | | | Analyst: **KS** | |
| Total Dissolved Solids | 2040 | 200 | * | mg/L | 1 | 3/5/2014 4:42:00 PM | 12000 |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| O | RSD is greater than RSDlimit | P | Sample pH greater than 2. |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1402B46**

***11-Mar-14***

**Client:** LTE

**Project:** J-Vent

| Sample ID | **MB-11998** | SampType: | **MBLK** | | TestCode: | **EPA Method 200.7: Total Metals** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBW** | Batch ID: | **11998** | | RunNo: | **17117** | | | | |
| Prep Date: | **3/4/2014** | Analysis Date: | **3/5/2014** | | SeqNo: | **492190** | Units: | **mg/L** | | |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Iron | ND | 0.020 | | | | | | | | |

| Sample ID | **LCS-11998** | SampType: | **LCS** | | TestCode: | **EPA Method 200.7: Total Metals** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSW** | Batch ID: | **11998** | | RunNo: | **17117** | | | | |
| Prep Date: | **3/4/2014** | Analysis Date: | **3/5/2014** | | SeqNo: | **492191** | Units: | **mg/L** | | |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Iron | 0.48 | 0.020 | 0.5000 | 0 | 95.5 | 85 | 115 | | | |

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| O | RSD is greater than RSDlimit | P | Sample pH greater than 2. |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1402B46**

***11-Mar-14***

**Client:** LTE

**Project:** J-Vent

| Sample ID | **MB** | SampType: | **MBLK** | TestCode: | **EPA Method 300.0: Anions** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBW** | Batch ID: | **R17054** | RunNo: | **17054** | | | | | |
| Prep Date: | | Analysis Date: | **2/28/2014** | SeqNo: | **490422** | Units: | **mg/L** | | | |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | ND | 0.50 | | | | | | | | |
| Nitrogen, Nitrite (As N) | ND | 0.10 | | | | | | | | |
| Nitrogen, Nitrate (As N) | ND | 0.10 | | | | | | | | |

| Sample ID | **LCS** | SampType: | **LCS** | TestCode: | **EPA Method 300.0: Anions** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSW** | Batch ID: | **R17054** | RunNo: | **17054** | | | | | |
| Prep Date: | | Analysis Date: | **2/28/2014** | SeqNo: | **490423** | Units: | **mg/L** | | | |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 5.1 | 0.50 | 5.000 | 0 | 101 | 90 | 110 | | | |
| Nitrogen, Nitrite (As N) | 1.0 | 0.10 | 1.000 | 0 | 103 | 90 | 110 | | | |
| Nitrogen, Nitrate (As N) | 2.6 | 0.10 | 2.500 | 0 | 105 | 90 | 110 | | | |

| Sample ID | **MB** | SampType: | **MBLK** | TestCode: | **EPA Method 300.0: Anions** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBW** | Batch ID: | **R17140** | RunNo: | **17140** | | | | | |
| Prep Date: | | Analysis Date: | **3/5/2014** | SeqNo: | **492773** | Units: | **mg/L** | | | |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Sulfate | ND | 0.50 | | | | | | | | |

| Sample ID | **LCS** | SampType: | **LCS** | TestCode: | **EPA Method 300.0: Anions** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSW** | Batch ID: | **R17140** | RunNo: | **17140** | | | | | |
| Prep Date: | | Analysis Date: | **3/5/2014** | SeqNo: | **492774** | Units: | **mg/L** | | | |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Sulfate | 9.5 | 0.50 | 10.00 | 0 | 94.8 | 90 | 110 | | | |

**Qualifiers:**

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1402B46**

***11-Mar-14***

**Client:** LTE

**Project:** J-Vent

| Sample ID | **5ML RB** | SampType: | **MBLK** | TestCode: | **EPA Method 8021B: Volatiles** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBW** | Batch ID: | **R17069** | RunNo: | **17069** | | | | | |
| Prep Date: | | Analysis Date: | **3/3/2014** | SeqNo: | **490953** | Units: | **µg/L** | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | ND | 1.0 | | | | | | | | |
| Toluene | ND | 1.0 | | | | | | | | |
| Ethylbenzene | ND | 1.0 | | | | | | | | |
| Xylenes, Total | ND | 2.0 | | | | | | | | |
| Surr: 4-Bromofluorobenzene | 21 | | 20.00 | | 104 | 85 | 136 | | | |

| Sample ID | **100NG BTEX LCS** | SampType: | **LCS** | TestCode: | **EPA Method 8021B: Volatiles** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSW** | Batch ID: | **R17069** | RunNo: | **17069** | | | | | |
| Prep Date: | | Analysis Date: | **3/3/2014** | SeqNo: | **490954** | Units: | **µg/L** | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | 20 | 1.0 | 20.00 | 0 | 97.7 | 80 | 120 | | | |
| Toluene | 19 | 1.0 | 20.00 | 0 | 97.2 | 80 | 120 | | | |
| Ethylbenzene | 20 | 1.0 | 20.00 | 0 | 98.9 | 80 | 120 | | | |
| Xylenes, Total | 59 | 2.0 | 60.00 | 0 | 98.9 | 80 | 120 | | | |
| Surr: 4-Bromofluorobenzene | 22 | | 20.00 | | 111 | 85 | 136 | | | |

| Sample ID | **1402B46-001AMS** | SampType: | **MS** | TestCode: | **EPA Method 8021B: Volatiles** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **MW-16** | Batch ID: | **R17069** | RunNo: | **17069** | | | | | |
| Prep Date: | | Analysis Date: | **3/3/2014** | SeqNo: | **490966** | Units: | **µg/L** | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | 39 | 2.0 | 40.00 | 0 | 97.2 | 71 | 129 | | | |
| Toluene | 39 | 2.0 | 40.00 | 0 | 97.0 | 68.4 | 135 | | | |
| Ethylbenzene | 39 | 2.0 | 40.00 | 0 | 97.7 | 69.4 | 135 | | | |
| Xylenes, Total | 120 | 4.0 | 120.0 | 0.9800 | 98.5 | 72.4 | 135 | | | |
| Surr: 4-Bromofluorobenzene | 44 | | 40.00 | | 111 | 85 | 136 | | | |

| Sample ID | **1402B46-001AMSD** | SampType: | **MSD** | TestCode: | **EPA Method 8021B: Volatiles** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **MW-16** | Batch ID: | **R17069** | RunNo: | **17069** | | | | | |
| Prep Date: | | Analysis Date: | **3/3/2014** | SeqNo: | **490967** | Units: | **µg/L** | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | 39 | 2.0 | 40.00 | 0 | 97.3 | 71 | 129 | 0.123 | 20 | |
| Toluene | 39 | 2.0 | 40.00 | 0 | 96.6 | 68.4 | 135 | 0.444 | 20 | |
| Ethylbenzene | 39 | 2.0 | 40.00 | 0 | 98.5 | 69.4 | 135 | 0.877 | 20 | |
| Xylenes, Total | 120 | 4.0 | 120.0 | 0.9800 | 98.0 | 72.4 | 135 | 0.548 | 20 | |
| Surr: 4-Bromofluorobenzene | 46 | | 40.00 | | 114 | 85 | 136 | 0 | 0 | |

**Qualifiers:**

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1402B46**

***11-Mar-14***

**Client:** LTE

**Project:** J-Vent

| Sample ID | **MB-12000** | SampType: | **MBLK** | | TestCode: | **SM2540C MOD: Total Dissolved Solids** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBW** | Batch ID: | **12000** | | RunNo: | **17119** | | | | |
| Prep Date: | **3/4/2014** | Analysis Date: | **3/5/2014** | | SeqNo: | **492200** | Units: | **mg/L** | | |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Total Dissolved Solids | ND | 20.0 | | | | | | | | |

| Sample ID | **LCS-12000** | SampType: | **LCS** | | TestCode: | **SM2540C MOD: Total Dissolved Solids** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSW** | Batch ID: | **12000** | | RunNo: | **17119** | | | | |
| Prep Date: | **3/4/2014** | Analysis Date: | **3/5/2014** | | SeqNo: | **492201** | Units: | **mg/L** | | |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Total Dissolved Solids | 1030 | 20.0 | 1000 | 0 | 103 | 80 | 120 | | | |

| Sample ID | **MB-12072** | SampType: | **MBLK** | | TestCode: | **SM2540C MOD: Total Dissolved Solids** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBW** | Batch ID: | **12072** | | RunNo: | **17184** | | | | |
| Prep Date: | **3/6/2014** | Analysis Date: | **3/10/2014** | | SeqNo: | **494421** | Units: | **mg/L** | | |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Total Dissolved Solids | ND | 20.0 | | | | | | | | |

| Sample ID | **LCS-12072** | SampType: | **LCS** | | TestCode: | **SM2540C MOD: Total Dissolved Solids** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSW** | Batch ID: | **12072** | | RunNo: | **17184** | | | | |
| Prep Date: | **3/6/2014** | Analysis Date: | **3/10/2014** | | SeqNo: | **494422** | Units: | **mg/L** | | |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Total Dissolved Solids | 1060 | 20.0 | 1000 | 0 | 106 | 80 | 120 | | | |

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| O | RSD is greater than RSDlimit | P | Sample pH greater than 2. |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | | |

**HALL ENVIRONMENTAL ANALYSIS LABORATORY**

*Hall Environmental Analysis Laboratory*
*4901 Hawkins NE*
*Albuquerque, NM 87109*
*TEL: 505-345-3975 FAX: 505-345-4107*
*Website: www.hallenvironmental.com*

# Sample Log-In Check List

Client Name: LTE | Work Order Number: 1402B46 | RcptNo: 1

Received by/date: 02/28/14

Logged By: Ashley Gallegos | 2/28/2014 10:00:00 AM

Completed By: Ashley Gallegos | 2/28/2014 2:17:16 PM

Reviewed By: 02/28/14

## Chain of Custody

| | | | |
|---|---|---|---|
| 1. Custody seals intact on sample bottles? | Yes ☐ | No ☐ | Not Present ☑ |
| 2. Is Chain of Custody complete? | Yes ☑ | No ☐ | Not Present ☐ |
| 3. How was the sample delivered? | Courier | | |

## Log In

| | | | |
|---|---|---|---|
| 4. Was an attempt made to cool the samples? | Yes ☑ | No ☐ | NA ☐ |
| 5. Were all samples received at a temperature of >0° C to 6.0°C | Yes ☑ | No ☐ | NA ☐ |
| 6. Sample(s) in proper container(s)? | Yes ☑ | No ☐ | |
| 7. Sufficient sample volume for indicated test(s)? | Yes ☑ | No ☐ | |
| 8. Are samples (except VOA and ONG) properly preserved? | Yes ☑ | No ☐ | |
| 9. Was preservative added to bottles? | Yes ☐ | No ☑ | NA ☐ |
| 10. VOA vials have zero headspace? | Yes ☑ | No ☐ | No VOA Vials ☐ |
| 11. Were any sample containers received broken? | Yes ☐ | No ☑ | |
| 12. Does paperwork match bottle labels? (Note discrepancies on chain of custody) | Yes ☑ | No ☐ | # of preserved bottles checked for pH: (<2 or >12 unless noted) |
| 13. Are matrices correctly identified on Chain of Custody? | Yes ☑ | No ☐ | Adjusted? NO |
| 14. Is it clear what analyses were requested? | Yes ☑ | No ☐ | |
| 15. Were all holding times able to be met? (If no, notify customer for authorization.) | Yes ☑ | No ☐ | Checked by: |

## Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

| Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 1.0 | Good | Yes | | | |

# Chain-of-Custody Record

Client: LT ENVIRONMENTAL

Mailing Address: 2243 MAIN Ave Suite 3
Durango Co. 81301

Phone #: 970-385-1096

email or Fax#: ager@ltenv.com

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name: J-VENT

Project #: 03401301Z

Project Manager: Ashley AGER

Sampler: DANIEL NEWMAN

On Ice: ☒ Yes ☐ No

Sample Temperature: 0

**HALL ENVIRONMENTAL ANALYSIS LABORATORY**
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

**Analysis Request**

| Date | Time | Matrix | Sample Request ID | Container Type and # | Preservative Type | HEAL No. 1402B46 | BTEX + MTBE + TMB's (8021) | BTEX + MTBE + TPH (Gas only) | TPH 8015B (GRO / DRO / MRO) | TPH (Method 418.1) | EDB (Method 504.1) | PAH's (8310 or 8270 SIMS) | RCRA 8 Metals | Anions (F,Cl,$NO_3$,$NO_2$,$PO_4$,$SO_4$) | 8081 Pesticides / 8082 PCB's | 8260B (VOA) | 8270 (Semi-VOA) | Nitrate/Nitrite | Total Iron | TDS, Chloride, sulfate | Air Bubbles (Y or N) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2/27/14 | 1030 | GW | MW-16 | 6 | HCL, $H_2SO_4$, $HNO_3$ | -001 | X | | | | | | | | | | | X | X | X | |
| | 1135 | GW | MW-13 | 6 | | -002 | X | | | | | | | | | | | X | X | X | |
| | 1250 | GW | MW-14 | 6 | | -003 | X | | | | | | | | | | | X | X | X | |
| | 1350 | GW | MW-15 | 6 | | -004 | X | | | | | | | | | | | X | X | X | |

| Date | Time | Relinquished by: | Received by: | Date | Time |
|---|---|---|---|---|---|
| 2/27/14 | 1535 | | | 2/27/14 | 1535 |
| 2/27/14 | 1728 | | | 02/28/14 | 1000 |

Remarks:
Bill Williams
Per mat
02/28/14

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

*Hall Environmental Analysis Laboratory*
*4901 Hawkins NE*
*Albuquerque, NM 87109*
*TEL: 505-345-3975 FAX: 505-345-4107*
*Website: www.hallenvironmental.com*

June 09, 2014

Ashley Ager
LTE
2243 Main Ave Suite 3
Durango, CO 81301
TEL: (970) 946-1093
FAX

RE: J-Vent OrderNo.: 1405C22

Dear Ashley Ager:

Hall Environmental Analysis Laboratory received 5 sample(s) on 5/29/2014 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

**Analytical Report**
Lab Order **1405C22**
Date Reported: **6/9/2014**

**CLIENT:** LTE
**Client Sample ID:** MW-13
**Project:** J-Vent
**Collection Date:** 5/28/2014 11:54:00 AM
**Lab ID:** 1405C22-001
**Matrix:** AQUEOUS
**Received Date:** 5/29/2014 10:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 1.0 | | µg/L | 1 | 6/1/2014 2:13:05 PM | R18969 |
| Toluene | ND | 1.0 | | µg/L | 1 | 6/1/2014 2:13:05 PM | R18969 |
| Ethylbenzene | ND | 1.0 | | µg/L | 1 | 6/1/2014 2:13:05 PM | R18969 |
| Xylenes, Total | ND | 2.0 | | µg/L | 1 | 6/1/2014 2:13:05 PM | R18969 |
| Surr: 4-Bromofluorobenzene | 112 | 82.9-139 | | %REC | 1 | 6/1/2014 2:13:05 PM | R18969 |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **JRR** | |
| Chloride | 14 | 10 | | mg/L | 20 | 5/29/2014 6:49:19 PM | R18942 |
| Nitrogen, Nitrite (As N) | ND | 0.10 | | mg/L | 1 | 5/29/2014 6:36:54 PM | R18942 |
| Nitrogen, Nitrate (As N) | ND | 0.10 | | mg/L | 1 | 5/29/2014 6:36:54 PM | R18942 |
| Sulfate | 1000 | 25 | * | mg/L | 50 | 5/30/2014 11:01:57 PM | R18971 |
| **EPA METHOD 200.7: METALS** | | | | | | Analyst: **JLF** | |
| Iron | 52 | 2.0 | * | mg/L | 100 | 6/4/2014 4:11:45 PM | 13459 |
| **SM2540C MOD: TOTAL DISSOLVED SOLIDS** | | | | | | Analyst: **KS** | |
| Total Dissolved Solids | 2120 | 200 | * | mg/L | 1 | 6/3/2014 10:06:00 PM | 13466 |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| O | RSD is greater than RSDlimit | P | Sample pH greater than 2. |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** LTE
**Client Sample ID:** MW-14
**Project:** J-Vent
**Collection Date:** 5/28/2014 12:50:00 PM
**Lab ID:** 1405C22-002
**Matrix:** AQUEOUS
**Received Date:** 5/29/2014 10:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 1.0 | | µg/L | 1 | 6/1/2014 3:43:44 PM | R18969 |
| Toluene | ND | 1.0 | | µg/L | 1 | 6/1/2014 3:43:44 PM | R18969 |
| Ethylbenzene | ND | 1.0 | | µg/L | 1 | 6/1/2014 3:43:44 PM | R18969 |
| Xylenes, Total | ND | 2.0 | | µg/L | 1 | 6/1/2014 3:43:44 PM | R18969 |
| Surr: 4-Bromofluorobenzene | 115 | 82.9-139 | | %REC | 1 | 6/1/2014 3:43:44 PM | R18969 |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **JRR** | |
| Chloride | 13 | 10 | | mg/L | 20 | 5/29/2014 7:14:09 PM | R18942 |
| Nitrogen, Nitrite (As N) | ND | 0.10 | | mg/L | 1 | 5/29/2014 7:01:45 PM | R18942 |
| Nitrogen, Nitrate (As N) | 0.45 | 0.10 | | mg/L | 1 | 5/29/2014 7:01:45 PM | R18942 |
| Sulfate | 920 | 10 | * | mg/L | 20 | 5/29/2014 7:14:09 PM | R18942 |
| **EPA METHOD 200.7: METALS** | | | | | | Analyst: **JLF** | |
| Iron | 75 | 2.0 | * | mg/L | 100 | 6/4/2014 4:39:39 PM | 13499 |
| **SM2540C MOD: TOTAL DISSOLVED SOLIDS** | | | | | | Analyst: **KS** | |
| Total Dissolved Solids | 1910 | 200 | * | mg/L | 1 | 6/3/2014 10:06:00 PM | 13466 |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| O | RSD is greater than RSDlimit | P | Sample pH greater than 2. |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** LTE
**Client Sample ID:** MW-15
**Project:** J-Vent
**Collection Date:** 5/28/2014 1:12:00 PM
**Lab ID:** 1405C22-003
**Matrix:** AQUEOUS
**Received Date:** 5/29/2014 10:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 1.0 | | µg/L | 1 | 6/1/2014 4:13:57 PM | R18969 |
| Toluene | ND | 1.0 | | µg/L | 1 | 6/1/2014 4:13:57 PM | R18969 |
| Ethylbenzene | ND | 1.0 | | µg/L | 1 | 6/1/2014 4:13:57 PM | R18969 |
| Xylenes, Total | ND | 2.0 | | µg/L | 1 | 6/1/2014 4:13:57 PM | R18969 |
| Surr: 4-Bromofluorobenzene | 113 | 82.9-139 | | %REC | 1 | 6/1/2014 4:13:57 PM | R18969 |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **JRR** | |
| Chloride | 12 | 10 | | mg/L | 20 | 5/29/2014 7:38:59 PM | R18942 |
| Nitrogen, Nitrite (As N) | ND | 0.10 | | mg/L | 1 | 5/29/2014 7:26:34 PM | R18942 |
| Nitrogen, Nitrate (As N) | 0.90 | 0.10 | | mg/L | 1 | 5/29/2014 7:26:34 PM | R18942 |
| Sulfate | 760 | 10 | * | mg/L | 20 | 5/29/2014 7:38:59 PM | R18942 |
| **EPA METHOD 200.7: METALS** | | | | | | Analyst: **JLF** | |
| Iron | 71 | 2.0 | * | mg/L | 100 | 6/4/2014 4:13:41 PM | 13459 |
| **SM2540C MOD: TOTAL DISSOLVED SOLIDS** | | | | | | Analyst: **KS** | |
| Total Dissolved Solids | 1530 | 200 | * | mg/L | 1 | 6/3/2014 10:06:00 PM | 13466 |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| O | RSD is greater than RSDlimit | P | Sample pH greater than 2. |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** LTE
**Client Sample ID:** MW-16
**Project:** J-Vent
**Collection Date:** 5/28/2014 10:55:00 AM
**Lab ID:** 1405C22-004
**Matrix:** AQUEOUS
**Received Date:** 5/29/2014 10:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 1.0 | | µg/L | 1 | 6/1/2014 4:44:05 PM | R18969 |
| Toluene | ND | 1.0 | | µg/L | 1 | 6/1/2014 4:44:05 PM | R18969 |
| Ethylbenzene | ND | 1.0 | | µg/L | 1 | 6/1/2014 4:44:05 PM | R18969 |
| Xylenes, Total | ND | 2.0 | | µg/L | 1 | 6/1/2014 4:44:05 PM | R18969 |
| Surr: 4-Bromofluorobenzene | 108 | 82.9-139 | | %REC | 1 | 6/1/2014 4:44:05 PM | R18969 |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **JRR** | |
| Chloride | 22 | 10 | | mg/L | 20 | 5/29/2014 8:03:49 PM | R18942 |
| Nitrogen, Nitrite (As N) | ND | 0.10 | | mg/L | 1 | 5/29/2014 7:51:24 PM | R18942 |
| Nitrogen, Nitrate (As N) | ND | 0.10 | | mg/L | 1 | 5/29/2014 7:51:24 PM | R18942 |
| Sulfate | 1600 | 25 | * | mg/L | 50 | 5/30/2014 11:14:22 PM | R18971 |
| **EPA METHOD 200.7: METALS** | | | | | | Analyst: **JLF** | |
| Iron | 63 | 2.0 | * | mg/L | 100 | 6/4/2014 4:15:25 PM | 13459 |
| **SM2540C MOD: TOTAL DISSOLVED SOLIDS** | | | | | | Analyst: **KS** | |
| Total Dissolved Solids | 2860 | 200 | * | mg/L | 1 | 6/3/2014 10:06:00 PM | 13466 |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| O | RSD is greater than RSDlimit | P | Sample pH greater than 2. |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** LTE
**Client Sample ID:** Trip Blank
**Project:** J-Vent
**Collection Date:**
**Lab ID:** 1405C22-005
**Matrix:** TRIP BLANK
**Received Date:** 5/29/2014 10:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Methyl tert-butyl ether (MTBE) | ND | 2.5 | | µg/L | 1 | 6/1/2014 5:14:14 PM | R18969 |
| Benzene | ND | 1.0 | | µg/L | 1 | 6/1/2014 5:14:14 PM | R18969 |
| Toluene | ND | 1.0 | | µg/L | 1 | 6/1/2014 5:14:14 PM | R18969 |
| Ethylbenzene | ND | 1.0 | | µg/L | 1 | 6/1/2014 5:14:14 PM | R18969 |
| Xylenes, Total | ND | 2.0 | | µg/L | 1 | 6/1/2014 5:14:14 PM | R18969 |
| 1,2,4-Trimethylbenzene | ND | 1.0 | | µg/L | 1 | 6/1/2014 5:14:14 PM | R18969 |
| 1,3,5-Trimethylbenzene | ND | 1.0 | | µg/L | 1 | 6/1/2014 5:14:14 PM | R18969 |
| Surr: 4-Bromofluorobenzene | 110 | 82.9-139 | | %REC | 1 | 6/1/2014 5:14:14 PM | R18969 |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| O | RSD is greater than RSDlimit | P | Sample pH greater than 2. |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1405C22**

***09-Jun-14***

**Client:** LTE

**Project:** J-Vent

| Sample ID | **MB-13459** | SampType: | **MBLK** | | TestCode: | **EPA Method 200.7: Metals** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBW** | Batch ID: | **13459** | | RunNo: | **18982** | | | | |
| Prep Date: | **6/2/2014** | Analysis Date: | **6/2/2014** | | SeqNo: | **549045** | Units: | **mg/L** | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Iron | ND | 0.020 | | | | | | | | |

| Sample ID | **LCS-13459** | SampType: | **LCS** | | TestCode: | **EPA Method 200.7: Metals** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSW** | Batch ID: | **13459** | | RunNo: | **18982** | | | | |
| Prep Date: | **6/2/2014** | Analysis Date: | **6/2/2014** | | SeqNo: | **549047** | Units: | **mg/L** | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Iron | 0.49 | 0.020 | 0.5000 | 0 | 98.3 | 85 | 115 | | | |

| Sample ID | **MB-13499** | SampType: | **MBLK** | | TestCode: | **EPA Method 200.7: Metals** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBW** | Batch ID: | **13499** | | RunNo: | **19051** | | | | |
| Prep Date: | **6/3/2014** | Analysis Date: | **6/4/2014** | | SeqNo: | **550492** | Units: | **mg/L** | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Iron | ND | 0.020 | | | | | | | | |

| Sample ID | **LCS-13499** | SampType: | **LCS** | | TestCode: | **EPA Method 200.7: Metals** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSW** | Batch ID: | **13499** | | RunNo: | **19051** | | | | |
| Prep Date: | **6/3/2014** | Analysis Date: | **6/4/2014** | | SeqNo: | **550493** | Units: | **mg/L** | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Iron | 0.52 | 0.020 | 0.5000 | 0 | 103 | 85 | 115 | | | |

**Qualifiers:**

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1405C22**

***09-Jun-14***

**Client:** LTE

**Project:** J-Vent

| Sample ID **MB** | SampType: **MBLK** | TestCode: **EPA Method 300.0: Anions** |
|---|---|---|
| Client ID: **PBW** | Batch ID: **R18942** | RunNo: **18942** |
| Prep Date: | Analysis Date: **5/29/2014** | SeqNo: **547243** Units: **mg/L** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | ND | 0.50 | | | | | | | | |
| Nitrogen, Nitrite (As N) | ND | 0.10 | | | | | | | | |
| Nitrogen, Nitrate (As N) | ND | 0.10 | | | | | | | | |
| Sulfate | ND | 0.50 | | | | | | | | |

| Sample ID **LCS** | SampType: **LCS** | TestCode: **EPA Method 300.0: Anions** |
|---|---|---|
| Client ID: **LCSW** | Batch ID: **R18942** | RunNo: **18942** |
| Prep Date: | Analysis Date: **5/29/2014** | SeqNo: **547244** Units: **mg/L** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 4.6 | 0.50 | 5.000 | 0 | 91.5 | 90 | 110 | | | |
| Nitrogen, Nitrite (As N) | 0.93 | 0.10 | 1.000 | 0 | 92.8 | 90 | 110 | | | |
| Nitrogen, Nitrate (As N) | 2.4 | 0.10 | 2.500 | 0 | 95.6 | 90 | 110 | | | |
| Sulfate | 9.2 | 0.50 | 10.00 | 0 | 91.7 | 90 | 110 | | | |

| Sample ID **MB** | SampType: **MBLK** | TestCode: **EPA Method 300.0: Anions** |
|---|---|---|
| Client ID: **PBW** | Batch ID: **R18971** | RunNo: **18971** |
| Prep Date: | Analysis Date: **5/30/2014** | SeqNo: **548242** Units: **mg/L** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Sulfate | ND | 0.50 | | | | | | | | |

| Sample ID **LCS** | SampType: **LCS** | TestCode: **EPA Method 300.0: Anions** |
|---|---|---|
| Client ID: **LCSW** | Batch ID: **R18971** | RunNo: **18971** |
| Prep Date: | Analysis Date: **5/30/2014** | SeqNo: **548243** Units: **mg/L** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Sulfate | 9.8 | 0.50 | 10.00 | 0 | 97.5 | 90 | 110 | | | |

**Qualifiers:**

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1405C22**

***09-Jun-14***

**Client:** LTE

**Project:** J-Vent

| Sample ID **5ML RB** | SampType: **MBLK** | TestCode: **EPA Method 8021B: Volatiles** |
|---|---|---|
| Client ID: **PBW** | Batch ID: **R18969** | RunNo: **18969** |
| Prep Date: | Analysis Date: **6/1/2014** | SeqNo: **548032** Units: **µg/L** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Methyl tert-butyl ether (MTBE) | ND | 2.5 | | | | | | | | |
| Benzene | ND | 1.0 | | | | | | | | |
| Toluene | ND | 1.0 | | | | | | | | |
| Ethylbenzene | ND | 1.0 | | | | | | | | |
| Xylenes, Total | ND | 2.0 | | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 1.0 | | | | | | | | |
| 1,3,5-Trimethylbenzene | ND | 1.0 | | | | | | | | |
| Surr: 4-Bromofluorobenzene | 23 | | 20.00 | | 113 | 82.9 | 139 | | | |

| Sample ID **100NG BTEX LCS** | SampType: **LCS** | TestCode: **EPA Method 8021B: Volatiles** |
|---|---|---|
| Client ID: **LCSW** | Batch ID: **R18969** | RunNo: **18969** |
| Prep Date: | Analysis Date: **6/1/2014** | SeqNo: **548033** Units: **µg/L** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Methyl tert-butyl ether (MTBE) | 22 | 2.5 | 20.00 | 0 | 111 | 71.1 | 128 | | | |
| Benzene | 21 | 1.0 | 20.00 | 0 | 105 | 80 | 120 | | | |
| Toluene | 21 | 1.0 | 20.00 | 0 | 104 | 80 | 120 | | | |
| Ethylbenzene | 21 | 1.0 | 20.00 | 0 | 104 | 80 | 120 | | | |
| Xylenes, Total | 64 | 2.0 | 60.00 | 0 | 107 | 80 | 120 | | | |
| 1,2,4-Trimethylbenzene | 21 | 1.0 | 20.00 | 0 | 106 | 80 | 120 | | | |
| 1,3,5-Trimethylbenzene | 22 | 1.0 | 20.00 | 0 | 109 | 80 | 120 | | | |
| Surr: 4-Bromofluorobenzene | 23 | | 20.00 | | 114 | 82.9 | 139 | | | |

| Sample ID **1405C22-001AMS** | SampType: **MS** | TestCode: **EPA Method 8021B: Volatiles** |
|---|---|---|
| Client ID: **MW-13** | Batch ID: **R18969** | RunNo: **18969** |
| Prep Date: | Analysis Date: **6/1/2014** | SeqNo: **548037** Units: **µg/L** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Methyl tert-butyl ether (MTBE) | 20 | 2.5 | 20.00 | 0 | 102 | 62.4 | 135 | | | |
| Benzene | 21 | 1.0 | 20.00 | 0 | 104 | 71 | 129 | | | |
| Toluene | 21 | 1.0 | 20.00 | 0.4200 | 101 | 68.4 | 135 | | | |
| Ethylbenzene | 21 | 1.0 | 20.00 | 0 | 104 | 69.4 | 135 | | | |
| Xylenes, Total | 64 | 2.0 | 60.00 | 1.090 | 104 | 72.4 | 135 | | | |
| 1,2,4-Trimethylbenzene | 21 | 1.0 | 20.00 | 0.3180 | 103 | 67.1 | 135 | | | |
| 1,3,5-Trimethylbenzene | 22 | 1.0 | 20.00 | 0.3600 | 106 | 75.9 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 24 | | 20.00 | | 120 | 82.9 | 139 | | | |

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| O | RSD is greater than RSDlimit | P | Sample pH greater than 2. |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1405C22**

***09-Jun-14***

**Client:** LTE

**Project:** J-Vent

| Sample ID | **1405C22-001AMSD** | SampType: | **MSD** | TestCode: | **EPA Method 8021B: Volatiles** |
|---|---|---|---|---|---|
| Client ID: | **MW-13** | Batch ID: | **R18969** | RunNo: | **18969** |
| Prep Date: | | Analysis Date: | **6/1/2014** | SeqNo: | **548038** Units: **µg/L** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Methyl tert-butyl ether (MTBE) | 21 | 2.5 | 20.00 | 0 | 103 | 62.4 | 135 | 1.01 | 20 | |
| Benzene | 21 | 1.0 | 20.00 | 0 | 105 | 71 | 129 | 1.14 | 20 | |
| Toluene | 21 | 1.0 | 20.00 | 0.4200 | 101 | 68.4 | 135 | 0.552 | 20 | |
| Ethylbenzene | 21 | 1.0 | 20.00 | 0 | 103 | 69.4 | 135 | 0.955 | 20 | |
| Xylenes, Total | 63 | 2.0 | 60.00 | 1.090 | 104 | 72.4 | 135 | 0.574 | 20 | |
| 1,2,4-Trimethylbenzene | 21 | 1.0 | 20.00 | 0.3180 | 103 | 67.1 | 135 | 0.144 | 20 | |
| 1,3,5-Trimethylbenzene | 21 | 1.0 | 20.00 | 0.3600 | 105 | 75.9 | 130 | 0.812 | 20 | |
| Surr: 4-Bromofluorobenzene | 24 | | 20.00 | | 121 | 82.9 | 139 | 0 | 0 | |

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| O | RSD is greater than RSDlimit | P | Sample pH greater than 2. |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1405C22**

***09-Jun-14***

**Client:** LTE

**Project:** J-Vent

| Sample ID | **MB-13466** | SampType: | **MBLK** | TestCode: | **SM2540C MOD: Total Dissolved Solids** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBW** | Batch ID: | **13466** | RunNo: | **19018** | | | | | |
| Prep Date: | **6/2/2014** | Analysis Date: | **6/3/2014** | SeqNo: | **549522** | Units: | **mg/L** | | | |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Total Dissolved Solids | ND | 20.0 | | | | | | | | |

| Sample ID | **LCS-13466** | SampType: | **LCS** | TestCode: | **SM2540C MOD: Total Dissolved Solids** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSW** | Batch ID: | **13466** | RunNo: | **19018** | | | | | |
| Prep Date: | **6/2/2014** | Analysis Date: | **6/3/2014** | SeqNo: | **549523** | Units: | **mg/L** | | | |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Total Dissolved Solids | 1020 | 20.0 | 1000 | 0 | 102 | 80 | 120 | | | |

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| O | RSD is greater than RSDlimit | P | Sample pH greater than 2. |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | | |

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Name: LTE | Work Order Number: 1405C22 | RcptNo: 1

Received by/date: 05/29/14

Logged By: Lindsay Mangin 5/29/2014 10:00:00 AM

Completed By: Lindsay Mangin 5/29/2014 10:47:57 AM

Reviewed By: 05/29/14

## Chain of Custody

| | | | |
|---|---|---|---|
| 1. Custody seals intact on sample bottles? | Yes ☐ | No ☐ | Not Present ☑ |
| 2. Is Chain of Custody complete? | Yes ☑ | No ☐ | Not Present ☐ |
| 3. How was the sample delivered? | Courier | | |

## Log In

| | | | |
|---|---|---|---|
| 4. Was an attempt made to cool the samples? | Yes ☑ | No ☐ | NA ☐ |
| 5. Were all samples received at a temperature of >0° C to 6.0°C | Yes ☑ | No ☐ | NA ☐ |
| 6. Sample(s) in proper container(s)? | Yes ☑ | No ☐ | |
| 7. Sufficient sample volume for indicated test(s)? | Yes ☑ | No ☐ | |
| 8. Are samples (except VOA and ONG) properly preserved? | Yes ☑ | No ☐ | |
| 9. Was preservative added to bottles? | Yes ☑ | No ☑ 05/29/14 | NA ☐ |
| 10. VOA vials have zero headspace? | Yes ☑ | No ☐ | No VOA Vials ☐ |
| 11. Were any sample containers received broken? | Yes ☐ | No ☑ | |
| 12. Does paperwork match bottle labels? (Note discrepancies on chain of custody) | Yes ☑ | No ☐ | |
| 13. Are matrices correctly identified on Chain of Custody? | Yes ☑ | No ☐ | |
| 14. Is it clear what analyses were requested? | Yes ☑ | No ☐ | |
| 15. Were all holding times able to be met? (If no, notify customer for authorization.) | Yes ☑ | No ☐ | |

For Metals: Added 1mL HNO3 to 002B for acceptable pH. Held in login for 24 hrs.

# of preserved bottles checked for pH: 8 (<2 or >12 unless noted)

Adjusted? No

Checked by: MG

## Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. Cooler Information

| Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 1.5 | Good | Yes | | | |

# Chain-of-Custody Record

Client: LT Environmental

Mailing Address: 2243 main Ave #3
Durango CO 81301

Phone #: 970-385-1096

email or Fax#: aager@ltenv.com

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name: J-VENT

Project #: 034013010

Project Manager: Ashley Ager

Sampler:

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.5

**HALL ENVIRONMENTAL ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

**Analysis Request**

| Date | Time | Matrix | Sample Request ID | Container Type and # | Preservative Type | HEAL No. | BTEX + ~~MTBE + TMB's~~ DRJ (8021) | BTEX + MTBE + TPH (Gas only) | TPH 8015B (GRO / DRO / MRO) | TPH (Method 418.1) | EDB (Method 504.1) | PAH's (8310 or 8270 SIMS) | RCRA 8 Metals | Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$) | 8081 Pesticides / 8082 PCB's | 8260B (VOA) | 8270 (Semi-VOA) | Nitrate/Nitrite | Total Iron | TDS, Chloride, Sulfate | | Air Bubbles (Y or N) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/28/14 | 1154 | GW | MW-13 | 6/various | HCL, HNO3 $H_2SO_4$ | 1405022-001 | X | | | | | | | | | | | X | X | X | | |
| | 1250 | GW | MW-14 | | | -002 | X | | | | | | | | | | | X | X | X | | |
| | 1312 | GW | MW-15 | | | -003 | X | | | | | | | | | | | X | X | X | | |
| | 1055 | GW | MW-16 | | | -004 | X | | | | | | | | | | | X | X | X | | |
| | | AQ | TRIP BLANK | | | -005 | X | | | | | | | | | | | X | X | X | | |

| Date: | Time: | Relinquished by: | Received by: | Date | Time |
|---|---|---|---|---|---|
| 5/28/14 | 1550 | | | 5/28/14 | 1550 |
| 5/28/14 | 1640 | | | 05/29/14 | 1000 |

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

*Hall Environmental Analysis Laboratory*
*4901 Hawkins NE*
*Albuquerque, NM 87109*
*TEL: 505-345-3975 FAX: 505-345-4107*
*Website: www.hallenvironmental.com*

September 17, 2014

Ashley Ager
LTE
2243 Main Ave Suite 3
Durango, CO 81301
TEL: (970) 946-1093
FAX

RE: 034014001 J Vent OrderNo.: 1408D75

Dear Ashley Ager:

Hall Environmental Analysis Laboratory received 5 sample(s) on 8/27/2014 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

**Analytical Report**
Lab Order **1408D75**
Date Reported: **9/17/2014**

**CLIENT:** LTE
**Client Sample ID:** MW-13
**Project:** 034014001 J Vent
**Collection Date:** 8/26/2014 11:55:00 AM
**Lab ID:** 1408D75-001
**Matrix:** AQUEOUS
**Received Date:** 8/27/2014 4:55:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 1.0 | | µg/L | 1 | 8/27/2014 10:43:58 PM | R20843 |
| Toluene | ND | 1.0 | | µg/L | 1 | 8/27/2014 10:43:58 PM | R20843 |
| Ethylbenzene | ND | 1.0 | | µg/L | 1 | 8/27/2014 10:43:58 PM | R20843 |
| Xylenes, Total | ND | 2.0 | | µg/L | 1 | 8/27/2014 10:43:58 PM | R20843 |
| Surr: 4-Bromofluorobenzene | 110 | 82.9-139 | | %REC | 1 | 8/27/2014 10:43:58 PM | R20843 |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **LGP** | |
| Chloride | 15 | 10 | | mg/L | 20 | 8/27/2014 2:55:16 PM | R20852 |
| Nitrogen, Nitrite (As N) | ND | 0.10 | | mg/L | 1 | 8/27/2014 2:18:01 PM | R20852 |
| Nitrogen, Nitrate (As N) | ND | 0.10 | | mg/L | 1 | 8/27/2014 2:18:01 PM | R20852 |
| Sulfate | 1200 | 25 | * | mg/L | 50 | 8/28/2014 9:34:25 PM | R20888 |
| **EPA METHOD 200.7: TOTAL METALS** | | | | | | Analyst: **JLF** | |
| Iron | 82 | 2.0 | * | mg/L | 100 | 9/9/2014 3:38:08 PM | 15155 |
| **SM2540C MOD: TOTAL DISSOLVED SOLIDS** | | | | | | Analyst: **KS** | |
| Total Dissolved Solids | 2230 | 200 | * | mg/L | 1 | 9/2/2014 10:07:00 AM | 14989 |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| O | RSD is greater than RSDlimit | P | Sample pH greater than 2. |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** LTE
**Client Sample ID:** MW-14
**Project:** 034014001 J Vent
**Collection Date:** 8/26/2014 2:15:00 PM
**Lab ID:** 1408D75-002
**Matrix:** AQUEOUS
**Received Date:** 8/27/2014 4:55:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 1.0 | | µg/L | 1 | 8/28/2014 12:14:23 AM | R20843 |
| Toluene | ND | 1.0 | | µg/L | 1 | 8/28/2014 12:14:23 AM | R20843 |
| Ethylbenzene | ND | 1.0 | | µg/L | 1 | 8/28/2014 12:14:23 AM | R20843 |
| Xylenes, Total | ND | 2.0 | | µg/L | 1 | 8/28/2014 12:14:23 AM | R20843 |
| Surr: 4-Bromofluorobenzene | 108 | 82.9-139 | | %REC | 1 | 8/28/2014 12:14:23 AM | R20843 |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **LGP** | |
| Chloride | 12 | 10 | | mg/L | 20 | 8/27/2014 3:20:06 PM | R20852 |
| Nitrogen, Nitrite (As N) | ND | 0.10 | | mg/L | 1 | 8/27/2014 3:07:41 PM | R20852 |
| Nitrogen, Nitrate (As N) | ND | 0.10 | | mg/L | 1 | 8/27/2014 3:07:41 PM | R20852 |
| Sulfate | 860 | 10 | * | mg/L | 20 | 8/27/2014 3:20:06 PM | R20852 |
| **EPA METHOD 200.7: TOTAL METALS** | | | | | | Analyst: **JLF** | |
| Iron | 56 | 2.0 | * | mg/L | 100 | 9/9/2014 3:39:52 PM | 15155 |
| **SM2540C MOD: TOTAL DISSOLVED SOLIDS** | | | | | | Analyst: **KS** | |
| Total Dissolved Solids | 1780 | 200 | * | mg/L | 1 | 9/2/2014 10:07:00 AM | 14989 |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| O | RSD is greater than RSDlimit | P | Sample pH greater than 2. |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** LTE
**Client Sample ID:** MW-15
**Project:** 034014001 J Vent
**Collection Date:** 8/26/2014 3:03:00 PM
**Lab ID:** 1408D75-003
**Matrix:** AQUEOUS
**Received Date:** 8/27/2014 4:55:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 2.0 | | µg/L | 2 | 8/28/2014 12:44:29 AM | R20843 |
| Toluene | ND | 2.0 | | µg/L | 2 | 8/28/2014 12:44:29 AM | R20843 |
| Ethylbenzene | ND | 2.0 | | µg/L | 2 | 8/28/2014 12:44:29 AM | R20843 |
| Xylenes, Total | ND | 4.0 | | µg/L | 2 | 8/28/2014 12:44:29 AM | R20843 |
| Surr: 4-Bromofluorobenzene | 105 | 82.9-139 | | %REC | 2 | 8/28/2014 12:44:29 AM | R20843 |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **LGP** | |
| Chloride | 13 | 10 | | mg/L | 20 | 8/27/2014 3:44:55 PM | R20852 |
| Nitrogen, Nitrite (As N) | ND | 0.10 | | mg/L | 1 | 8/27/2014 3:32:31 PM | R20852 |
| Nitrogen, Nitrate (As N) | ND | 0.10 | | mg/L | 1 | 8/27/2014 3:32:31 PM | R20852 |
| Sulfate | 860 | 10 | * | mg/L | 20 | 8/27/2014 3:44:55 PM | R20852 |
| **EPA METHOD 200.7: TOTAL METALS** | | | | | | Analyst: **JLF** | |
| Iron | 190 | 10 | * | mg/L | 500 | 9/9/2014 3:41:35 PM | 15155 |
| **SM2540C MOD: TOTAL DISSOLVED SOLIDS** | | | | | | Analyst: **KS** | |
| Total Dissolved Solids | 1690 | 200 | * | mg/L | 1 | 9/2/2014 10:07:00 AM | 14989 |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| O | RSD is greater than RSDlimit | P | Sample pH greater than 2. |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** LTE
**Client Sample ID:** MW-16
**Project:** 034014001 J Vent
**Collection Date:** 8/26/2014 3:33:00 PM
**Lab ID:** 1408D75-004
**Matrix:** AQUEOUS
**Received Date:** 8/27/2014 4:55:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 1.0 | | µg/L | 1 | 8/28/2014 1:14:43 AM | R20843 |
| Toluene | ND | 1.0 | | µg/L | 1 | 8/28/2014 1:14:43 AM | R20843 |
| Ethylbenzene | ND | 1.0 | | µg/L | 1 | 8/28/2014 1:14:43 AM | R20843 |
| Xylenes, Total | ND | 2.0 | | µg/L | 1 | 8/28/2014 1:14:43 AM | R20843 |
| Surr: 4-Bromofluorobenzene | 108 | 82.9-139 | | %REC | 1 | 8/28/2014 1:14:43 AM | R20843 |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **LGP** | |
| Chloride | 21 | 10 | | mg/L | 20 | 8/27/2014 4:09:44 PM | R20852 |
| Nitrogen, Nitrite (As N) | ND | 0.10 | | mg/L | 1 | 8/27/2014 3:57:19 PM | R20852 |
| Nitrogen, Nitrate (As N) | ND | 0.10 | | mg/L | 1 | 8/27/2014 3:57:19 PM | R20852 |
| Sulfate | 1600 | 25 | * | mg/L | 50 | 8/28/2014 9:46:50 PM | R20888 |
| **EPA METHOD 200.7: TOTAL METALS** | | | | | | Analyst: **JLF** | |
| Iron | 80 | 2.0 | * | mg/L | 100 | 9/9/2014 3:43:18 PM | 15155 |
| **SM2540C MOD: TOTAL DISSOLVED SOLIDS** | | | | | | Analyst: **KS** | |
| Total Dissolved Solids | 3010 | 200 | * | mg/L | 1 | 9/2/2014 10:07:00 AM | 14989 |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| O | RSD is greater than RSDlimit | P | Sample pH greater than 2. |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** LTE
**Client Sample ID:** Trip Blank
**Project:** 034014001 J Vent
**Collection Date:**
**Lab ID:** 1408D75-005
**Matrix:** TRIP BLANK
**Received Date:** 8/27/2014 4:55:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 1.0 | | µg/L | 1 | 8/28/2014 1:44:37 AM | R20843 |
| Toluene | ND | 1.0 | | µg/L | 1 | 8/28/2014 1:44:37 AM | R20843 |
| Ethylbenzene | ND | 1.0 | | µg/L | 1 | 8/28/2014 1:44:37 AM | R20843 |
| Xylenes, Total | ND | 2.0 | | µg/L | 1 | 8/28/2014 1:44:37 AM | R20843 |
| Surr: 4-Bromofluorobenzene | 96.7 | 82.9-139 | | %REC | 1 | 8/28/2014 1:44:37 AM | R20843 |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| O | RSD is greater than RSDlimit | P | Sample pH greater than 2. |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1408D75**

***17-Sep-14***

**Client:** LTE

**Project:** 034014001 J Vent

| Sample ID | **MB-15155** | SampType: | **MBLK** | TestCode: | **EPA Method 200.7: Total Metals** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBW** | Batch ID: | **15155** | RunNo: | **21081** | | | | | |
| Prep Date: | **9/6/2014** | Analysis Date: | **9/8/2014** | SeqNo: | **613420** | Units: | **mg/L** | | | |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Iron | ND | 0.020 | | | | | | | | |

| Sample ID | **LCS-15155** | SampType: | **LCS** | TestCode: | **EPA Method 200.7: Total Metals** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSW** | Batch ID: | **15155** | RunNo: | **21081** | | | | | |
| Prep Date: | **9/6/2014** | Analysis Date: | **9/8/2014** | SeqNo: | **613421** | Units: | **mg/L** | | | |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Iron | 0.51 | 0.020 | 0.5000 | 0 | 102 | 85 | 115 | | | |

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| O | RSD is greater than RSDlimit | P | Sample pH greater than 2. |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1408D75**

***17-Sep-14***

**Client:** LTE

**Project:** 034014001 J Vent

| Sample ID **MB** | SampType: **MBLK** | TestCode: **EPA Method 300.0: Anions** |
|---|---|---|
| Client ID: **PBW** | Batch ID: **R20852** | RunNo: **20852** |
| Prep Date: | Analysis Date: **8/27/2014** | SeqNo: **607023** Units: **mg/L** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | ND | 0.50 | | | | | | | | |
| Nitrogen, Nitrite (As N) | ND | 0.10 | | | | | | | | |
| Nitrogen, Nitrate (As N) | ND | 0.10 | | | | | | | | |
| Sulfate | ND | 0.50 | | | | | | | | |

| Sample ID **LCS** | SampType: **LCS** | TestCode: **EPA Method 300.0: Anions** |
|---|---|---|
| Client ID: **LCSW** | Batch ID: **R20852** | RunNo: **20852** |
| Prep Date: | Analysis Date: **8/27/2014** | SeqNo: **607024** Units: **mg/L** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 4.7 | 0.50 | 5.000 | 0 | 93.5 | 90 | 110 | | | |
| Nitrogen, Nitrite (As N) | 0.95 | 0.10 | 1.000 | 0 | 95.4 | 90 | 110 | | | |
| Nitrogen, Nitrate (As N) | 2.4 | 0.10 | 2.500 | 0 | 97.7 | 90 | 110 | | | |
| Sulfate | 9.5 | 0.50 | 10.00 | 0 | 95.2 | 90 | 110 | | | |

| Sample ID **MB** | SampType: **MBLK** | TestCode: **EPA Method 300.0: Anions** |
|---|---|---|
| Client ID: **PBW** | Batch ID: **R20852** | RunNo: **20852** |
| Prep Date: | Analysis Date: **8/27/2014** | SeqNo: **607088** Units: **mg/L** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | ND | 0.50 | | | | | | | | |
| Nitrogen, Nitrite (As N) | ND | 0.10 | | | | | | | | |
| Nitrogen, Nitrate (As N) | ND | 0.10 | | | | | | | | |
| Sulfate | ND | 0.50 | | | | | | | | |

| Sample ID **LCS** | SampType: **LCS** | TestCode: **EPA Method 300.0: Anions** |
|---|---|---|
| Client ID: **LCSW** | Batch ID: **R20852** | RunNo: **20852** |
| Prep Date: | Analysis Date: **8/27/2014** | SeqNo: **607089** Units: **mg/L** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 4.7 | 0.50 | 5.000 | 0 | 93.3 | 90 | 110 | | | |
| Nitrogen, Nitrite (As N) | 0.95 | 0.10 | 1.000 | 0 | 95.5 | 90 | 110 | | | |
| Nitrogen, Nitrate (As N) | 2.5 | 0.10 | 2.500 | 0 | 101 | 90 | 110 | | | |
| Sulfate | 9.5 | 0.50 | 10.00 | 0 | 95.0 | 90 | 110 | | | |

| Sample ID **MB** | SampType: **MBLK** | TestCode: **EPA Method 300.0: Anions** |
|---|---|---|
| Client ID: **PBW** | Batch ID: **R20888** | RunNo: **20888** |
| Prep Date: | Analysis Date: **8/28/2014** | SeqNo: **607812** Units: **mg/L** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|

**Qualifiers:**

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1408D75**

***17-Sep-14***

**Client:** LTE

**Project:** 034014001 J Vent

| Sample ID | **MB** | SampType: | **MBLK** | TestCode: | **EPA Method 300.0: Anions** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBW** | Batch ID: | **R20888** | RunNo: | **20888** | | | | | |
| Prep Date: | | Analysis Date: | **8/28/2014** | SeqNo: | **607812** | Units: | **mg/L** | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Sulfate | ND | 0.50 | | | | | | | | |

| Sample ID | **LCS** | SampType: | **LCS** | TestCode: | **EPA Method 300.0: Anions** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSW** | Batch ID: | **R20888** | RunNo: | **20888** | | | | | |
| Prep Date: | | Analysis Date: | **8/28/2014** | SeqNo: | **607813** | Units: | **mg/L** | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Sulfate | 9.5 | 0.50 | 10.00 | 0 | 95.1 | 90 | 110 | | | |

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| O | RSD is greater than RSDlimit | P | Sample pH greater than 2. |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1408D75**

***17-Sep-14***

**Client:** LTE

**Project:** 034014001 J Vent

| Sample ID | **5ML RB** | SampType: | **MBLK** | TestCode: | **EPA Method 8021B: Volatiles** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBW** | Batch ID: | **R20843** | RunNo: | **20843** | | | | | |
| Prep Date: | | Analysis Date: | **8/27/2014** | SeqNo: | **606708** | Units: | **µg/L** | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | ND | 1.0 | | | | | | | | |
| Toluene | ND | 1.0 | | | | | | | | |
| Ethylbenzene | ND | 1.0 | | | | | | | | |
| Xylenes, Total | ND | 2.0 | | | | | | | | |
| Surr: 4-Bromofluorobenzene | 22 | | 20.00 | | 109 | 82.9 | 139 | | | |

| Sample ID | **100NG BTEX LCS** | SampType: | **LCS** | TestCode: | **EPA Method 8021B: Volatiles** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSW** | Batch ID: | **R20843** | RunNo: | **20843** | | | | | |
| Prep Date: | | Analysis Date: | **8/27/2014** | SeqNo: | **606709** | Units: | **µg/L** | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | 20 | 1.0 | 20.00 | 0 | 99.3 | 80 | 120 | | | |
| Toluene | 20 | 1.0 | 20.00 | 0 | 99.6 | 80 | 120 | | | |
| Ethylbenzene | 20 | 1.0 | 20.00 | 0 | 101 | 80 | 120 | | | |
| Xylenes, Total | 63 | 2.0 | 60.00 | 0 | 104 | 80 | 120 | | | |
| Surr: 4-Bromofluorobenzene | 24 | | 20.00 | | 121 | 82.9 | 139 | | | |

| Sample ID | **1408D75-001AMS** | SampType: | **MS** | TestCode: | **EPA Method 8021B: Volatiles** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **MW-13** | Batch ID: | **R20843** | RunNo: | **20843** | | | | | |
| Prep Date: | | Analysis Date: | **8/27/2014** | SeqNo: | **606715** | Units: | **µg/L** | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | 18 | 1.0 | 20.00 | 0.4220 | 86.4 | 80 | 120 | | | |
| Toluene | 18 | 1.0 | 20.00 | 0.4120 | 85.9 | 80 | 120 | | | |
| Ethylbenzene | 18 | 1.0 | 20.00 | 0.5820 | 86.8 | 79.7 | 126 | | | |
| Xylenes, Total | 58 | 2.0 | 60.00 | 1.408 | 93.6 | 80 | 120 | | | |
| Surr: 4-Bromofluorobenzene | 23 | | 20.00 | | 114 | 82.9 | 139 | | | |

| Sample ID | **1408D75-001AMSD** | SampType: | **MSD** | TestCode: | **EPA Method 8021B: Volatiles** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **MW-13** | Batch ID: | **R20843** | RunNo: | **20843** | | | | | |
| Prep Date: | | Analysis Date: | **8/27/2014** | SeqNo: | **606716** | Units: | **µg/L** | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | 18 | 1.0 | 20.00 | 0.4220 | 85.9 | 80 | 120 | 0.544 | 20 | |
| Toluene | 18 | 1.0 | 20.00 | 0.4120 | 86.2 | 80 | 120 | 0.306 | 20 | |
| Ethylbenzene | 18 | 1.0 | 20.00 | 0.5820 | 88.0 | 79.7 | 126 | 1.31 | 20 | |
| Xylenes, Total | 59 | 2.0 | 60.00 | 1.408 | 96.2 | 80 | 120 | 2.74 | 20 | |
| Surr: 4-Bromofluorobenzene | 22 | | 20.00 | | 112 | 82.9 | 139 | 0 | 0 | |

**Qualifiers:**

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1408D75**

***17-Sep-14***

**Client:** LTE

**Project:** 034014001 J Vent

| Sample ID | **MB-14989** | SampType: | **MBLK** | TestCode: | **SM2540C MOD: Total Dissolved Solids** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBW** | Batch ID: | **14989** | RunNo: | **20924** | | | | | |
| Prep Date: | **8/27/2014** | Analysis Date: | **9/2/2014** | SeqNo: | **608856** | Units: | **mg/L** | | | |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Total Dissolved Solids | ND | 20.0 | | | | | | | | |

| Sample ID | **LCS-14989** | SampType: | **LCS** | TestCode: | **SM2540C MOD: Total Dissolved Solids** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSW** | Batch ID: | **14989** | RunNo: | **20924** | | | | | |
| Prep Date: | **8/27/2014** | Analysis Date: | **9/2/2014** | SeqNo: | **608857** | Units: | **mg/L** | | | |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Total Dissolved Solids | 1010 | 20.0 | 1000 | 0 | 101 | 80 | 120 | | | |

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| O | RSD is greater than RSDlimit | P | Sample pH greater than 2. |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | | |

**HALL ENVIRONMENTAL ANALYSIS LABORATORY**

*Hall Environmental Analysis Laboratory*
*4901 Hawkins NE*
*Albuquerque, NM 87109*
*TEL: 505-345-3975 FAX: 505-345-4107*
*Website: www.hallenvironmental.com*

# Sample Log-In Check List

Client Name: LTE | Work Order Number: **1408D75** | RcptNo: **1**

Received by/date: 08/27/14

Logged By: **Lindsay Mangin** | 8/27/2014 4:55:00 AM

Completed By: **Lindsay Mangin** | 8/27/2014 6:37:08 AM

Reviewed By: IO | 08/27/2014

## Chain of Custody

| | | | |
|---|---|---|---|
| 1. Custody seals intact on sample bottles? | Yes | No | Not Present ✔ |
| 2. Is Chain of Custody complete? | Yes ✔ | No | Not Present |
| 3. How was the sample delivered? | Courier | | |

## Log In

| | | | |
|---|---|---|---|
| 4. Was an attempt made to cool the samples? | Yes ✔ | No | NA |
| 5. Were all samples received at a temperature of >0° C to 6.0°C | Yes ✔ | No | NA |
| 6. Sample(s) in proper container(s)? | Yes ✔ | No | |
| 7. Sufficient sample volume for indicated test(s)? | Yes ✔ | No | |
| 8. Are samples (except VOA and ONG) properly preserved? | Yes ✔ | No | |
| 9. Was preservative added to bottles? | Yes | No ✔ | NA |
| 10. VOA vials have zero headspace? | Yes ✔ | No | No VOA Vials |
| 11. Were any sample containers received broken? | Yes | No ✔ | |
| 12. Does paperwork match bottle labels? (Note discrepancies on chain of custody) | Yes ✔ | No | # of preserved bottles checked for pH: 4 (<2 or >12 unless noted) |
| 13. Are matrices correctly identified on Chain of Custody? | Yes ✔ | No | Adjusted? No |
| 14. Is it clear what analyses were requested? | Yes ✔ | No | |
| 15. Were all holding times able to be met? (If no, notify customer for authorization.) | Yes ✔ | No | Checked by: |

## Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes | No | NA ✔

Person Notified: _____ Date: _____

By Whom: _____ Via: eMail Phone Fax In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

| Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 3.3 | Good | Yes | | | |

# Chain-of-Custody Record

Client: CTenvironmental

Mailing Address: 2243 Main Ave #3
Durango, CO 81301

Phone #: 970-385-1096

email or Fax#: aager@ltenvi.com

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name:
034014001 Jvent

Project #:
034014001

Project Manager:
Ashley Ager

Sampler: AC

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.3


HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107


| Date | Time | Matrix | Sample Request ID | Container Type and # | Preservative Type | HEAL No. 1408575 | BTEX + MTBE + TMB's (8021) | BTEX + MTBE + TPH (Gas only) | TPH 8015B (GRO / DRO / MRO) | TPH (Method 418.1) | EDB (Method 504.1) | PAH's (8310 or 8270 SIMS) | RCRA 8 Metals | Anions ($F,Cl,NO_3,NO_2,PO_4,SO_4$) | 8081 Pesticides / 8082 PCB's | 8260B (VOA) | 8270 (Semi-VOA) | Nitrate / Nitrite | Total Iron | TDS, Chloride, Sulfate | | Air Bubbles (Y or N) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8/26 | 1155 | GW | MW-13 | 6/various | HCl, $HNO_3$ $H_2SO_4$ | -001 | X | | | | | | | | | | | X | X | X | | |
| | 1415 | GW | MW-14 | | | -002 | X | | | | | | | | | | | X | X | X | | |
| | 1503 | GW | MW-15 | | | -003 | X | | | | | | | | | | | X | X | X | | |
| | 1533 | GW | MW-16 | | | -004 | X | | | | | | | | | | | X | X | X | | |
| ↓ | ~~1534~~ 1534 | AQ | Trip Blank | 3 | | -005 | X | | | | | | | | | | | X | X | X | | |

| Date: | Time: | Relinquished by: | Received by: | Date | Time |
|---|---|---|---|---|---|
| 8/26 | 1654 | | | 8/26/14 | 1654 |
| 8/26/14 | 1730 | | | 08/27/14 | 0455 |

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

*Hall Environmental Analysis Laboratory*
*4901 Hawkins NE*
*Albuquerque, NM 87109*
*TEL: 505-345-3975 FAX: 505-345-4107*
*Website: www.hallenvironmental.com*

December 10, 2014

Brooke Herb
LTE
2243 Main Ave Suite 3
Durango, CO 81301
TEL: (970) 946-1093
FAX

RE: J Vent Quarterly Monitoring OrderNo.: 1411972

Dear Brooke Herb:

Hall Environmental Analysis Laboratory received 5 sample(s) on 11/21/2014 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** LTE
**Client Sample ID:** MW-13
**Project:** J Vent Quarterly Monitoring
**Collection Date:** 11/20/2014 12:30:00 PM
**Lab ID:** 1411972-001
**Matrix:** AQUEOUS
**Received Date:** 11/21/2014 7:18:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 1.0 | | µg/L | 1 | 11/25/2014 5:02:09 PM | R22784 |
| Toluene | ND | 1.0 | | µg/L | 1 | 11/25/2014 5:02:09 PM | R22784 |
| Ethylbenzene | ND | 1.0 | | µg/L | 1 | 11/25/2014 5:02:09 PM | R22784 |
| Xylenes, Total | ND | 2.0 | | µg/L | 1 | 11/25/2014 5:02:09 PM | R22784 |
| Surr: 4-Bromofluorobenzene | 99.4 | 66.6-167 | | %REC | 1 | 11/25/2014 5:02:09 PM | R22784 |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **LGP** | |
| Chloride | 14 | 2.5 | | mg/L | 5 | 11/22/2014 12:54:52 AM | R22748 |
| Nitrogen, Nitrite (As N) | ND | 0.50 | | mg/L | 5 | 11/22/2014 12:54:52 AM | R22748 |
| Nitrogen, Nitrate (As N) | ND | 0.50 | | mg/L | 5 | 11/22/2014 12:54:52 AM | R22748 |
| Sulfate | 1200 | 25 | * | mg/L | 50 | 12/1/2014 11:56:44 PM | R22875 |
| **EPA METHOD 200.7: TOTAL METALS** | | | | | | Analyst: **JLF** | |
| Iron | 5.9 | 0.20 | * | mg/L | 10 | 11/25/2014 5:57:56 PM | 16543 |
| **SM2540C MOD: TOTAL DISSOLVED SOLIDS** | | | | | | Analyst: **KS** | |
| Total Dissolved Solids | 2610 | 200 | * | mg/L | 1 | 11/26/2014 12:03:00 PM | 16563 |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| O | RSD is greater than RSDlimit | P | Sample pH greater than 2. |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** LTE
**Client Sample ID:** MW-14
**Project:** J Vent Quarterly Monitoring
**Collection Date:** 11/20/2014 11:20:00 AM
**Lab ID:** 1411972-002
**Matrix:** AQUEOUS
**Received Date:** 11/21/2014 7:18:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 1.0 | | µg/L | 1 | 11/25/2014 6:23:43 PM | R22784 |
| Toluene | ND | 1.0 | | µg/L | 1 | 11/25/2014 6:23:43 PM | R22784 |
| Ethylbenzene | ND | 1.0 | | µg/L | 1 | 11/25/2014 6:23:43 PM | R22784 |
| Xylenes, Total | ND | 2.0 | | µg/L | 1 | 11/25/2014 6:23:43 PM | R22784 |
| Surr: 4-Bromofluorobenzene | 100 | 66.6-167 | | %REC | 1 | 11/25/2014 6:23:43 PM | R22784 |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **LGP** | |
| Chloride | 12 | 2.5 | | mg/L | 5 | 11/22/2014 1:44:30 AM | R22748 |
| Nitrogen, Nitrite (As N) | ND | 0.50 | | mg/L | 5 | 11/22/2014 1:44:30 AM | R22748 |
| Nitrogen, Nitrate (As N) | ND | 0.50 | | mg/L | 5 | 11/22/2014 1:44:30 AM | R22748 |
| Sulfate | 950 | 25 | * | mg/L | 50 | 12/2/2014 12:09:08 AM | R22875 |
| **EPA METHOD 200.7: TOTAL METALS** | | | | | | Analyst: **JLF** | |
| Iron | 5.8 | 0.20 | * | mg/L | 10 | 11/25/2014 5:59:45 PM | 16543 |
| **SM2540C MOD: TOTAL DISSOLVED SOLIDS** | | | | | | Analyst: **KS** | |
| Total Dissolved Solids | 2010 | 200 | * | mg/L | 1 | 11/26/2014 12:03:00 PM | 16563 |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| O | RSD is greater than RSDlimit | P | Sample pH greater than 2. |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** LTE
**Client Sample ID:** MW-15
**Project:** J Vent Quarterly Monitoring
**Collection Date:** 11/20/2014 10:00:00 AM
**Lab ID:** 1411972-003
**Matrix:** AQUEOUS
**Received Date:** 11/21/2014 7:18:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 1.0 | | µg/L | 1 | 11/25/2014 6:51:03 PM | R22784 |
| Toluene | ND | 1.0 | | µg/L | 1 | 11/25/2014 6:51:03 PM | R22784 |
| Ethylbenzene | ND | 1.0 | | µg/L | 1 | 11/25/2014 6:51:03 PM | R22784 |
| Xylenes, Total | ND | 2.0 | | µg/L | 1 | 11/25/2014 6:51:03 PM | R22784 |
| Surr: 4-Bromofluorobenzene | 98.3 | 66.6-167 | | %REC | 1 | 11/25/2014 6:51:03 PM | R22784 |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **LGP** | |
| Chloride | 14 | 2.5 | | mg/L | 5 | 11/22/2014 2:09:20 AM | R22748 |
| Nitrogen, Nitrite (As N) | ND | 0.50 | | mg/L | 5 | 11/22/2014 2:09:20 AM | R22748 |
| Nitrogen, Nitrate (As N) | ND | 0.50 | | mg/L | 5 | 11/22/2014 2:09:20 AM | R22748 |
| Sulfate | 1000 | 25 | * | mg/L | 50 | 12/2/2014 12:21:33 AM | R22875 |
| **EPA METHOD 200.7: TOTAL METALS** | | | | | | Analyst: **JLF** | |
| Iron | 12 | 0.40 | * | mg/L | 20 | 11/25/2014 6:01:36 PM | 16543 |
| **SM2540C MOD: TOTAL DISSOLVED SOLIDS** | | | | | | Analyst: **KS** | |
| Total Dissolved Solids | 1940 | 200 | * | mg/L | 1 | 11/26/2014 12:03:00 PM | 16563 |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| O | RSD is greater than RSDlimit | P | Sample pH greater than 2. |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** LTE
**Client Sample ID:** MW-16
**Project:** J Vent Quarterly Monitoring
**Collection Date:** 11/20/2014 1:30:00 PM
**Lab ID:** 1411972-004
**Matrix:** AQUEOUS
**Received Date:** 11/21/2014 7:18:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 1.0 | | µg/L | 1 | 11/25/2014 7:18:18 PM | R22784 |
| Toluene | ND | 1.0 | | µg/L | 1 | 11/25/2014 7:18:18 PM | R22784 |
| Ethylbenzene | ND | 1.0 | | µg/L | 1 | 11/25/2014 7:18:18 PM | R22784 |
| Xylenes, Total | ND | 2.0 | | µg/L | 1 | 11/25/2014 7:18:18 PM | R22784 |
| Surr: 4-Bromofluorobenzene | 99.4 | 66.6-167 | | %REC | 1 | 11/25/2014 7:18:18 PM | R22784 |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **LGP** | |
| Chloride | 22 | 10 | | mg/L | 20 | 11/22/2014 2:46:33 AM | R22748 |
| Nitrogen, Nitrite (As N) | ND | 0.50 | | mg/L | 5 | 11/22/2014 2:34:09 AM | R22748 |
| Nitrogen, Nitrate (As N) | ND | 0.50 | | mg/L | 5 | 11/22/2014 2:34:09 AM | R22748 |
| Sulfate | 1600 | 25 | * | mg/L | 50 | 12/2/2014 12:33:57 AM | R22875 |
| **EPA METHOD 200.7: TOTAL METALS** | | | | | | Analyst: **JLF** | |
| Iron | 12 | 0.40 | * | mg/L | 20 | 11/25/2014 6:03:36 PM | 16543 |
| **SM2540C MOD: TOTAL DISSOLVED SOLIDS** | | | | | | Analyst: **KS** | |
| Total Dissolved Solids | 3340 | 200 | * | mg/L | 1 | 11/26/2014 12:03:00 PM | 16563 |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| O | RSD is greater than RSDlimit | P | Sample pH greater than 2. |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** LTE
**Client Sample ID:** Trip Blank
**Project:** J Vent Quarterly Monitoring
**Collection Date:**
**Lab ID:** 1411972-005
**Matrix:** AQUEOUS
**Received Date:** 11/21/2014 7:18:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 1.0 | | µg/L | 1 | 11/25/2014 9:34:52 PM | R22784 |
| Toluene | ND | 1.0 | | µg/L | 1 | 11/25/2014 9:34:52 PM | R22784 |
| Ethylbenzene | ND | 1.0 | | µg/L | 1 | 11/25/2014 9:34:52 PM | R22784 |
| Xylenes, Total | ND | 2.0 | | µg/L | 1 | 11/25/2014 9:34:52 PM | R22784 |
| Surr: 4-Bromofluorobenzene | 98.1 | 66.6-167 | | %REC | 1 | 11/25/2014 9:34:52 PM | R22784 |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| O | RSD is greater than RSDlimit | P | Sample pH greater than 2. |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1411972**

***10-Dec-14***

**Client:** LTE

**Project:** J Vent Quarterly Monitoring

| Sample ID | **MB-16543** | SampType: | **MBLK** | TestCode: | **EPA Method 200.7: Total Metals** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBW** | Batch ID: | **16543** | RunNo: | **22794** | | | | | |
| Prep Date: | **11/24/2014** | Analysis Date: | **11/25/2014** | SeqNo: | **672671** | Units: | **mg/L** | | | |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Iron | ND | 0.020 | | | | | | | | |

| Sample ID | **LCS-16543** | SampType: | **LCS** | TestCode: | **EPA Method 200.7: Total Metals** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSW** | Batch ID: | **16543** | RunNo: | **22794** | | | | | |
| Prep Date: | **11/24/2014** | Analysis Date: | **11/25/2014** | SeqNo: | **672672** | Units: | **mg/L** | | | |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Iron | 0.48 | 0.020 | 0.5000 | 0 | 95.4 | 85 | 115 | | | |

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| O | RSD is greater than RSDlimit | P | Sample pH greater than 2. |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1411972**

***10-Dec-14***

**Client:** LTE

**Project:** J Vent Quarterly Monitoring

| Sample ID **MB** | SampType: **MBLK** | TestCode: **EPA Method 300.0: Anions** |
|---|---|---|
| Client ID: **PBW** | Batch ID: **R22748** | RunNo: **22748** |
| Prep Date: | Analysis Date: **11/21/2014** | SeqNo: **671152** Units: **mg/L** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | ND | 0.50 | | | | | | | | |
| Nitrogen, Nitrite (As N) | ND | 0.10 | | | | | | | | |
| Nitrogen, Nitrate (As N) | ND | 0.10 | | | | | | | | |

| Sample ID **LCS** | SampType: **LCS** | TestCode: **EPA Method 300.0: Anions** |
|---|---|---|
| Client ID: **LCSW** | Batch ID: **R22748** | RunNo: **22748** |
| Prep Date: | Analysis Date: **11/21/2014** | SeqNo: **671153** Units: **mg/L** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 4.7 | 0.50 | 5.000 | 0 | 94.4 | 90 | 110 | | | |
| Nitrogen, Nitrite (As N) | 0.98 | 0.10 | 1.000 | 0 | 98.0 | 90 | 110 | | | |
| Nitrogen, Nitrate (As N) | 2.5 | 0.10 | 2.500 | 0 | 99.5 | 90 | 110 | | | |

| Sample ID **1411972-001BMS** | SampType: **MS** | TestCode: **EPA Method 300.0: Anions** |
|---|---|---|
| Client ID: **MW-13** | Batch ID: **R22748** | RunNo: **22748** |
| Prep Date: | Analysis Date: **11/22/2014** | SeqNo: **671185** Units: **mg/L** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 38 | 2.5 | 25.00 | 13.87 | 97.3 | 81.8 | 112 | | | |
| Nitrogen, Nitrite (As N) | 4.9 | 0.50 | 5.000 | 0 | 97.7 | 66.4 | 111 | | | |
| Nitrogen, Nitrate (As N) | 13 | 0.50 | 12.50 | 0.1500 | 99.3 | 84 | 109 | | | |

| Sample ID **1411972-001BMSD** | SampType: **MSD** | TestCode: **EPA Method 300.0: Anions** |
|---|---|---|
| Client ID: **MW-13** | Batch ID: **R22748** | RunNo: **22748** |
| Prep Date: | Analysis Date: **11/22/2014** | SeqNo: **671186** Units: **mg/L** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 38 | 2.5 | 25.00 | 13.87 | 95.5 | 81.8 | 112 | 1.21 | 20 | |
| Nitrogen, Nitrite (As N) | 4.9 | 0.50 | 5.000 | 0 | 98.1 | 66.4 | 111 | 0.378 | 20 | |
| Nitrogen, Nitrate (As N) | 13 | 0.50 | 12.50 | 0.1500 | 99.2 | 84 | 109 | 0.119 | 20 | |

| Sample ID **MB** | SampType: **MBLK** | TestCode: **EPA Method 300.0: Anions** |
|---|---|---|
| Client ID: **PBW** | Batch ID: **R22875** | RunNo: **22875** |
| Prep Date: | Analysis Date: **12/1/2014** | SeqNo: **675391** Units: **mg/L** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Sulfate | ND | 0.50 | | | | | | | | |

**Qualifiers:**

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1411972**

***10-Dec-14***

**Client:** LTE

**Project:** J Vent Quarterly Monitoring

| Sample ID **LCS** | SampType: **LCS** | TestCode: **EPA Method 300.0: Anions** |
|---|---|---|
| Client ID: **LCSW** | Batch ID: **R22875** | RunNo: **22875** |
| Prep Date: | Analysis Date: **12/1/2014** | SeqNo: **675392** Units: **mg/L** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Sulfate | 9.9 | 0.50 | 10.00 | 0 | 98.6 | 90 | 110 | | | |

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| O | RSD is greater than RSDlimit | P | Sample pH greater than 2. |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1411972**

***10-Dec-14***

**Client:** LTE

**Project:** J Vent Quarterly Monitoring

| Sample ID | **5ML RB** | SampType: | **MBLK** | TestCode: | **EPA Method 8021B: Volatiles** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBW** | Batch ID: | **R22784** | RunNo: | **22784** | | | | | |
| Prep Date: | | Analysis Date: | **11/25/2014** | SeqNo: | **673058** | Units: | **µg/L** | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | ND | 1.0 | | | | | | | | |
| Toluene | ND | 1.0 | | | | | | | | |
| Ethylbenzene | ND | 1.0 | | | | | | | | |
| Xylenes, Total | ND | 2.0 | | | | | | | | |
| Surr: 4-Bromofluorobenzene | 22 | | 20.00 | | 108 | 66.6 | 167 | | | |

| Sample ID | **100NG BTEX LCS** | SampType: | **LCS** | TestCode: | **EPA Method 8021B: Volatiles** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSW** | Batch ID: | **R22784** | RunNo: | **22784** | | | | | |
| Prep Date: | | Analysis Date: | **11/25/2014** | SeqNo: | **673059** | Units: | **µg/L** | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | 19 | 1.0 | 20.00 | 0 | 95.0 | 80 | 120 | | | |
| Toluene | 19 | 1.0 | 20.00 | 0 | 97.2 | 80 | 120 | | | |
| Ethylbenzene | 19 | 1.0 | 20.00 | 0 | 96.7 | 80 | 120 | | | |
| Xylenes, Total | 62 | 2.0 | 60.00 | 0 | 103 | 80 | 120 | | | |
| Surr: 4-Bromofluorobenzene | 20 | | 20.00 | | 102 | 66.6 | 167 | | | |

| Sample ID | **1411972-001AMS** | SampType: | **MS** | TestCode: | **EPA Method 8021B: Volatiles** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **MW-13** | Batch ID: | **R22784** | RunNo: | **22784** | | | | | |
| Prep Date: | | Analysis Date: | **11/25/2014** | SeqNo: | **673065** | Units: | **µg/L** | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | 18 | 1.0 | 20.00 | 0.2040 | 89.4 | 80 | 120 | | | |
| Toluene | 18 | 1.0 | 20.00 | 0.2020 | 90.9 | 80 | 120 | | | |
| Ethylbenzene | 19 | 1.0 | 20.00 | 0 | 93.9 | 79.7 | 126 | | | |
| Xylenes, Total | 61 | 2.0 | 60.00 | 0.5700 | 100 | 80 | 120 | | | |
| Surr: 4-Bromofluorobenzene | 20 | | 20.00 | | 102 | 66.6 | 167 | | | |

| Sample ID | **1411972-001AMSD** | SampType: | **MSD** | TestCode: | **EPA Method 8021B: Volatiles** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **MW-13** | Batch ID: | **R22784** | RunNo: | **22784** | | | | | |
| Prep Date: | | Analysis Date: | **11/25/2014** | SeqNo: | **673066** | Units: | **µg/L** | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | 18 | 1.0 | 20.00 | 0.2040 | 90.1 | 80 | 120 | 0.760 | 20 | |
| Toluene | 19 | 1.0 | 20.00 | 0.2020 | 91.9 | 80 | 120 | 1.14 | 20 | |
| Ethylbenzene | 19 | 1.0 | 20.00 | 0 | 95.4 | 79.7 | 126 | 1.67 | 20 | |
| Xylenes, Total | 61 | 2.0 | 60.00 | 0.5700 | 101 | 80 | 120 | 0.112 | 20 | |
| Surr: 4-Bromofluorobenzene | 20 | | 20.00 | | 102 | 66.6 | 167 | 0 | 0 | |

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| O | RSD is greater than RSDlimit | P | Sample pH greater than 2. |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | | |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1411972**

***10-Dec-14***

**Client:** LTE

**Project:** J Vent Quarterly Monitoring

| Sample ID | **MB-16563** | SampType: | **MBLK** | TestCode: | **SM2540C MOD: Total Dissolved Solids** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBW** | Batch ID: | **16563** | RunNo: | **22815** | | | | | |
| Prep Date: | **11/25/2014** | Analysis Date: | **11/26/2014** | SeqNo: | **673493** | Units: | **mg/L** | | | |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Total Dissolved Solids | ND | 20.0 | | | | | | | | |

| Sample ID | **LCS-16563** | SampType: | **LCS** | TestCode: | **SM2540C MOD: Total Dissolved Solids** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSW** | Batch ID: | **16563** | RunNo: | **22815** | | | | | |
| Prep Date: | **11/25/2014** | Analysis Date: | **11/26/2014** | SeqNo: | **673494** | Units: | **mg/L** | | | |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Total Dissolved Solids | 1020 | 20.0 | 1000 | 0 | 102 | 80 | 120 | | | |

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| O | RSD is greater than RSDlimit | P | Sample pH greater than 2. |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | Spike Recovery outside accepted recovery limits | | |

HALL ENVIRONMENTAL ANALYSIS LABORATORY

*Hall Environmental Analysis Laboratory*
*4901 Hawkins NE*
*Albuquerque, NM 87109*
*TEL: 505-345-3975 FAX: 505-345-4107*
*Website: www.hallenvironmental.com*

# Sample Log-In Check List

Client Name: LTE | Work Order Number: 1411972 | RcptNo: 1

Received by/date: AT 11/21/14

Logged By: **Celina Sessa** 11/21/2014 7:18:00 AM Celina Sessa

Completed By: **Celina Sessa** 11/21/2014 4:22:05 PM Celina Sessa

Reviewed By: NV 11/21/14 11/24/14

## Chain of Custody

| | | | |
|---|---|---|---|
| 1. Custody seals intact on sample bottles? | Yes ☐ | No ☐ | Not Present ☑ |
| 2. Is Chain of Custody complete? | Yes ☑ | No ☐ | Not Present ☐ |
| 3. How was the sample delivered? | Client | | |

## Log In

| | | | |
|---|---|---|---|
| 4. Was an attempt made to cool the samples? | Yes ☑ | No ☐ | NA ☐ |
| 5. Were all samples received at a temperature of >0° C to 6.0°C | Yes ☑ | No ☐ | NA ☐ |
| 6. Sample(s) in proper container(s)? | Yes ☑ | No ☐ | |
| 7. Sufficient sample volume for indicated test(s)? | Yes ☑ | No ☐ | |
| 8. Are samples (except VOA and ONG) properly preserved? | Yes ☑ | No ☐ | |
| 9. Was preservative added to bottles? | Yes ☐ | No ☑ | NA ☐ |
| 10. VOA vials have zero headspace? | Yes ☑ | No ☐ | No VOA Vials ☐ |
| 11. Were any sample containers received broken? | Yes ☐ | No ☑ | |
| 12. Does paperwork match bottle labels? (Note discrepancies on chain of custody) | Yes ☑ | No ☐ | |
| 13. Are matrices correctly identified on Chain of Custody? | Yes ☑ | No ☐ | |
| 14. Is it clear what analyses were requested? | Yes ☑ | No ☐ | |
| 15. Were all holding times able to be met? (If no, notify customer for authorization.) | Yes ☑ | No ☐ | |

# of preserved bottles checked for pH: 8 (<2 or >12 unless noted)

Adjusted? NO

Checked by:

## Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

| Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 1.7 | Good | Not Present | | | |

# Chain-of-Custody Record

Client: LT Environmental

Mailing Address: 2243 Main Ave S#3
Durango CO 81301

Phone #: 970-385-1096

email or Fax#: bherb@ltenv.com

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name:
JVent Quarterly Monitoring

Project #:
034014001

Project Manager:
Brooke Herb

Sampler: Daniel Newman

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.7

Field filtered

**HALL ENVIRONMENTAL ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

| Date | Time | Matrix | Sample Request ID | Container Type and # | Preservative Type | HEAL No. 1411972 | BTEX + ~~MTBE + TMB's~~ (8021) | BTEX + MTBE + TPH (Gas only) | TPH 8015B (GRO / DRO / MRO) | TPH (Method 418.1) | EDB (Method 504.1) | PAH's (8310 or 8270 SIMS) | RCRA 8 Metals | Anions ($F,Cl,NO_3,NO_2,PO_4,SO_4$) | 8081 Pesticides / 8082 PCB's | 8260B (VOA) | 8270 (Semi-VOA) | Nitrate/Nitrite | Total Iron | TDS | Chloride, Sulfate | Air Bubbles (Y or N) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11/20/14 | 1230 | ~~12~~ GW | MW-13 | various | various | -001 | X | | | | | | | | | | | X | X | X | X | |
| 11/20/14 | 1120 | GW | MW-14 | | | -002 | X | | | | | | | | | | | X | X | X | X | |
| 11/20/14 | 1000 | GW | MW-15 | | | -003 | X | | | | | | | | | | | X | X | X | X | |
| 11/20/14 | 1330 | GW | MW-16 | | | -004 | X | | | | | | | | | | | X | X | X | X | |
| | | GW | Trip Blank | | | -005 | X | | | | | | | | | | | | | | | |

| Date | Time | Relinquished by: | Received by: | Date | Time |
|---|---|---|---|---|---|
| 11/20/14 | 1545 | | | | |
| 11/20/14 | 1845 | | | 11/21/14 | 0718 |

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.