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2014 AGWMR

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One Williams Center
P.O. Box 645
Tulsa, OK 74101-0645

April 10, 2014

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

RE: Online Submission of 2014 Annual Groundwater Reports

Dear Mr. Von Gonten,

Williams Field Services (Williams) is electronically submitting the attached 2014 annual groundwater monitoring reports covering the period from January 1, 2014 to December 31, 2014 for the following sites:

- Davis #1 (3RP-311-0);
- Dogie East Pit (3RP-312-0);
- Florance #40 (3RP-315-0);
- Florance #47X (3RP-317-0);
- Ice Canyon Drip (3RP-322-0);
- Jicarilla Contract #147-6 (3RP-325-0); and
- Pritchard #2A (3RP-339-0).

If you have any questions regarding these reports please contact me at 918-573-4371 or Danny.Reutlinger@Williams.com or Ashley Ager with LT Environmental at 970-385-1096 or aager@ltenv.com.

Sincerely,
Williams Field Services

Danny L. Reutlinger

Danny Reutlinger
Senior Project Manager

cc:
Attachments (7)

2014 ANNUAL GROUNDWATER REPORT

DOGIE EAST PIT
ADMINISTRATIVE/ENVIRONMENTAL ORDER NUMBER 3RP-312-0

APRIL 2015

Prepared for:

WILLIAMS FIELD SERVICES, LLC
Tulsa, Oklahoma

2014 ANNUAL GROUNDWATER REPORT

DOGIE EAST PIT
ADMINISTRATIVE/ENVIRONMENTAL ORDER NUMBER 3RP-312-0

APRIL 2015

Prepared for:

WILLIAMS FIELD SERVICES, LLC
PO Box 3483, MD 48-6
Tulsa, Oklahoma 74101

Prepared by:

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

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EXECUTIVE SUMMARY

Groundwater at the Dogie East Pit (Administrative/Environmental Order Number 3RP-312-0) (Site) is impacted by petroleum hydrocarbons in excess of the New Mexico Water Quality Control Commission (NMWQCC) groundwater standards for benzene, toluene, ethylbenzene, and total xylenes (BTEX) due to a release from a former dehydrator pit operated by Gas Company of New Mexico (GCNM). Impacted soil was excavated in 1997 and five monitoring wells were installed in 1998 to assess groundwater quality. Based on identified groundwater impacts, soil vapor extraction was tested for remediation, but never formally implemented. Instead, four additional downgradient groundwater monitoring wells were installed in 1999. Williams Field Services, LLC (Williams) purchased GCNM facilities from Public Service Company of New Mexico (PNM) in 2000 and assumed environmental liability for the Site. Since that time, Williams has monitored groundwater quality and conducted free product removal. Williams installed four additional groundwater monitoring wells and plugged and abandoned an existing well located outside of the delineated groundwater plume. During 2014, Williams retained LT Environmental Inc. (LTE) to complete annual sampling requirements. Between January 2014 and December 2014, four groundwater monitoring events were conducted.

LTE measured depth to groundwater, investigated presence of free product, and sampled groundwater from existing monitoring wells. Concentrations of BTEX in the most downgradient monitoring wells were compliant with NMWQCC groundwater standards in 2014; however, concentrations of BTEX in various on-site monitoring wells exceeded NMWQCC groundwater standards during at least one monitoring event in 2014. Groundwater monitoring well MW-6, which is downgradient of the original source area, contained measurable phase-separated hydrocarbons (PSH) and LTE recovered approximately 66.75 ounces with oil absorbent socks and manual recovery. PSH was visually observed with a bailer in adjacent monitoring well MW-5 during one quarter in 2014.

Williams will continue to monitor groundwater elevations and presence of PSH in the monitoring wells at the Site quarterly. Williams will manually recover PSH from monitoring wells MW-5 and MW-6 when present and install oil absorbent socks for passive PSH recovery between site visits. Williams will continue to conduct annual groundwater sampling for BTEX at monitoring wells MW-3, MW-5, MW-6, MW-7, MW-10, MW-11, MW-12, and MW-13.

1.0 INTRODUCTION

LT Environmental, Inc. (LTE) on behalf of Williams Field Services, LLC (Williams) has prepared this report detailing groundwater monitoring activities completed from January 2014 through December 2014 at the Dogie East Pit (Administrative/Environmental Order Number 3RP-312-0) (Site) at the Dogie Compressor Station. The scope of work for this project was continued monitoring of petroleum hydrocarbon impacts to groundwater as a result of operations of a former lined pit to collect drip gas and water from a condensate tank.

1.1 LOCATION

The Site is located at latitude 36.435003 and longitude -107.479499 in Unit D, Section 4, Township 25 North, Range 6 West. The Site is on the west flank of Largo Wash in the San Juan Basin in Rio Arriba County, New Mexico (Figure 1).

1.2 HISTORY

The original source of impacted groundwater is a former lined pit to collect drip gas and water from a condensate tank. Williams removed 526 cubic yards of petroleum hydrocarbon impacted soil in July 1997 and an additional 4,888 cubic yards of petroleum hydrocarbon impacted soil in October 1997. Groundwater was encountered at 14 feet below ground surface (bgs) in the excavation and groundwater samples contained benzene, toluene, ethylbenzene, and total xylenes (BTEX) concentrations in excess of the New Mexico Water Quality Control Commission (NMWQCC) standards. The excavation was left open through March 1998 and sampled again, at which time benzene, sulfate, and chloride concentrations exceeded the NMWQCC standards. The excavation was subsequently backfilled and in May 1998 groundwater monitoring wells MW-1, MW-2, MW-3, and MW-4 were installed. Impacted soil was observed in the borehole at MW-3 at approximately 12 feet bgs. In December 1998, monitoring well MW-5 and a 4-inch soil vapor extraction (SVE) well were installed and a pilot test was conducted; however, SVE was never implemented at the Site.

In September 1999, additional downgradient monitoring wells MW-6, MW-7, and MW-8 were installed. The installation date of groundwater monitoring well MW-9 is not known. Williams Field Services, LLC (Williams) purchased the GCNM facilities from Public Service Company of New Mexico (PNM) in 2000, including environmental liability from the dehydrator pit. Between 2000 and December 2012, Williams monitored groundwater in the monitoring wells at the Site and recovered phase separated hydrocarbons (PSH) from MW-6. Groundwater monitoring well MW-4 was observed to have been destroyed during the March 2013 site visit. It was not replaced due its location outside the existing extent of impacted groundwater. Additionally, monitoring well MW-9 was plugged and abandoned on October 13, 2013 for the same reason. Williams installed four new downgradient groundwater monitoring wells (MW-10, MW-11, MW-12, and MW-13) on October 13, 2013, to delineate the impacted groundwater plume.

On September 13, 2013, LTE collected a sample of PSH from MW-6 for analysis of paraffins, isoparaffins, aromatics, napthenes, and olefins (PIANO) to identify the chemical composition of the PSH and evaluate potential origin of the source. The source was confirmed to be natural gas condensate. On November 1, 2013, LTE performed a product bail down test at monitoring well

MW-6 to assess potential product recovery options. Much of the accumulated PSH was removed during the product bail down test.

2.0 METHODOLOGY

Groundwater monitoring activities were conducted at the Site in March 2014, June 2014, September 2014, and December 2014. LTE conducted quarterly site visits to monitor groundwater and presence of PSH, recover PSH when possible, and sample groundwater for water quality investigation. Groundwater monitoring wells MW-1, MW-2, SVE-4, and MW-8 were not sampled during 2014. These wells have either never contained BTEX in excess of NMWQCC standards or have eight documented quarters of BTEX concentrations compliant with NMWQCC standards. Monitoring wells MW-3 and MW-5 are sampled quarterly and downgradient monitoring wells MW-10, MW-11, MW-12, and MW-13 are sampled annually to monitor potential plume migration. Current source well MW-6 contains PSH and was not sampled.

2.1 WATER AND PRODUCT LEVEL MEASUREMENTS

Groundwater level monitoring included recording depth to groundwater measurements in all monitoring wells with a Keck oil/water interface probe. The presence of PSH was investigated using the interface probe. The interface probe was decontaminated with Alconox™ soap and rinsed with de-ionized water prior to each measurement. These data are summarized in Table 1.

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. Groundwater monitoring wells containing PSH were not sampled. 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 dedicated 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 that the purge water was representative of aquifer conditions, or until the well was purged dry. 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 (º) Celsius for temperature). Purge water was containerized and disposed of on site. Copies of the field notes are presented in Appendix A.

Once each monitoring well was purged, groundwater samples were collected by filling three 40-milliliter (ml) glass vials. The laboratory-supplied vials were filled and capped with no air inside to prevent degradation of the sample. Samples were labeled with the date and time of collection, monitoring well name, 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 of BTEX. Chain-of-custody forms, which are included in the laboratory analytical report in Appendix B, 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.

2.3 GROUNDWATER CONTOUR MAPS

LTE used existing top-of-casing well elevations and measured groundwater elevations to draft groundwater contours and determine groundwater flow direction for the March, June, September, and December 2014 quarterly monitoring events (Figures 2 through 5). Contours were inferred based on groundwater elevations obtained and observations of physical characteristics at the Site (topography, proximity to irrigation ditches, etc.).

2.4 PSH RECOVERY

Oil absorbent socks were used to passively recover PSH in groundwater monitoring well MW-6. Oil absorbent socks were removed from monitoring well MW-6 at least seven days prior to sampling to allow groundwater to equilibrate. LTE estimated the volume of recovered PSH in the socks based on percent saturation observed in the socks. Once the oil absorbent socks were removed, LTE manually bailed as much PSH from the monitoring well as possible. The PSH was disposed of on site. After sampling, new oil absorbent socks were installed. An oil absorbent sock was added to MW-5 in December 2014 when LTE visually observed a thin layer (less than 0.01 feet) of PSH in a sampling bailer that was undetected by the oil water interface probe.

3.0 RESULTS

Depth to groundwater and depth to PSH measured during the 2014 quarterly monitoring events are summarized in Table 1. Groundwater flow direction was determined to be consistently to the northwest at the Site (Figures 2 through 5).

In 2014, laboratory analytical results indicated BTEX concentrations in downgradient groundwater monitoring wells MW-10, MW-11, and MW-13 were compliant with the NMWQCC groundwater standards. Laboratory analytical results indicated concentrations of total xylenes in groundwater monitoring well MW-3 exceeded the NMWQCC groundwater standards during all four 2014 quarterly sampling events. Laboratory analytical results indicated BTEX concentrations in groundwater monitoring well MW-5 were compliant with the NMWQCC groundwater standards in samples collected in March and September. In June 2014, a benzene concentration of 12 micrograms per liter (µg/L) in monitoring well MW-5 exceeded the NMWQCC groundwater standard of 10 µg/L and PSH was observed in monitoring well MW-5 in December 2014.

Groundwater monitoring well MW-6 contained measurable PSH during the March, June, and December 2014 sampling events. Measurable PSH ranged in thickness from less than 0.01 feet to 0.03 feet in monitoring well MW-6. In September no measureable PSH was observed and a groundwater sample was collected. Dissolved phase BTEX concentrations exceeded NMWQCC groundwater standards in monitoring well MW-6.

Approximately 0.15 ounces of PSH were removed from monitoring well MW-5 and approximately 66.75 ounces of PSH were removed from monitoring well MW-6 through passive oil absorbent socks and manual recovery.

4.0 CONCLUSIONS

Impact to groundwater in the original source area at monitoring well MW-2 appears to have either attenuated or migrated as BTEX concentrations have been below the laboratory reporting detection limits since January 2012. The current source appears to be near monitoring well MW-6, which contained PSH during three 2014 monitoring events. Adjacent monitoring well MW-5 contained PSH in December 2014. Dissolved phase BTEX was observed downgradient in monitoring wells MW-7 and MW-12 and slightly upgradient in MW-3; however, the dissolved phase BTEX is delineated by downgradient wells MW-10, MW-12, and MW-13 which do not contain BTEX concentrations exceeding the NMWQCC standards.

5.0 RECOMMENDATIONS

Williams will continue monitoring groundwater elevations and the presence of PSH in all groundwater monitoring wells quarterly. Williams will collect annual groundwater samples for BTEX analysis from groundwater monitoring wells MW-3, MW-5, MW-7, MW-10, MW-11, MW-12, and MW-13. Williams will use oil absorbent socks and manual bailing to recover PSH from groundwater monitoring wells MW-5 and MW-6, quarterly. If PSH is not present, the monitoring wells will be sampled for BTEX analysis annually.

FIGURES

IMAGE COURTESY OF ESRI/BING MAPS

LEGEND

SITE LOCATION

0 2,000 4,000

Feet

N

FIGURE 1
SITE LOCATION MAP
DOGIE EAST PIT
RIO ARRIBA COUNTY, NEW MEXICO

WILLIAMS FIELD SERVICES, LLC

P:\Williams Four Corners\GIS\MXD\034013001_DOGIECS\034013001_DOGIECS_FIG01_SL.mxd

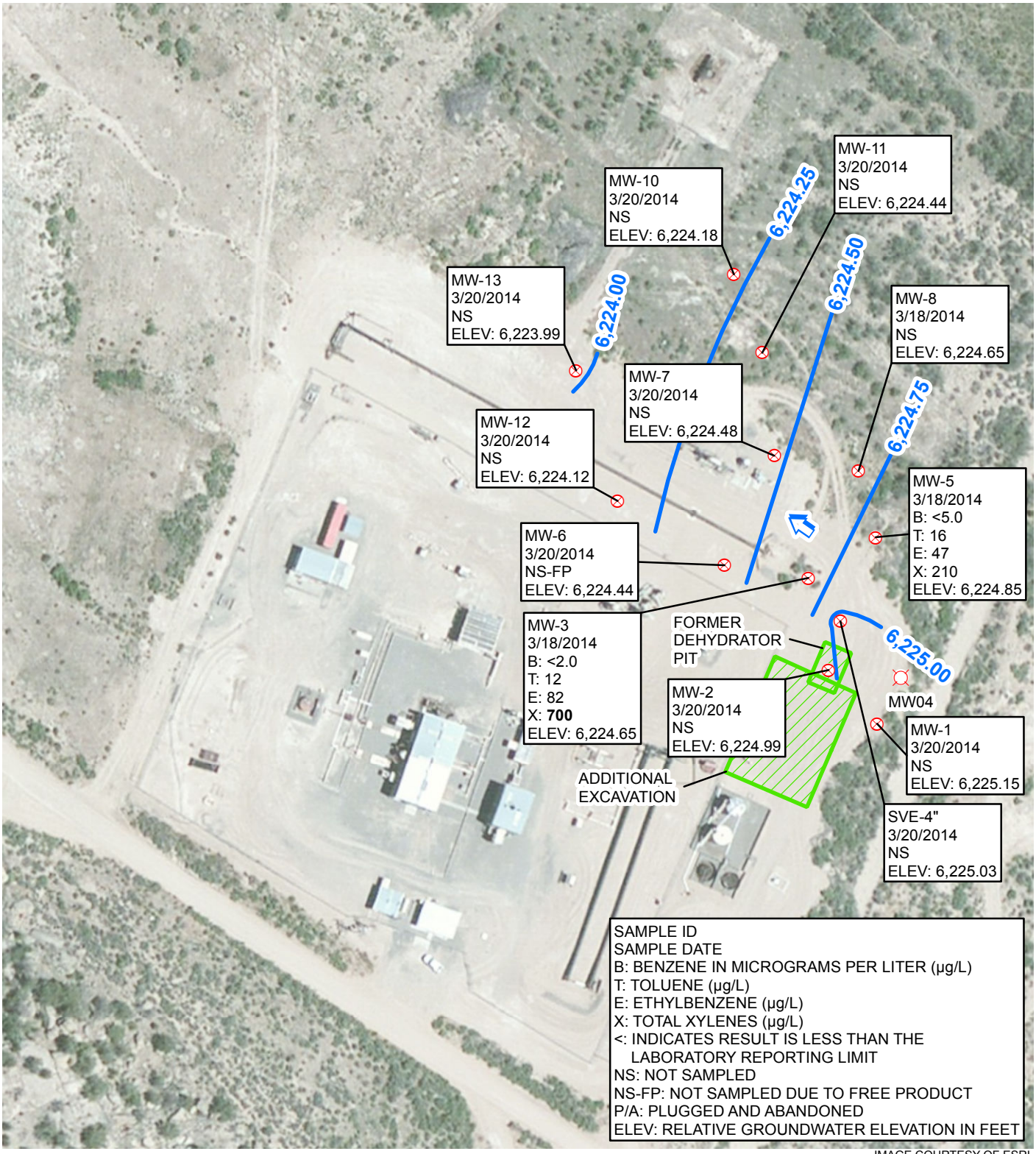

IMAGE COURTESY OF ESRI

LEGEND

- MONITORING WELL
- DESTROYED MONITORING WELL
- ESTIMATED GROUNDWATER FLOW DIRECTION
- RELATIVE GROUNDWATER ELEVATION CONTOUR (3/20/2014)
- CONTOUR INTERVAL = 0.25 FEET

0 120 240
Feet

N

FIGURE 2
GROUNDWATER ELEVATION &
ANALYTICAL RESULTS (MARCH 2014)
DOGIE EAST PIT
RIO ARRIBA COUNTY, NEW MEXICO
WILLIAMS FIELD SERVICES, LLC

P:\Williams Field Services\GIS\MXD\034013010_DOGIE_EAST_PIT\034015003_DOGIECS_FIG02_GWE_GWA_2014_Q1.mxd

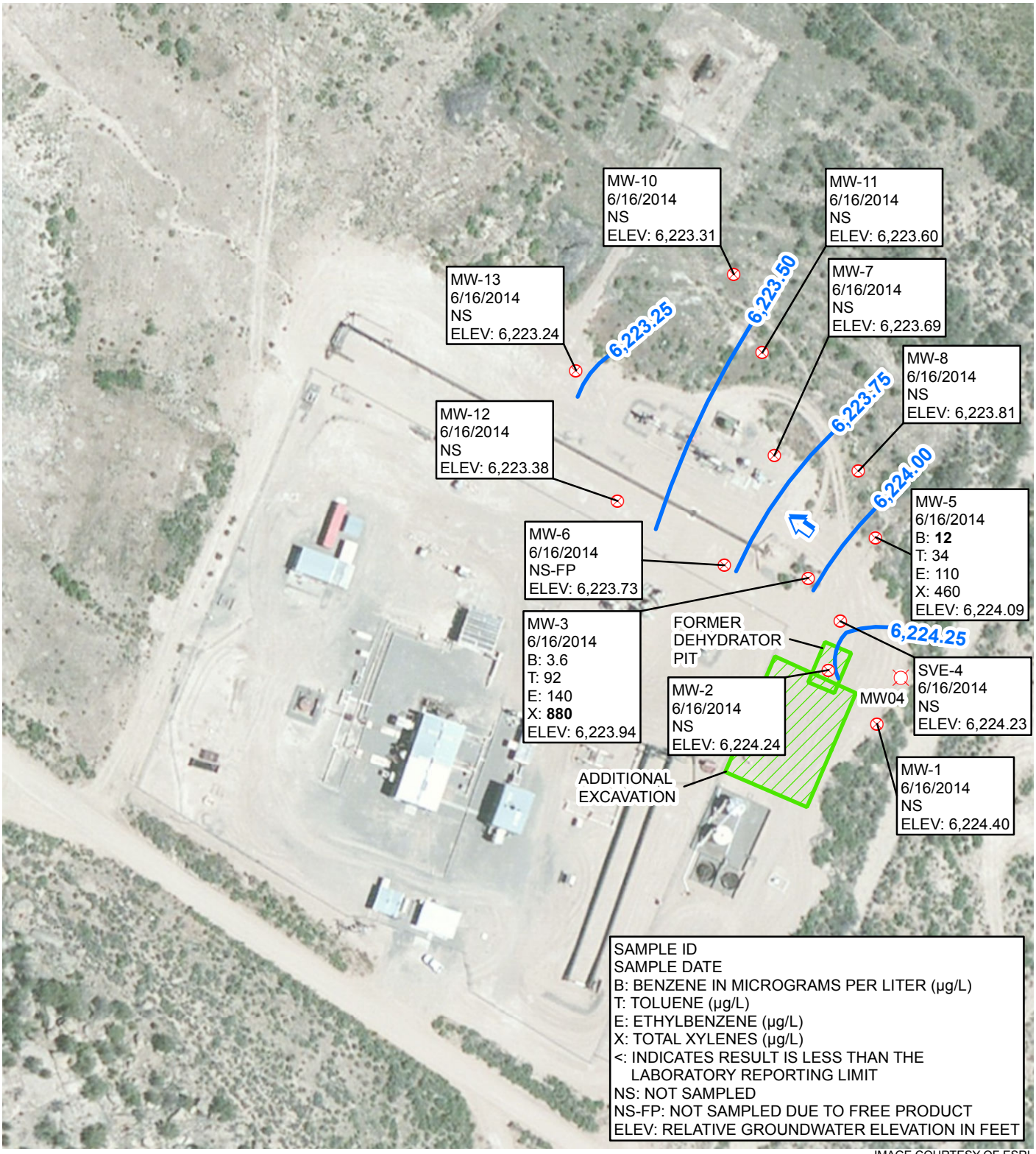

IMAGE COURTESY OF ESRI

LEGEND

- MONITORING WELL
- DESTROYED MONITORING WELL
- ESTIMATED GROUNDWATER FLOW DIRECTION
- RELATIVE GROUNDWATER ELEVATION CONTOUR
  CONTOUR INTERVAL = 0.25 FEET

0 120 240
Feet

N

FIGURE 3
GROUNDWATER ELEVATION &
ANALYTICAL RESULTS (JUNE 2014)
DOGIE EAST PIT
RIO ARRIBA COUNTY, NEW MEXICO
WILLIAMS FIELD SERVICES, LLC

P:\Williams Field Services\GIS\MXD\034013010_DOGIE_EAST_PIT\034015003_DOGIECS_FIG03_GWE_GWA_2014_Q2.mxd

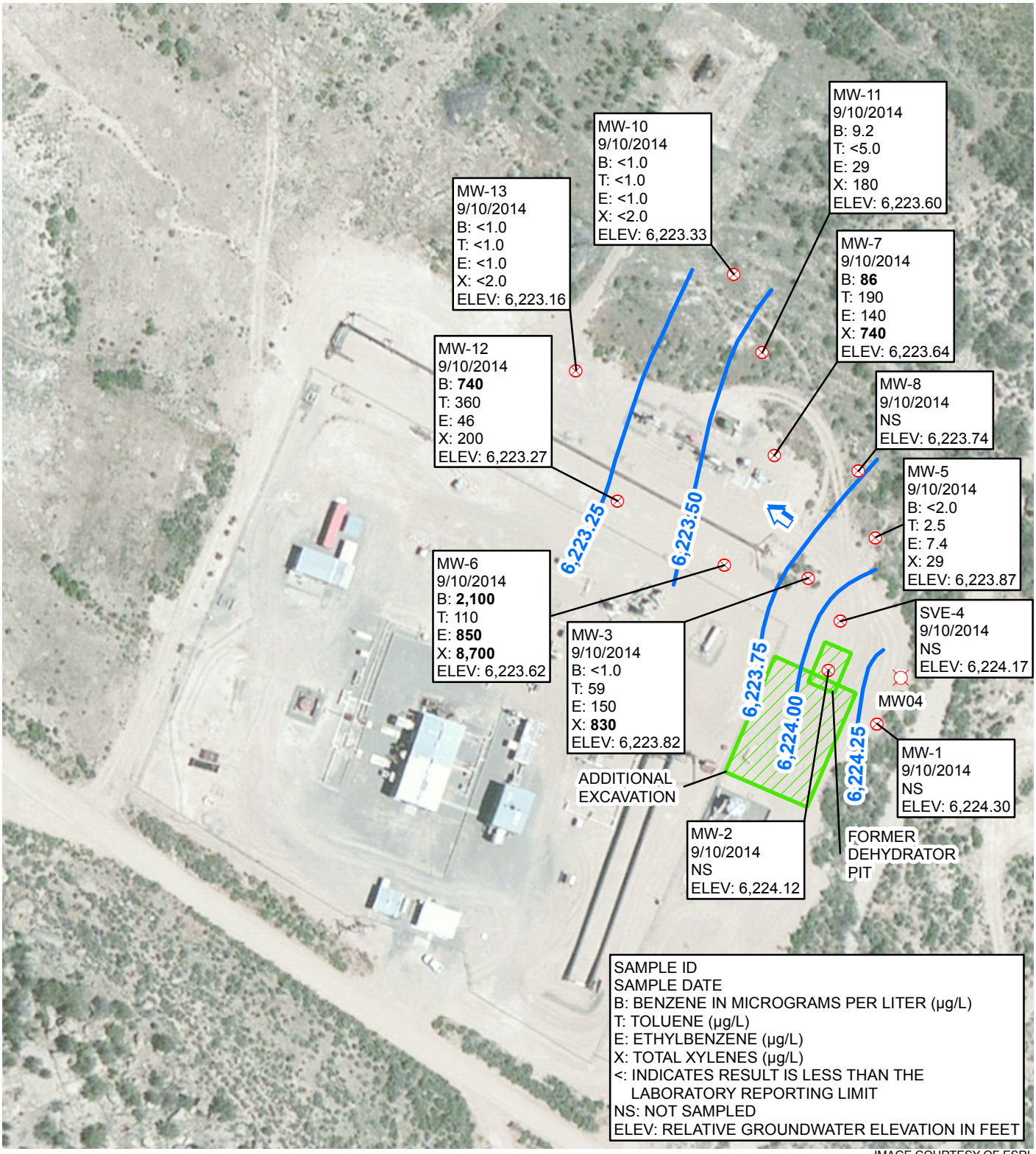

IMAGE COURTESY OF ESRI

LEGEND

- MONITORING WELL
- DESTROYED MONITORING WELL
- ESTIMATED GROUNDWATER FLOW DIRECTION
- RELATIVE GROUNDWATER ELEVATION CONTOUR
  CONTOUR INTERVAL = 0.25 FEET

0 120 240
Feet

N

FIGURE 4
GROUNDWATER ELEVATION & ANALYTICAL RESULTS (SEPTEMBER 2014)
DOGIE EAST PIT
RIO ARRIBA COUNTY, NEW MEXICO
WILLIAMS FIELD SERVICES, LLC

P:\Williams Field Services\GIS\MXD\034013010_DOGIE_EAST_PIT\034015003_DOGIECS_FIG04_GWE_GWA_2014_Q3.mxd

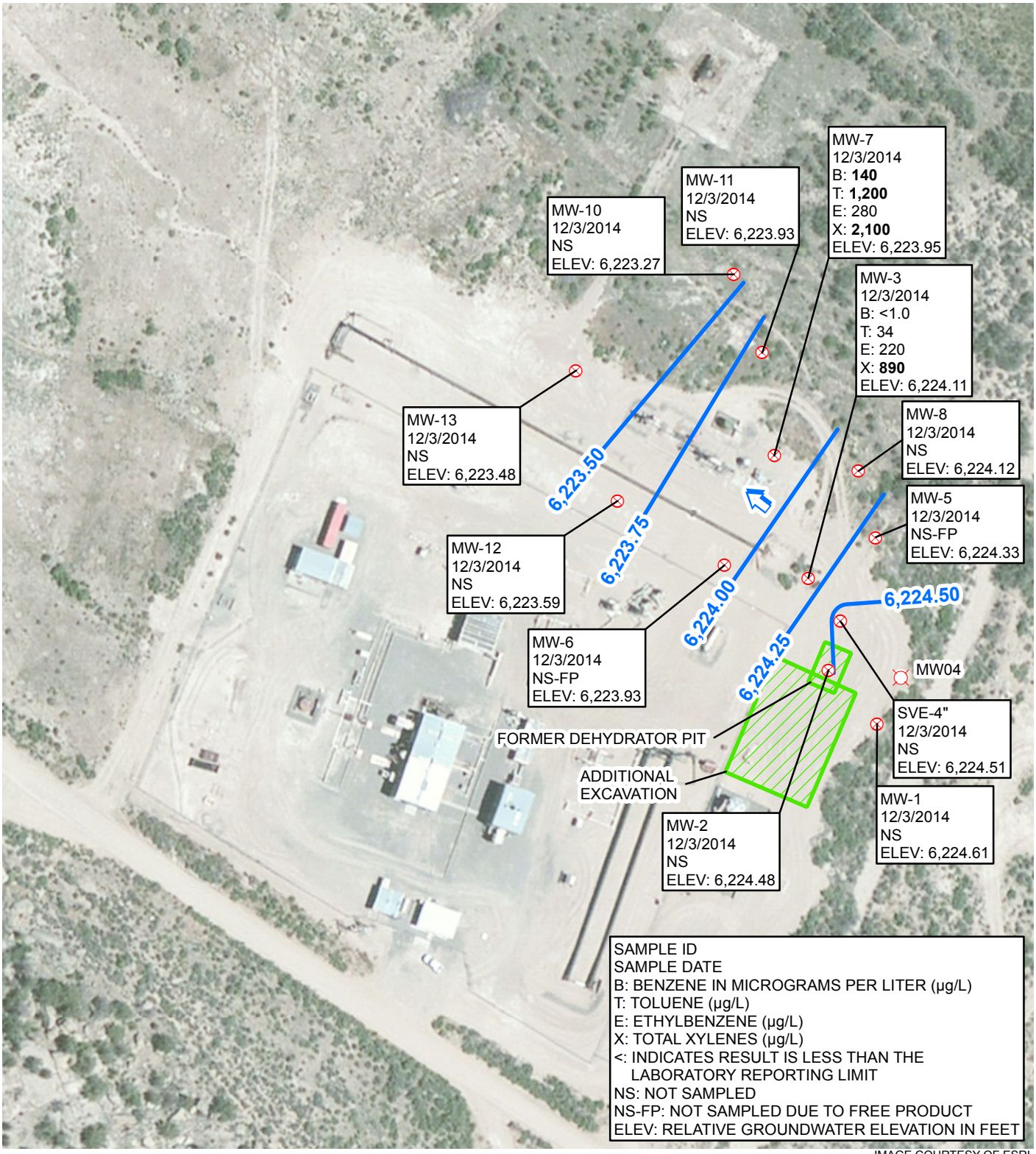

IMAGE COURTESY OF ESRI

LEGEND

- MONITORING WELL
- DESTROYED MONITORING WELL
- ESTIMATED GROUNDWATER FLOW DIRECTION
- RELATIVE GROUNDWATER ELEVATION CONTOUR
  CONTOUR INTERVAL = 0.25 FEET

0 120 240
Feet

N

FIGURE 5
GROUNDWATER ELEVATION & ANALYTICAL RESULTS (DECEMBER 2014)
DOGIE EAST PIT
RIO ARRIBA COUNTY, NEW MEXICO
WILLIAMS FIELD SERVICES, LLC

P:\Williams Field Services\GIS\MXD\034013010_DOGIE_EAST_PIT\034015003_DOGIECS_FIG04_GWE_GWA_2014_Q4.mxd

TABLES

TABLE 1

GROUNDWATER ELEVATION SUMMARY
DOGIE EAST PIT
WILLIAMS FIELD SERVICES, LLC

Well ID	Date	Top of Casing Elevation (feet)	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Adjusted Groundwater Elevation (feet AMSL)
MW-1	4/6/2012	6,253.79	UNK	UNK	UNK	UNK
MW-1	6/12/2012	6,253.79	UNK	UNK	UNK	UNK
MW-1	9/27/2012	6,253.79	UNK	UNK	UNK	UNK
MW-1	12/7/2012	6,253.79	UNK	UNK	UNK	UNK
MW-1	3/6/2013	6,253.79	15.45	NP	NP	6,238.34
MW-1*	6/25/2013	6,239.41	15.64	NP	NP	6,223.77
MW-1	9/24/2013	6,239.41	14.88	NP	NP	6,224.53
MW-1	12/5/2013	6,239.41	14.63	NP	NP	6,224.78
MW-1	3/20/2014	6,239.41	14.26	NP	NP	6,225.15
MW-1	6/16/2014	6,239.41	15.01	NP	NP	6,224.40
MW-1	9/10/2014	6,239.41	15.11	NP	NP	6,224.30
MW-1	12/3/2014	6,239.41	14.80	NP	NP	6,224.61
MW-2	4/6/2012	6,253.92	UNK	UNK	UNK	UNK
MW-2	6/12/2012	6,253.92	UNK	UNK	UNK	UNK
MW-2	9/27/2012	6,253.92	UNK	UNK	UNK	UNK
MW-2	12/7/2012	6,253.92	UNK	UNK	UNK	UNK
MW-2	3/6/2013	6,253.92	15.50	NP	NP	6,238.42
MW-2*	6/25/2013	6,239.57	15.93	NP	NP	6,223.64
MW-2	9/24/2013	6,239.57	15.54	NP	NP	6,224.03
MW-2	12/5/2013	6,239.57	14.90	NP	NP	6,224.67
MW-2	3/20/2014	6,239.57	14.58	NP	NP	6,224.99
MW-2	6/16/2014	6,239.57	15.33	NP	NP	6,224.24
MW-2	9/10/2014	6,239.57	15.45	NP	NP	6,224.12
MW-2	12/3/2014	6,239.57	15.09	NP	NP	6,224.48
MW-3	4/6/2012	6,253.35	UNK	UNK	UNK	UNK
MW-3	6/12/2012	6,253.35	UNK	UNK	UNK	UNK
MW-3	9/27/2012	6,253.35	UNK	UNK	UNK	UNK
MW-3	12/7/2012	6,253.35	UNK	UNK	UNK	UNK
MW-3	3/6/2013	6,253.35	15.40	NP	NP	6,237.95
MW-3*	6/25/2013	6,238.61	15.25	NP	NP	6,223.36
MW-3	9/24/2013	6,238.61	15.05	NP	NP	6,223.56
MW-3	12/5/2013	6,238.61	14.29	NP	NP	6,224.32
MW-3	3/20/2014	6,238.61	13.96	NP	NP	6,224.65
MW-3	6/16/2014	6,238.61	14.67	NP	NP	6,223.94
MW-3	9/10/2014	6,238.61	14.79	NP	NP	6,223.82
MW-3	12/3/2014	6,238.61	14.50	NP	NP	6,224.11
MW-4	4/6/2012	UNK	UNK	UNK	UNK	UNK
MW-4	6/12/2012	UNK	UNK	UNK	UNK	UNK
MW-4	9/27/2012	UNK	UNK	UNK	UNK	UNK
MW-4	12/7/2012	UNK	UNK	UNK	UNK	UNK
MW-4	3/6/2013	DEST	DEST	DEST	DEST	DEST
MW-5	4/6/2012	6,252.71	UNK	UNK	UNK	UNK
MW-5	6/12/2012	6,252.71	UNK	UNK	UNK	UNK
MW-5	9/27/2012	6,252.71	UNK	UNK	UNK	UNK
MW-5	12/7/2012	6,252.71	UNK	UNK	UNK	UNK
MW-5	3/6/2013	6,252.71	14.60	NP	NP	6,238.11
MW-5*	6/25/2013	6,238.48	14.96	NP	NP	6,223.52
MW-5	9/24/2013	6,238.48	14.35	NP	NP	6,224.13
MW-5	12/5/2013	6,238.48	13.94	NP	NP	6,224.54
MW-5	3/20/2014	6,238.48	13.63	NP	NP	6,224.85
MW-5	6/16/2014	6,238.48	14.39	NP	NP	6,224.09

TABLE 1

GROUNDWATER ELEVATION SUMMARY
DOGIE EAST PIT
WILLIAMS FIELD SERVICES, LLC

Well ID	Date	Top of Casing Elevation (feet)	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Adjusted Groundwater Elevation (feet AMSL)
MW-5	9/10/2014	6,238.48	14.61	NP	NP	6,223.87
MW-5	12/3/2014	6,238.48	14.15	14.15†	<0.01	6,224.33
MW-6	4/6/2012	6,254.09	UNK	UNK	UNK	UNK
MW-6	6/12/2012	6,254.09	UNK	UNK	UNK	UNK
MW-6	9/27/2012	6,254.09	UNK	UNK	UNK	UNK
MW-6	12/7/2012	6,254.09	UNK	UNK	UNK	UNK
MW-6	3/6/2013	6,254.09	16.68	15.95	0.73	6,237.99
MW-6*	6/25/2013	6,240.01	17.51	16.67	0.84	6,223.17
MW-6	9/24/2013	6,240.01	16.88	16.03	0.85	6,223.81
MW-6	12/5/2013	6,240.01	16.18	15.80	0.38	6,224.13
MW-6	3/20/2014	6,240.01	15.59	15.56	0.03	6,224.44
MW-6	6/16/2014	6,240.01	16.30	16.28	0.02	6,223.73
MW-6	9/10/2014	6,240.01	16.39	NP	NP	6,223.62
MW-6	12/3/2014	6,240.01	16.08	16.07	0.01	6,223.93
MW-7	4/6/2012	6,250.65	UNK	UNK	UNK	UNK
MW-7	6/12/2012	6,250.65	UNK	UNK	UNK	UNK
MW-7	9/27/2012	6,250.65	UNK	UNK	UNK	UNK
MW-7	12/7/2012	6,250.65	UNK	UNK	UNK	UNK
MW-7	3/6/2013	6,250.65	12.61	NP	NP	6,238.04
MW-7*	6/25/2013	6,236.53	13.40	NP	NP	6,223.13
MW-7	9/24/2013	6,236.53	12.71	12.67	0.04	6,223.85
MW-7	12/5/2013	6,236.53	12.34	NP	NP	6,224.19
MW-7	3/20/2014	6,236.53	12.05	NP	NP	6,224.48
MW-7	6/16/2014	6,236.53	12.84	NP	NP	6,223.69
MW-7	9/10/2014	6,236.53	12.89	NP	NP	6,223.64
MW-7	12/3/2014	6,236.53	12.58	NP	NP	6,223.95
MW-8	4/6/2012	6,249.10	UNK	UNK	UNK	UNK
MW-8	6/12/2012	6,249.10	UNK	UNK	UNK	UNK
MW-8	9/27/2012	6,249.10	UNK	UNK	UNK	UNK
MW-8	12/7/2012	6,249.10	UNK	UNK	UNK	UNK
MW-8	3/6/2013	6,249.10	11.88	NP	NP	6,237.22
MW-8*	6/25/2013	6,235.85	12.55	NP	NP	6,223.30
MW-8	9/24/2013	6,235.85	11.84	NP	NP	6,224.01
MW-8	12/5/2013	6,235.85	11.52	NP	NP	6,224.33
MW-8	3/18/2014	6,235.85	11.20	NP	NP	6,224.65
MW-8	6/16/2014	6,235.85	12.04	NP	NP	6,223.81
MW-8	9/10/2014	6,235.85	12.11	NP	NP	6,223.74
MW-8	12/3/2014	6,235.85	11.73	NP	NP	6,224.12
MW-9	4/6/2012	6,243.67	UNK	UNK	UNK	UNK
MW-9	6/12/2012	6,243.67	UNK	UNK	UNK	UNK
MW-9	9/27/2012	6,243.67	UNK	UNK	UNK	UNK
MW-9	12/7/2012	6,243.67	UNK	UNK	UNK	UNK
MW-9	3/6/2013	6,243.67	8.01	NP	NP	6,235.66
MW-9*	6/25/2013	6,229.03	8.67	NP	NP	6,220.36
MW-9	9/24/2013	6,229.03	NM	NM	NM	NM
MW-9	12/5/2013	P/A	P/A	P/A	P/A	P/A
SVE-4"	4/6/2012	6,253.41	UNK	UNK	UNK	UNK
SVE-4"	6/12/2012	6,253.41	UNK	UNK	UNK	UNK
SVE-4"	9/27/2012	6,253.41	UNK	UNK	UNK	UNK
SVE-4"	12/7/2012	6,253.41	UNK	UNK	UNK	UNK

TABLE 1

GROUNDWATER ELEVATION SUMMARY
DOGIE EAST PIT
WILLIAMS FIELD SERVICES, LLC

Well ID	Date	Top of Casing Elevation (feet)	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Adjusted Groundwater Elevation (feet AMSL)
SVE-4"	3/6/2013	6,253.41	15.14	NP	NP	6,238.27
SVE-4"*	6/25/2013	6,239.22	15.60	NP	NP	6,223.62
SVE-4"	9/24/2013	6,239.22	14.83	NP	NP	6,224.39
SVE-4"	12/5/2013	6,239.22	14.56	NP	NP	6,224.66
SVE-4"	3/20/2014	6,239.22	14.19	NP	NP	6,225.03
SVE-4"	6/16/2014	6,239.22	14.99	NP	NP	6,224.23
SVE-4"	9/10/2014	6,239.22	15.05	NP	NP	6,224.17
SVE-4"	12/3/2014	6,239.22	14.71	NP	NP	6,224.51
MW-10	12/5/2013	6,231.08	7.23	NP	NP	6,223.85
MW-10	3/20/2014	6,231.08	6.90	NP	NP	6,224.18
MW-10	6/16/2014	6,231.08	7.77	NP	NP	6,223.31
MW-10	9/10/2014	6,231.08	7.75	NP	NP	6,223.33
MW-10	12/3/2014	6,231.08	7.81	NP	NP	6,223.27
MW-11	12/5/2013	6,232.35	8.24	NP	NP	6,224.11
MW-11	3/20/2014	6,232.35	7.91	NP	NP	6,224.44
MW-11	6/16/2014	6,232.35	8.75	NP	NP	6,223.60
MW-11	9/10/2014	6,232.35	8.75	NP	NP	6,223.60
MW-11	12/3/2014	6,232.35	8.42	NP	NP	6,223.93
MW-12	12/5/2013	6,238.15	14.37	14.36	0.01	6,223.79
MW-12	3/20/2014	6,238.15	14.03	NP	NP	6,224.12
MW-12	6/16/2014	6,238.15	14.77	NP	NP	6,223.38
MW-12	9/10/2014	6,238.15	14.88	NP	NP	6,223.27
MW-12	12/3/2014	6,238.15	14.56	NP	NP	6,223.59
MW-13	12/5/2013	6,237.85	14.18	NP	NP	6,223.67
MW-13	3/20/2014	6,237.85	13.86	NP	NP	6,223.99
MW-13	6/16/2014	6,237.85	14.61	NP	NP	6,223.24
MW-13	9/10/2014	6,237.85	14.69	NP	NP	6,223.16
MW-13	12/3/2014	6,237.85	14.37	NP	NP	6,223.48

Notes:

* Top of casing elevation was resurveyed on 6/19/2013

† Oil-water interface probe did not detect phase separated hydrocarbons. LTE visually observed phase separated hydrocarbons using a bailer.

Groundwater elevation calculation in wells with product: (Top of Casing Elevation - Depth to Water) + (Product Thickness * 0.8)

AMSL - Above Mean Sea Level
BTOC - Below Top of Casing
DEST - well has been destroyed
NM- Not Monitored
NP - No Product
P/A- Plugged and Abandoned
UNK - data is not known

TABLE 2

GROUNDWATER LABORATORY ANALYTICAL RESULTS
DOGIE EAST PIT
WILLIAMS FIELD SERVICES, LLC

Well Name	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standard (µg/L)		**10**	**750**	**750**	**620**
MW-1	6/4/1998	2.8	1.3	<0.5	2.3
MW-1	8/11/1998	<2.5	6.3	<0.5	<1.5
MW-1	12/9/1998	<1	<1	<1	<3
MW-1	2/10/1999	<0.5	<0.5	<0.5	<1.5
MW-1	3/30/2010	NS	NS	NS	NS
MW-1	6/22/2010	NS	NS	NS	NS
MW-1	9/16/2010	NS	NS	NS	NS
MW-1	12/9/2010	<1.0	<1.0	<1.0	<3.0
MW-1	3/10/2011	NS	NS	NS	NS
MW-1	6/15/2011	NS	NS	NS	NS
MW-1	9/13/2011	NS	NS	NS	NS
MW-1	1/6/2012	NS	NS	NS	NS
MW-1	4/6/2012	NS	NS	NS	NS
MW-1	6/12/2012	NS	NS	NS	NS
MW-1	9/27/2012	NS	NS	NS	NS
MW-1	12/7/2012	<1.0	<1.0	<1.0	<3.0
MW-1	3/6/2013	<1.0	<1.0	<1.0	<2.0
MW-2	6/4/1998	1.4	1	1.9	11
MW-2	8/11/1998	**76**	2.4	12	30
MW-2	12/9/1998	**38**	<1	10	4.5
MW-2	2/10/1999	**30**	<0.5	7.1	3.7
MW-2	4/27/1999	**2.9**	<0.5	2.1	3
MW-2	9/21/1999	8.5	0.8	2.2	1.9
MW-2	11/16/1999	**32**	0.8	3.4	7
MW-2	2/15/2000	**57**	1.2	16	2.6
MW-2	5/10/2000	<0.5	<0.5	1	<1.5
MW-2	11/2/2000	**16.8**	<1	2.07	<1
MW-2	2/16/2001	2.97	6.91	<1	<1
MW-2	5/10/2001	3.76	4.46	<1	<1
MW-2	10/31/2001	5.9	<2.0	<2.0	<2.0
MW-2	9/23/2003	7.7	<2.0	<2.0	<5.0
MW-2	12/17/2003	<2.0	<2.0	<2.0	<5.0
MW-2	9/18/2004	7.1	<2.0	<2.0	<5.0
MW-2	3/11/2005	4.6	<2.0	<2.0	<5.0
MW-2	6/16/2005	<2.0	<2.0	<2.0	<5.0
MW-2	9/19/2005	2.2	<2.0	<2.0	<5.0
MW-2	12/1/2005	<2.0	<2.0	<2.0	<5.0

TABLE 2

GROUNDWATER LABORATORY ANALYTICAL RESULTS
DOGIE EAST PIT
WILLIAMS FIELD SERVICES, LLC

Well Name	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standard (µg/L)		**10**	**750**	**750**	**620**
MW-2	2/27/2006	<1.0	<1.0	<1.0	<3.0
MW-2	7/14/2006	<1.0	<1.0	<1.0	<3.0
MW-2	10/6/2006	1.7	<1.0	<1.0	<3.0
MW-2	12/12/2006	<1.0	<1.0	<1.0	<3.0
MW-2	3/30/2010	<1.0	<1.0	<1.0	<3.0
MW-2	6/22/2010	<1.0	<1.0	<1.0	<3.0
MW-2	9/16/2010	<1.0	<1.0	<1.0	<3.0
MW-2	12/9/2010	<1.0	<1.0	<1.0	<3.0
MW-2	3/10/2011	<1.0	<1.0	<1.0	<3.0
MW-2	6/15/2011	<1.0	<1.0	<1.0	<3.0
MW-2	9/13/2011	<1.0	<1.0	<1.0	<3.0
MW-2	1/6/2012	<1.0	<1.0	<1.0	<3.0
MW-2	4/6/2012	<1.0	<1.0	<1.0	<3.0
MW-2	6/12/2012	<1.0	<1.0	<1.0	<3.0
MW-2	9/27/2012	<1.0	<1.0	<1.0	<3.0
MW-2	12/7/2012	<1.0	<1.0	<1.0	<3.0
MW-2	3/6/2013	<1.0	<1.0	<1.0	<2.0
MW-3	6/4/1998	**470**	**3,800**	680	**6,200**
MW-3	8/11/1998	**500**	**5,200**	730	**5,550**
MW-3	12/9/1998	**90**	350	540	**4,240**
MW-3	2/10/1999	**130**	**810**	610	**4,830**
MW-3	4/27/1999	**220**	**1,300**	520	**4,140**
MW-3	9/21/1999	**110**	**920**	470	**2,930**
MW-3	11/16/1999	**180**	**1,600**	440	**2,620**
MW-3	2/15/2000	**120**	**1,900**	640	**5,120**
MW-3	5/10/2000	**140**	**1,500**	370	**3,650**
MW-3	11/3/2000	**277**	**3,270**	552	**4,350**
MW-3	2/16/2001	**148**	**2,470**	328	**2,580**
MW-3	5/10/2001	**205**	3,080	593	**5,820**
MW-3	9/23/2003	**230**	530	19	**1,600**
MW-3	12/17/2003	**260**	290	24	**800**
MW-3	9/18/2004	**170**	**990**	530	**2,300**
MW-3	12/7/2004	**130**	400	530	**2,500**
MW-3	3/11/2005	**130**	12	200	540
MW-3	6/16/2005	**330**	**770**	**2,300**	**3,900**
MW-3	9/19/2005	**160**	<1.0	470	**1,500**
MW-3	12/1/2005	**106**	270	**1,140**	**3,260**

TABLE 2

GROUNDWATER LABORATORY ANALYTICAL RESULTS
DOGIE EAST PIT
WILLIAMS FIELD SERVICES, LLC

Well Name	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standard (µg/L)		**10**	**750**	**750**	**620**
MW-3	2/27/2006	**36.3**	21.1	234	**1,010**
MW-3	10/6/2006	1.5	<1.0	11	36
MW-3	12/12/2006	**14.2**	**43.3**	**230**	**725**
MW-3	3/30/2010	8.2	1.5	141	401
MW-3	6/22/2010	6.1	4.1	30.9	100
MW-3	9/16/2010	**12.2**	7	15.3	40
MW-3	12/9/2010	1	2.3	13.1	28.9
MW-3	3/10/2011	**18.9**	20.7	213	529
MW-3	6/15/2011	4.5	34.4	118	345
MW-3	9/13/2011	**13.9**	1.9	220	459
MW-3	1/6/2012	6.6	<2.0	148	333
MW-3	4/6/2012	5.0	98.3	4.4	255
MW-3	6/12/2012	4.8	122	13.4	344
MW-3	9/27/2012	**11.7**	248	12.0	**867**
MW-3	12/7/2012	**11.4**	403	16.4	**1,250**
MW-3	3/6/2013	<5.0	6.1	21	88
MW-3	6/25/2013	4.7	64	120	460
MW-3	9/24/2013	<5.0	<5.0	30	82
MW-3	12/5/2013	<5.0	<5.0	42	170
MW-3	3/18/2014	<2.0	12	82	**700**
MW-3	6/16/2014	3.6	92	140	**880**
MW-3	9/10/2014	<1.0	59	150	**830**
MW-3	12/3/2014	<1.0	34	220	**890**
MW-4	6/4/1998	**3,400**	**3,600**	110	**910**
MW-4	8/11/1998	**320**	**1,600**	60	**680**
MW-4	12/9/1998	**7,400**	**12,000**	130	**3,260**
MW-4	2/10/1999	**2,700**	**4,400**	120	**1,360**
MW-4	4/27/1999	**5,100**	**6,200**	130	**1,600**
MW-4	9/21/1999	**3,200**	**3,800**	130	**1,340**
MW-4	2/15/2000	**320**	540	26	314
MW-4	5/10/2000	**4,300**	**2,300**	130	**1,270**
MW-4	11/2/2000	**257**	332	19.0	196
MW-4	2/16/2001	**54**	17.8	1.01	19.8
MW-4	5/10/2001	**2,660**	**2,130**	34.6	**792**
MW-4	10/31/2001	**210**	420	10	260
MW-4	9/23/2003	**23**	6	130	59
MW-4	12/17/2003	<2.0	<2.0	<2.0	5.1

TABLE 2

GROUNDWATER LABORATORY ANALYTICAL RESULTS
DOGIE EAST PIT
WILLIAMS FIELD SERVICES, LLC

Well Name	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standard (µg/L)		**10**	**750**	**750**	**620**
MW-4	11/16/2004	**3,200**	**1,100**	<10	**520**
MW-4	9/18/2004	**80**	170	6.7	66
MW-4	3/11/2005	<2.0	2.8	<2.0	10
MW-4	6/16/2005	**310**	<100	130	550
MW-4	2/27/2006	**16.7**	11.2	5.1	70.3
MW-4	3/30/2010	NS	NS	NS	NS
MW-4	6/22/2010	NS	NS	NS	NS
MW-4	9/16/2010	NS	NS	NS	NS
MW-4	12/9/2010	NS	NS	NS	NS
MW-4	3/10/2011	NS	NS	NS	NS
MW-4	6/15/2011	NS	NS	NS	NS
MW-4	9/13/2011	NS	NS	NS	NS
MW-4	1/6/2012	NS	NS	NS	NS
MW-4	4/6/2012	<1.0	<1.0	<1.0	<3.0
MW-4	6/12/2012	DEST	DEST	DEST	DEST
MW-5	12/9/1998	**<20**	**2,300**	300	**2,720**
MW-5	2/10/1999	<5	**860**	150	**1,170**
MW-5	4/27/1999	<10	**1,000**	130	**1,150**
MW-5	9/21/1999	3.2	450	97	**780**
MW-5	11/16/1999	5.3	**1,200**	170	**1,520**
MW-5	2/15/2000	<5	**280**	56	**462**
MW-5	5/10/2000	5.8	**1,400**	220	**1,860**
MW-5	11/2/2000	**30.9**	92.2	37.3	225
MW-5	2/16/2001	**39.4**	210	83.0	509
MW-5	5/10/2001	<1	439	218	**1,180**
MW-5	10/31/2001	<1.0	16	44	110
MW-5	9/23/2003	2.2	4	17	10
MW-5	12/17/2003	<10	130	64	370
MW-5	9/18/2004	<10	51	48	250
MW-5	12/7/2004	<2.0	20	17	180
MW-5	3/11/2005	**12**	41	43	140
MW-5	6/16/2005	**<100**	180	270	**1,000**
MW-5	9/19/2005	<1.0	400	170	**1,700**
MW-5	12/1/2005	**12.6**	176	187	**961**
MW-5	2/27/2006	<1.0	23	78	346
MW-5	7/14/2006	<5.0	52.3	110	**403**
MW-5	7/16/2006	<1.0	<1.0	11.4	79

TABLE 2

GROUNDWATER LABORATORY ANALYTICAL RESULTS
DOGIE EAST PIT
WILLIAMS FIELD SERVICES, LLC

Well Name	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standard (µg/L)		**10**	**750**	**750**	**620**
MW-5	3/30/2010	<1.0	5.1	21.1	84.5
MW-5	6/22/2010	1.0	9.4	99.4	270
MW-5	9/16/2010	NS	NS	NS	NS
MW-5	12/9/2010	NS	NS	NS	NS
MW-5	3/10/2011	NS	NS	NS	NS
MW-5	6/15/2011	NS	NS	NS	NS
MW-5	9/13/2011	NS	NS	NS	NS
MW-5	1/6/2012	NS	NS	NS	NS
MW-5	4/6/2012	NS	NS	NS	NS
MW-5	6/12/2012	NS	NS	NS	NS
MW-5	9/27/2012	NS	NS	NS	NS
MW-5	12/7/2012	<1.0	14.2	1.3	49.7
MW-5	3/6/2013	<5.0	<5.0	77	290
MW-5	6/25/2013	**21**	28	71	270
MW-5	9/24/2013	<5.0	9.1	44	210
MW-5	12/5/2013	<5.0	11	44	170
MW-5	3/18/2014	<5.0	16	47	210
MW-5	6/16/2014	**12**	34	110	460
MW-5	9/10/2014	<2.0	2.5	7.4	29
MW-5	12/3/2014	NS-FP	NS-FP	NS-FP	NS-FP
MW-6	2/10/1999	**29**	<0.5	7	**4.6**
MW-6	9/21/1999	**690**	330	240	**1,930**
MW-6	11/16/1999	**370**	48	130	**694**
MW-6	2/15/2000	**10**	0.6	5.7	**22.7**
MW-6	5/10/2000	**390**	2.6	25	**400.0**
MW-6	11/3/2000	**2,570**	109	226	**1,690**
MW-6	2/16/2001	**171**	11.0	12.5	**33.5**
MW-6	5/10/2001	**506**	23.2	122	**384**
MW-6	10/31/2001	**1,900**	120	160	**480**
MW-6	12/12/2006	**281**	727	152	**1,350**
MW-6	3/30/2010	**1,160**	46.1	487	**2,530**
MW-6	6/22/2010	**3,430**	102	460	**3,410**
MW-6	9/16/2010	**2,940**	144	370	**2,760**
MW-6	12/9/2010	**2,580**	<20	457	**2,270**
MW-6	3/10/2011	**1,450**	<20	369	**1,800**
MW-6	6/15/2011	**726**	<1	108	380
MW-6	9/13/2011	NS	NS	NS	NS

TABLE 2

GROUNDWATER LABORATORY ANALYTICAL RESULTS
DOGIE EAST PIT
WILLIAMS FIELD SERVICES, LLC

Well Name	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standard (µg/L)		**10**	**750**	**750**	**620**
MW-6	1/6/2012	NS	NS	NS	NS
MW-6	4/6/2012	NS	NS	NS	NS
MW-6	6/12/2012	NS	NS	NS	NS
MW-6	9/27/2012	NS	NS	NS	NS
MW-6	12/7/2012	NS	NS	NS	NS
MW-6	3/6/2013	NS-FP	NS-FP	NS-FP	NS-FP
MW-6	6/25/2013	NS-FP	NS-FP	NS-FP	NS-FP
MW-6	9/24/2013	NS-FP	NS-FP	NS-FP	NS-FP
MW-6	12/5/2013	NS-FP	NS-FP	NS-FP	NS-FP
MW-6	3/18/2014	NS-FP	NS-FP	NS-FP	NS-FP
MW-6	6/16/2014	NS-FP	NS-FP	NS-FP	NS-FP
MW-6	9/10/2014	**2,100**	110	**850**	**8,700**
MW-6	12/3/2014	NS-FP	NS-FP	NS-FP	NS-FP
MW-7	9/21/1999	**280**	**1,200**	78	**700**
MW-7	11/16/1999	**270**	380	37	**261**
MW-7	2/15/2000	**64**	18	10	24.4
MW-7	5/10/2000	**95**	26	12	50.4
MW-7	11/3/2000	2.62	<1	<1	<1
MW-7	2/22/2001	**13.0**	1.16	1.40	2.97
MW-7	5/10/2001	**23.4**	<1	2.63	3.74
MW-7	10/31/2001	6.2	<2.0	<2.0	<2.0
MW-7	9/23/2003	5.4	<2.0	<2.0	<5.0
MW-7	12/17/2003	**28**	<2.0	<2.0	<5.0
MW-7	9/18/2004	**100**	18	6.1	29
MW-7	12/7/2004	**35**	11	<2.0	7.3
MW-7	3/11/2005	**40**	<2.0	<2.0	<5.0
MW-7	6/16/2005	**27**	<2.0	<2.0	<5.0
MW-7	9/19/2005	**110**	21	9.0	43
MW-7	12/1/2005	**22.6**	<2.0	<2.0	<5.0
MW-7	2/27/2006	**55.2**	<1.0	<1.0	<3.0
MW-7	7/14/2006	<1.0	<1.0	<1.0	<3.0
MW-7	10/6/2006	**460**	<5.0	8.3	<15.0
MW-7	12/12/2006	**202**	<1.0	1.3	<3.0
MW-7	3/30/2010	**137**	<1.0	<1.0	<3.0
MW-7	6/22/2010	**131**	<1.0	<1.0	<3.0
MW-7	9/16/2010	**47.7**	<1.0	<1.0	<3.0
MW-7	12/9/2010	**20.9**	<1.0	<1.0	<3.0

TABLE 2

GROUNDWATER LABORATORY ANALYTICAL RESULTS
DOGIE EAST PIT
WILLIAMS FIELD SERVICES, LLC

Well Name	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standard (µg/L)		**10**	**750**	**750**	**620**
MW-7	3/10/2011	**73.7**	<1.0	<1.0	<3.0
MW-7	6/15/2011	**72.6**	<1.0	<1.0	<3.0
MW-7	9/13/2011	**13**	<1.0	<1.0	<3.0
MW-7	1/6/2012	**27.7**	2.2	<1.0	<3.0
MW-7	4/6/2012	**88.8**	3.7	<1.0	4.4
MW-7	6/12/2012	**22.0**	<1.0	4.1	<3.0
MW-7	9/27/2012	**37.7**	2.5	21.0	11.8
MW-7	12/7/2012	**64.0**	3.4	12.6	18.2
MW-7	3/6/2013	**110**	**770**	67	**1,200**
MW-7	6/25/2013	**95**	180	28	510
MW-7	9/24/2013	NS-FP	NS-FP	NS-FP	NS-FP
MW-7	12/5/2013	**170**	730	300	**2,300**
MW-7	9/10/2014	**86**	190	140	**740**
MW-8	9/21/1999	0.5	1	0.8	<1.5
MW-8	2/15/2000	0.6	1.4	0.6	<1.5
MW-8	5/10/2000	<0.5	0.6	<0.5	<1.5
MW-8	11/2/2000	<1	<1	<1	<1
MW-8	11/16/2004	<0.5	0.6	0.5	<1.5
MW-8	2/16/2001	<1	<1	<1	<1
MW-8	5/10/2001	<1	<1	<1	<1
MW-8	10/31/2001	<1.0	<2.0	<2.0	<2.0
MW-8	9/23/2003	<2.0	<2.0	<2.0	<5.0
MW-8	12/17/2003	<2.0	<2.0	<2.0	<5.0
MW-8	9/18/2004	<2.0	<2.0	<2.0	<5.0
MW-8	12/7/2004	<2.0	<2.0	<2.0	<5.0
MW-8	3/11/2005	<2.0	<2.0	<2.0	<5.0
MW-8	6/16/2005	<2.0	<2.0	<2.0	<5.0
MW-8	9/19/2005	<2.0	<2.0	<2.0	<5.0
MW-8	12/1/2005	<2.0	<2.0	<2.0	<5.0
MW-8	2/27/2006	<1.0	<1.0	<1.0	<3.0
MW-8	7/14/2006	<1.0	<1.0	<1.0	<3.0
MW-8	3/30/2010	NS	NS	NS	NS
MW-8	6/22/2010	NS	NS	NS	NS
MW-8	9/16/2010	NS	NS	NS	NS
MW-8	12/9/2010	NS	NS	NS	NS
MW-8	3/10/2011	NS	NS	NS	NS
MW-8	6/15/2011	NS	NS	NS	NS

TABLE 2

GROUNDWATER LABORATORY ANALYTICAL RESULTS
DOGIE EAST PIT
WILLIAMS FIELD SERVICES, LLC

Well Name	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standard (µg/L)		**10**	**750**	**750**	**620**
MW-8	9/13/2011	NS	NS	NS	NS
MW-8	1/6/2012	NS	NS	NS	NS
MW-8	4/6/2012	NS	NS	NS	NS
MW-8	6/12/2012	NS	NS	NS	NS
MW-8	9/27/2012	NS	NS	NS	NS
MW-8	12/7/2012	NS	NS	NS	NS
MW-8	3/6/2013	<2.0	<2.0	<2.0	<4.0
MW-8	6/25/2013	<2.0	<2.0	<2.0	<4.0
MW-9	9/21/1999	3.7	550	110	**920**
MW-9	2/15/2000	0.5	1.4	0.6	<1.3
MW-9	5/10/2000	<0.5	1.2	<0.5	<1.5
MW-9	9/23/2003	<2.0	<2.0	<2.0	<5.0
MW-9	12/17/2003	<2.0	<2.0	<2.0	<5.0
MW-9	6/16/2005	<2.0	<2.0	<2.0	<5.0
MW-9	7/14/2006	<1.0	<1.0	<1.0	<3.0
MW-9	12/12/2006	<1.0	<1.0	<1.0	<3.0
MW-9	3/30/2010	<1.0	<1.0	<1.0	<3.0
MW-9	6/22/2010	<1.0	<1.0	<1.0	<3.0
MW-9	9/16/2010	<1.0	<1.0	<1.0	<3.0
MW-9	12/9/2010	<1.0	<1.0	<1.0	<3.0
MW-9	3/10/2011	<1.0	<1.0	<1.0	<3.0
MW-9	6/15/2011	<1.0	<1.0	<1.0	<3.0
MW-9	9/13/2011	<1.0	<1.0	<1.0	<3.0
MW-9	1/6/2012	<1.0	<1.0	<1.0	<3.0
MW-9	4/6/2012	<1.0	<1.0	<1.0	<3.0
MW-9	6/12/2012	<1.0	<1.0	<1.0	<3.0
MW-9	9/27/2012	<1.0	<1.0	<1.0	<3.0
MW-9	12/7/2012	<1.0	<1.0	<1.0	<3.0
MW-9	3/6/2013	<2.0	<2.0	<2.0	<4.0
SVE-4"	9/23/2003	<2.0	<2.0	<2.0	<5.0
SVE-4"	12/17/2003	<2.0	<2.0	<2.0	<5.0
SVE-4"	9/18/2004	<2.0	<2.0	<2.0	<5.0

TABLE 2

GROUNDWATER LABORATORY ANALYTICAL RESULTS
DOGIE EAST PIT
WILLIAMS FIELD SERVICES, LLC

Well Name	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standard (µg/L)		**10**	**750**	**750**	**620**
SVE-4"	12/7/2004	<2.0	<2.0	<2.0	<5.0
SVE-4"	3/11/2005	<2.0	<2.0	<2.0	<5.0
SVE-4"	6/16/2005	5.6	<2.0	<2.0	<5.0
SVE-4"	9/19/2005	<2.0	<2.0	<2.0	<5.0
SVE-4"	12/1/2005	<2.0	2.8	<2.0	<5.0
SVE-4"	3/30/2010	NS	NS	NS	NS
SVE-4"	6/22/2010	NS	NS	NS	NS
SVE-4"	9/16/2010	<1.0	<1.0	<1.0	<3.0
SVE-4"	12/9/2010	<1.0	<1.0	<1.0	<3.0
SVE-4"	3/10/2011	<1.0	<1.0	<1.0	<3.0
SVE-4"	6/15/2011	<1.0	<1.0	<1.0	<3.0
SVE-4"	9/13/2011	<1.0	<1.0	<1.0	<3.0
SVE-4"	1/6/2012	<1.0	<1.0	<1.0	<3.0
SVE-4"	4/6/2012	NS	NS	NS	NS
SVE-4"	6/12/2012	<1.0	<1.0	<1.0	<3.0
SVE-4"	9/27/2012	<1.0	<1.0	<1.0	<3.0
SVE-4"	12/7/2012	NS	NS	NS	NS
SVE-4"	3/6/2013	<1.0	<1.0	<1.0	<2.0
MW-10	12/5/2013	<5.0	<5.0	<5.0	<10
MW-10	9/10/2014	<1.0	<1.0	<1.0	<2.0
MW-11	12/5/2013	**510**	32	570	**2,400**
MW-11	9/10/2014	9.2	<5.0	29	180
MW-12	12/5/2013	NS-FP	NS-FP	NS-FP	NS-FP
MW-12	9/10/2014	**740**	360	46	200
MW-13	12/5/2013	<1.0	<1.0	<1.0	<2.0
MW-13	9/10/2014	<1.0	<1.0	<1.0	<2.0

Notes:
Bold - indicates sample exceeds NMWQCC standard
< - indicates result is less than laboratory reporting detection limit
µg/L - micrograms per liter
DEST - well has been destroyed
NS - not sampled
NS-FP - not sampled due to the presence of free phase hydrocarbons in the well

APPENDIX A

2014 QUARTERLY FIELD FORMS

Water Sample Collection Form

Sample Location	Dogie	Client	Williams Field Services
Sample Date	3/18/2014	Project Name	San Juan Basin Remediation
Sample Time	1150	Project #	034013010
Sample ID	MW-3	Sampler	Daniel Newman
Analyses	BTEX 8021		
Matrix	Groundwater	Laboratory	Hall Environmental
Turn Around Time	Standard	Shipping Method	Hand delivery
Depth to Water	14.03	TD of Well	19.79
Time	1130	Depth to Product	N/A
Vol. of H2O to purge	19.79 - 14.03 = 5.76 x 0.1631 = 0.939 x 3 = 2.81		

*(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	PP-b
1130	0.25	0.25	7.22	50.4	4.58	Slight HC odor, Black sed./clay s	228
	0.25	0.50	7.16	51.1	4.44	No change	2.21
	0.25	.75	6.98	51.1	4.37	No change	2.17
	0.25	1.00	7.11	51.3	4.12	NO change	2.07
	0.25	1.25	7.08	50.9	4.15	NO change	2.06
	0.25	1.50	7.20	51.3	4.07	NO change	2.01
	0.25	1.75	7.18	51.1	3.96	Slight HC odor, Black sed./clay, sheen	1.97
	0.25	2.00	7.17	51.3	3.81	No change	1.89
	0.25	2.25	7.22	51.6	3.78	No change	1.81
	0.25	2.50	7.20	51.4	3.79	NO change	1.85
	0.25	2.75	7.19	51.3	3.70	NO change	1.80
1150	0.25	3.00	7.23	51.2	3.75	NO change	1.89

Comments: Sampled @ 1150
- Dump purged H_2O on site @ Produced H_2O pit

Describe Deviations from SOP: N/A

Signature: _____ **Date:** 3/18/14

LTE

Water Sample Collection Form

Sample Location	Dogie	Client	Williams Field Services
Sample Date	3/18/2014	Project Name	San Juan Basin Remediation
Sample Time	1250	Project #	034013010
Sample ID	MW-5	Sampler	Daniel Newman
Analyses	BTEX 8021		
Matrix	Groundwater	Laboratory	Hall Environmental
Turn Around Time	Standard	Shipping Method	Hand delivery
Depth to Water	13.63	TD of Well	18.15
Time	1230	Depth to Product	N/A
Vol. of H2O to purge	18.15 - 13.63 = 4.53 x 0.1631 = 0.737212 x 3 = 2.21		

*(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	PPE
1230	0.25	0.25	7.49	50.7	4.10	Black, sediment, cloudy	2.03
	0.25	0.50	7.30	50.2	3.97	NO change	1.97
	0.25	0.75	7.46	50.2	4.00	Black, sediment, cloudy, slight HC	2.01
	0.25	1.00	7.49	50.2	4.06	no change	2.04
	0.25	1.25	6.74	50.3	4.08	NO change	2.02
	0.25	1.50	7.11	50.2	4.16	NO change	2.08
	0.25	1.75	7.28	50.4	4.11	NO change	2.05
	0.25	2.00	7.31	50.4	4.05	NO change	2.00
1250	0.25	2.25	7.32	50.4	4.10	NO change	2.06

Comments: Sample @ 1250

Dump Purged H2O @ Produced water Pit on site

Describe Deviations from SOP: N/A

Signature: _____ **Date:** 3/18/14

LTE

Water Sample Collection Form

Sample Location	Dogie CS	Client	Williams Field Services
Sample Date	6/16/14	Project Name	San Juan Basin Remediation
Sample Time	1545	Project #	034013010
Sample ID	MW-3	Sampler	Brooke Herb
Analyses	BTEX 8021		
Matrix	Groundwater	Laboratory	Hall Environmental
Turn Around Time	Standard	Shipping Method	Hand delivery
Depth to Water	14.67	TD of Well	19.79
Time	1515	Depth to Product	NA

Vol. of H2O to purge: 5.12 x .1631 = 0.835 x 3 = 2.50

*(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. (~~oF~~)	Conductivity (us or ~~ms~~)	Comments
1515	0.25	0.25	7.07	61.5	5.86	Black Strong H2S odor wht Bugs
	0.25	0.50	7.12	58.3	5.73	no change
	0.25	0.75	7.11	56.7	5.74	" "
	0.25	1.00	7.12	56.5	5.41	" "
	.50	1.50	7.21	56.7	5.19	" "
	.25	1.75	7.21	56.5	5.10	" "
	.25	2.00	7.20	56.5	5.00	" "
	.25	2.25	7.21	56.3	4.98	
	.25	2.50	7.22	56.3	4.98	

Comments:

Describe Deviations from SOP: NA

Signature: BH **Date:** 6/16/14

LTE

Water Sample Collection Form

Sample Location	Dogie Compressor Stn	Client	Williams Field Services
Sample Date	6/16/14	Project Name	San Juan Basin Remediation
Sample Time	1610	Project #	034013010
Sample ID	MW-5	Sampler	Brooke Herb
Analyses	BTEX 8021		
Matrix	Groundwater	Laboratory	Hall Environmental
Turn Around Time	Standard	Shipping Method	Hand delivery
Depth to Water	14.39	TD of Well	18.15
Time	1550	Depth to Product	

Vol. of H2O to purge: 3.76 x .1631 = 0.61 x 3 = 1.83

*(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
1550	0.25	0.25	7.55	58.1	5.08	Grayish Clear - Strong HC odor minor silt
	0.25	0.50	7.44	55.0	5.16	Slight sheen more silt
	0.25	0.75	7.42	54.7	5.14	no change
	0.25	1.00	7.41	54.0	5.21	" "
	0.25	1.25	7.36	54.9	5.17	" "
	0.25	1.50	7.39	54.0	5.10	" "
	0.25	1.75	7.40	54.5	5.11	" "
	0.25	2.00	7.39	54.5	5.12	" "

Comments:

Describe Deviations from SOP: NA

Signature: [signature] **Date:** 6/16/14

LTE

Water Sample Collection Form

Sample Location	Dogie	Client	Williams Field Services
Sample Date	9/10/2014	Project Name	San Juan Basin Remediation
Sample Time	1200	Project #	034013010
Sample ID	MW-5	Sampler	Alex Crooks
Analyses	BTEX 8021		
Matrix	Groundwater	Laboratory	Hall Environmental
Turn Around Time	Standard	Shipping Method	Hand delivery
Depth to Water	14.61	TD of Well	18.15
Time	1142	Depth to Product	N/A

Vol. of H2O to purge: 18.15 - 14.61 = 3.54 x .1631 = .58 x 3 = 1.73

*(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
1142	.25	.25	7.40	63.5	1.82	Slight Black, Cloudy, odor
1151	.75	1.00	7.43	60.3	2.02	
1158	.75	1.75	7.41	61.7	1.98	
1200						Took Sample

Comments:

Describe Deviations from SOP: N/A

Signature: Alex Crooks **Date:** 9/10/14

Water Sample Collection Form

Sample Location	Dogie	Client	Williams Field Services
Sample Date	9/10/2014	Project Name	San Juan Basin Remediation
Sample Time	1520	Project #	034013010
Sample ID	MW-6	Sampler	Alex Crooks
Analyses	BTEX 8021		
Matrix	Groundwater	Laboratory	Hall Environmental
Turn Around Time	Standard	Shipping Method	Hand delivery
Depth to Water	16.39	TD of Well	22.60
Time	1500	Depth to Product	N/A

Vol. of H2O to purge: 22.60 - 16.39 = 6.21 x .1631 = 1.01 x 3 = 3.04

*(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
1502	.25	.25	7.45	64.8	1.02	Clear, cloudy, Slight odor
1505	.75	1.00	7.40	62.2	1.42	light gray, cloudy, odor
1508	.75	1.75	7.42	61.0	1.44	no change
1512	.75	2.50	7.43	59.8	1.40	No change
1515	.75	3.25	7.44	59.5	1.41	no change
1520						Took Samples

Comments: Slight Sheen Seen on purge water - Did not hear product from sounder Added Sock to Well

Describe Deviations from SOP: N/A

Signature: Alex Crooks **Date:** 09/10/14

Water Sample Collection Form

Sample Location	Dogie	Client	Williams Field Services
Sample Date	9/10/2014	Project Name	San Juan Basin Remediation
Sample Time	1240	Project #	034013010
Sample ID	MW-7	Sampler	Alex Crooks
Analyses	BTEX 8021		
Matrix	Groundwater	Laboratory	Hall Environmental
Turn Around Time	Standard	Shipping Method	Hand delivery
Depth to Water	~~20~~ 12.89	TD of Well	20.62
Time	1215	Depth to Product	N/A

Vol. of H2O to purge: 20.62 - 12.89 = 7.73 x .1631 = 1.26 x 3 = 3.78

*(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
1215	.25	.25	7.37	64.4	2.50	Clear, Slight cloud., Slight odor
1223	.75	1.00	7.39	60.1	2.39	Light Gray, Slight cloudy, Odor
1226	.75	1.75	7.42	59.5	2.41	No Change
1230	.75	2.50	7.43	58.8	2.45	No Change
1234	.75	3.25	7.42	59.2	2.38	No Change
1237	.75	4.00	7.45	58.3	2.43	No Change
1240						Took Sample

Comments: Took Sample @ 1240

Describe Deviations from SOP: NA

Signature: Alex Crooks **Date:** 9/10/14

Water Sample Collection Form

Sample Location	Dogie	Client	Williams Field Services
Sample Date	9/10/2014	Project Name	San Juan Basin Remediation
Sample Time	1400	Project #	034013010
Sample ID	MW-10	Sampler	Alex Crooks
Analyses	BTEX 8021		
Matrix	Groundwater	Laboratory	Hall Environmental
Turn Around Time	Standard	Shipping Method	Hand delivery
Depth to Water	7.75	TD of Well	14.95
Time	1325	Depth to Product	N/A

Vol. of H2O to purge: 14.95 - 7.75 = 7.2 x .1631 = 1.17 X 3 = 3.52

*(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
1330	.25	.25	7.67	71.1	2.15	Black, Cloudy, odor
1335	.75	1.00	7.61	69.3	2.08	No change
1339	.75	1.75	7.59	68.8	2.08	No Change
1345	.75	2.50	7.60	67.5	2.10	No Change
1348	.75	3.25	7.61	68.1	2.09	No Change
1352	.50	3.75	7.58	67.9	2.11	No change
1400						Took Sample

Comments:

Describe Deviations from SOP: N/A

Signature: Alex Crooks **Date:** 09/10/14

Water Sample Collection Form

Sample Location	Dogie	Client	Williams Field Services
Sample Date	9/10/2014	Project Name	San Juan Basin Remediation
Sample Time	1320	Project #	034013010
Sample ID	MW-11	Sampler	Alex Crooks
Analyses	BTEX 8021		
Matrix	Groundwater	Laboratory	Hall Environmental
Turn Around Time	Standard	Shipping Method	Hand delivery
Depth to Water	8.75	TD of Well	15.30
Time	1255	Depth to Product	N/A

Vol. of H2O to purge: 15.30 - 8.75 = 6.55 x .1631 = 1.07 x 3 = 3.20

*(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
1255	.25	.25	7.44	67.8	.161	light gray, cloudy, odor
1257	.75	1.00	7.62	64.0	1.46	Brown, cloudy, Strong odor
1305	.75	1.75	7.74	63.7	1.45	No change
1308	.75	2.50	7.65	62.9	1.55	No Change
1313	.75	3.25	7.78	62.5	1.703	No Change
1320						Took Sample

Comments:

Describe Deviations from SOP: N/A

Signature: Alex Crooks **Date:** 9/10/14

Water Sample Collection Form

Sample Location	Dogie	Client	Williams Field Services
Sample Date	9/10/2014	Project Name	San Juan Basin Remediation
Sample Time	1455	Project #	034013010
Sample ID	MW-12	Sampler	Alex Crooks
Analyses	BTEX 8021		
Matrix	Groundwater	Laboratory	Hall Environmental
Turn Around Time	Standard	Shipping Method	Hand delivery
Depth to Water	14.88	TD of Well	19.18
Time	1435	Depth to Product	N/A

Vol. of H2O to purge: 19.18 − 14.88 = 4.3 × .1631 = .70 × 3 = 2.10

*(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
1438	.25	.25	7.91	67.5	2.05	Black, cloudy, odor
1442	.50	.75	7.82	65.5	1.76	No Change
1446	.50	1.25	7.78	64.8	1.74	No change
1449	.50	1.75	7.76	63.9	1.76	No Change
1453	.50	2.25	7.78	63.9	1.73	No Change
1455						Took Sample

Comments:

Describe Deviations from SOP: N/A

Signature: Alex Crooks **Date:** 9/10/14

Water Sample Collection Form

Sample Location	Dogie	Client	Williams Field Services
Sample Date	9/10/2014	Project Name	San Juan Basin Remediation
Sample Time	1425	Project #	034013010
Sample ID	MW-13	Sampler	Alex Crooks
Analyses	BTEX 8021		
Matrix	Groundwater	Laboratory	Hall Environmental
Turn Around Time	Standard	Shipping Method	Hand delivery
Depth to Water	14.69	TD of Well	18.64
Time	1405	Depth to Product	
Vol. of H2O to purge	18.64 - 14.69 = 3.95 x .1631 = .64 x 3 = 1.93		

*(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
1408	.25	.25	7.76	68.4	2.73	Clear, Cloudy, Slight odor
1415	.75	1.00	7.77	64.0	2.71	No Change
1417	.75	1.75	7.77	63.5	2.72	No Change
1421	.25	2.00	7.78	63.2	2.75	No Change
1425						Took Sample

Comments: Has no preservative.

Describe Deviations from SOP: N/A

Signature: Alex Crooks **Date:** 9/10/14

Water Sample Collection Form

Sample Location	Dogie Compressor Station	Client	Williams Field Services
Sample Date	12/3/14	Project Name	San Juan Basin Remediation
Sample Time	910	Project #	034013010
Sample ID	MW-3	Sampler	Daniel Newman
Analyses	BTEX 8021		
Matrix	Groundwater	Laboratory	Hall Environmental
Turn Around Time	Standard	Shipping Method	Christine
Depth to Water	14.50	TD of Well	19.79
Time	925	Depth to Product	N/A

Vol. of H2O to purge: 19.79 - 14.50 = 5.29 x 0.1631 = 0.86273 2.58

*(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
	0.25	0.25	7.83	57.6	2.46	Black sed. strong odor, No sheen
	0.25	0.50	6.14	58.3	2.49	No change
	0.25	0.75	6.38	58.8	2.34	No change
	0.25	1.00	6.39	59.0	2.20	No change
	0.50	1.50	6.87	58.6	2.04	No change
	0.50	2.00	6.98	58.3	1.96	No change
	0.25	2.25	7.13	58.6	1.89	No change
	0.25	2.50	7.12	58.6	1.90	No change
	0.25	2.75	7.13	58.6	1.91	No change

12/3/14

Comments: 3 HCL VOA's

Purged 2.75 gallons

Decon Equipment

Describe Deviations from SOP: N/A

Signature: _____ **Date:** 12/3/14

LTE

Water Sample Collection Form

Sample Location	Dogie Compressor Station	Client	Williams Field Services
Sample Date	12/31/14	Project Name	San Juan Basin Remediation
Sample Time	N/A	Project #	034013010
Sample ID	MW-5	Sampler	Daniel Newman
Analyses	BTEX 8021		
Matrix	Groundwater	Laboratory	Hall Environmental
Turn Around Time	Standard	Shipping Method	Christine
Depth to Water	14.15	TD of Well	18.15
Time	1005	Depth to Product	Not detected by interface probe PSH observed in bailer

Vol. of H2O to purge: 18.15 - 14.15 = 4.00 x 0.1631 = .6524 x 3 = 1.95

*(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) (C)	Conductivity (us or ms)	Comments
1005	0.25	0.25	7.19	55.4	2.15	Sheen, Black, slight odor
	0.15	0.40				Free Phase Product

12/31/14

Comments: Free Phase Product on water, did not sample
Add Sock to well
~~Bail 0.25oz product~~
Bail 0.15oz product

Describe Deviations from SOP: N/A

Signature: _____ **Date:** 12/31/14

APPENDIX B

ANALYTICAL LABORATORY REPORTS

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

March 26, 2014

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

RE: San Juan Basin Remediation Dogie Compressor Station OrderNo.: 1403803

Dear Ashley Ager:

Hall Environmental Analysis Laboratory received 3 sample(s) on 3/19/2014 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1403803**
Date Reported: **3/26/2014**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Client Sample ID: MW-3
Project: San Juan Basin Remediation Dogie Com
Collection Date: 3/18/2014 11:50:00 AM
Lab ID: 1403803-001
Matrix: AQUEOUS
Received Date: 3/19/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	2.0	P	µg/L	2	3/20/2014 4:54:11 PM	R17450
Toluene	12	2.0	P	µg/L	2	3/20/2014 4:54:11 PM	R17450
Ethylbenzene	82	2.0	P	µg/L	2	3/20/2014 4:54:11 PM	R17450
Xylenes, Total	700	20	P	µg/L	10	3/21/2014 2:40:04 PM	R17507
Surr: 4-Bromofluorobenzene	188	82.9-139	SP	%REC	2	3/20/2014 4:54:11 PM	R17450

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Client Sample ID: MW-5
Project: San Juan Basin Remediation Dogie Com
Collection Date: 3/18/2014 12:50:00 PM
Lab ID: 1403803-002
Matrix: AQUEOUS
Received Date: 3/19/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	5.0		µg/L	5	3/20/2014 5:54:39 PM	R17450
Toluene	16	5.0		µg/L	5	3/20/2014 5:54:39 PM	R17450
Ethylbenzene	47	5.0		µg/L	5	3/20/2014 5:54:39 PM	R17450
Xylenes, Total	210	10		µg/L	5	3/20/2014 5:54:39 PM	R17450
Surr: 4-Bromofluorobenzene	121	82.9-139		%REC	5	3/20/2014 5:54:39 PM	R17450

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Client Sample ID: Trip Blank
Project: San Juan Basin Remediation Dogie Com
Collection Date:
Lab ID: 1403803-003
Matrix: TRIP BLANK
Received Date: 3/19/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	3/20/2014 6:24:56 PM	R17450
Benzene	ND	1.0		µg/L	1	3/20/2014 6:24:56 PM	R17450
Toluene	ND	1.0		µg/L	1	3/20/2014 6:24:56 PM	R17450
Ethylbenzene	ND	1.0		µg/L	1	3/20/2014 6:24:56 PM	R17450
Xylenes, Total	ND	2.0		µg/L	1	3/20/2014 6:24:56 PM	R17450
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	3/20/2014 6:24:56 PM	R17450
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	3/20/2014 6:24:56 PM	R17450
Surr: 4-Bromofluorobenzene	98.3	82.9-139		%REC	1	3/20/2014 6:24:56 PM	R17450

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1403803**

26-Mar-14

Client: LTE

Project: San Juan Basin Remediation Dogie Compressor

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R17450**	RunNo: **17450**
Prep Date:	Analysis Date: **3/20/2014**	SeqNo: **503110** 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	19		20.00		96.6	82.9	139			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R17450**	RunNo: **17450**
Prep Date:	Analysis Date: **3/20/2014**	SeqNo: **503111** 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	97.8	71.1	128			
Benzene	20	1.0	20.00	0	100	80	120			
Toluene	20	1.0	20.00	0	101	80	120			
Ethylbenzene	20	1.0	20.00	0	99.8	80	120			
Xylenes, Total	61	2.0	60.00	0	101	80	120			
1,2,4-Trimethylbenzene	20	1.0	20.00	0	99.1	80	120			
1,3,5-Trimethylbenzene	20	1.0	20.00	0	102	80	120			
Surr: 4-Bromofluorobenzene	20		20.00		100	82.9	139			

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R17507**	RunNo: **17507**
Prep Date:	Analysis Date: **3/21/2014**	SeqNo: **504436** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	19		20.00		97.0	82.9	139			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R17507**	RunNo: **17507**
Prep Date:	Analysis Date: **3/21/2014**	SeqNo: **504437** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total	61	2.0	60.00	0	102	80	120			
Surr: 4-Bromofluorobenzene	16		20.00		81.1	82.9	139			S

Qualifiers:

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

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: 1403803 | RcptNo: 1

Received by/date: MA 03/19/14

Logged By: Michelle Garcia 3/19/2014 10:00:00 AM Michelle Garcia

Completed By: Michelle Garcia 3/19/2014 12:09:15 PM Michelle Garcia

Reviewed By: 03/19/14

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
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: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

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

Chain-of-Custody Record

Client: LT Environmental

Mailing Address: 2737 Mesa Ave
Durango Co 81301

Phone #: 970-385-1096

email or Fax#: aager@ltenv.com

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

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name:
San Juan Basin Remediation
Doogie Compressor Station

Project #:
D34013010

Project Manager:
Ashley Ager

Sampler: Daniel Neuman

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1403803	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)	Air Bubbles (Y or N)
3/18/14	1150 / 1250	GW	MW-3	3/VOA	HCL	-001	X											
3/18/14	1250	GW	MW-5	3/VOA	HCL	-002	X											
3/18/14	930	AQ	Trip Blank	2/VOA	Cool	-003	X											

Date	Time	Relinquished by:	Received by:	Date	Time
3/18/14	1515			3/18/14	1515
3/18/14	1739	Christine Walker		03/19/14	1000

Remarks:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

June 20, 2014

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

RE: Dogie Compressor Station OrderNo.: 1406730

Dear Brook Herb:

Hall Environmental Analysis Laboratory received 3 sample(s) on 6/17/2014 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Client Sample ID: MW-3
Project: Dogie Compressor Station
Collection Date: 6/16/2014 3:45:00 PM
Lab ID: 1406730-001
Matrix: AQUEOUS
Received Date: 6/17/2014 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	3.6	2.0		µg/L	2	6/18/2014 10:21:09 PM	R19363
Toluene	92	2.0		µg/L	2	6/18/2014 10:21:09 PM	R19363
Ethylbenzene	140	2.0		µg/L	2	6/18/2014 10:21:09 PM	R19363
Xylenes, Total	880	20		µg/L	10	6/18/2014 9:52:28 PM	R19363
Surr: 4-Bromofluorobenzene	139	82.9-139	S	%REC	2	6/18/2014 10:21:09 PM	R19363

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Client Sample ID: MW-5
Project: Dogie Compressor Station
Collection Date: 6/16/2014 4:10:00 PM
Lab ID: 1406730-002
Matrix: AQUEOUS
Received Date: 6/17/2014 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	12	5.0		µg/L	5	6/18/2014 11:18:29 PM	R19363
Toluene	34	5.0		µg/L	5	6/18/2014 11:18:29 PM	R19363
Ethylbenzene	110	5.0		µg/L	5	6/18/2014 11:18:29 PM	R19363
Xylenes, Total	460	10		µg/L	5	6/18/2014 11:18:29 PM	R19363
Surr: 4-Bromofluorobenzene	118	82.9-139		%REC	5	6/18/2014 11:18:29 PM	R19363

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Client Sample ID: Trip Blank
Project: Dogie Compressor Station
Collection Date:
Lab ID: 1406730-003
Matrix: AQUEOUS
Received Date: 6/17/2014 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	6/19/2014 12:15:39 AM	R19363
Toluene	ND	1.0		µg/L	1	6/19/2014 12:15:39 AM	R19363
Ethylbenzene	ND	1.0		µg/L	1	6/19/2014 12:15:39 AM	R19363
Xylenes, Total	ND	2.0		µg/L	1	6/19/2014 12:15:39 AM	R19363
Surr: 4-Bromofluorobenzene	99.0	82.9-139		%REC	1	6/19/2014 12:15:39 AM	R19363

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1406730**

20-Jun-14

Client: LTE

Project: Dogie Compressor Station

Sample ID	**5ML RB**	SampType:	**MBLK**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**PBW**	Batch ID:	**R19363**	RunNo:	**19363**					
Prep Date:		Analysis Date:	**6/18/2014**	SeqNo:	**560010**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	21		20.00		106	82.9	139			

Sample ID	**100NG BTEX LCS**	SampType:	**LCS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**LCSW**	Batch ID:	**R19363**	RunNo:	**19363**					
Prep Date:		Analysis Date:	**6/18/2014**	SeqNo:	**560011**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	112	80	120			
Toluene	22	1.0	20.00	0	109	80	120			
Ethylbenzene	22	1.0	20.00	0	111	80	120			
Xylenes, Total	66	2.0	60.00	0	110	80	120			
Surr: 4-Bromofluorobenzene	22		20.00		109	82.9	139			

Qualifiers:

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

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: 1406730 | RcptNo: 1

Received by/date: LM 06/17/14

Logged By: Michelle Garcia 6/17/2014 7:45:00 AM Michelle Garcia

Completed By: Michelle Garcia 6/17/2014 9:39:25 AM Michelle Garcia

Reviewed By: 06/17/14

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
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: _____ (<2 or >12 unless noted)

Adjusted? _____

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	1.8	Good	Yes			

Chain-of-Custody Record

Client: LT Environmental

Mailing Address: 2243 Main Ave Ste 3
Durango CO 81301

Phone #: 970-385-1096

email or Fax#: bhern@ltenv.com

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

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☑ Standard ☐ Rush _____

Project Name: Dogie Compressor Station

Project #: 03401302O

Project Manager: Brooke Herb

Sampler: Brooke Herb

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. 1406730	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)					Air Bubbles (Y or N)
6/16/14	1545	GW	MW-3	VOA/3	HCl	-001	X															
6/16/14	1610	GW	MW-5	VOA/3		-002	X															
			TripBlank	VOA/2	↓	-003	X															

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
6/16/14	1800		Christy Walter	6/16/14	1800
6/16/14	1845			06/17/14	0745

Remarks:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

September 24, 2014

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

RE: Dogie OrderNo.: 1409579

Dear Brooke Herb:

Hall Environmental Analysis Laboratory received 9 sample(s) on 9/12/2014 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1409579**
Date Reported: **9/24/2014**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Client Sample ID: MW-3
Project: Dogie
Collection Date: 9/10/2014 11:28:00 AM
Lab ID: 1409579-001
Matrix: AQUEOUS
Received Date: 9/12/2014 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	9/12/2014 3:46:09 PM	R21183
Toluene	59	1.0		µg/L	1	9/12/2014 3:46:09 PM	R21183
Ethylbenzene	150	10		µg/L	10	9/15/2014 12:34:37 PM	R21216
Xylenes, Total	830	20		µg/L	10	9/15/2014 12:34:37 PM	R21216
Surr: 4-Bromofluorobenzene	283	66.6-167	S	%REC	1	9/12/2014 3:46:09 PM	R21183

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Client Sample ID: MW-5
Project: Dogie
Collection Date: 9/10/2014 12:00:00 PM
Lab ID: 1409579-002
Matrix: AQUEOUS
Received Date: 9/12/2014 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **DJF**	
Benzene	ND	2.0		µg/L	2	9/15/2014 1:04:43 PM	R21216
Toluene	2.5	2.0		µg/L	2	9/15/2014 1:04:43 PM	R21216
Ethylbenzene	7.4	2.0		µg/L	2	9/15/2014 1:04:43 PM	R21216
Xylenes, Total	29	4.0		µg/L	2	9/15/2014 1:04:43 PM	R21216
Surr: 4-Bromofluorobenzene	122	66.6-167		%REC	2	9/15/2014 1:04:43 PM	R21216

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Client Sample ID: MW-7
Project: Dogie
Collection Date: 9/10/2014 12:40:00 PM
Lab ID: 1409579-003
Matrix: AQUEOUS
Received Date: 9/12/2014 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **DJF**	
Benzene	86	10		µg/L	10	9/16/2014 12:04:07 PM	R21244
Toluene	190	10		µg/L	10	9/16/2014 12:04:07 PM	R21244
Ethylbenzene	140	10		µg/L	10	9/16/2014 12:04:07 PM	R21244
Xylenes, Total	740	20		µg/L	10	9/16/2014 12:04:07 PM	R21244
Surr: 4-Bromofluorobenzene	125	66.6-167		%REC	10	9/16/2014 12:04:07 PM	R21244

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Client Sample ID: MW-11
Project: Dogie
Collection Date: 9/10/2014 1:20:00 PM
Lab ID: 1409579-004
Matrix: AQUEOUS
Received Date: 9/12/2014 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	9.2	5.0		µg/L	5	9/12/2014 5:46:37 PM	R21183
Toluene	ND	5.0		µg/L	5	9/12/2014 5:46:37 PM	R21183
Ethylbenzene	29	5.0		µg/L	5	9/12/2014 5:46:37 PM	R21183
Xylenes, Total	180	10		µg/L	5	9/12/2014 5:46:37 PM	R21183
Surr: 4-Bromofluorobenzene	122	66.6-167		%REC	5	9/12/2014 5:46:37 PM	R21183

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Client Sample ID: MW-10
Project: Dogie
Collection Date: 9/10/2014 2:00:00 PM
Lab ID: 1409579-005
Matrix: AQUEOUS
Received Date: 9/12/2014 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	9/15/2014 2:05:18 PM	R21216
Toluene	ND	1.0		µg/L	1	9/15/2014 2:05:18 PM	R21216
Ethylbenzene	ND	1.0		µg/L	1	9/15/2014 2:05:18 PM	R21216
Xylenes, Total	ND	2.0		µg/L	1	9/15/2014 2:05:18 PM	R21216
Surr: 4-Bromofluorobenzene	131	66.6-167		%REC	1	9/15/2014 2:05:18 PM	R21216

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Client Sample ID: MW-13
Project: Dogie
Collection Date: 9/10/2014 2:25:00 PM
Lab ID: 1409579-006
Matrix: AQUEOUS
Received Date: 9/12/2014 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0	P	µg/L	1	9/12/2014 7:17:14 PM	R21183
Toluene	ND	1.0	P	µg/L	1	9/12/2014 7:17:14 PM	R21183
Ethylbenzene	ND	1.0	P	µg/L	1	9/12/2014 7:17:14 PM	R21183
Xylenes, Total	ND	2.0	P	µg/L	1	9/12/2014 7:17:14 PM	R21183
Surr: 4-Bromofluorobenzene	97.5	66.6-167	P	%REC	1	9/12/2014 7:17:14 PM	R21183

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Client Sample ID: MW-12
Project: Dogie
Collection Date: 9/10/2014 2:55:00 PM
Lab ID: 1409579-007
Matrix: AQUEOUS
Received Date: 9/12/2014 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **DJF**	
Benzene	740	20		µg/L	20	9/15/2014 2:35:29 PM	R21216
Toluene	360	20		µg/L	20	9/15/2014 2:35:29 PM	R21216
Ethylbenzene	46	1.0		µg/L	1	9/12/2014 7:47:27 PM	R21183
Xylenes, Total	200	2.0		µg/L	1	9/12/2014 7:47:27 PM	R21183
Surr: 4-Bromofluorobenzene	131	66.6-167		%REC	1	9/12/2014 7:47:27 PM	R21183

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Client Sample ID: MW-6
Project: Dogie
Collection Date: 9/10/2014 3:20:00 PM
Lab ID: 1409579-008
Matrix: AQUEOUS
Received Date: 9/12/2014 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	2100	100		µg/L	100	9/12/2014 10:18:19 PM	R21183
Toluene	110	100		µg/L	100	9/12/2014 10:18:19 PM	R21183
Ethylbenzene	850	100		µg/L	100	9/12/2014 10:18:19 PM	R21183
Xylenes, Total	8700	200		µg/L	100	9/12/2014 10:18:19 PM	R21183
Surr: 4-Bromofluorobenzene	109	66.6-167		%REC	100	9/12/2014 10:18:19 PM	R21183

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Client Sample ID: Trip Blank
Project: Dogie
Collection Date:
Lab ID: 1409579-009
Matrix: TRIP BLANK
Received Date: 9/12/2014 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	9/12/2014 11:18:40 PM	R21183
Toluene	ND	1.0		µg/L	1	9/12/2014 11:18:40 PM	R21183
Ethylbenzene	ND	1.0		µg/L	1	9/12/2014 11:18:40 PM	R21183
Xylenes, Total	ND	2.0		µg/L	1	9/12/2014 11:18:40 PM	R21183
Surr: 4-Bromofluorobenzene	98.9	66.6-167		%REC	1	9/12/2014 11:18:40 PM	R21183

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1409579**

24-Sep-14

Client: LTE

Project: Dogie

Sample ID	**5ML RB**	SampType:	**MBLK**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**PBW**	Batch ID:	**R21183**	RunNo:	**21183**					
Prep Date:		Analysis Date:	**9/12/2014**	SeqNo:	**616442**	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		95.3	66.6	167			

Sample ID	**100NG BTEX LCS**	SampType:	**LCS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**LCSW**	Batch ID:	**R21183**	RunNo:	**21183**					
Prep Date:		Analysis Date:	**9/12/2014**	SeqNo:	**616443**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	100	80	120			
Toluene	20	1.0	20.00	0	100	80	120			
Ethylbenzene	20	1.0	20.00	0	100	80	120			
Xylenes, Total	62	2.0	60.00	0	104	80	120			
Surr: 4-Bromofluorobenzene	18		20.00		89.9	66.6	167			

Sample ID	**5ML RB**	SampType:	**MBLK**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**PBW**	Batch ID:	**R21216**	RunNo:	**21216**					
Prep Date:		Analysis Date:	**9/15/2014**	SeqNo:	**617973**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	21		20.00		105	66.6	167			

Sample ID	**100NG BTEX LCS**	SampType:	**LCS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**LCSW**	Batch ID:	**R21216**	RunNo:	**21216**					
Prep Date:		Analysis Date:	**9/15/2014**	SeqNo:	**617974**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	94.7	80	120			
Toluene	19	1.0	20.00	0	96.3	80	120			
Ethylbenzene	19	1.0	20.00	0	96.7	80	120			
Xylenes, Total	60	2.0	60.00	0	100	80	120			
Surr: 4-Bromofluorobenzene	22		20.00		112	66.6	167			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1409579**

24-Sep-14

Client: LTE

Project: Dogie

Sample ID	**5ML RB**	SampType:	**MBLK**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**PBW**	Batch ID:	**R21244**	RunNo:	**21244**					
Prep Date:		Analysis Date:	**9/16/2014**	SeqNo:	**619156**	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	18		20.00		91.6	66.6	167			

Sample ID	**100NG BTEX LCS**	SampType:	**LCS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**LCSW**	Batch ID:	**R21244**	RunNo:	**21244**					
Prep Date:		Analysis Date:	**9/16/2014**	SeqNo:	**619157**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.8	80	120			
Toluene	20	1.0	20.00	0	101	80	120			
Ethylbenzene	20	1.0	20.00	0	101	80	120			
Xylenes, Total	63	2.0	60.00	0	104	80	120			
Surr: 4-Bromofluorobenzene	22		20.00		112	66.6	167			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: LTE | Work Order Number: 1409579 | RcptNo: 1

Received by/date: 09/12/14

Logged By: **Lindsay Mangin** 9/12/2014 6:30:00 AM

Completed By: **Lindsay Mangin** 9/12/2014 8:21:37 AM

Reviewed By: 09/12/14

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
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: _____ (<2 or >12 unless noted)

Adjusted? _____

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: LT environmental

Mailing Address: 2243 main Ave
Durango, CO 81301

Phone #: 970-385-1096

email or Fax#: bherb@ltenv.com

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

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name: Dogle

Project #: 034013010

Project Manager: Brooke Herb

Sampler: Alex Crooks

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. 1409579	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)	Air Bubbles (Y or N)
9/10	1128	GW	MW-3	3 VOA	HCl	-001	X											
	1200		MW-5			-002												
	1240		MW-7			-003												
	1320		MW-11			-004												
	1400		MW-10			-005												
	1425		MW-13		COOL	-006												
	1455		MW-12			-007												
	1520		MW-6			-008												
			Trip Blank			-009												

Date	Time	Relinquished by	Received by	Date	Time
9/11	1450	Alex Crooks	Christin Walden	9/11/14	1450
9/11/14	1850	Christin Walden		09/12/14	0630

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.

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January 08, 2015

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

RE: Dogie Compressor Station OrderNo.: 1412261

Dear Ashley Ager:

Hall Environmental Analysis Laboratory received 7 sample(s) on 12/4/2014 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued December 11, 2014.

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.

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 **1412261**
Date Reported: **1/8/2015**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Client Sample ID: MW-3
Project: Dogie Compressor Station
Collection Date: 12/3/2014 9:10:00 AM
Lab ID: 1412261-001
Matrix: AQUEOUS
Received Date: 12/4/2014 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0	P	µg/L	1	12/5/2014 3:03:31 PM	R22975
Toluene	34	1.0	P	µg/L	1	12/5/2014 3:03:31 PM	R22975
Ethylbenzene	220	10	P	µg/L	10	12/8/2014 1:17:56 PM	R22998
Xylenes, Total	890	20	P	µg/L	10	12/8/2014 1:17:56 PM	R22998
Surr: 4-Bromofluorobenzene	210	66.6-167	SP	%REC	1	12/5/2014 3:03:31 PM	R22975

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1412261**

08-Jan-15

Client: LTE

Project: Dogie Compressor Station

Sample ID	**1412261-001AMS**	SampType:	**MS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**MW-3**	Batch ID:	**R22975**	RunNo:	**22975**					
Prep Date:		Analysis Date:	**12/5/2014**	SeqNo:	**678609**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	111	80	120			
Toluene	55	1.0	20.00	33.85	105	80	120			
Ethylbenzene	230	1.0	20.00	208.4	122	79.7	126			E
Xylenes, Total	840	2.0	60.00	775.0	105	80	120			E
Surr: 4-Bromofluorobenzene	43		20.00		214	66.6	167			S

Sample ID	**1412261-001AMSD**	SampType:	**MSD**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**MW-3**	Batch ID:	**R22975**	RunNo:	**22975**					
Prep Date:		Analysis Date:	**12/5/2014**	SeqNo:	**678610**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	111	80	120	0.469	20	
Toluene	55	1.0	20.00	33.85	104	80	120	0.537	20	
Ethylbenzene	230	1.0	20.00	208.4	109	79.7	126	1.12	20	E
Xylenes, Total	830	2.0	60.00	775.0	93.1	80	120	0.869	20	E
Surr: 4-Bromofluorobenzene	42		20.00		212	66.6	167	0	0	S

Sample ID	**5ML RB**	SampType:	**MBLK**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**PBW**	Batch ID:	**R22975**	RunNo:	**22975**					
Prep Date:		Analysis Date:	**12/5/2014**	SeqNo:	**678626**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	21		20.00		104	66.6	167			

Sample ID	**100NG BTEX LCS**	SampType:	**LCS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**LCSW**	Batch ID:	**R22975**	RunNo:	**22975**					
Prep Date:		Analysis Date:	**12/5/2014**	SeqNo:	**678627**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	90.9	80	120			
Toluene	18	1.0	20.00	0	92.3	80	120			
Ethylbenzene	18	1.0	20.00	0	92.0	80	120			
Xylenes, Total	59	2.0	60.00	0	98.7	80	120			
Surr: 4-Bromofluorobenzene	21		20.00		103	66.6	167			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1412261**

08-Jan-15

Client: LTE

Project: Dogie Compressor Station

Sample ID	**5ML RB**	SampType:	**MBLK**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**PBW**	Batch ID:	**R22998**	RunNo:	**22998**					
Prep Date:		Analysis Date:	**12/8/2014**	SeqNo:	**679367**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	21		20.00		105	66.6	167			

Sample ID	**100NG BTEX LCS**	SampType:	**LCS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**LCSW**	Batch ID:	**R22998**	RunNo:	**22998**					
Prep Date:		Analysis Date:	**12/8/2014**	SeqNo:	**679368**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Toluene	22	1.0	20.00	0	111	80	120			
Ethylbenzene	22	1.0	20.00	0	111	80	120			
Xylenes, Total	67	2.0	60.00	0	112	80	120			
Surr: 4-Bromofluorobenzene	23		20.00		114	66.6	167			

Qualifiers:

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

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: **1412261** | RcptNo: 1

Received by/date: AT 12/04/14

Logged By: **Ashley Gallegos** **12/4/2014 7:55:00 AM**

Completed By: **Ashley Gallegos** **12/4/2014 2:54:23 PM**

Reviewed By: AT 12/05/14

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
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: (<2 or >12 unless noted)

Adjusted?

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	1.2	Good	Yes			

Chain-of-Custody Record

Client: LT Environmental

Mailing Address: 2243 main Ave #3
Durango Co 81301

Phone #: 970-385-1096

email or Fax#: aager@ltenv.com

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

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name: Dogie Compressor Station

Project #: 034013010

Project Manager: Ashley Ager

Sampler: Daniel Neuman

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.2

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No 1412261	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)				
12/3/14	910	GW	MW-3	VOA/3	HCL	-001	X														
12/3/14	1045	GW	MW-7	VOA/3	HCL	-002	X														
12/3/14	1125	GW	MW-10	VOA/3	HCL	-003	X														
12/3/14	1200	GW	MW-11	VOA/3	HCL	-004	X														
12/3/14	1300	GW	MW-12	VOA/3	Cool	-005	X														
12/3/14	1230	GW	MW-13	VOA/3	Cool	-006	X														
			TRIP Blank	VOA/3	Cool	-007	X														

Date:	Time:	Relinquished by:	Received by:	Date	Time
12/3/14	1558		Christy Walker	12/3/14	1558
12/3/14	1730	Christy Walker		12/04/14	0705

Remarks:

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