3R – 444

2015 AGWMR

11 / 20 / 2015

Environmental Affairs
188 County Road 4900
Bloomfield, NM 87413
505/632-4600
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November 20, 2015

Glenn von Gonten
Hydrologist and Groundwater Remediation
New Mexico Oil Conservation Division
Environmental Bureau
1220 Saint Street Francis Drive
Santa Fe, New Mexico 87505

RE: 2015 Annual Groundwater Report and Closure Request
Dogie Compressor Station J Vent Condensate Release
Administrative/Environmental Order #3R-444
Williams Four Corners LLC

Dear Mr. von Gonten:

The attached 2015 Annual Groundwater Report and Closure Request summarizes three quarters of groundwater monitoring in 2015 and request for No Further Action for the release associated with Administrative/Environmental Order #3R-444. Groundwater analytical results have been in compliance with the New Mexico Water Quality Control Commission standards for eight consecutive quarters.
Sincerely,

WILLIAMS FOUR CORNERS

Kelsey Christiansen
Environmental Specialist

Attachment (1)
2015 Annual Groundwater Report and Closure Request

2015 ANNUAL GROUNDWATER REPORT AND CLOSURE REQUEST

DOGIE COMPRESSOR STATION J VENT CONDENSATE RELEASE

ADMINISTRATIVE/ENVIRONMENTAL ORDER NUMBER 3R-444

OCTOBER 2015

Prepared for:

WILLIAMS FOUR CORNERS LLC
Bloomfield, New Mexico

2015 ANNUAL GROUNDWATER REPORT AND CLOSURE REQUEST

DOGIE COMPRESSOR STATION J VENT CONDENSATE RELEASE

ADMINISTRATIVE/ENVIRONMENTAL ORDER NUMBER 3R-444

OCTOBER 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 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, 3013, 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. 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 quarterly from November 2013 to August 2015. Depth to groundwater data collected from the monitoring wells from 2013 through 2015 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 sample from 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 sample results indicate iron, sulfate, and TDS naturally exceed NMWQCC standards.

The addition of BOS 200® to impacted groundwater at the Site decreased concentrations of BTEX in groundwater to below laboratory detection limits as documented by eight quarterly groundwater sampling results. Williams formally requests closure at the Site as groundwater sampling results from all monitoring wells have been below NMWQCC standards for BTEX, nitrate/nitrite, and chloride for eight consecutive quarters. Concentrations of iron, sulfate, and TDS, which were analyzed to monitor general groundwater quality, exceeded NMWQCC standards in groundwater samples. However, the values were consistent with background concentrations and appear to be naturally occurring.

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 2015 through October 2015 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 indicated 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 New Mexico Oil Conservation Division (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 total dissolved solids (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. LTE conducted quarterly groundwater sampling from November 2013 to August 2015.

2.0 METHODOLOGY

During 2015, 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 polyvinyl chloride (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 (ºC) 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; nitrate/nitrite as N, chloride, and sulfate by EPA Method 300.0, iron by EPA Method 200.7, and TDS by Method SM2540C. Copies of the 2015 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, and August 2015

quarterly monitoring events (Figures 2 through 4). Contours were inferred based on groundwater elevations obtained and observations of physical characteristics (topography, proximity to irrigation ditches, etc.) at the Site.

3.0 RESULTS

Groundwater analytical results indicate concentrations of BTEX in groundwater samples collected from monitoring wells MW-13, MW-14, MW-15, and MW-16 were below laboratory detection limits during 2015. Additionally, nitrate/nitrite as N and chloride concentrations in MW-13, MW-14, MW-15, and MW-16 were compliant with the NMWQCC standards. Iron and sulfate concentrations and TDS values exceeded the NMWQCC standards in the groundwater samples from all monitoring wells, including upgradient monitoring well MW-16, for each quarterly sampling event. 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 2015. The fluctuations in iron concentrations were observed to be consistent in all monitoring wells, including the upgradient well. Similar fluctuations were observed in the 2014 monitoring results. Table 1 summarizes the groundwater analytical results and the laboratory analytical reports are included in Appendix D.

Depth to groundwater data obtained during the 2015 quarterly monitoring events are summarized in Table 2. Groundwater flow direction was determined to be consistently to the northwest as depicted on Figures 2 through 4.

4.0 CONCLUSIONS

The addition of BOS 200® to impacted groundwater at the Site has successfully remediated BTEX concentrations. Nitrate/nitrite as N, chloride, iron, sulfate, and TDS concentrations were analyzed to monitor general groundwater quality. The groundwater analytical results indicate the addition of BOS 200® has not affected these groundwater quality parameters, which remain consistent with naturally-occurring background conditions.

5.0 CLOSURE REQUEST

Williams formally requests a No Further Action status be assigned to Administrative/ Environmental Order #3R-444. Eight consecutive quarters of compliance with the NMWQCC standards have been achieved for BTEX, nitrate/nitrite as N, and chloride; and iron, sulfate, and TDS are consistent with naturally occurring background conditions.

FIGURES

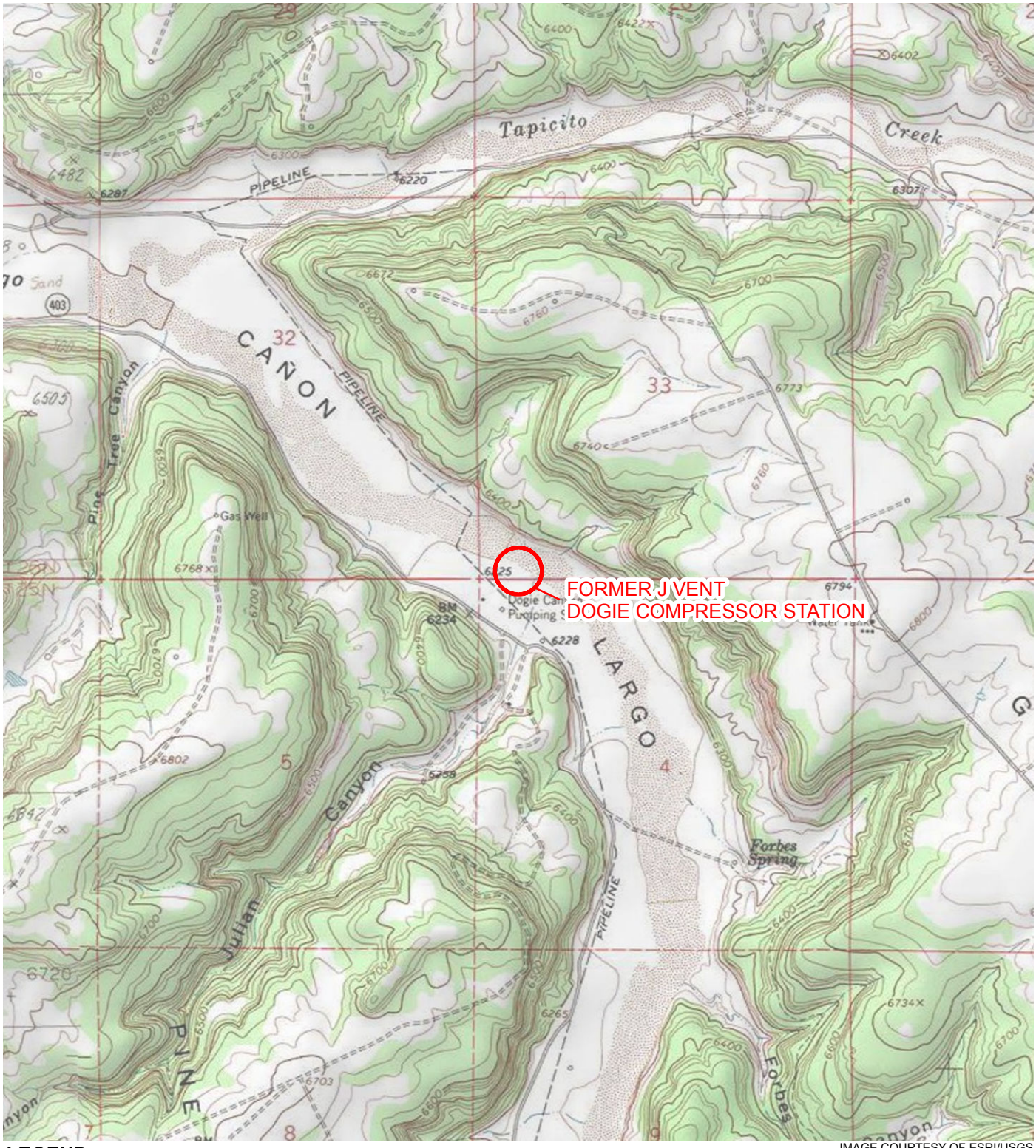


IMAGE COURTESY OF ESRI/USGS

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

P:\Williams Four Corners\GIS\MXD\034014001_JVENT\034014001_J_VENT_FIG01_SL.mxd

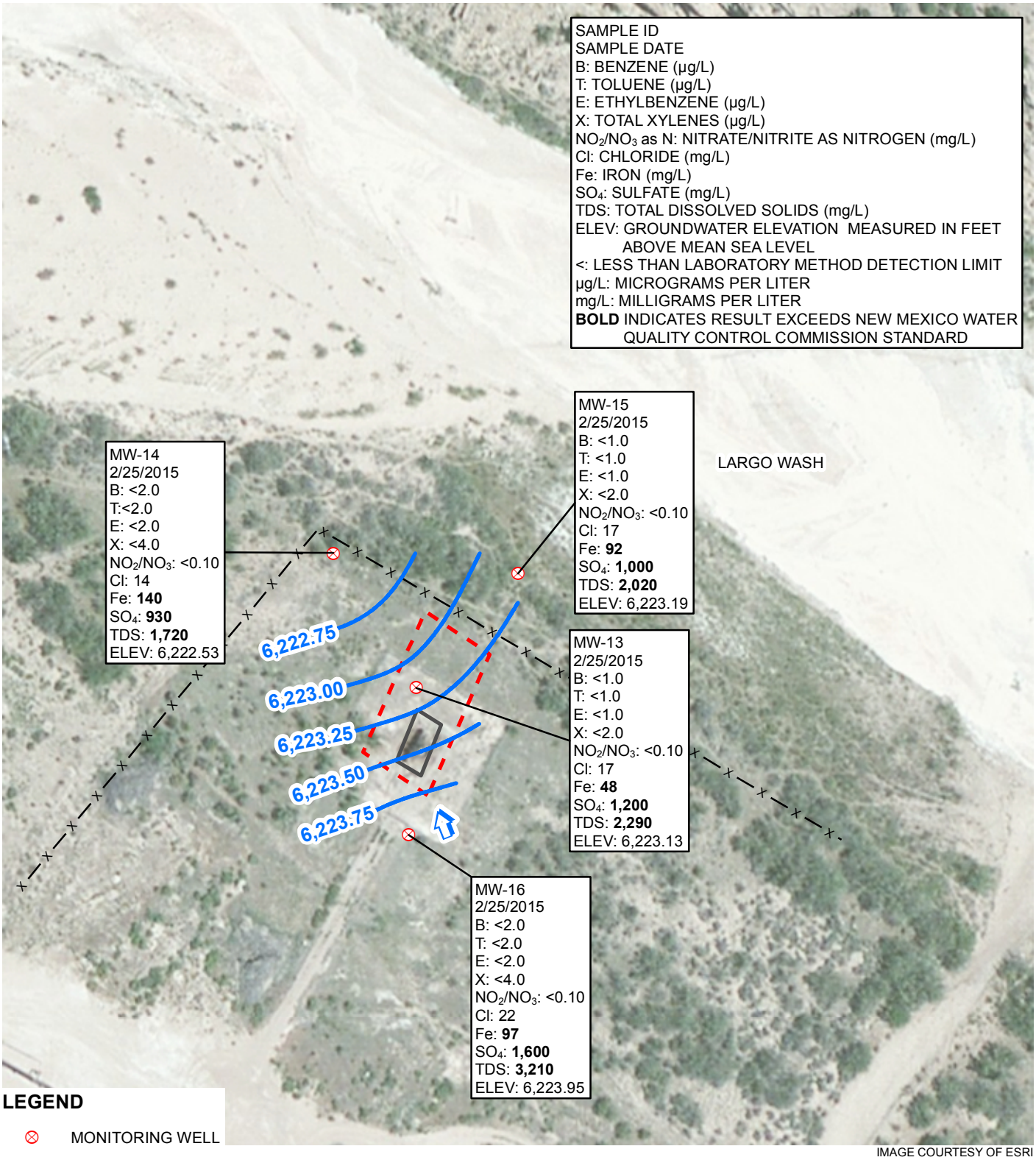


FIGURE 2
GROUNDWATER ELEVATION & ANALYTICAL RESULTS (FEBRUARY 2015)
FORMER J VENT
DOGIE COMPRESSOR STATION
RIO ARRIBA COUNTY, NEW MEXICO
WILLIAMS FOUR CORNERS LLC

P:\Williams Four Corners\GIS\MXD\034015007_JVENT\034015007_J_VENT_FIG05_GWE_GWA_2015_Q1.mxd

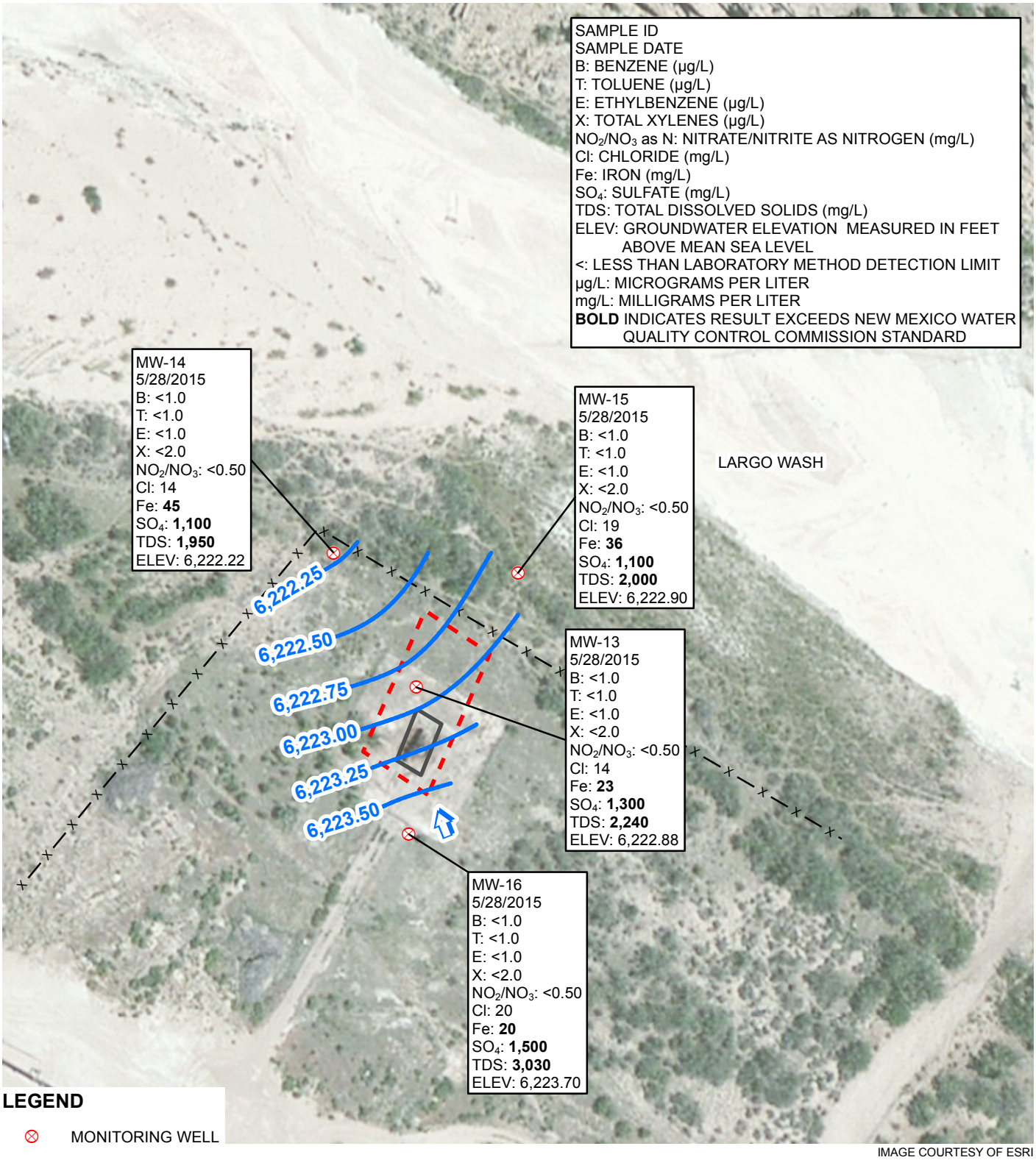
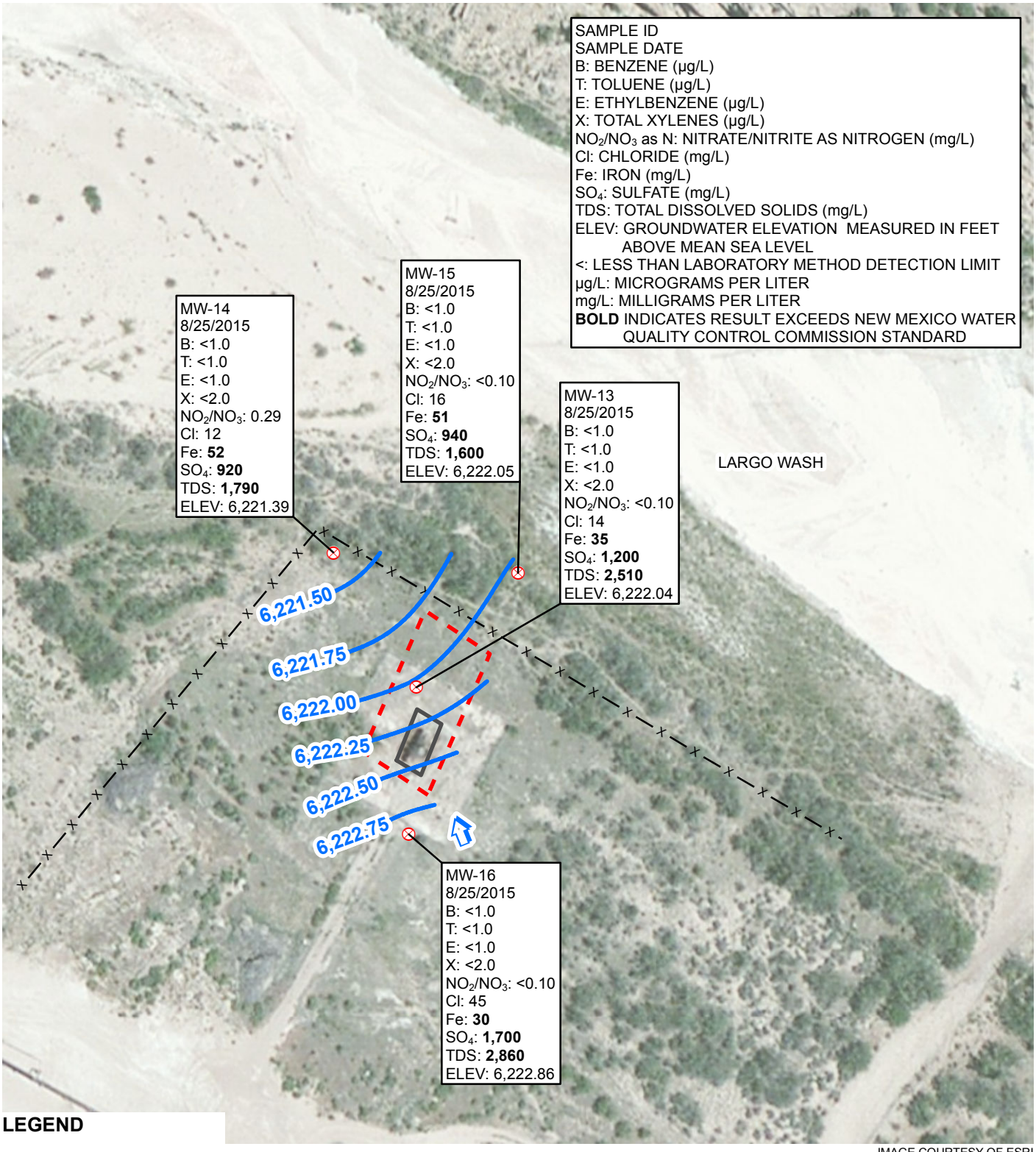


FIGURE 3
GROUNDWATER ELEVATION & ANALYTICAL RESULTS (MAY 2015)
FORMER J VENT
DOGIE COMPRESSOR STATION
RIO ARRIBA COUNTY, NEW MEXICO
WILLIAMS FOUR CORNERS LLC

P:\Williams Four Corners\GIS\MXD\034015007_JVENT\034015007_J_VENT_FIG02_GWE_GWA_2015_Q2.mxd



LEGEND

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

IMAGE COURTESY OF ESRI

0 100 200
Feet

N

FIGURE 4
GROUNDWATER ELEVATION & ANALYTICAL RESULTS (AUGUST 2015)
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

DOGIE COMPRESSOR STATION J-VENT
RIO ARRIBA COUNTY, NEW MEXICO
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-13	2/25/2015	<1.0	<1.0	<1.0	<2.0	<0.10	17	**48**	**1,200**	**2,290**
MW-13	5/28/2015	<1.0	<1.0	<1.0	<2.0	<0.50	14	**23**	**1,300**	**2,240**
MW-13	8/25/2015	<1.0	<1.0	<1.0	<2.0	<0.10	14	**35**	**1,200**	**2,510**
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-14	2/25/2015	<2.0	<2.0	<2.0	<4.0	<0.10	14	**140**	**930**	**1,720**
MW-14	5/28/2015	<1.0	<1.0	<1.0	<2.0	<0.50	14	**45**	**1,100**	**1,950**
MW-14	8/25/2015	<1.0	<1.0	<1.0	<2.0	0.29	12	**52**	**920**	**1,790**
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-15	2/25/2015	<1.0	<1.0	<1.0	<2.0	<0.10	17	**92**	**1,000**	**2,020**
MW-15	5/28/2015	<1.0	<1.0	<1.0	<2.0	<0.50	19	**36**	**1,100**	**2,000**
MW-15	8/25/2015	<1.0	<1.0	<1.0	<2.0	<0.10	16	**51**	**940**	**1,600**
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**
MW-16	2/25/2015	<2.0	<2.0	<2.0	<4.0	<0.10	22	**97**	**1,600**	**3,210**
MW-16	5/28/2015	<1.0	<1.0	<1.0	<2.0	<0.50	20	**20**	**1,500**	**3,030**
MW-16	8/25/2015	<1.0	<1.0	<1.0	<2.0	<0.10	45	**30**	**1,700**	**2,860**

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

DOGIE COMPRESSOR STATION J VENT
RIO ARRIBA COUNTY, NEW MEXICO
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-13	2/25/2015	6,229.48	6.35	6,223.13
MW-13	5/28/2015	6,229.48	6.60	6,222.88
MW-13	8/25/2015	6,229.48	7.44	6,222.04
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-14	2/25/2015	6,228.00	5.47	6,222.53
MW-14	5/28/2015	6,228.00	5.78	6,222.22
MW-14	8/25/2015	6,228.00	6.61	6,221.39
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-15	2/25/2015	6,228.81	5.62	6,223.19
MW-15	5/28/2015	6,228.81	5.91	6,222.90
MW-15	8/25/2015	6,228.81	6.76	6,222.05
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
MW-16	2/25/2015	6,229.15	5.20	6,223.95
MW-16	5/28/2015	6,229.15	5.45	6,223.70
MW-16	8/25/2015	6,229.15	6.29	6,222.86

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

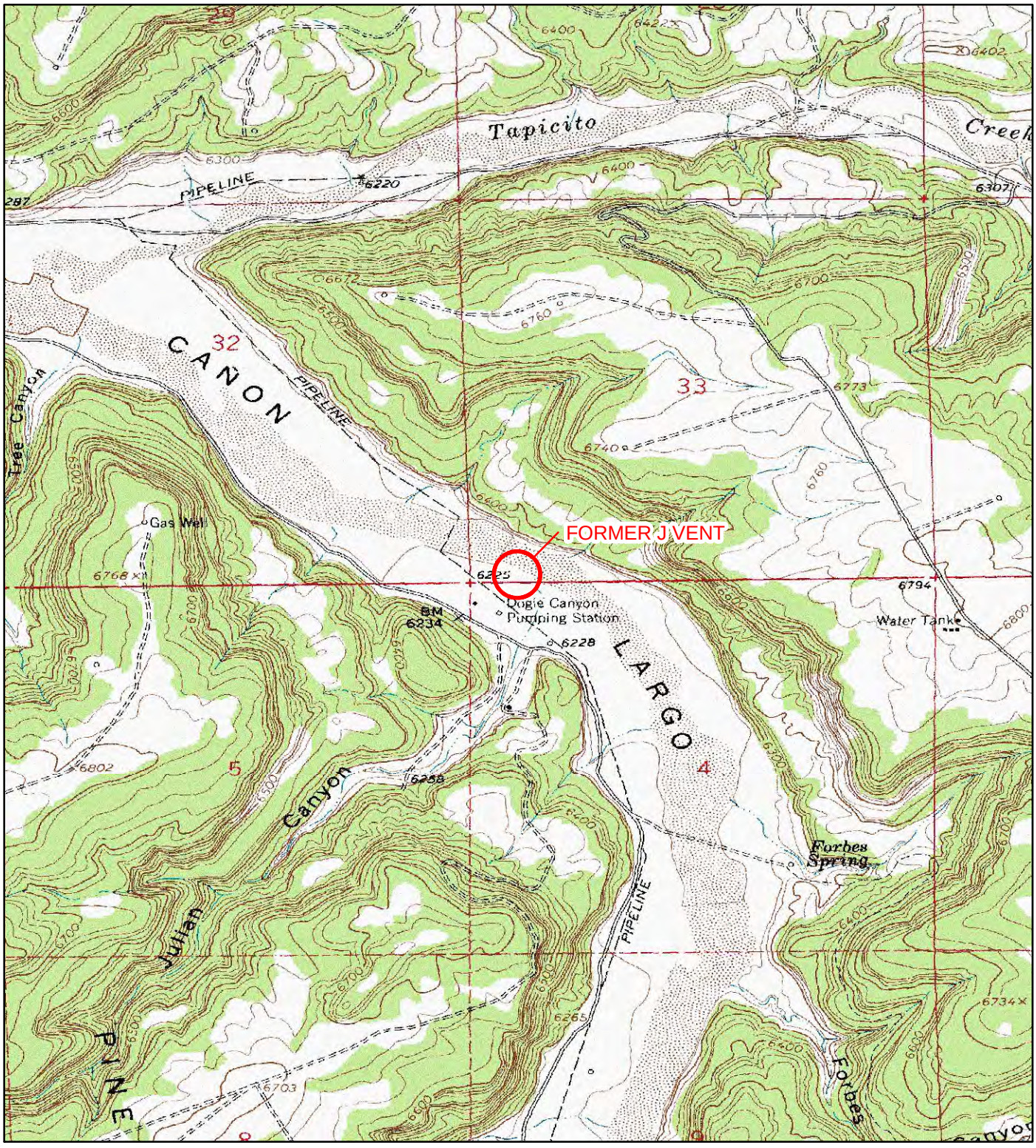

IMAGE COURTESY OF USDA/NRCS, VARIOUS DATES

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 *Remediation Products Inc.*	Emergency Telephone Number *303.487.1000*
Address *(Number, Street, City, State, and ZIP Code)* *6390 Joyce Drive, Suite 150 W, Golden, CO 80403*	Telephone Number for Information *303-487-1000*
Prepared by *B. Elliott*	Date Prepared *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 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) Not combustible	Flammable Limits	LEL N/A	UEL N/A
Extinguishing Media Flood with plenty of water			
Special Fire Fighting Procedures None			
Unusual Fire and Explosion Hazards			

Contact with strong oxidizer, such as ozone, liquid oxygen, chlorine, permanganate, etc., may result in fire.
NFPA Rating: 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 Above 1450° - SO_2 & CaO
	Will Not Occur		

Section VI - Health Hazard Data

Route(s) of Entry:	Inhalation? Yes	Skin? Yes	Ingestion? 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. Persons subjected to excessive dust will be forced to leave area because of nuisance; i.e., coughing, sneezing and nasal irritation. **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. **Effects and Hazards of Skin Contact:** The product is not a primary skin irritant. The primary skin irritation (Rabbit) is 0. **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. **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. Skin: Wash with soap and water. 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. 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)* Carbon-A NIOSH-approved particulate filter respirator is recommended, if excessive dust is generated.		
Ventilation	Local Exhaust Recommended, when used indoors or in confined spaces	Special Not Required
	Mechanical *(General)* Recommended, when used indoors or in confined spaces	Other Not required
Protective Gloves Recommended	Eye Protection Safety glasses or goggles recommended	
Other Protective Clothing or Equipment Not required		
Work/Hygienic Practices 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

2015 GROUNDWATER SAMPLING FIELD NOTES

Water Sample Collection Form

Sample Location: J-Vent - MW-13
Sample Date: 2/25/15
Sample Time: 1135
Sample ID: MW-13
Analyses: BTEX, TDS, Iron, Chloride, Nitrate/nitrite, Sulfate,
Matrix: GW
Turn Around Time: Standard
Trip Blank: Yes
Depth to Water: 6.35
Time: 1105
Vol. of H2O to purge: 5.56 gal — 11.37 x .1631 = 1.85 x 3 = 5.56
(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols

Client: Williams Four Corners
Project Name: J-Vent
Project #: 034015007
Sampler: Brett M. Wicker
Laboratory: Hall
Shipping Method: Dropoff
Other QA/QC: Standard
TD of Well: 17.72
Depth to Product: ND

Method of Purging: Bottom Valve Bailer
Method of Sampling: " " "

Time	Vol. Removed (gal.)	Total Vol H2O removed (gal.)	pH (std. units)	Temp. F (C)	Conductivity (us or ms)	Comments
1105	0.25	0.25	6.86	50.0	3.54	Gray, cloudy, bl particles, no odor
	0.25	0.50	7.03	49.1	3.17	SAA
	0.25	0.75	7.26	48.6	3.12	SAA
	0.25	1.00	7.45	48.7	3.12	SAA
	1.00	2.00	7.45	49.5	3.09	SAA
	1.00	3.00	7.58	50.4	3.13	SAA
	1.00	4.00	7.56	50.5	3.11	SAA
	0.50	4.50	7.62	49.8	3.18	SAA
	0.25	4.75	7.60	50.5	3.17	SAA
	0.25	5.00	7.59	50.0	3.14	SAA
	0.25	5.25	7.59	50.0	3.20	SAA
1135	0.25	5.50	7.59	50.2	3.24	SAA

Comments: Field Filtered BTEX + VOMs

Describe Deviations from SOP: NONE

Signature: [signature] Date: 2/25/15

Water Sample Collection Form

Sample Location: J-Vent MW-14
Sample Date: 2/25/15
Sample Time: 1355
Sample ID: MW-14
Analyses: BTEX, Nitrate/Nitrite, Chloride, Sulfate, TDS, Iron
Matrix: GW
Turn Around Time: Standard
Trip Blank: Yes
Depth to Water: 5.47
Time: 1330
Vol. of H2O to purge: 12.92 X 0.1631 = 2.10 x 3 = 6.32
*(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols*
Method of Purging: Bottom Valve Bailer
Method of Sampling:

Client: Williams Four Corners
Project Name: Dogie S-Vent
Project #: 034015007
Sampler: Brooke Herb / Mike Wicker
Laboratory: Hall
Shipping Method: Dropoff
Other QA/QC: Standard
TD of Well: 18.39
Depth to Product: NA

Time	Vol. Removed (gal.)	Total Vol H2O removed (gal.)	pH (std. units)	Temp. (C)F	Conductivity (us or ms)	Comments
1335	0.25	0.25	7.19	46.4	2.24	Orange, cloudy, no odor
	0.25	0.50	7.25	47.8	2.28	SAA
	0.25	0.75	7.34	47.7	2.33	SAA
	0.25	1.00	7.34	47.8	2.38	SAA
	1.00	2.00	7.36	47.3	2.47	Brownish Orange, Silty
	1.00	3.00	7.47	47.5	2.47	SAA
	1.00	4.00	7.46	47.8	2.47	SAA
	1.00	5.00	7.46	47.8	2.46	SAA
	0.75	5.75	7.47	47.7	2.46	SAA
	0.25	6.00	7.49	47.9	2.46	SAA
	0.25	6.25	7.50	48.0	2.46	SAA
1355	0.25	6.50	7.50	48.0	2.45	SAA

Comments: Field Filtered BTEX

Describe Deviations from SOP: None

Signature: [signature]

Date: 2/25/15

Water Sample Collection Form

Sample Location: J Vent - MW-15
Sample Date: 2-25-2015
Sample Time: 1249
Sample ID: MW-15
Analyses: BTEX, TDS, Cloride, Sulfate, Iron, Nitrate/Nitrite
Matrix: GW
Turn Around Time: Standard
Trip Blank: Yes
Depth to Water: 5.62
Time: 1230
Vol. of H2O to purge: 6.00 gal 12.26 x .1631 = 1.99 x 3 = 5.99
(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols

Client: Williams Four Corners
Project Name: J Vent
Project #: 03101S007
Sampler: B. Herb / M. Wieker
Laboratory: Hall
Shipping Method: Drop Off
Other QA/QC: Standard
TD of Well: 17.89
Depth to Product: ND

Method of Purging: Bottom Valve Bailer
Method of Sampling: " " "

Time	Vol. Removed (gal.)	Total Vol H2O removed (gal.)	pH (std. units)	Temp. (C) F	Conductivity (us or ms)	Comments
1230	0.25	0.25	7.22	46.9	2.45	Orange, cloudy, no odor
	0.25	0.50	7.24	45.9	2.63	SAA
	0.25	0.75	7.27	45.5	2.79	SAA
	0.25	1.00	7.29	49.1	2.81	SAA
	1.00	2.00	7.31	45.7	2.99	SAA
	1.00	3.00	7.35	46.2	2.95	Brown, cloudy, no odor
	1.00	4.00	7.38	46.4	2.97	SAA
	1.00	5.00	7.39	46.6	3.01	SAA
	0.25	5.25	7.40	46.4	3.01	SAA
	0.25	5.50	7.40	46.5	2.98	SAA
	0.25	5.75	7.41	46.4	2.95	SAA
1249	0.25	6.00	7.43	46.0	2.96	SAA

Comments: Field Filtered BTEX samples

Describe Deviations from SOP: NA

Signature: [signature] Date: 2/25/15

Water Sample Collection Form

Sample Location: J-Vent - MW-16
Sample Date: 2/25/15
Sample Time: 1441
Sample ID: MW-16
Analyses: BTEX, Nitrate/Nitrite, Iron, Chloride, Sulfate, TDS
Matrix: Groundwater
Turn Around Time: Standard
Trip Blank: Yes
Depth to Water: 5.20
Time: 1420
Vol. of H2O to purge: 13.33 x 0.1631 = 2.17 x 3 = 6.50
*(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

Client: Williams Four Corners
Project Name: Deqir J-Vent
Project #: 034015007
Sampler: B. Herb & M. Wicker
Laboratory: Hall
Shipping Method: Dropoff / Fedex
Other QA/QC: Standard
TD of Well: 18.53
Depth to Product: NA

Time	Vol. Removed (gal.)	Total Vol H2O removed (gal.)	pH (std. units)	Temp. (C)F	Conductivity (us or ms)	Comments
1420	0.25	0.25	7.40	46.6	3.89	Brown, cloudy, silty, no odor
	0.25	0.50	7.45	46.0	3.94	SAA
	0.25	0.75	7.48	46.4	3.99	Silter
	0.25	1.00	7.50	46.6	3.95	NO Change
	1.00	2.00	7.56	47.7	4.04	"
	1.00	3.00	7.58	46.8	4.05	"
	1.00	4.00	7.58	47.3	4.09	"
	1.00	5.00	7.60	46.8	4.10	"
	0.5	5.50	7.60	46.6	4.12	"
	0.25	5.75	7.59	46.8	4.08	"
	0.25	6.00	7.59	46.8	4.10	"
	0.25	6.25	7.58	46.6	4.09	"
1441	0.25	6.50	7.59	46.6	4.10	"

Comments:

Describe Deviations from SOP: None

Signature: [signature] **Date:** 2/25/15

Water Sample Collection Form

Sample Location	J Vent_ Dogie CS	Client	Williams Field Services Four Corners LLC
Sample Date	5/28/2015	Project Name	~~San Juan Basin Remediation~~ Dogie J Vent GW
Sample Time	1045	Project #	034015007
Sample ID	MW-13	Sampler	Alex Crooks
Analyses	BTEX 8021, nitrate/nitrite, total iron, TDS, Chloride, and sulfate		
Matrix	Groundwater	Laboratory	Hall Environmental
Turn Around Time	Standard	Shipping Method	Hand delivery
Depth to Water	6.60	TD of Well	~~18.53~~ 17.75
Time	10:12	Depth to Product	NA
Vol. of H2O to purge	6.60 - 17.75 = 11.15 x .1631 = 1.82 x 3 = 5.46 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)F	Conductivity (us or ms)	Comments
1015	.25	.25	7.33	61.9	1.46	Black color / odor / cloudy
1018	.50	.75	7.35	58.6	1.36	No change
10.20	.25	1.00	7.58	57.0	1.35	No change
1023	.50	1.50	7.67	57.0	1.43	No change
1024	.50	2.00	7.65	57.0	1.47	No change
1026	.50	2.50	7.69	56.7	1.51	No change
1027	.50	3.00	7.67	57.0	1.55	No change
1029	.50	3.50	7.66	56.7	1.53	No change
1031	.50	4.00	7.68	57.2	1.54	light gray / odor / slight cloud
1032	.50	4.50	7.67	57.0	1.55	No change
1035	.50	5.00	7.65	57.3	1.53	No change
1040	.50	5.50	7.68	56.7	1.54	No change
1045						Took Sample

Comments: Took Sample MW-13 at 1045

Describe Deviations from SOP: N/A No Deviations

Signature: Alex Crooks **Date:** 5/28/15

Water Sample Collection Form

Sample Location	J Vent_ Dogie CS	Client	Williams ~~Field Services~~ Four Corners LLC
Sample Date	5/28/2015	Project Name	~~San Juan Basin Remediation~~ AC Dogie JVent Gw
Sample Time	1215	Project #	034015007
Sample ID	MW-14	Sampler	Alex Crooks
Analyses	BTEX 8021, nitrate/nitrite, total iron, TDS, Chloride, and sulfate		
Matrix	Groundwater	Laboratory	Hall Environmental
Turn Around Time	Standard	Shipping Method	Hand delivery
Depth to Water	5.78	TD of Well	~~18.53~~ 17.92
Time	1140	Depth to Product	NA
Vol. of H2O to purge	17.92 - 5.78 = 12.14 x .1631 = 1.98 x 3 = 5.94		

*(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
1145	.25	.75	7.50	66.2	1.31	light red brown/Slight cloud
1149	.25	.50	7.54	59.9	1.35	No Change
1149	.25	.75	7.56	57.6	1.35	No change
1151	.25	1.00	7.57	56.5	1.36	No Change
1152	.50	1.50	7.58	56.1	1.39	light brown/Cloudy/Slight odor
1155	.50	2.00	7.60	56.3	1.41	No Change
1158	.50	2.50	7.60	55.8	1.43	No Change
1159	.50	3.00	7.59	55.8	1.42	no change
1203	.50	3.50	7.63	55.9	1.40	No change
1204	.50	4.00	7.60	60.10	1.41	No Change
1208	.50	4.50	7.62	61.2	1.42	No change
1210	.50	5.00	7.59	58.3	1.42	No Change
1211	1.00	6.00	7.60	56.0	1.43	No Change
1215						Took Sample

Comments: Took Sample MW-14 at 1215

Describe Deviations from SOP: No deviations

Signature: Alex Crooks **Date:** 5/28/15

Water Sample Collection Form

Sample Location	J Vent_ Dogie CS	Client	~~Williams Field Services~~ Four Corners LLC
Sample Date	5/28/2015	Project Name	~~San Juan Basin Remediation~~ Dogie J Vent GW
Sample Time	1135	Project #	034015007
Sample ID	MW-15	Sampler	Alex Crooks
Analyses	BTEX 8021, nitrate/nitrite, total iron, TDS, Chloride, and sulfate		
Matrix	Groundwater	Laboratory	Hall Environmental
Turn Around Time	Standard	Shipping Method	Hand delivery
Depth to Water	5.91	TD of Well	~~18.53~~ 17.83
Time	1055	Depth to Product	NA
Vol. of H2O to purge	17.83 - 5.91 = 11.92 x .1631 = 1.94 x 3 = 5.83		

*(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
1100	.25	.25	7.62	60.2	1.23	light brown/slight cloud/odor
1103	.25	.50	7.59	58.5	1.33	No change
1105	.25	.75	7.55	55.9	1.41	No change
1108	.25	1.00	7.58	55.4	1.42	No change
1110	.50	1.50	7.54	55.0	1.46	light brown/slight cloud/odor
1112	.50	2.00	7.62	55.4	1.48	No change
1113	.50	2.50	7.59	55.2	1.49	No change
1116	.50	3.00	7.66	55.2	1.49	No change
1118	.50	3.50	7.57	55.2	1.45	No change
1120	.50	4.00	7.60	55.0	1.48	No change
1122	.50	4.50	7.62	55.2	1.47	No change
1125	.50	5.00	7.58	55.5	1.49	No change
1130	1.00	6.00	7.59	55.4	1.45	No change
1135						Took Sample

Comments: Took Sample MW-15 at 1135

Describe Deviations from SOP: No change

Signature: Alex Crooks **Date:** 5/28/15

Water Sample Collection Form

Four Corners LLC

Sample Location	J Vent_ Dogie CS	Client	Williams Field Services
Sample Date	5/28/2015	Project Name	San Juan Basin Remediation Dogie Vent ON
Sample Time	1315	Project #	034015007
Sample ID	MW-16	Sampler	Alex Crooks
Analyses	BTEX 8021, nitrate/nitrite, total iron, TDS, Chloride, and sulfate		
Matrix	Groundwater	Laboratory	Hall Environmental
Turn Around Time	Standard	Shipping Method	Hand delivery
Depth to Water	5.45	TD of Well	~~18.53~~ 17.85
Time	1280	Depth to Product	NA
Vol. of H2O to purge	17.85 - 5.45 = 12.4 x .1631 = 2.02 x 3 = 6.07 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. (°F)	Conductivity (us or ~~mS~~)	Comments
1235	.25	.25	7.67	~~74.2~~	1.87	Slight color & ~~cloud~~/no odor
1238	.25	.50	7.62	58.5	1.88	No change
1240	.25	.75	7.63	57.0	1.89	No hange
1243	.25	1.00	7.64	56.3	1.89	Light brown/cloudy/No odor
1248	.50	1.50	7.66	56.3	1.89	No change
1251	.50	2.00	7.64	55.9	1.90	No change
1253	.50	2.50	7.64	55.8	1.87	No change
1255	.50	3.00	7.64	55.8	1.91	No change
1258	.50	3.50	7.63	55.8	1.91	No change
1300	.50	4.00	7.61	55.6	1.93	No change
1302	.50	4.50	7.63	55.9	1.91	No Change
1305	.50	5.00	7.64	55.8	1.92	No Change
1310	1.00	6.00	7.61	55.7	1.89	No change
1312	.25	6.25	7.63	55.5	1.90	No change
1315						Took Sample

Comments: Took Sample at 1315

Describe Deviations from SOP: No Deviation

Signature: Alex Crooks **Date:** 5/28/15

Water Sample Collection Form

Sample Location	J Vent_ Dogie CS	Client	Williams ~~Field Services~~ Four Corners
Sample Date	8/25/2015	Project Name	~~San Juan Basin Remediation~~
Sample Time	1405	Project #	034015007 Dogie JVent GW
Sample ID	MW-13	Sampler	Michael A Wicker
Analyses	BTEX 8021, nitrate/nitrite, total iron, TDS, Chloride, and sulfate		
Matrix	Groundwater	Laboratory	Hall Environmental
Turn Around Time	Standard	Shipping Method	Hand delivery
Depth to Water	7.44	TD of Well	17.75
Time	1340	Depth to Product	ND
Vol. of H2O to purge	5.04		

*(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
1346	0.25	0.25	8.23	24.24	3,199.3	Dark Gray, cloudy, no odor
1349	01.50	1.75	7.86	19.12	3,526.8	SAA
1353	1.75	3.50	7.71	17.22	3,615.3	SAA
1355	0.75	4.25	7.66	16.20	3,641.9	SAA
1356	0.25	4.50	7.65	16.01	3,677.1	SAA
1357	0.25	4.75	7.64	15.65	3,695.6	SAA
1358	0.25	5.00	7.64	15.55	3,705.4	SAA
1359	0.25	5.25	7.64	15.51	3,702.2	SAA

Comments:

Describe Deviations from SOP:

Signature: **Date:** 8-25-15

Water Sample Collection Form

Sample Location	J Vent_ Dogie CS	Client	Williams ~~Field Services~~ Four Corners
Sample Date	8/25/2015	Project Name	~~San Juan Basin Remediation~~
Sample Time	1235	Project #	034015007 Dogie JVent GW
Sample ID	MW-14	Sampler	Michael A Wicker
Analyses	BTEX 8021, nitrate/nitrite, total iron, TDS, Chloride, and sulfate		
Matrix	Groundwater	Laboratory	Hall Environmental
Turn Around Time	Standard	Shipping Method	Hand delivery
Depth to Water	6.61	TD of Well	17.92
Time	1211	Depth to Product	ND
Vol. of H2O to purge	5.53 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
1214	0.25	0.25	7.05	24.50	2545.4	Clear, no odor
1220	~~0.25~~ 1.50 new	1.75	7.31	19.23	2,796.3	Brown, cloudy, no odor
1224	1.75	3.50	7.43	17.68	2,855.7	Gray, cloudy, no odor
1228	1.25	4.75	7.45	17.20	2,870.6	SAA
1229	0.25	5.00	7.46	16.98	2,889.8	SAA
1231	0.25	5.25	7.46	16.82	2,854.9	SAA
1232	0.25	5.50	7.46	16.74	2,855.0	SAA
1233	0.25	5.75	7.46	16.64	2,866.4	SAA

Comments:

Describe Deviations from SOP:

Signature: [signature] **Date:** 8-25-15

25 Aug 15

LTE

Water Sample Collection Form

Sample Location	J Vent_ Dogie CS	Client	Williams ~~Field Services~~ Four Corners
Sample Date	8/25/2015	Project Name	~~San Juan Basin Remediation~~
Sample Time	1455	Project #	034015007 Dogie JVent GW
Sample ID	MW-15	Sampler	Michael A Wicker
Analyses	BTEX 8021, nitrate/nitrite, total iron, TDS, Chloride, and sulfate		
Matrix	Groundwater	Laboratory	Hall Environmental
Turn Around Time	Standard	Shipping Method	Hand delivery
Depth to Water	6.76	TD of Well	17.83
Time	1429	Depth to Product	ND
Vol. of H2O to purge	5.41		

*(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
1433	0.25	0.25	8.22	24.44	2,390.1	Clear, no odor
1440	1.75	2.00	7.60	21.01	2,660.7	Brown, cloudy, no odor
1444	2.00	4.00	7.51	18.78	2,743.9	SAA
1447	1.00	5.00	7.51	17.76	2,803.2	SAA
1448	0.25	5.25	7.51	17.31	2,803.8	SAA
1449	0.25	5.50	7.51	17.27	2,826.8	SAA
1450	0.25	5.75	7.50	17.21	2,854.2	SAA
1451	0.25	6.00	7.51	17.18	2,796.3	SAA

Comments:

Describe Deviations from SOP:

Signature: [signature] **Date:** 8-25-15

25 Aug 15

LTE

Water Sample Collection Form

Sample Location	J Vent_ Dogie CS	Client	Williams ~~Field Services~~ Four Corners
Sample Date	8/25/2015	Project Name	~~San Juan Basin Remediation~~
Sample Time	1325	Project #	034015007 Dogie JVent GW
Sample ID	MW-16	Sampler	Michael A Wicker
Analyses	BTEX 8021, nitrate/nitrite, total iron, TDS, Chloride, and sulfate		
Matrix	Groundwater	Laboratory	Hall Environmental
Turn Around Time	Standard	Shipping Method	Hand delivery
Depth to Water	6.29	TD of Well	17.85
Time	1300	Depth to Product	ND
Vol. of H2O to purge	5.65 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
1304	0.25	0.25	7.66	25.74	4,284.6	Brown, cloudy, no odor
1308	1.50	1.75	7.65	22.03	4,439.8	SAA
1313	1.75	3.50	7.64	20.05	4,693.1	SAA
1315	1.25	4.75	7.57	19.09	4,797.8	SAA
1316	0.25	5.00	7.57	18.38	4,867.3	SAA
1317	0.25	5.25	7.55	18.01	4,908.5	SAA
1318	0.25	5.50	7.55	17.88	4,979.6	SAA
1319	0.25	5.75	7.54	17.71	5,006.6	SAA

Comments:

Describe Deviations from SOP:

Signature: [signature] **Date:** 8-25-15

25 Aug 15

APPENDIX D

2015 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

March 11, 2015

Ashley Ager
Williams Four Corners
188 CR 4900
Bloomfield, NM 87413
TEL: (505) 632-4442
FAX

RE: J Vent Dogie CS OrderNo.: 1502A69

Dear Ashley Ager:

Hall Environmental Analysis Laboratory received 5 sample(s) on 2/26/2015 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: Williams Four Corners
Client Sample ID: MW-13
Project: J Vent Dogie CS
Collection Date: 2/25/2015 11:35:00 AM
Lab ID: 1502A69-001
Matrix: AQUEOUS
Received Date: 2/26/2015 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	2/26/2015 12:27:29 PM	R24548
Toluene	ND	1.0		µg/L	1	2/26/2015 12:27:29 PM	R24548
Ethylbenzene	ND	1.0		µg/L	1	2/26/2015 12:27:29 PM	R24548
Xylenes, Total	ND	2.0		µg/L	1	2/26/2015 12:27:29 PM	R24548
Surr: 4-Bromofluorobenzene	103	80-120		%REC	1	2/26/2015 12:27:29 PM	R24548
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	17	10		mg/L	20	2/26/2015 4:54:53 PM	R24552
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	2/26/2015 4:42:28 PM	R24552
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	2/26/2015 4:42:28 PM	R24552
Sulfate	1200	25	*	mg/L	50	2/28/2015 12:16:46 AM	R24580
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **ELS**	
Iron	48	2.5		mg/L	50	3/3/2015 1:34:43 PM	17927
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	2290	200	*	mg/L	1	3/2/2015 4:19:00 PM	17924

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 Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners
Client Sample ID: MW-14
Project: J Vent Dogie CS
Collection Date: 2/25/2015 1:55:00 PM
Lab ID: 1502A69-002 **Matrix:** AQUEOUS **Received Date:** 2/26/2015 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	2.0		µg/L	2	2/26/2015 1:55:03 PM	R24548
Toluene	ND	2.0		µg/L	2	2/26/2015 1:55:03 PM	R24548
Ethylbenzene	ND	2.0		µg/L	2	2/26/2015 1:55:03 PM	R24548
Xylenes, Total	ND	4.0		µg/L	2	2/26/2015 1:55:03 PM	R24548
Surr: 4-Bromofluorobenzene	108	80-120		%REC	2	2/26/2015 1:55:03 PM	R24548
EPA METHOD 300.0: ANIONS						Analyst:	**LGT**
Chloride	14	10		mg/L	20	2/26/2015 5:19:41 PM	R24552
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	2/26/2015 5:07:17 PM	R24552
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	2/26/2015 5:07:17 PM	R24552
Sulfate	930	25	*	mg/L	50	2/28/2015 12:29:10 AM	R24580
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst:	**ELS**
Iron	140	10		mg/L	200	3/3/2015 1:36:28 PM	17927
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst:	**KS**
Total Dissolved Solids	1720	200	*	mg/L	1	3/2/2015 4:19:00 PM	17924

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 Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners
Client Sample ID: MW-15
Project: J Vent Dogie CS
Collection Date: 2/25/2015 12:49:00 PM
Lab ID: 1502A69-003
Matrix: AQUEOUS
Received Date: 2/26/2015 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	2/26/2015 2:24:20 PM	R24548
Toluene	ND	1.0		µg/L	1	2/26/2015 2:24:20 PM	R24548
Ethylbenzene	ND	1.0		µg/L	1	2/26/2015 2:24:20 PM	R24548
Xylenes, Total	ND	2.0		µg/L	1	2/26/2015 2:24:20 PM	R24548
Surr: 4-Bromofluorobenzene	103	80-120		%REC	1	2/26/2015 2:24:20 PM	R24548
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	17	10		mg/L	20	2/26/2015 5:44:30 PM	R24552
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	2/26/2015 5:32:06 PM	R24552
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	2/26/2015 5:32:06 PM	R24552
Sulfate	1000	25	*	mg/L	50	2/28/2015 12:41:35 AM	R24580
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **ELS**	
Iron	92	5.0		mg/L	100	3/3/2015 1:38:12 PM	17927
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	2020	200	*	mg/L	1	3/2/2015 4:19:00 PM	17924

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

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 Not In Range
RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners
Client Sample ID: MW-16
Project: J Vent Dogie CS
Collection Date: 2/25/2015 2:41:00 PM
Lab ID: 1502A69-004
Matrix: AQUEOUS
Received Date: 2/26/2015 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	2.0		µg/L	2	2/26/2015 2:53:34 PM	R24548
Toluene	ND	2.0		µg/L	2	2/26/2015 2:53:34 PM	R24548
Ethylbenzene	ND	2.0		µg/L	2	2/26/2015 2:53:34 PM	R24548
Xylenes, Total	ND	4.0		µg/L	2	2/26/2015 2:53:34 PM	R24548
Surr: 4-Bromofluorobenzene	101	80-120		%REC	2	2/26/2015 2:53:34 PM	R24548
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	22	10		mg/L	20	2/26/2015 6:09:19 PM	R24552
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	2/26/2015 5:56:54 PM	R24552
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	2/26/2015 5:56:54 PM	R24552
Sulfate	1600	25	*	mg/L	50	2/28/2015 12:53:59 AM	R24580
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **ELS**	
Iron	97	5.0		mg/L	100	3/3/2015 1:39:59 PM	17927
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	3210	200	*	mg/L	1	3/2/2015 4:19:00 PM	17924

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 Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners
Client Sample ID: TRIP BLANK
Project: J Vent Dogie CS
Collection Date:
Lab ID: 1502A69-005
Matrix: TRIP BLANK
Received Date: 2/26/2015 7:50:00 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	2/26/2015 3:22:46 PM	R24548
Benzene	ND	1.0		µg/L	1	2/26/2015 3:22:46 PM	R24548
Toluene	ND	1.0		µg/L	1	2/26/2015 3:22:46 PM	R24548
Ethylbenzene	ND	1.0		µg/L	1	2/26/2015 3:22:46 PM	R24548
Xylenes, Total	ND	2.0		µg/L	1	2/26/2015 3:22:46 PM	R24548
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	2/26/2015 3:22:46 PM	R24548
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	2/26/2015 3:22:46 PM	R24548
Surr: 4-Bromofluorobenzene	102	80-120		%REC	1	2/26/2015 3:22:46 PM	R24548

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 Not In Range
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#: **1502A69**

11-Mar-15

Client: Williams Four Corners

Project: J Vent Dogie CS

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R24552**	RunNo: **24552**
Prep Date:	Analysis Date: **2/26/2015**	SeqNo: **723037** 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: **R24552**	RunNo: **24552**
Prep Date:	Analysis Date: **2/26/2015**	SeqNo: **723038** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	5.0	0.50	5.000	0	99.1	90	110			
Nitrogen, Nitrite (As N)	1.0	0.10	1.000	0	104	90	110			
Nitrogen, Nitrate (As N)	2.7	0.10	2.500	0	109	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R24552**	RunNo: **24552**
Prep Date:	Analysis Date: **2/26/2015**	SeqNo: **723091** 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: **R24552**	RunNo: **24552**
Prep Date:	Analysis Date: **2/26/2015**	SeqNo: **723092** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.9	0.50	5.000	0	98.6	90	110			
Nitrogen, Nitrite (As N)	0.97	0.10	1.000	0	97.4	90	110			
Nitrogen, Nitrate (As N)	2.6	0.10	2.500	0	102	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R24580**	RunNo: **24580**
Prep Date:	Analysis Date: **2/27/2015**	SeqNo: **723764** 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 Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1502A69**

11-Mar-15

Client: Williams Four Corners

Project: J Vent Dogie CS

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSW**	Batch ID:	**R24580**	RunNo:	**24580**					
Prep Date:		Analysis Date:	**2/27/2015**	SeqNo:	**723765**	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.	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 Not In Range
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#: **1502A69**

11-Mar-15

Client: Williams Four Corners

Project: J Vent Dogie CS

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R24548**	RunNo: **24548**
Prep Date:	Analysis Date: **2/26/2015**	SeqNo: **722919** 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	21		20.00		104	80	120			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R24548**	RunNo: **24548**
Prep Date:	Analysis Date: **2/26/2015**	SeqNo: **722920** 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	100	72.5	125			
Benzene	21	1.0	20.00	0	107	80	120			
Toluene	21	1.0	20.00	0	104	80	120			
Ethylbenzene	20	1.0	20.00	0	99.6	80	120			
Xylenes, Total	60	2.0	60.00	0	100	80	120			
1,2,4-Trimethylbenzene	20	1.0	20.00	0	99.6	80	120			
1,3,5-Trimethylbenzene	20	1.0	20.00	0	99.8	80	120			
Surr: 4-Bromofluorobenzene	23		20.00		116	80	120			

Sample ID **1502A69-001AMS**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **MW-13**	Batch ID: **R24548**	RunNo: **24548**
Prep Date:	Analysis Date: **2/26/2015**	SeqNo: **722922** 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	109	64.7	132			
Benzene	21	1.0	20.00	0.1540	104	77.5	121			
Toluene	21	1.0	20.00	0.1480	102	78.6	122			
Ethylbenzene	20	1.0	20.00	0	98.9	78.1	128			
Xylenes, Total	59	2.0	60.00	0.7640	96.7	80	120			
1,2,4-Trimethylbenzene	20	1.0	20.00	0.3280	98.4	79.1	128			
1,3,5-Trimethylbenzene	19	1.0	20.00	0.2820	95.8	80	120			
Surr: 4-Bromofluorobenzene	23		20.00		114	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 Not In Range
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#: **1502A69**

11-Mar-15

Client: Williams Four Corners

Project: J Vent Dogie CS

Sample ID	**1502A69-001AMSD**	SampType:	**MSD**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**MW-13**	Batch ID:	**R24548**	RunNo:	**24548**					
Prep Date:		Analysis Date:	**2/26/2015**	SeqNo:	**722923**	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	101	64.7	132	7.22	20	
Benzene		21	1.0	20.00	0.1540	107	77.5	121	2.16	20	
Toluene		21	1.0	20.00	0.1480	104	78.6	122	2.04	20	
Ethylbenzene		20	1.0	20.00	0	102	78.1	128	3.02	20	
Xylenes, Total		60	2.0	60.00	0.7640	99.0	80	120	2.39	20	
1,2,4-Trimethylbenzene		20	1.0	20.00	0.3280	99.4	79.1	128	0.955	20	
1,3,5-Trimethylbenzene		20	1.0	20.00	0.2820	98.9	80	120	3.21	20	
Surr: 4-Bromofluorobenzene		24		20.00		119	80	120	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 Not In Range
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#: **1502A69**

11-Mar-15

Client: Williams Four Corners

Project: J Vent Dogie CS

Sample ID	**MB-17927**	SampType:	**MBLK**	TestCode:	**EPA 6010B: Total Recoverable Metals**					
Client ID:	**PBW**	Batch ID:	**17927**	RunNo:	**24607**					
Prep Date:	**2/27/2015**	Analysis Date:	**3/3/2015**	SeqNo:	**725156**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.050								

Sample ID	**LCS-17927**	SampType:	**LCS**	TestCode:	**EPA 6010B: Total Recoverable Metals**					
Client ID:	**LCSW**	Batch ID:	**17927**	RunNo:	**24607**					
Prep Date:	**2/27/2015**	Analysis Date:	**3/3/2015**	SeqNo:	**725157**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.50	0.050	0.5000	0	99.4	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 Not In Range
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#: **1502A69**

11-Mar-15

Client: Williams Four Corners

Project: J Vent Dogie CS

Sample ID	**MB-17924**	SampType:	**MBLK**	TestCode:	**SM2540C MOD: Total Dissolved Solids**					
Client ID:	**PBW**	Batch ID:	**17924**	RunNo:	**24585**					
Prep Date:	**2/27/2015**	Analysis Date:	**3/2/2015**	SeqNo:	**724021**	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-17924**	SampType:	**LCS**	TestCode:	**SM2540C MOD: Total Dissolved Solids**					
Client ID:	**LCSW**	Batch ID:	**17924**	RunNo:	**24585**					
Prep Date:	**2/27/2015**	Analysis Date:	**3/2/2015**	SeqNo:	**724022**	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 Not In Range
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: WILLIAMS FOUR CORN Work Order Number: 1502A69 RcptNo: 1

Received by/date: AT 02/26/15

Logged By: Anne Thorne 2/26/2015 7:50:00 AM Anne Thorne

Completed By: Anne Thorne 2/26/2015 Anne Thorne

Reviewed By: CS 02/26/15

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 ☐	
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	1.0	Good	Yes			

Chain-of-Custody Record

Client: Matt Webre
Williams Four Corners
Mailing Address: 188 County Road 4900
Bloom Field, NM
Phone #: 505-632-4442
email or Fax#: matt.webre@williams.com
QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other _____
☐ EDD (Type) _____

Turn-Around Time:
☑ Standard ☐ Rush _____
Project Name: J Vent - Dogie CS
Project #: 034015007
Project Manager: Ashley Ager
Sampler: B. Herb / M. Wicker
On Ice: ☒ Yes ☐ No
Sample Temperature: 1.0

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. 1502469
2/25/15	1135	GW	MW-13	Various, 6	Cool, H_2SO_4 HNO_3	-001
↓	1355	↓	MW-14	↓	↓	-002
↓	1249	↓	MW-15	↓	↓	-003
↓	1441	↓	MW-16	↓	↓	-004
			TRIP BLANK	VOA x2	HCl	-005

Analysis Request

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)	BTEX (8021)	Nitrate / Nitrite	Total Iron	TDS, Chloride, Sulfate	Air Bubbles (Y or N)
											↓	↓	↓	↓	

Remarks: Please copy bherb@ltenv.com

Date:	Time:	Relinquished by:	Received by:	Date	Time
2/25/15	1807			2/25/15	1807
2/25/15	1809			2/26/15	0750

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

June 15, 2015

Ashley Ager
Williams Four Corners
188 CR 4900
Bloomfield, NM 87413
TEL: (505) 632-4442
FAX

RE: J Vent - Dogie CS OrderNo.: 1505C49

Dear Ashley Ager:

Hall Environmental Analysis Laboratory received 5 sample(s) on 5/29/2015 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

Analytical Report
Lab Order **1505C49**
Date Reported: **6/15/2015**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners
Client Sample ID: MW-13
Project: J Vent - Dogie CS
Collection Date: 5/28/2015 10:45:00 AM
Lab ID: 1505C49-001
Matrix: AQUEOUS
Received Date: 5/29/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	14	2.5		mg/L	5	5/29/2015 2:13:32 PM	R26526
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	5/29/2015 2:13:32 PM	R26526
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	5/29/2015 2:13:32 PM	R26526
Sulfate	1300	25	*	mg/L	50	6/3/2015 3:36:14 AM	R26575
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	2240	200	*	mg/L	1	6/1/2015 4:22:00 PM	19459
EPA METHOD 200.7: METALS						Analyst: **JLF**	
Iron	23	2.0	*	mg/L	100	6/3/2015 3:17:51 PM	19513
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	6/1/2015 4:19:03 PM	R26543
Toluene	ND	1.0		µg/L	1	6/1/2015 4:19:03 PM	R26543
Ethylbenzene	ND	1.0		µg/L	1	6/1/2015 4:19:03 PM	R26543
Xylenes, Total	ND	2.0		µg/L	1	6/1/2015 4:19:03 PM	R26543
Surr: 4-Bromofluorobenzene	99.4	80-120		%REC	1	6/1/2015 4:19:03 PM	R26543

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 Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners
Client Sample ID: MW-15
Project: J Vent - Dogie CS
Collection Date: 5/28/2015 11:35:00 AM
Lab ID: 1505C49-002 **Matrix:** AQUEOUS **Received Date:** 5/29/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	19	2.5		mg/L	5	5/29/2015 2:38:22 PM	R26526
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	5/29/2015 2:38:22 PM	R26526
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	5/29/2015 2:38:22 PM	R26526
Sulfate	1100	25	*	mg/L	50	6/3/2015 3:48:39 AM	R26575
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	2000	200	*	mg/L	1	6/1/2015 4:22:00 PM	19459
EPA METHOD 200.7: METALS						Analyst: **JLF**	
Iron	36	2.0	*	mg/L	100	6/3/2015 3:19:49 PM	19513
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	6/1/2015 5:34:52 PM	R26543
Toluene	ND	1.0		µg/L	1	6/1/2015 5:34:52 PM	R26543
Ethylbenzene	ND	1.0		µg/L	1	6/1/2015 5:34:52 PM	R26543
Xylenes, Total	ND	2.0		µg/L	1	6/1/2015 5:34:52 PM	R26543
Surr: 4-Bromofluorobenzene	99.0	80-120		%REC	1	6/1/2015 5:34:52 PM	R26543

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

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 Not In Range
RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners
Client Sample ID: MW-14
Project: J Vent - Dogie CS
Collection Date: 5/28/2015 12:15:00 PM
Lab ID: 1505C49-003
Matrix: AQUEOUS
Received Date: 5/29/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	14	2.5		mg/L	5	5/29/2015 3:03:11 PM	R26526
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	5/29/2015 3:03:11 PM	R26526
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	5/29/2015 3:03:11 PM	R26526
Sulfate	1100	25	*	mg/L	50	6/3/2015 4:25:54 AM	R26575
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	1950	200	*	mg/L	1	6/1/2015 4:22:00 PM	19459
EPA METHOD 200.7: METALS						Analyst: **JLF**	
Iron	45	2.0	*	mg/L	100	6/3/2015 3:30:08 PM	19513
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	6/1/2015 6:00:22 PM	R26543
Toluene	ND	1.0		µg/L	1	6/1/2015 6:00:22 PM	R26543
Ethylbenzene	ND	1.0		µg/L	1	6/1/2015 6:00:22 PM	R26543
Xylenes, Total	ND	2.0		µg/L	1	6/1/2015 6:00:22 PM	R26543
Surr: 4-Bromofluorobenzene	96.0	80-120		%REC	1	6/1/2015 6:00:22 PM	R26543

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 Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners
Client Sample ID: MW-16
Project: J Vent - Dogie CS
Collection Date: 5/28/2015 1:15:00 PM
Lab ID: 1505C49-004
Matrix: AQUEOUS
Received Date: 5/29/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	20	2.5		mg/L	5	5/29/2015 3:52:50 PM	R26526
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	5/29/2015 3:52:50 PM	R26526
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	5/29/2015 3:52:50 PM	R26526
Sulfate	1500	25	*	mg/L	50	6/3/2015 4:38:19 AM	R26575
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	3030	200	*	mg/L	1	6/1/2015 4:22:00 PM	19459
EPA METHOD 200.7: METALS						Analyst: **JLF**	
Iron	20	1.0	*	mg/L	50	6/3/2015 3:32:11 PM	19513
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	6/1/2015 6:25:31 PM	R26543
Toluene	ND	1.0		µg/L	1	6/1/2015 6:25:31 PM	R26543
Ethylbenzene	ND	1.0		µg/L	1	6/1/2015 6:25:31 PM	R26543
Xylenes, Total	ND	2.0		µg/L	1	6/1/2015 6:25:31 PM	R26543
Surr: 4-Bromofluorobenzene	99.7	80-120		%REC	1	6/1/2015 6:25:31 PM	R26543

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 Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners
Client Sample ID: Trip Blank
Project: J Vent - Dogie CS
Collection Date:
Lab ID: 1505C49-005
Matrix: TRIP BLANK
Received Date: 5/29/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	6/1/2015 6:50:34 PM	R26543
Toluene	ND	1.0		µg/L	1	6/1/2015 6:50:34 PM	R26543
Ethylbenzene	ND	1.0		µg/L	1	6/1/2015 6:50:34 PM	R26543
Xylenes, Total	ND	2.0		µg/L	1	6/1/2015 6:50:34 PM	R26543
Surr: 4-Bromofluorobenzene	95.2	80-120		%REC	1	6/1/2015 6:50:34 PM	R26543

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 Not In Range
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#: **1505C49**

15-Jun-15

Client: Williams Four Corners

Project: J Vent - Dogie CS

Sample ID	**MB-19513**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Metals**					
Client ID:	**PBW**	Batch ID:	**19513**	RunNo:	**26597**					
Prep Date:	**6/2/2015**	Analysis Date:	**6/3/2015**	SeqNo:	**791692**	Units:	**mg/L**			

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

Sample ID	**LCS-19513**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Metals**					
Client ID:	**LCSW**	Batch ID:	**19513**	RunNo:	**26597**					
Prep Date:	**6/2/2015**	Analysis Date:	**6/3/2015**	SeqNo:	**791693**	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	103	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 Not In Range
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#: **1505C49**

15-Jun-15

Client: Williams Four Corners

Project: J Vent - Dogie CS

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R26526**	RunNo: **26526**
Prep Date:	Analysis Date: **5/29/2015**	SeqNo: **788425** 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: **R26526**	RunNo: **26526**
Prep Date:	Analysis Date: **5/29/2015**	SeqNo: **788426** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.9	0.50	5.000	0	98.5	90	110			
Nitrogen, Nitrite (As N)	1.0	0.10	1.000	0	100	90	110			
Nitrogen, Nitrate (As N)	2.6	0.10	2.500	0	103	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R26526**	RunNo: **26526**
Prep Date:	Analysis Date: **5/29/2015**	SeqNo: **788479** 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: **R26526**	RunNo: **26526**
Prep Date:	Analysis Date: **5/29/2015**	SeqNo: **788480** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.8	0.50	5.000	0	95.7	90	110			
Nitrogen, Nitrite (As N)	0.98	0.10	1.000	0	97.9	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	99.7	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R26575**	RunNo: **26575**
Prep Date:	Analysis Date: **6/2/2015**	SeqNo: **790951** 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 Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1505C49**

15-Jun-15

Client: Williams Four Corners

Project: J Vent - Dogie CS

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSW**	Batch ID:	**R26575**	RunNo:	**26575**					
Prep Date:		Analysis Date:	**6/2/2015**	SeqNo:	**790952**	Units:	**mg/L**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate		10	0.50	10.00	0	104	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 Not In Range
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#: **1505C49**

15-Jun-15

Client: Williams Four Corners

Project: J Vent - Dogie CS

Sample ID	**5ML RB**	SampType:	**MBLK**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**PBW**	Batch ID:	**R26543**	RunNo:	**26543**					
Prep Date:		Analysis Date:	**6/1/2015**	SeqNo:	**788822**	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		97.0	80	120			

Sample ID	**100NG BTEX LCS**	SampType:	**LCS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**LCSW**	Batch ID:	**R26543**	RunNo:	**26543**					
Prep Date:		Analysis Date:	**6/1/2015**	SeqNo:	**788823**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	23	1.0	20.00	0	114	80	120			
Toluene	23	1.0	20.00	0	115	80	120			
Ethylbenzene	22	1.0	20.00	0	108	80	120			
Xylenes, Total	64	2.0	60.00	0	106	80	120			
Surr: 4-Bromofluorobenzene	22		20.00		112	80	120			

Sample ID	**1505C49-001AMS**	SampType:	**MS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**MW-13**	Batch ID:	**R26543**	RunNo:	**26543**					
Prep Date:		Analysis Date:	**6/1/2015**	SeqNo:	**788826**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	23	1.0	20.00	0	114	77.5	121			
Toluene	23	1.0	20.00	0	115	78.6	122			
Ethylbenzene	22	1.0	20.00	0	111	78.1	128			
Xylenes, Total	66	2.0	60.00	0.6880	108	80	120			
Surr: 4-Bromofluorobenzene	22		20.00		112	80	120			

Sample ID	**1505C49-001AMSD**	SampType:	**MSD**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**MW-13**	Batch ID:	**R26543**	RunNo:	**26543**					
Prep Date:		Analysis Date:	**6/1/2015**	SeqNo:	**788827**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	105	77.5	121	8.25	20	
Toluene	23	1.0	20.00	0	115	78.6	122	0.147	20	
Ethylbenzene	22	1.0	20.00	0	111	78.1	128	0.00903	20	
Xylenes, Total	65	2.0	60.00	0.6880	108	80	120	0.543	20	
Surr: 4-Bromofluorobenzene	22		20.00		110	80	120	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 Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1505C49**

15-Jun-15

Client: Williams Four Corners

Project: J Vent - Dogie CS

Sample ID	**MB-19459**	SampType:	**MBLK**	TestCode:	**SM2540C MOD: Total Dissolved Solids**					
Client ID:	**PBW**	Batch ID:	**19459**	RunNo:	**26541**					
Prep Date:	**5/29/2015**	Analysis Date:	**6/1/2015**	SeqNo:	**788770**	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-19459**	SampType:	**LCS**	TestCode:	**SM2540C MOD: Total Dissolved Solids**					
Client ID:	**LCSW**	Batch ID:	**19459**	RunNo:	**26541**					
Prep Date:	**5/29/2015**	Analysis Date:	**6/1/2015**	SeqNo:	**788771**	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 Not In Range
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: **WILLIAMS FOUR CORN** Work Order Number: **1505C49** RcptNo: **1**

Received by/date: 05/29/15

Logged By: **Lindsay Mangin** **5/29/2015 7:00:00 AM**

Completed By: **Lindsay Mangin** **5/29/2015 9:01:31 AM**

Reviewed By: CS 05/29/15

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 ☐	
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 analysis: Added .4 mL HNO_3 to ~003C for acceptable pH. Held in login 24 hours after preservation. 05/

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

Adjusted? Yes

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	2.0	Good	Yes			

Chain-of-Custody Record

Client: Matt Webre
Williams four corners
Mailing Address: 188 CR 4900
Bloomfield, NM
Phone #: 505-632-4442
email or Fax#: matt.webre@williams.com
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other _____
☐ EDD (Type) _____

Turn-Around Time:
☑ Standard ☐ Rush _____
Project Name:
Lvent-Dogie CS
Project #:
034015007
Project Manager:
Ashley Ager
Sampler: Alex Crooks
On Ice: ☑ Yes ☐ No
Sample Temperature: 2.0

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. 1505149
5/28	1045	GW	MW-13	6, Various	COOL, HCl HNO3 H2SO4	-001
	1135		MW-15			-002
	1215		MW-14			-003
	1315		MW-16			-004
			Trip Blank	HCl		-005

Analysis Request

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)	BTEX (8021)	Nitrate / Nitrite	Total Iron	TDS, Chloride, Sulfate	Air Bubbles (Y or N)
											✓	✓	✓	✓	

Date:	Time:	Relinquished by:	Received by:	Date	Time
5/28/15	1530	Alex Crooks	Matt Webre	5/28/15	1530
5/28/15	1800	Matt Webre		05/29/15	0700

Remarks: please copy bherb@ltenv.com

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

September 10, 2015

Brooke Herb

Williams Four Corners
188 CR 4900
Bloomfield, NM 87413
TEL: (505) 632-4442
FAX

RE: Former JVent OrderNo.: 1508C60

Dear Brooke Herb:

Hall Environmental Analysis Laboratory received 5 sample(s) on 8/26/2015 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

Analytical Report
Lab Order **1508C60**
Date Reported: **9/10/2015**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners
Client Sample ID: MW-13
Project: Former JVent
Collection Date: 8/25/2015 2:05:00 PM
Lab ID: 1508C60-001
Matrix: AQUEOUS
Received Date: 8/26/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	14	10		mg/L	20	8/26/2015 4:21:44 PM	R28493
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	8/26/2015 4:09:19 PM	R28493
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	8/26/2015 4:09:19 PM	R28493
Sulfate	1200	25	*	mg/L	50	9/1/2015 8:56:51 PM	R28611
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	2510	200	*D	mg/L	1	8/27/2015 12:01:00 PM	20986
EPA METHOD 200.7: TOTAL METALS						Analyst: **JLF**	
Iron	35	2.0	*	mg/L	100	9/2/2015 1:49:03 PM	21077
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	8/26/2015 11:24:34 PM	a28483
Toluene	ND	1.0		µg/L	1	8/26/2015 11:24:34 PM	a28483
Ethylbenzene	ND	1.0		µg/L	1	8/26/2015 11:24:34 PM	a28483
Xylenes, Total	ND	2.0		µg/L	1	8/26/2015 11:24:34 PM	a28483
Surr: 4-Bromofluorobenzene	97.9	65-127		%REC	1	8/26/2015 11:24:34 PM	a28483

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
D	Sample Diluted Due to Matrix	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 Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners
Client Sample ID: MW-14
Project: Former JVent
Collection Date: 8/25/2015 12:35:00 PM
Lab ID: 1508C60-002
Matrix: AQUEOUS
Received Date: 8/26/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	12	10		mg/L	20	8/26/2015 5:36:12 PM	R28493
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	8/26/2015 5:23:47 PM	R28493
Nitrogen, Nitrate (As N)	0.29	0.10		mg/L	1	8/26/2015 5:23:47 PM	R28493
Sulfate	920	10	*	mg/L	20	8/26/2015 5:36:12 PM	R28493
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	1790	200	*D	mg/L	1	8/27/2015 12:01:00 PM	20986
EPA METHOD 200.7: TOTAL METALS						Analyst: **JLF**	
Iron	52	2.0	*	mg/L	100	9/2/2015 1:58:16 PM	21077
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	8/27/2015 12:39:12 AM	a28483
Toluene	ND	1.0		µg/L	1	8/27/2015 12:39:12 AM	a28483
Ethylbenzene	ND	1.0		µg/L	1	8/27/2015 12:39:12 AM	a28483
Xylenes, Total	ND	2.0		µg/L	1	8/27/2015 12:39:12 AM	a28483
Surr: 4-Bromofluorobenzene	91.6	65-127		%REC	1	8/27/2015 12:39:12 AM	a28483

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
D	Sample Diluted Due to Matrix	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 Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners
Client Sample ID: MW-15
Project: Former JVent
Collection Date: 8/25/2015 2:55:00 PM
Lab ID: 1508C60-003
Matrix: AQUEOUS
Received Date: 8/26/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	16	10		mg/L	20	8/26/2015 6:01:01 PM	R28493
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	8/26/2015 5:48:36 PM	R28493
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	8/26/2015 5:48:36 PM	R28493
Sulfate	940	10	*	mg/L	20	8/26/2015 6:01:01 PM	R28493
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	1600	200	*D	mg/L	1	8/27/2015 12:01:00 PM	20986
EPA METHOD 200.7: TOTAL METALS						Analyst: **JLF**	
Iron	51	2.0	*	mg/L	100	9/2/2015 2:00:10 PM	21077
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	8/27/2015 1:04:00 AM	a28483
Toluene	ND	1.0		µg/L	1	8/27/2015 1:04:00 AM	a28483
Ethylbenzene	ND	1.0		µg/L	1	8/27/2015 1:04:00 AM	a28483
Xylenes, Total	ND	2.0		µg/L	1	8/27/2015 1:04:00 AM	a28483
Surr: 4-Bromofluorobenzene	96.1	65-127		%REC	1	8/27/2015 1:04:00 AM	a28483

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
D	Sample Diluted Due to Matrix	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 Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners
Client Sample ID: MW-16
Project: Former JVent
Collection Date: 8/25/2015 1:25:00 PM
Lab ID: 1508C60-004
Matrix: AQUEOUS
Received Date: 8/26/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	45	10		mg/L	20	8/26/2015 6:25:50 PM	R28493
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	8/26/2015 6:13:26 PM	R28493
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	8/26/2015 6:13:26 PM	R28493
Sulfate	1700	50	*	mg/L	100	9/4/2015 12:15:23 AM	R28665
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	2860	200	*D	mg/L	1	8/27/2015 12:01:00 PM	20986
EPA METHOD 200.7: TOTAL METALS						Analyst: **JLF**	
Iron	30	2.0	*	mg/L	100	9/2/2015 2:02:03 PM	21077
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	8/27/2015 1:28:44 AM	a28483
Toluene	ND	1.0		µg/L	1	8/27/2015 1:28:44 AM	a28483
Ethylbenzene	ND	1.0		µg/L	1	8/27/2015 1:28:44 AM	a28483
Xylenes, Total	ND	2.0		µg/L	1	8/27/2015 1:28:44 AM	a28483
Surr: 4-Bromofluorobenzene	93.9	65-127		%REC	1	8/27/2015 1:28:44 AM	a28483

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
D	Sample Diluted Due to Matrix	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 Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners
Client Sample ID: Trip Blank
Project: Former JVent
Collection Date:
Lab ID: 1508C60-005
Matrix: TRIP BLANK
Received Date: 8/26/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	8/27/2015 1:53:31 AM	a28483
Toluene	ND	1.0		µg/L	1	8/27/2015 1:53:31 AM	a28483
Ethylbenzene	ND	1.0		µg/L	1	8/27/2015 1:53:31 AM	a28483
Xylenes, Total	ND	2.0		µg/L	1	8/27/2015 1:53:31 AM	a28483
Surr: 4-Bromofluorobenzene	96.1	65-127		%REC	1	8/27/2015 1:53:31 AM	a28483

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
D	Sample Diluted Due to Matrix	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 Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1508C60**

10-Sep-15

Client: Williams Four Corners

Project: Former JVent

Sample ID	**MB-21077**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**PBW**	Batch ID:	**21077**	RunNo:	**28618**					
Prep Date:	**9/1/2015**	Analysis Date:	**9/2/2015**	SeqNo:	**865823**	Units:	**mg/L**			

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

Sample ID	**LCS-21077**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**LCSW**	Batch ID:	**21077**	RunNo:	**28618**					
Prep Date:	**9/1/2015**	Analysis Date:	**9/2/2015**	SeqNo:	**865824**	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	103	85	115			

Sample ID	**LLLCS-21077**	SampType:	**LCSLL**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**BatchQC**	Batch ID:	**21077**	RunNo:	**28618**					
Prep Date:	**9/1/2015**	Analysis Date:	**9/2/2015**	SeqNo:	**865825**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.020	0.02000	0	97.4	50	150			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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 Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1508C60**

10-Sep-15

Client: Williams Four Corners

Project: Former JVent

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R28493**	RunNo: **28493**
Prep Date:	Analysis Date: **8/26/2015**	SeqNo: **861510** 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: **R28493**	RunNo: **28493**
Prep Date:	Analysis Date: **8/26/2015**	SeqNo: **861511** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.9	0.50	5.000	0	98.0	90	110			
Nitrogen, Nitrite (As N)	0.97	0.10	1.000	0	97.3	90	110			
Nitrogen, Nitrate (As N)	2.6	0.10	2.500	0	103	90	110			
Sulfate	9.9	0.50	10.00	0	98.8	90	110			

Sample ID **1508C60-001BMS**	SampType: **MS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **MW-13**	Batch ID: **R28493**	RunNo: **28493**
Prep Date:	Analysis Date: **8/26/2015**	SeqNo: **861534** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	20	0.50	5.000	14.76	104	81.2	116			
Nitrogen, Nitrite (As N)	0.92	0.10	1.000	0	92.0	77.1	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	102	87.3	111			

Sample ID **1508C60-001BMSD**	SampType: **MSD**	TestCode: **EPA Method 300.0: Anions**
Client ID: **MW-13**	Batch ID: **R28493**	RunNo: **28493**
Prep Date:	Analysis Date: **8/26/2015**	SeqNo: **861535** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	20	0.50	5.000	14.76	104	81.2	116	0.0411	20	
Nitrogen, Nitrite (As N)	0.93	0.10	1.000	0	93.0	77.1	110	1.06	20	
Nitrogen, Nitrate (As N)	2.6	0.10	2.500	0	103	87.3	111	0.837	20	

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R28611**	RunNo: **28611**
Prep Date:	Analysis Date: **9/1/2015**	SeqNo: **865519** 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.
- B Analyte detected in the associated Method Blank
- D Sample Diluted Due to Matrix
- 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 Not In Range
- R RPD outside accepted recovery limits
- RL Reporting Detection Limit
- S % Recovery outside of range due to dilution or matrix

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1508C60**

10-Sep-15

Client: Williams Four Corners

Project: Former JVent

Sample ID	**LCS**	SampType: **LCS**		TestCode: **EPA Method 300.0: Anions**					
Client ID:	**LCSW**	Batch ID: **R28611**		RunNo: **28611**					
Prep Date:		Analysis Date: **9/1/2015**		SeqNo: **865520**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	10	0.50	10.00	0	99.6	90	110			

Sample ID	**MB**	SampType: **MBLK**		TestCode: **EPA Method 300.0: Anions**					
Client ID:	**PBW**	Batch ID: **R28665**		RunNo: **28665**					
Prep Date:		Analysis Date: **9/3/2015**		SeqNo: **868144**		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: **R28665**		RunNo: **28665**					
Prep Date:		Analysis Date: **9/3/2015**		SeqNo: **868145**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	10	0.50	10.00	0	101	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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 Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1508C60**

10-Sep-15

Client: Williams Four Corners

Project: Former JVent

Sample ID	**5ML RB**	SampType:	**MBLK**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**PBW**	Batch ID:	**a28483**	RunNo:	**28483**					
Prep Date:		Analysis Date:	**8/26/2015**	SeqNo:	**861095**	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	20		20.00		102	65	127			

Sample ID	**100NG BTEX LCS**	SampType:	**LCS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**LCSW**	Batch ID:	**a28483**	RunNo:	**28483**					
Prep Date:		Analysis Date:	**8/26/2015**	SeqNo:	**861096**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.2	80	120			
Toluene	20	1.0	20.00	0	100	80	120			
Ethylbenzene	20	1.0	20.00	0	101	80	120			
Xylenes, Total	59	2.0	60.00	0	98.0	80	120			
Surr: 4-Bromofluorobenzene	21		20.00		104	65	127			

Sample ID	**1508C60-001AMS**	SampType:	**MS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**MW-13**	Batch ID:	**a28483**	RunNo:	**28483**					
Prep Date:		Analysis Date:	**8/26/2015**	SeqNo:	**861100**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	94.8	50.9	146			
Toluene	19	1.0	20.00	0	96.4	71.7	136			
Ethylbenzene	19	1.0	20.00	0	97.0	74.2	132			
Xylenes, Total	57	2.0	60.00	0.4218	94.0	75.7	130			
Surr: 4-Bromofluorobenzene	21		20.00		103	65	127			

Sample ID	**1508C60-001AMSD**	SampType:	**MSD**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**MW-13**	Batch ID:	**a28483**	RunNo:	**28483**					
Prep Date:		Analysis Date:	**8/27/2015**	SeqNo:	**861101**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	87.9	50.9	146	7.50	20	
Toluene	18	1.0	20.00	0	87.6	71.7	136	9.65	20	
Ethylbenzene	18	1.0	20.00	0	89.5	74.2	132	7.99	20	
Xylenes, Total	52	2.0	60.00	0.4218	86.8	75.7	130	7.90	20	
Surr: 4-Bromofluorobenzene	21		20.00		104	65	127	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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 Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1508C60**

10-Sep-15

Client: Williams Four Corners

Project: Former JVent

Sample ID	**MB-20986**	SampType:	**MBLK**	TestCode:	**SM2540C MOD: Total Dissolved Solids**					
Client ID:	**PBW**	Batch ID:	**20986**	RunNo:	**28497**					
Prep Date:	**8/26/2015**	Analysis Date:	**8/27/2015**	SeqNo:	**861745**	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-20986**	SampType:	**LCS**	TestCode:	**SM2540C MOD: Total Dissolved Solids**					
Client ID:	**LCSW**	Batch ID:	**20986**	RunNo:	**28497**					
Prep Date:	**8/26/2015**	Analysis Date:	**8/27/2015**	SeqNo:	**861746**	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			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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 Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

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: **WILLIAMS FOUR CORN** Work Order Number: **1508C60** RcptNo: **1**

Received by/date: 08/26/15

Logged By: **Lindsay Mangin** **8/26/2015 7:00:00 AM**

Completed By: **Lindsay Mangin** **8/26/2015 9:46:41 AM**

Reviewed By: CS 08/26/15

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~~ ☑ 08/26/15	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: 3 (<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	2.1	Good	Yes			

Chain-of-Custody Record

Client: Kelsey Christiansen
Williams Four Corners
Mailing Address: 188 RD 4900
Bloomfield, NM 87413
Phone #: (505) 215-7433
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: Former JVent
Project #: 034015007
Project Manager: Brook Herb
Sampler:
On Ice: ☑ Yes ☐ No
Sample Temperature: 2.1

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. 1508C60	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) Trip Blank	Nitrites / Nitrates	Total Iron	TDS	Chloride & Sulfate	Air Bubbles (Y or N)
8-25-15	1405	GW	MW-13	Various/6	Various	-001																
	1235		MW-14			-002																
	1455		MW-15			-003																
	1325		MW-16			-004																
8-25-15			Trip Blank	VOA/2		-005	X															

Date:	Time:	Relinquished by:	Received by:	Date	Time
8-25-15	1713			8/25/15	1713
8/25/15	1851			08/26/15	0700

Remarks: Please copy results to
AAger@LTEnv.com
MWicker@LTEnv.com

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.