

3R – 339

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

A handwritten signature in blue ink that reads "Danny L. Reutlinger". The signature is fluid and cursive, with the first name "Danny" being the most prominent.

Danny Reutlinger
Senior Project Manager

cc:
Attachments (7)

2014 ANNUAL GROUNDWATER REPORT

PRITCHARD #2A

**ADMINISTRATIVE/ENVIRONMENTAL ORDER NUMBER
3RP-339-0**

APRIL 2015

Prepared for:

**WILLIAMS FIELD SERVICES, LLC
Tulsa, Oklahoma**



2014 ANNUAL GROUNDWATER REPORT
PRITCHARD #2A
ADMINISTRATIVE/ENVIRONMENTAL ORDER NUMBER
3RP-339-0

APRIL 2015

Prepared for:

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

Prepared by:

LT ENVIRONMENTAL, INC.
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EXECUTIVE SUMMARY

Groundwater at the Pritchard #2A (Administrative/Environmental Order Number 3RP-339-0) (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 two former pits: the former dehydrator pit and the former abandoned pit formerly operated by Gas Company of New Mexico (GCNM).

Impacted soil was excavated in 1997 and one monitoring well (MW-2) was installed in 1999 to assess groundwater quality. Additional groundwater monitoring wells were installed upgradient (MW-1) and downgradient (MW-3, MW-4, MW-5, and MW-6) of the former pits. Williams Field Services, LLC (Williams) purchased the GCNM facility 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. During 2014, Williams retained LT Environmental Inc. (LTE) to complete annual sampling requirements. Between January 2014 and December 2014, LTE conducted four groundwater monitoring events (March 2014, June 2014, September 2014, and December 2014).

LTE sampled groundwater from monitoring wells MW-1, MW-3, MW-5, and MW-6 during 2014 and laboratory analytical results indicated all samples contained BTEX concentrations exceeding NMWQCC standards. Monitoring well MW-2 was dry and monitoring well MW-4 contained phase-separated hydrocarbons (PSH). Approximately 57 ounces of PSH were recovered from MW-4 during 2014 with oil adsorbent socks and manual recovery.

Williams will continue to monitor groundwater elevations and presence of PSH in the existing monitoring wells quarterly during 2015. Williams will collect groundwater samples annually for analysis of BTEX to monitor natural attenuation in monitoring wells MW-1, MW-2, MW-3, MW-5, and MW-6. Williams will manually recover PSH from monitoring well MW-4 when present and install oil absorbent socks for passive PSH recovery between site visits. If PSH is not present, the monitoring well MW-4 will be sampled annually for BTEX analysis.

Williams intends to install two additional monitoring wells to delineate the downgradient extent of impacted groundwater once a surface agreement can be negotiated with the Bureau of Land Management (BLM). The new wells will be developed and sampled to reassess the Site for plume delineation and PSH recovery options.

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 Pritchard #2A (Site) (Administrative/Environmental Order Number 3RP-339-0) (Site). The scope of work for this project was continued monitoring of petroleum hydrocarbon impacts to groundwater as a result of a release from two former pits: the former dehydrator pit and the former abandoned pit.

1.1 LOCATION

The Site is located at latitude 36.837444 and longitude -107.713236 in Unit J, Section 6, Township 30 North, Range 8 West (Figure 1). The Site is at the confluence of an unnamed tributary to La Manga Canyon, which drains into Pump Canyon, in the San Juan Basin in San Juan County, New Mexico.

1.2 HISTORY

The source is two former pits: the former dehydrator pit and the former abandoned pit, which are considered a single source due to their proximity to each other. In December 1997, approximately 800 cubic yards of impacted soil were excavated from the Site. Soil samples from the floors of the two excavations revealed total petroleum hydrocarbons-diesel range organics and benzene, toluene, ethylbenzene, and total xylenes (BTEX) in excess of the New Mexico Water Quality Control Commission (NMWQCC) standards. A groundwater sample collected from a monitoring well drilled in the east pit at approximately 76.5 feet below ground surface (bgs) contained 8,600 micrograms per liter ($\mu\text{g/L}$) benzene. Sometime prior to April 2000, groundwater monitoring wells MW-2, MW-3, and MW-4 were installed, and in April 2000, MW-5 and MW-6 were installed at the Site. Between April 2000 (or earlier) and December 2012, Williams monitored groundwater at the Site. Records regarding these activities can be found in previous groundwater reports submitted to the New Mexico Oil Conservation Division (NMOCD).

On November 5, 2013, LTE performed a product bail down test at groundwater monitoring well MW-4 to assess potential product recovery options. Phase-separated hydrocarbons (PSH) recovery was minimal and only 12 percent of the original PSH thickness was recovered within 6 days. On September 12, 2013, LTE collected a sample of PSH from groundwater monitoring wells MW-2 and MW-4 for analysis of paraffins, isoparaffins, aromatics, naphthenes, and olefins (PIANO) to attempt to differentiate the chemical composition of the PSH and identify potential additional sources at the Site. The PSH samples collected indicated a natural gas condensate source, however results were inconclusive for differentiating two sources based on age or chemical composition.

2.0 METHODOLOGY

Groundwater monitoring activities were conducted at the Site in March 2014, June 2014, September 2014, and December 2014. Groundwater monitoring consisted of measuring groundwater elevations and sampling groundwater in monitoring wells MW-1, MW-3, MW-5, and MW-6. LTE recovered PSH from monitoring well MW-4.

2.1 WATER AND PRODUCT LEVEL MEASUREMENTS

LTE measured depth to groundwater in the 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, LTE measured depth to groundwater and total depth of monitoring wells with a Keck oil/water interface probe. Groundwater monitoring wells containing measurable 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. Wells were purged until these properties stabilized, indicating 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 (\pm) 0.4 units for pH, ± 10 percent for electric conductivity, and ± 2 degrees ($^{\circ}$) Celsius for temperature). Purge water was containerized and disposed of at a facility designated by Williams. A copy of the 2014 field notes are presented in Appendix A.

Once each groundwater monitoring well was properly 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 designation, project name, collector's name, and parameters to be analyzed. They were immediately sealed, packed on ice, and transferred to Hall Environmental Analysis Laboratory (HEAL) under chain-of-custody (COC) procedures for analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX) using United States Environmental Protection Agency Method 8021. COC forms were completed documenting the date and time sampled, sample number, type of sample, sampler's name, preservative used (if any), analyses required, and sampler's signature. The COC forms are included in the laboratory analytical reports in Appendix B.

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 and manual bailing were used to passively recover PSH in monitoring well MW-4. Oil absorbent socks were removed from the well 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. After sampling, new oil absorbent socks were installed.

3.0 RESULTS

Depth to groundwater and depth to PSH data collected during the 2014 quarterly monitoring events are summarized in Table 1. Groundwater flow direction is to the southeast as depicted on Figures 3 through 5.

Laboratory analytical results indicated concentrations of benzene in groundwater sampled from monitoring well MW-1, which is upgradient of the original source, exceeded NMWQCC groundwater standards in September and December 2014. Benzene concentrations in groundwater sampled from monitoring well MW-3 exceeded the NMWQCC groundwater standard every quarter except March 2014. Benzene concentrations in groundwater sampled from downgradient monitoring wells MW-5 and MW-6 exceeded the NMWQCC groundwater standard during all 2014 quarterly monitoring events. Additionally, groundwater from monitoring well MW-6 contained concentrations of total xylenes exceeding the NMWQCC standard during three of four 2014 monitoring events. Monitoring well MW-2 was not sampled due to insufficient water volume in the monitoring well. Table 2 summarizes the groundwater analytical results and copies of the laboratory reports can be found in Appendix B.

Groundwater monitoring well MW-4 was not sampled during the 2014 quarterly monitoring events due to measurable PSH in the monitoring well. Measurable PSH ranged in thickness from 0.03 feet on December 8, 2014 to 0.32 feet on March 19, 2014, in monitoring well MW-4. A total of approximately 57 ounces of PSH was recovered from MW-4 during 2014 through passive oil adsorbent socks and manual recovery.

4.0 CONCLUSIONS

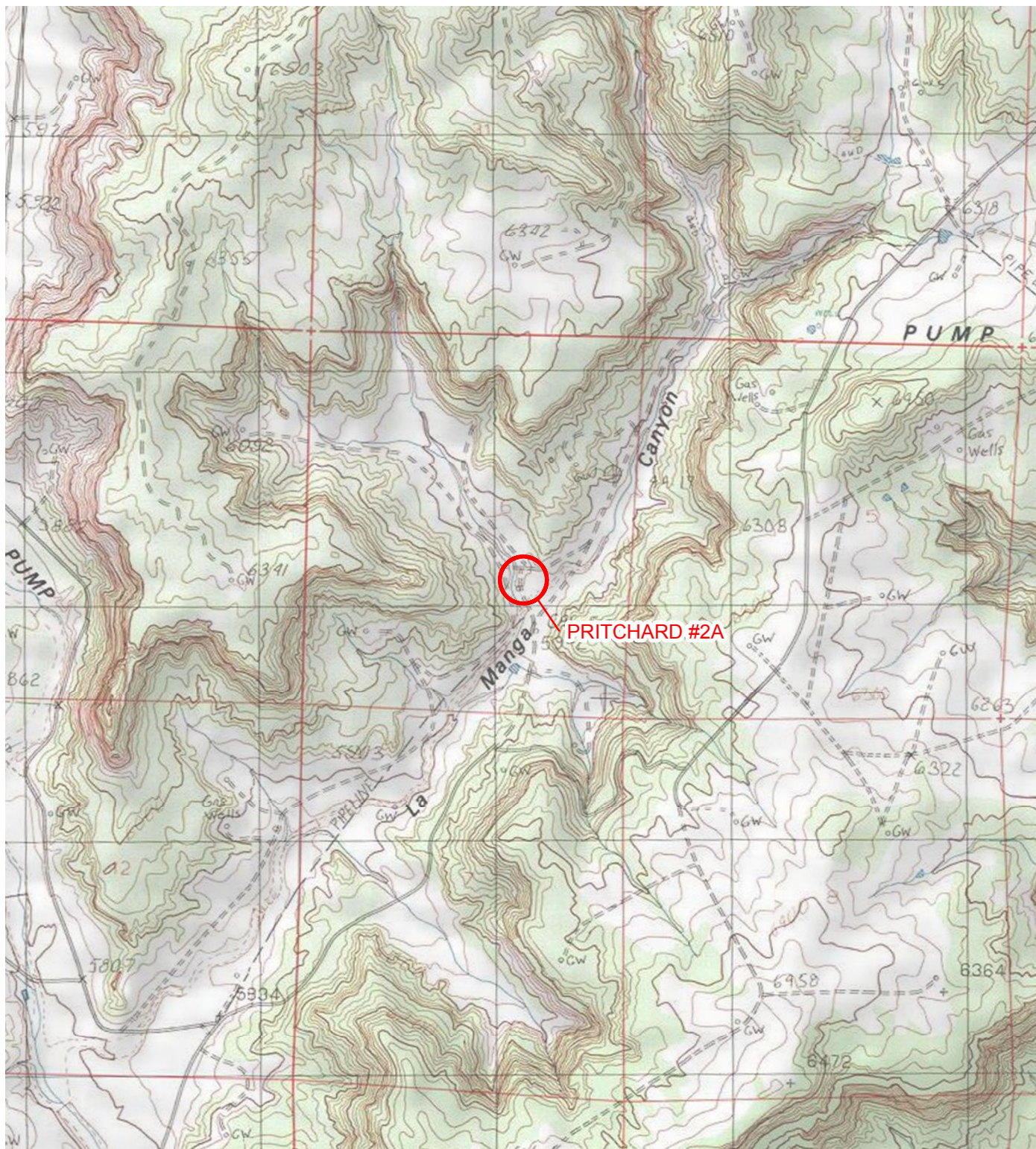
Impacts to groundwater in the source area at groundwater monitoring well MW-2 are currently unknown due to insufficient water in the monitoring well. The presence of PSH persists in groundwater monitoring well MW-4, downgradient of the source area. Surrounding monitoring wells MW-1, MW-3, MW-5, and MW-6 contained one or more BTEX constituents exceeding the NMWQCC groundwater standards in 2014.

5.0 RECOMMENDATIONS

Williams will continue quarterly monitoring groundwater elevations and presence of PSH in designated monitoring wells. Williams will collect groundwater samples from MW-1, MW-2, MW-3, MW-5, and MW-6 annually. Williams will use oil absorbent socks and manual bailing to recover PSH from groundwater monitoring well MW-4 as necessary. If PSH is not present, monitoring well MW-4 will be sampled for BTEX analysis annually. Williams intends to install two additional monitoring wells (MW-7 and MW-8) to delineate impacted groundwater once a surface agreement can be negotiated with the Bureau of Land Management (BLM). The new monitoring wells will be developed and sampled to reassess the Site for plume delineation and PSH recovery options.



FIGURES



LEGEND

○ SITE LOCATION

IMAGE COURTESY OF ESRI/BING MAPS

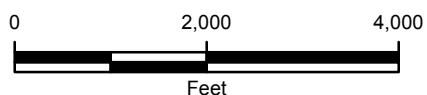


FIGURE 1
SITE LOCATION MAP
PRITCHARD #2A
SAN JUAN COUNTY, NEW MEXICO

WILLIAMS FIELD SERVICES, LLC





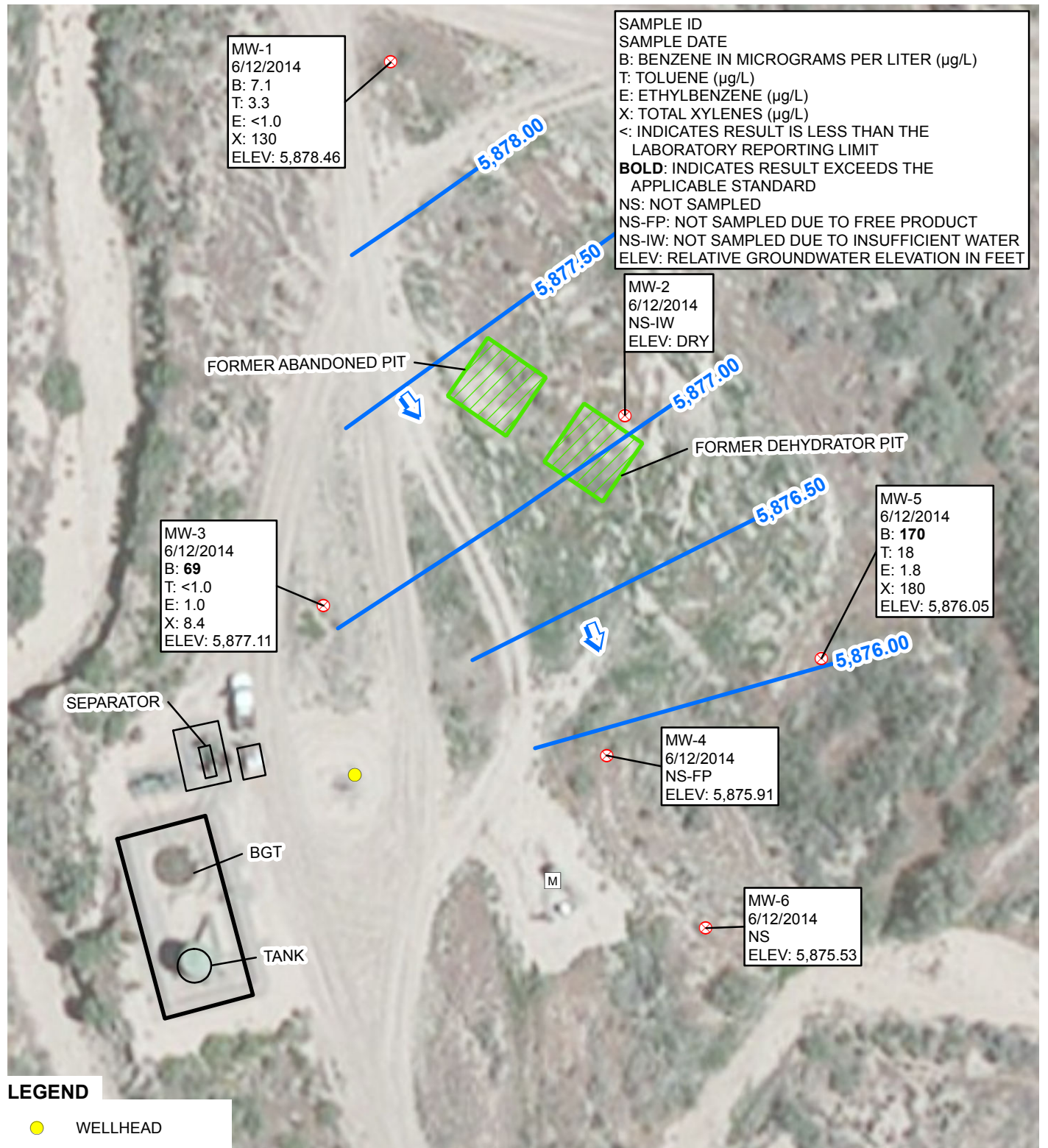
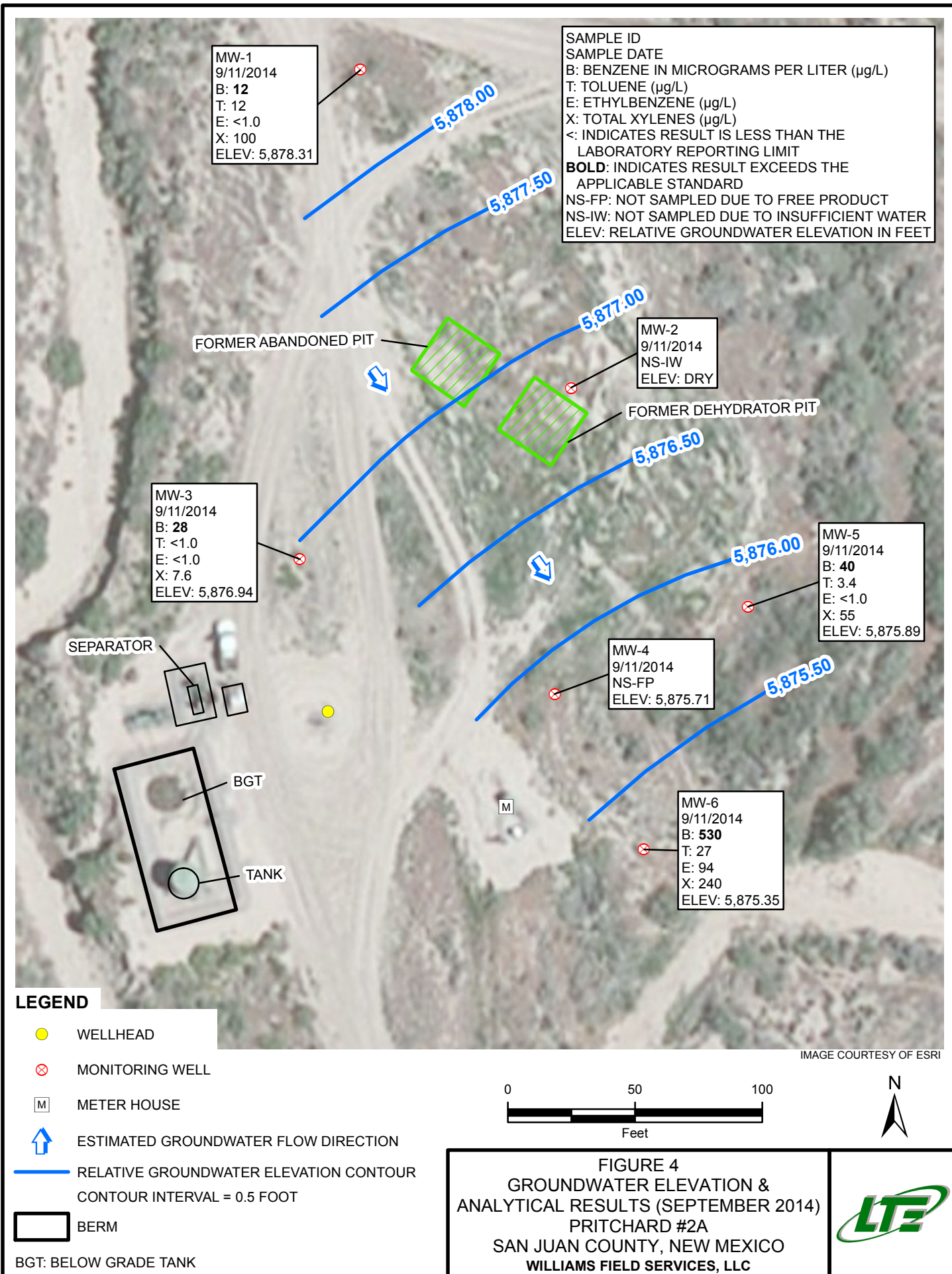
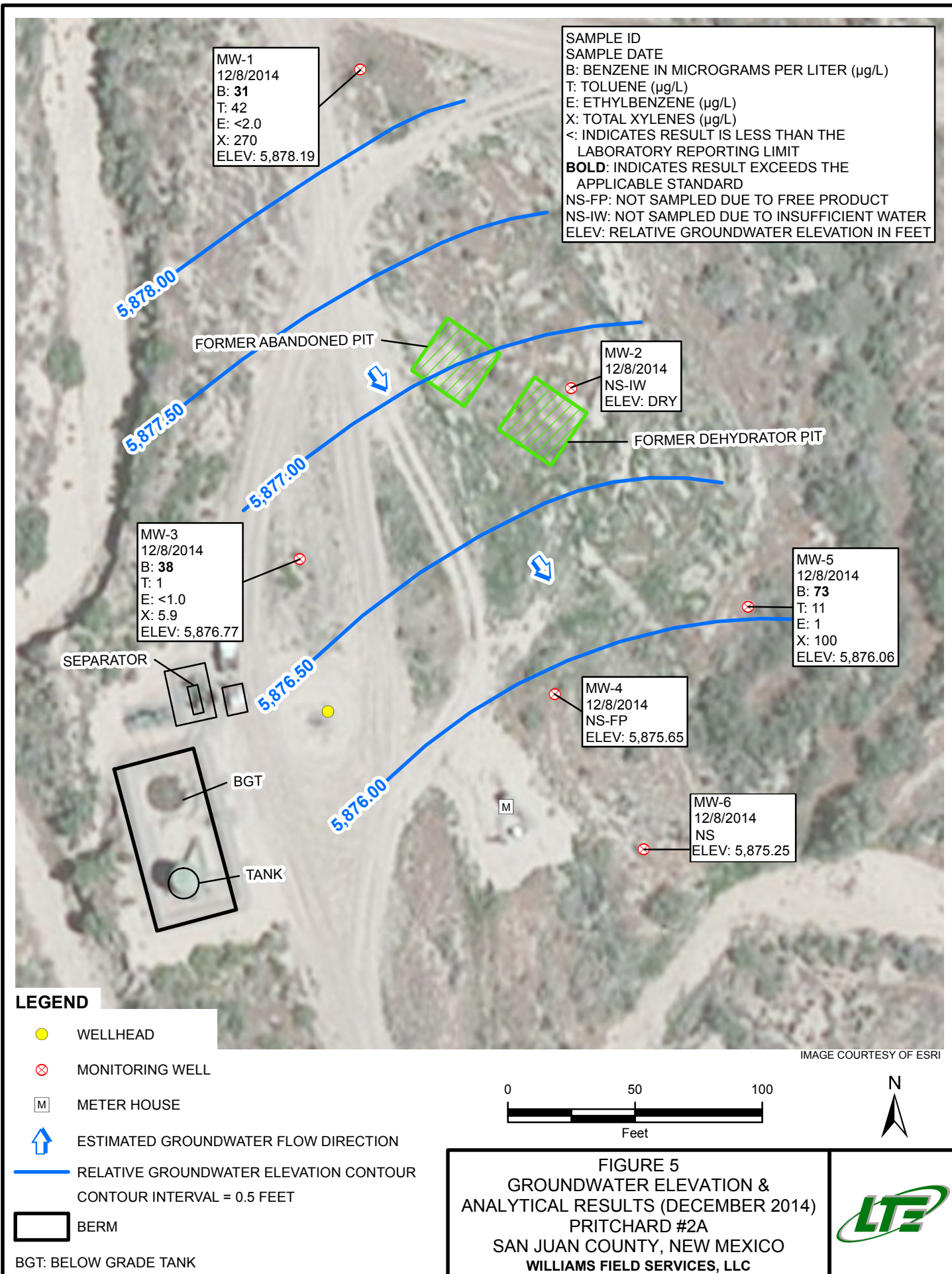


FIGURE 3
GROUNDWATER ELEVATION &
ANALYTICAL RESULTS (JUNE 2014)
PRITCHARD #2A
SAN JUAN COUNTY, NEW MEXICO
WILLIAMS FIELD SERVICES, LLC







TABLES

TABLE 1

**GROUNDWATER ELEVATION SUMMARY
PRITCHARD #2A
WILLIAMS FIELD SERVICES, LLC**

Well Name	Date	Top of Casing Elevation (feet AMSL)	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet AMSL)
MW-1	2/28/2013	5,966.76	82.06	NP	NP	5,884.70
MW-1*	6/24/2013	5,961.21	82.24	NP	NP	5,878.97
MW-1	9/12/2013	5,961.21	82.35	NP	NP	5,878.86
MW-1	12/6/2013	5,961.21	82.51	NP	NP	5,878.70
MW-1	3/19/2014	5,961.21	82.68	NP	NP	5,878.53
MW-1	6/12/2014	5,961.21	82.75	NP	NP	5,878.46
MW-1	9/11/2014	5,961.21	82.90	NP	NP	5,878.31
MW-1	12/8/2014	5,961.21	83.02	NP	NP	5,878.19
MW-2 **	2/28/2013	5,963.03	79.97	79.63	0.34	5,883.33
MW-2 *	6/24/2013	5,957.53	79.90	79.62	0.28	5,877.85
MW-2	9/12/2013	5,957.53	80.06	79.78	0.28	5,877.69
MW-2	12/6/2013	5,957.53	DRY	DRY	DRY	DRY
MW-2	3/19/2014	5,957.53	DRY	DRY	DRY	DRY
MW-2	6/12/2014	5,957.53	DRY	DRY	DRY	DRY
MW-2	9/11/2014	5,957.53	DRY	DRY	DRY	DRY
MW-2	12/8/2014	5,957.53	DRY	DRY	DRY	DRY
MW-3	2/28/2013	5,961.27	78.02	NP	NP	5,883.25
MW-3*	6/24/2013	5,955.95	78.22	NP	NP	5,877.73
MW-3	9/12/2013	5,955.95	78.37	NP	NP	5,877.58
MW-3	12/6/2013	5,955.95	78.51	NP	NP	5,877.44
MW-3	3/19/2014	5,955.95	78.71	NP	NP	5,877.24
MW-3	6/12/2014	5,955.95	78.84	NP	NP	5,877.11
MW-3	9/11/2014	5,955.95	79.01	NP	NP	5,876.94
MW-3	12/8/2014	5,955.95	79.18	NP	NP	5,876.77
MW-4	2/28/2013	5,960.42	79.55	77.97	1.58	5,882.13
MW-4*	6/24/2013	5,955.12	79.72	78.18	1.54	5,876.63
MW-4	9/12/2013	5,955.12	79.73	78.43	1.30	5,876.43
MW-4	12/6/2013	5,955.12	79.03	78.82	0.21	5,876.26
MW-4	3/19/2014	5,955.12	79.29	78.97	0.32	5,876.09
MW-4	6/12/2014	5,955.12	79.25	79.20	0.05	5,875.91
MW-4	9/11/2014	5,955.12	79.45	79.40	0.05	5,875.71
MW-4	12/8/2014	5,955.12	79.49	79.46	0.03	5,875.65
MW-5	2/28/2013	5,960.41	78.20	NP	NP	5,882.21
MW-5	6/24/2013	5,955.09	78.39	NP	NP	5,876.70
MW-5	9/12/2013	5,955.09	78.55	NP	NP	5,876.54
MW-5	12/6/2013	5,955.09	78.72	NP	NP	5,876.37
MW-5	3/19/2014	5,955.09	78.91	NP	NP	5,876.18
MW-5	6/12/2014	5,955.09	79.04	NP	NP	5,876.05
MW-5	9/11/2014	5,955.09	79.20	NP	NP	5,875.89
MW-5	12/8/2014	5,955.09	79.03	NP	NP	5,876.06

TABLE 1
GROUNDWATER ELEVATION SUMMARY
PRITCHARD #2A
WILLIAMS FIELD SERVICES, LLC

Well Name	Date	Top of Casing Elevation (feet AMSL)	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet AMSL)
MW-6	2/28/2013	5,958.24	67.56	NP	NP	5,890.68
MW-6*	6/24/2013	5,952.97	76.74	NP	NP	5,876.23
MW-6	9/12/2013	5,952.97	76.93	NP	NP	5,876.04
MW-6	12/6/2013	5,952.97	77.09	NP	NP	5,875.88
MW-6	3/19/2014	5,952.97	77.30	NP	NP	5,875.67
MW-6	6/12/2014	5,952.97	77.44	NP	NP	5,875.53
MW-6	9/11/2014	5,952.97	77.62	NP	NP	5,875.35
MW-6	12/8/2014	5,952.97	77.72	NP	NP	5,875.25

Notes:

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

** Product recovery sock was present in well, elevation does not represent static water level

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

NP - No Product

TABLE 2

**GROUNDWATER LABORATORY ANALYTICAL RESULTS
PRITCHARD #2A
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	5/26/1999	260	880	86	890
MW-1	8/17/1999	180	270	25	370
MW-1	10/20/1999	260	720	36	420
MW-1	1/26/2000	260	620	26	460
MW-1	4/17/2000	250	580	23	340
MW-1	11/16/2000	89.1	69.5	11.1	39.7
MW-1	1/17/2001	316	418	15.1	178
MW-1	4/27/2001	363	316	5.75	283
MW-1	10/16/2001	140	7.3	<2.0	110
MW-1	3/30/2002	120	150	ND	270
MW-1	6/16/2002	79	20	ND	110
MW-1	9/20/2004	<2.0	<2.0	<2.0	12
MW-1	12/6/2004	2.6	8.6	<2.0	53
MW-1	3/7/2005	13	2.3	ND	53
MW-1	6/18/2005	ND	ND	ND	7.9
MW-1	9/16/2005	<2.0	<2.0	<2.0	15
MW-1	11/28/2005	ND	4.5	ND	65.7
MW-1	7/13/2006	17.5	6	>1.0	57.2
MW-1	3/29/2010	18.3	2.7	<1.0	71.1
MW-1	6/18/2010	26.5	19	<1.0	36.3
MW-1	9/10/2010	20	<1.0	<1.0	30.2
MW-1	12/4/2010	17.9	8.7	<1.0	91.6
MW-1	3/11/2011	5.5	2.8	<1.0	65.1
MW-1	6/14/2011	2.2	<1.0	<1.0	16.9
MW-1	9/12/2011	1.9	<1.0	<1.0	23.3
MW-1	1/3/2012	6.2	8	<1.0	78.1
MW-1	4/2/2012	23.5	<1.0	7.7	45.9
MW-1	6/13/2012	19.0	<1.0	4.4	33.6
MW-1	10/2/2012	8.0	<1.0	5.6	40.7
MW-1	12/6/2012	22.0	<1.0	6.4	52.2
MW-1	2/28/2013	2.3	<1.0	<1.0	93
MW-1	6/24/2013	65	53	<2.0	370
MW-1*	9/12/2013	19	25	1.5	210
MW-1	12/11/2013	5.6	3.3	<2.0	51
MW-1	3/19/2014	<2.0	<2.0	<2.0	<4.0
MW-1	6/12/2014	7.1	3.3	<1.0	130
MW-1	9/11/2014	12	12	<1.0	100



TABLE 2

GROUNDWATER LABORATORY ANALYTICAL RESULTS
PRITCHARD #2A
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	12/8/2014	31	42	<2.0	270

MW-2	5/26/1999	98	85	18	120
MW-2	3/7/2005	6,100	8,200	650	8,100
MW-2	11/29/2005	115	144	41	139
MW-2	7/13/2006	6,300	28,500	2,740	49,500
MW-2	9/10/2010	4,490	10,600	277	7,700
MW-2	3/11/2011	3,690	6,380	243	5,440
MW-2	1/3/2012	721	1,280	73.6	1,060
MW-2	4/2/2012	NS	NS	NS	NS
MW-2	6/13/2012	NS	NS	NS	NS
MW-2	10/2/2012	NS	NS	NS	NS
MW-2	12/6/2012	NS	NS	NS	NS
MW-2	2/28/2013	NS-FP	NS-FP	NS-FP	NS-FP
MW-2	6/24/2013	NS-FP	NS-FP	NS-FP	NS-FP
MW-2	9/12/2013	NS-FP	NS-FP	NS-FP	NS-FP
MW-2	12/6/2013	NS-IW	NS-IW	NS-IW	NS-IW
MW-2	3/19/2014	NS-IW	NS-IW	NS-IW	NS-IW
MW-2	6/12/2014	NS-IW	NS-IW	NS-IW	NS-IW
MW-2	9/11/2014	NS-IW	NS-IW	NS-IW	NS-IW
MW-2	12/8/2014	NS-IW	NS-IW	NS-IW	NS-IW

MW-3	8/17/1999	170	100	23	150
MW-3	10/20/1999	320	250	50	360
MW-3	1/26/2000	460	380	180	1,300
MW-3	4/17/2000	310	150	180	1,100
MW-3	11/16/2000	100	43.6	21.3	99
MW-3	1/17/2001	64.8	81.4	8.7	54.9
MW-3	4/27/2001	1.98	<1	<1	<1
MW-3	10/16/2001	<1.0	<2.0	<2.0	<2.0
MW-3	3/30/2002	3.6	ND	ND	9
MW-3	6/16/2002	15	2.6	ND	10
MW-3	12/6/2004	4.3	5.2	>2.0	5.6
MW-3	9/20/2004	>2.0	>2.0	>2.0	>5.0
MW-3	3/7/2005	5.8	6	ND	8.2
MW-3	6/18/2005	ND	ND	ND	ND
MW-3	9/16/2005	2.5	<2.0	<2.0	<5.0
MW-3	11/29/2005	4.8	4.9	ND	ND
MW-3	7/18/2006	56.7	6.3	>1.0	7.8



TABLE 2

GROUNDWATER LABORATORY ANALYTICAL RESULTS
PRITCHARD #2A
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	3/29/2010	6.0	<1.0	<1.0	4.32
MW-3	6/18/2010	4.4	<1.0	<1.0	5.8
MW-3	9/10/2010	17.6	4.3	1.9	20.2
MW-3	12/4/2010	26.5	<1.0	1.9	16.4
MW-3	3/11/2011	10.6	<1.0	<1.0	4.4
MW-3	6/14/2011	10.1	<1.0	1.3	12.0
MW-3	9/12/2011	21.2	<1.0	3.0	22.8
MW-3	1/3/2012	8.3	<1.0	<1.0	7.6
MW-3	4/2/2012	18.2	1.8	<1.0	7.5
MW-3	6/13/2012	35.5	4.5	<1.0	20.7
MW-3	10/2/2012	NS	NS	NS	NS
MW-3	12/6/2012	NS	NS	NS	NS
MW-3	2/28/2013	18	<1.0	<1.0	3.5
MW-3	6/24/2013	130	<1.0	2.1	18
MW-3	9/12/2013	21	3.4	<1.0	6.9
MW-3	12/11/2013	18	<1.0	<1.0	2.7
MW-3	3/19/2014	9.2	<1.0	<1.0	<2.0
MW-3	6/12/2014	69	<1.0	1.0	8.4
MW-3	9/11/2014	28	<1.0	<1.0	7.6
MW-3	12/8/2014	38	1.0	<1.0	5.9

MW-4	12/6/2004	750	2,100	250	2,400
MW-4	4/2/2012	NS	NS	NS	NS
MW-4	6/13/2012	NS	NS	NS	NS
MW-4	10/2/2012	NS	NS	NS	NS
MW-4	12/6/2012	NS	NS	NS	NS
MW-4	2/28/2013	NS-FP	NS-FP	NS-FP	NS-FP
MW-4	6/24/2013	NS-FP	NS-FP	NS-FP	NS-FP
MW-4	9/12/2013	NS-FP	NS-FP	NS-FP	NS-FP
MW-4	12/6/2013	NS-FP	NS-FP	NS-FP	NS-FP
MW-4	3/19/2014	NS-FP	NS-FP	NS-FP	NS-FP
MW-4	6/12/2014	NS-FP	NS-FP	NS-FP	NS-FP
MW-4	9/11/2014	NS-FP	NS-FP	NS-FP	NS-FP
MW-4	12/8/2014	NS-FP	NS-FP	NS-FP	NS-FP

MW-5	5/26/1999	97	82	18	110
MW-5	1/26/2000	370	290	160	940
MW-5	4/17/2000	220	1,200	220	1,900
MW-5	11/16/2000	90.9	146	23.9	153



TABLE 2

**GROUNDWATER LABORATORY ANALYTICAL RESULTS
PRITCHARD #2A
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	1/17/2001	199	260	46.7	326
MW-5	4/27/2001	3.1	8.34	<1	9.27
MW-5	10/16/2001	1.8	2.3	<2.0	<2.0
MW-5	3/30/2002	15	19	ND	71
MW-5	6/16/2002	23	30	4.4	56
MW-5	9/20/2004	>2.0	>2.0	2.2	>5.0
MW-5	12/6/2004	2.4	2.2	2.2	8.5
MW-5	3/7/2005	ND	ND	2.2	ND
MW-5	6/18/2005	ND	ND	ND	6.3
MW-5	9/16/2005	<2.0	<2.0	<2.0	5.5
MW-5	11/29/2005	2.9	ND	ND	8.8
MW-5	7/18/2006	21.7	7.6	>1.0	44.7
MW-5	3/29/2010	98.7	1.4	1.3	48.4
MW-5	6/18/2010	58.2	1.0	<1.0	28.5
MW-5	9/10/2010	108	3.9	<1.0	90.1
MW-5	12/4/2010	4.6	<1.0	<1.0	8.2
MW-5	6/14/2011	22.1	1.4	1.0	24.0
MW-5	9/12/2011	12.4	<1.0	<1.0	12.6
MW-5	1/3/2012	36.3	5.5	<1.0	31.6
MW-5	6/13/2012	3.3	<1.0	<1.0	<3.0
MW-5	10/2/2012	18.2	<1.0	3.7	21.2
MW-5	12/6/2012	35.4	<1.0	2.7	30.6
MW-5	2/28/2013	17	2.4	<1.0	14
MW-5	6/24/2013	110	30	4.3	220
MW-5	9/12/2013	32	6.9	1.7	78
MW-5	12/6/2013	49	4.7	<1.0	140
MW-5	3/19/2014	10	<2.0	<2.0	<4.0
MW-5	6/12/2014	170	18	1.8	180
MW-5	9/11/2014	40	3.4	<1.0	55
MW-5	12/8/2014	73	11	1.0	100

MW-6	9/20/2004	11	40	20	110
MW-6	3/7/2005	110	330	48	460
MW-6	6/18/2005	1,100	2,100	280	2,200
MW-6	9/16/2005	100	140	68	420
MW-6	11/29/2005	49.1	100	62.6	261
MW-6	7/18/2006	795	1,480	285	2,450
MW-6	3/29/2010	777	12.2	187	1,010
MW-6	6/18/2010	2,300	<10.0	510	2,650



TABLE 2

**GROUNDWATER LABORATORY ANALYTICAL RESULTS
PRITCHARD #2A
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	9/10/2010	829	<10.0	166	804
MW-6	12/4/2010	1,700	6.6	481	1,530
MW-6	3/11/2011	1,650	<5.0	268	926
MW-6	6/14/2011	1,940	<10.0	450	1,340
MW-6	9/12/2011	811	2.0	185	452
MW-6	1/3/2012	1,280	<20.0	357	695
MW-6	4/2/2012	1,210	259	36.2	423
MW-6	6/13/2012	1,360	501	103	981
MW-6	10/2/2012	882	375	40.8	767
MW-6	12/6/2012	768	299	8.4	427
MW-6	2/28/2013	430	590	210	870
MW-6	6/24/2013	280	34	110	280
MW-6	9/12/2013	970	67	460	1,000
MW-6	12/6/2013	540	76	520	1,100
MW-6	9/11/2014	530	27	94	240

Notes:

Bold - indicates sample exceeds NMWQCC standard

< - indicates result is less than laboratory reporting detection limit

* Please note when comparing to laboratory report MW-1 was mislabeled as MW-7

µg/L - micrograms per liter

ND - not detected above laboratory reporting limits

NMWQCC - New Mexico Water Quality Control Commission

NS - not sampled

NS-FP - not sampled due to the presence of free phase hydrocarbons in the well

NS-IW - not sampled due to insufficient water volume in the well



APPENDIX A
2014 QUARTERLY FIELD NOTES



Water Sample Collection Form

Sample Location	Pritchard #2A
Sample Date	3/19/14
Sample Time	N/A
Sample ID	MW-2
Analyses	BTEX 8021
Matrix	Groundwater
Turn Around Time	Standard
Depth to Water	DRY
Time	1300
Vol. of H2O to purge	N/A

Client	Williams Field Services
Project Name	San Juan Basin Remediation
Project #	034013010
Sampler	Daniel Newman
Laboratory	Hall Environmental
Shipping Method	Hand delivery
TD of Well	80.03
Depth to Product	N/A

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

Method of Purging ~~PVC Baller~~ NONE

Method of Sampling PVC Bailer NONE

[illegible]**Comments:**

DRY @ 0.03

NO sample

Describe Deviations from SOP:

N/A

Signature:

Date:

319/1a



Water Sample Collection Form

Sample Location	Pritchard #2A
Sample Date	8/19/14
Sample Time	1157
Sample ID	MW-3
Analyses	BTEX 8021
Matrix	Groundwater
Turn Around Time	Standard
Depth to Water	78.71
Time	1138
Vol. of H2O to purge	8330-78.71=4.71 (height of water column)
Method of Purging	PVC Bailer
Method of Sampling	PVC Bailer

Client Williams Field Services
Project Name San Juan Basin Remediation
Project # 034013010
Sampler Daniel Newman

Matrix	Groundwater
Turn Around Time	Standard
Depth to Water	78.71
Time	1138

Laboratory	Hall Environmental
Shipping Method	Hand delivery
TD of Well	83.30
Depth to Product	N/A

Vol. of H2O to purge $\frac{83.30 - 78.71 = 4.49 \times 0.1631 = 0.732 \times 3 = 2.19}{(\text{height of water column} \times 0.1631 \text{ for } 2'' \text{ well or } 0.6524 \text{ for } 4'' \text{ well}) \times 3 \text{ well vols}}$

Method of Purging	PVC Bailer
Method of Sampling	PVC Bailer

[illegible]

Comments: GRAB Sample @ 1157 in 3VOA

Barley kept losing water as it came up the well

Describe Deviations from SOP: Did^{not} WAS unable to completely Purge well
do to obstruction/Bend in well

Signature: [Signature] Date: 3/19/14



Water Sample Collection Form

Sample Location	Pritchard #2A	Client	Williams Field Services
Sample Date	3/19/14	Project Name	San Juan Basin Remediation
Sample Time	N/A FREE PRODUCT	Project #	034013010
Sample ID	MW-4	Sampler	Daniel Newman
Analyses	BTEX 8021		
Matrix	Groundwater	Laboratory	Hall Environmental
Turn Around Time	Standard	Shipping Method	Hand delivery
Depth to Water	79.29	TD of Well	8 DN 79.98
Time	1345	Depth to Product	78.97
Vol. of H2O to purge	79.29 - 79.98		79.29 - 78.97 = 0.32 inch
Product Height in Well	(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 DN NO sampling FREE PRODUCT		

[illegible]

Comments: 0.32 inch of Product on water
Put NEW 2" PR socks in well
3.7 inch \approx 5 oz Product Removed

Describe Deviations from SOP: N/A

Signature:

Date:



Water Sample Collection Form

Sample Location	Pritchard #2A
Sample Date	8/19/14
Sample Time	1407
Sample ID	MW-5
Analyses	BTEX 8021
Matrix	Groundwater
Turn Around Time	Standard
Depth to Water	78.91
Time	1314
Vol. of H2O to purge	83.02 - 78.91 = (height of water col
Method of Purging	PVC Bailer
Method of Sampling	PVC Bailer

Client Williams Field Services
Project Name San Juan Basin Remediation
Project # 034013010
Sampler Daniel Newman

Method of Purging	<u>PVC Bailer</u>
Method of Sampling	PVC Bailer

[illegible]

Comments: Baled DRY @ 1327
came Back & sampled @ 1407 3/00A

Describe Deviations from SOP: only Bailed 160 gallons Before Bailed Dry
Came Back @ 1407 to sample

Signature: 

Date: 13/12/14 ^{DN} 3/09/14



Water Sample Collection Form

Sample Location Tritchard #24

Client Williams Field Services

Sample Date 6/12/14

Project Name San Juan Basin Remediation

Sample Time 1330

Project # 034013010

Sample ID MW-1

Sampler Herb

Analyses BTEX 8021

BTEX 8021

Matrix	Groundwater
--------	-------------

Laboratory Hall Environmental

Turn Around Time	Standard
------------------	----------

Shipping Method	Hand delivery
-----------------	---------------

Depth to Water 82.75

TD of Well 88-26

Time 3:00

Depth to Product NA

Vol. of H₂O to purge
$$5.51 \times .1631 = 0.89 \times 3 = 2.696$$

(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

[illegible]**Comments:**

Describe Deviations from SOP:

N/A

Signature:

Date:

6/12/24



Water Sample Collection Form

Sample Location Pritchard #2A

Client Williams Field Services

Sample Date 6/12/14

Project Name San Juan Basin Remediation

Sample Time 14:00

Project # 034013010

Sample ID MW-3

Sampler Broke Herk

Analyses BTEX 8021

BTEX 8021

Matrix	Groundwater
--------	-------------

Laboratory Hall Environmental

Turn Around Time	Standard
------------------	----------

Shipping Method Hand delivery

Depth to Water 78.84

TD of Well 83.30

Time 1350

Depth to Product NA

Vol. of H₂O to purge NA - Grab Sample

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

Method of Purging PVC Bailer Grab Sample

Method of Sampling **PVC Bailer**

[illegible]

Comments: Damaged Well

Describe Deviations from SOP: NO Parameters were measured. Grab sample collected in 3 HCl VOAS without purging 3 rinsing volumes.

Signature:

Date:

$$\frac{6}{12} = \frac{1}{2}$$


Water Sample Collection Form

Sample Location Pitchard #2A

Sample Date 6/12/14

Sample Time 1530

Sample ID MW-5

Analyses BTEX 8021

Matrix	Groundwater
--------	-------------

Turn Around Time	Standard
------------------	----------

Depth to Water \rightarrow 15.00

Time $\rightarrow 79.04$

Vol. of H₂O to purge $3.98 \times 1631 =$

(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**

Client: Williams Field Services

Project Name San Juan Basin Remediation

Project # 034013010

Sampler Brooke Herb

Laboratory Hall Environmental

Shipping Method Hand delivery _____

TD of Well 83.02

Depth to Product N/A

[illegible]

Comments: Bailed dry after purging 1.50 gallons. Return to Sample @ 15:30. Filled 3 Hot VORTS

Describe Deviations from SOP: Bailed dry before 3 casing volumes were purged

Signature: Date: 6/12/19

Date: 6/12/95



Water Sample Collection Form

Sample Location Pritchard #2A

Client Williams Field Services

Sample Date 9/11/14

Project Name San Juan Basin Remediation

Sample Time 1.300

Project # 034013010

Sample ID	MW-1
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Sampler Alex Crooks

Analyses BTEX 8021

Matrix	Groundwater
--------	-------------

Laboratory Hall Environmental

Turn Around Time	Standard
------------------	----------

Shipping Method Hand delivery

Depth to Water	82.90
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TD of Well 88.26

Time 1278

Depth to Product *N/A*

Vol. of H₂O to purge $\frac{88.26 - 82.90 = 5.96 \times .1631 = .97 \times 3 = 2.92}{(\text{height of water column} \times 0.1631 \text{ for } 2'' \text{ well or } 0.6524 \text{ for } 4'' \text{ well}) \times 3 \text{ well vols}}$

Method of Purging	PVC Bailer
-------------------	------------

Method of Sampling PVC Bailer

[illegible]

Comments: Took sample at 1300

Describe Deviations from SOP: *N/A*

Signature: [Signature] Date: 09/11/14



Water Sample Collection Form

Sample Location Pritchard #2A

Sample Date 9/11/14

Sample Time 1320

Sample ID MW-3

Analyses BTEX 8021

Matrix	Groundwater
<p>1. Matrix</p> <p>2. Groundwater</p> <p>3. Matrix</p> <p>4. Groundwater</p> <p>5. Matrix</p> <p>6. Groundwater</p> <p>7. Matrix</p> <p>8. Groundwater</p> <p>9. Matrix</p> <p>10. Groundwater</p> <p>11. Matrix</p> <p>12. Groundwater</p> <p>13. Matrix</p> <p>14. Groundwater</p> <p>15. Matrix</p> <p>16. Groundwater</p> <p>17. Matrix</p> <p>18. Groundwater</p> <p>19. Matrix</p> <p>20. Groundwater</p> <p>21. Matrix</p> <p>22. Groundwater</p> <p>23. Matrix</p> <p>24. Groundwater</p> <p>25. Matrix</p> <p>26. Groundwater</p> <p>27. Matrix</p> <p>28. Groundwater</p> <p>29. Matrix</p> <p>30. Groundwater</p> <p>31. Matrix</p> <p>32. Groundwater</p> <p>33. Matrix</p> <p>34. Groundwater</p> <p>35. Matrix</p> <p>36. Groundwater</p> <p>37. Matrix</p> <p>38. Groundwater</p> <p>39. Matrix</p> <p>40. Groundwater</p> <p>41. Matrix</p> <p>42. Groundwater</p> <p>43. Matrix</p> <p>44. Groundwater</p> <p>45. Matrix</p> <p>46. Groundwater</p> <p>47. Matrix</p> <p>48. Groundwater</p> <p>49. Matrix</p> <p>50. Groundwater</p> <p>51. Matrix</p> <p>52. Groundwater</p> <p>53. Matrix</p> <p>54. Groundwater</p> <p>55. Matrix</p> <p>56. Groundwater</p> <p>57. Matrix</p> <p>58. Groundwater</p> <p>59. Matrix</p> <p>60. Groundwater</p> <p>61. Matrix</p> <p>62. Groundwater</p> <p>63. Matrix</p> <p>64. Groundwater</p> <p>65. Matrix</p> <p>66. Groundwater</p> <p>67. Matrix</p> <p>68. Groundwater</p> <p>69. Matrix</p> <p>70. Groundwater</p> <p>71. Matrix</p> <p>72. Groundwater</p> <p>73. Matrix</p> <p>74. Groundwater</p> <p>75. Matrix</p> <p>76. Groundwater</p> <p>77. Matrix</p> <p>78. Groundwater</p> <p>79. Matrix</p> <p>80. Groundwater</p> <p>81. Matrix</p> <p>82. Groundwater</p> <p>83. Matrix</p> <p>84. Groundwater</p> <p>85. Matrix</p> <p>86. Groundwater</p> <p>87. Matrix</p> <p>88. Groundwater</p> <p>89. Matrix</p> <p>90. Groundwater</p> <p>91. Matrix</p> <p>92. Groundwater</p> <p>93. Matrix</p> <p>94. Groundwater</p> <p>95. Matrix</p> <p>96. Groundwater</p> <p>97. Matrix</p> <p>98. Groundwater</p> <p>99. Matrix</p> <p>100. Groundwater</p>	<p>1. Groundwater</p> <p>2. Matrix</p> <p>3. Groundwater</p> <p>4. Matrix</p> <p>5. Groundwater</p> <p>6. Matrix</p> <p>7. Groundwater</p> <p>8. Matrix</p> <p>9. Groundwater</p> <p>10. Matrix</p> <p>11. Groundwater</p> <p>12. Matrix</p> <p>13. Groundwater</p> <p>14. Matrix</p> <p>15. Groundwater</p> <p>16. Matrix</p> <p>17. Groundwater</p> <p>18. Matrix</p> <p>19. Groundwater</p> <p>20. Matrix</p> <p>21. Groundwater</p> <p>22. Matrix</p> <p>23. Groundwater</p> <p>24. Matrix</p> <p>25. Groundwater</p> <p>26. Matrix</p> <p>27. Groundwater</p> <p>28. Matrix</p> <p>29. Groundwater</p> <p>30. Matrix</p> <p>31. Groundwater</p> <p>32. Matrix</p> <p>33. Groundwater</p> <p>34. Matrix</p> <p>35. Groundwater</p> <p>36. Matrix</p> <p>37. Groundwater</p> <p>38. Matrix</p> <p>39. Groundwater</p> <p>40. Matrix</p> <p>41. Groundwater</p> <p>42. Matrix</p> <p>43. Groundwater</p> <p>44. Matrix</p> <p>45. Groundwater</p> <p>46. Matrix</p> <p>47. Groundwater</p> <p>48. Matrix</p> <p>49. Groundwater</p> <p>50. Matrix</p> <p>51. Groundwater</p> <p>52. Matrix</p> <p>53. Groundwater</p> <p>54. Matrix</p> <p>55. Groundwater</p> <p>56. Matrix</p> <p>57. Groundwater</p> <p>58. Matrix</p> <p>59. Groundwater</p> <p>60. Matrix</p> <p>61. Groundwater</p> <p>62. Matrix</p> <p>63. Groundwater</p> <p>64. Matrix</p> <p>65. Groundwater</p> <p>66. Matrix</p> <p>67. Groundwater</p> <p>68. Matrix</p> <p>69. Groundwater</p> <p>70. Matrix</p> <p>71. Groundwater</p> <p>72. Matrix</p> <p>73. Groundwater</p> <p>74. Matrix</p> <p>75. Groundwater</p> <p>76. Matrix</p> <p>77. Groundwater</p> <p>78. Matrix</p> <p>79. Groundwater</p> <p>80. Matrix</p> <p>81. Groundwater</p> <p>82. Matrix</p> <p>83. Groundwater</p> <p>84. Matrix</p> <p>85. Groundwater</p> <p>86. Matrix</p> <p>87. Groundwater</p> <p>88. Matrix</p> <p>89. Groundwater</p> <p>90. Matrix</p> <p>91. Groundwater</p> <p>92. Matrix</p> <p>93. Groundwater</p> <p>94. Matrix</p> <p>95. Groundwater</p> <p>96. Matrix</p> <p>97. Groundwater</p> <p>98. Matrix</p> <p>99. Groundwater</p> <p>100. Matrix</p>

Turn Around Time Standard: 17

Depth to Water 82.90 79.01

Time 1228Ac

Vol. of H₂O to purge $\frac{83.30 - 82.90 = .4 \times .1631 = .06 \times 3 = .22 \text{ AC}}{(\text{height of water column} \times 0.1631 \text{ for 2" well or } 0.6524 \text{ for 4" well}) \times 3 \text{ well vols}}$

Method of Purging PVC Bailer $83.3 - 79.01 = 4.29 \times .1631 = .69 \times 3 = 2.10$

Method of Sampling PVC Bailer

[illegible]

Comments: Took Grab Sample of - used empty vial for parameters

Describe Deviations from SOP: Obstruction in well - had to take grab

Signature: Alex Crooks Date: 9/11/14



Water Sample Collection Form

Sample Location Pritchard #2A

Client Williams Field Services

Sample Date 9/11/14

Project Name San Juan Basin Remediation

Sample Time *N/A*

Project # 034013010

Sample ID	MW-4
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Sampler Alex Crooks

Analyses BTEX 8021

Matrix	Groundwater
--------	-------------

Laboratory Hall Environmental

Turn Around Time	Standard
------------------	----------

Shipping Method Hand delivery

Depth to Water 79.45

TD of Well 78.97

Time 1050

Depth to Product 79.40

Vol. of H₂O to purge product $\frac{79.45 - 79.40 = .05 \text{ of product}}{(\text{height of water column} * 0.1631 \text{ for 2" well or } 0.6524 \text{ for 4" well}) * 3 \text{ well vols}}$

Method of Purging	PVC Bailer

Method of Sampling PVC Bailer

[illegible]

Comments: Replaced sock

Describe Deviations from SOP: Product on water did not sample

Signature: [Signature] Date: 9/11/14



Water Sample Collection Form

Sample Location	Pritchard #2A	Client	Williams Field Services
Sample Date	9/11/13	Project Name	San Juan Basin Remediation
Sample Time	1215	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	79.20	TD of Well	83.02
Time	1132	Depth to Product	N/A
Vol. of H2O to purge	$83.02 - 79.20 = 3.82 \times .1631 = .62 \times 3 = [1.87]$ (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
1138	.25	.25	6.92	68.4	1.28	Clear, Slight, cloud, odor
1141	.50	.75	6.91	67.1	1.26	light gray / slight cloud, odor
1145	.25	1.00	6.93	65.4	1.24	going dry / no change
1215						Took Sample

Comments: 1145 well almost dry -
 1215 Came back & took sample

Describe Deviations from SOP: Barred day then took sample

Signature: Alex Crooks Date: 9/11/14



Water Sample Collection Form

Method of Sampling	PVC Bailer
--------------------	------------

$$\frac{82.59 - 77.62 = 4.97 \times .1631 = .81 \times 3 = 2.43}{(\text{height of water column} \times 0.1631 \text{ for 2" well or } 0.6524 \text{ for 4" well}) \times 3 \text{ well vols}}$$
[illegible]

Comments:

Describe Deviations from SOP: NR

Signature: [Signature] Date: 9/4/15



Water Sample Collection Form

Sample Location Pritchard #2A

Client Williams Field Services

Sample Date 12/8/14

Project Name San Juan Basin Remediation

Sample Time 1145

Project # 034013010

Sample ID	MW-1
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Sampler Daniel Newman

Analyses BTEX 8021

Matrix	Groundwater
--------	-------------

Laboratory Hall Environmental

Turn Around Time	Standard
------------------	----------

Shipping Method Christine

Depth to Water 8302

TD of Well 88.26

Time 1105

Depth to Product *N/A*

Vol. of H2O to purge $\frac{8826 - 83.02 = 8743 \times 0.1631 = 1426.44}{(\text{height of water column} * 0.1631 \text{ for } 2'' \text{ well or } 0.6524 \text{ for } 4'' \text{ well}) * 3 \text{ well vols}} = 2.56$

Method of Purging	PVC Bailer
1. Insert PVC bailer into well.	
2. Pull bailer up to surface.	
3. Empty bailer into container.	
4. Repeat steps 1-3 until well is purged.	

Method of Sampling PVC Bailer

[illegible]

Comments: Purged 2.75 gallons
Fill 3 HCL VOAS
Decon Equipment

Describe Deviations from SOP: N/A

Signature:

Date:

12 | 8 | 4



Water Sample Collection Form



Water Sample Collection Form

Sample Location	Pritchard #2A	Client	Williams Field Services
Sample Date	12/8/14	Project Name	San Juan Basin Remediation
Sample Time	1240	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	79.8	TD of Well	83.30
Time	1210	Depth to Product	N/A
Vol. of H2O to purge	$83.30 - 79.18 = 4.12 \times 0.631 = 0.6719 \times 3 = 2.0157$ (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.) ^{oz}	Total Vol H2O removed (gal.) ^{oz}	pH (std. units)	Temp. (°F)	Conductivity (us or ms)	Comments
1210	3.2	3.2	6.62	61.2	1.04	clear, no sed, no odor, no sheen
	3.2	6.4	6.63	61.3	1.04	clear, no sed, no odor, no sheen

Comments: Fill 3 HCL VOAS sample = GRAB
 Did not Purge complete amount Purged 64 oz then sampled
 Decon Equipment

Describe Deviations from SOP: Did not Purge 3 casing volumes Bailing down,
 Very little recovery

Signature: [Signature] Date: 12/8/14



Water Sample Collection Form

Sample Location	Pritchard #2A
Sample Date	12/8/14
Sample Time	N/A
Sample ID	MW-4
Analyses	BTEX 8021
Matrix	Groundwater
Turn Around Time	Standard
Depth to Water	79.49
Time	1255
Vol. of H2O to purge	Production water tank (height of water col
Method of Purging	PVC Bailer
Method of Sampling	PVC Bailer

Client Williams Field Services

Project Name San Juan Basin Remediation

Project # 034013010

Sampler Daniel Newman

Laboratory Hall Environmental

Dipping Method Christine

TD of Well 79.98

Depth to Product 74.46

$79.98 - 74.46 = 0.03$

*0.031 for 2" well or 0.6524 for 4" well) * 3 well vols*

[illegible]

Comments: Product on water table Did not Sample
Remove 0.2502 product From well
Put clean sock back in well
Decon Equipment

Describe Deviations from SOP: N/A

Signature:

Date:

12/8/14



Water Sample Collection Form

Sample Location	Pritchard #2A
Sample Date	12/8/14
Sample Time	1355
Sample ID	MW-5
Analyses	BTEX 8021
Matrix	Groundwater
Turn Around Time	Standard
Depth to Water	79.03
Time	1320
Vol. of H2O to purge	83.02 - 79.03 = (height of water col
Method of Purging	PVC Bailer
Method of Sampling	PVC Bailer

Client Williams Field Services

Project Name San Juan Basin Remediation

Project # 034013010

Sampler Daniel Newman

Laboratory Hall Environmental

Dipping Method Christine

TD of Well 83.02

Depth to Product NA

$0.1631 - 0.6507 = 1.95$

531 for 2" well or 0.6524 for 4" well) * 3 well vols

[illegible]

Comments: Sample @ 1.10 gallons @ 1355
Fill 3 HCL VOA
Decon equipment
Boiling down

Describe Deviations from SOP: Did not Purge 3 casing volumes, Bowling down

Signature: [Signature] Date: 12/8/14



APPENDIX B
LABORATORY ANALYTICAL REPORTS





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

March 27, 2014

Ashley Ager

LTE

2243 Main Ave Suite 3

Durango, CO 81301

TEL: (970) 946-1093

FAX

RE: San Juan Basin Remediation Pritchard #2A

OrderNo.: 1403910

Dear Ashley Ager:

Hall Environmental Analysis Laboratory received 4 sample(s) on 3/21/2014 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers 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,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1403910**

Date Reported: **3/27/2014**

CLIENT: LTE

Client Sample ID: MW-3

Project: San Juan Basin Remediation Pritchard #2

Collection Date: 3/19/2014 11:57:00 AM

Lab ID: 1403910-001

Matrix: AQUEOUS

Received Date: 3/21/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	9.2	1.0		µg/L	1	3/24/2014 4:19:22 PM	R17539
Toluene	ND	1.0		µg/L	1	3/24/2014 4:19:22 PM	R17539
Ethylbenzene	ND	1.0		µg/L	1	3/24/2014 4:19:22 PM	R17539
Xylenes, Total	ND	2.0		µg/L	1	3/24/2014 4:19:22 PM	R17539
Surr: 4-Bromofluorobenzene	98.9	82.9-139		%REC	1	3/24/2014 4:19:22 PM	R17539

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.

Analytical Report

Lab Order **1403910**

Date Reported: **3/27/2014**

CLIENT: LTE

Client Sample ID: MW-5

Project: San Juan Basin Remediation Pritchard #2

Collection Date: 3/19/2014 2:07:00 PM

Lab ID: 1403910-002

Matrix: AQUEOUS

Received Date: 3/21/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	10	2.0		µg/L	2	3/24/2014 6:19:59 PM	R17539
Toluene	ND	2.0		µg/L	2	3/24/2014 6:19:59 PM	R17539
Ethylbenzene	ND	2.0		µg/L	2	3/24/2014 6:19:59 PM	R17539
Xylenes, Total	ND	4.0		µg/L	2	3/24/2014 6:19:59 PM	R17539
Surr: 4-Bromofluorobenzene	99.8	82.9-139		%REC	2	3/24/2014 6:19:59 PM	R17539

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.

Analytical Report

Lab Order **1403910**

Date Reported: **3/27/2014**

CLIENT: LTE

Client Sample ID: MW-1

Project: San Juan Basin Remediation Pritchard #2

Collection Date: 3/19/2014 12:45:00 PM

Lab ID: 1403910-003

Matrix: AQUEOUS

Received Date: 3/21/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	2.0		µg/L	2	3/24/2014 6:50:10 PM	R17539
Toluene	ND	2.0		µg/L	2	3/24/2014 6:50:10 PM	R17539
Ethylbenzene	ND	2.0		µg/L	2	3/24/2014 6:50:10 PM	R17539
Xylenes, Total	ND	4.0		µg/L	2	3/24/2014 6:50:10 PM	R17539
Surr: 4-Bromofluorobenzene	99.3	82.9-139		%REC	2	3/24/2014 6:50:10 PM	R17539

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.

Analytical Report

Lab Order **1403910**

Date Reported: **3/27/2014**

CLIENT: LTE

Client Sample ID: Trip Blank

Project: San Juan Basin Remediation Pritchard #2

Collection Date:

Lab ID: 1403910-004

Matrix: AQUEOUS

Received Date: 3/21/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	1.0	P	µg/L	1	3/24/2014 7:20:05 PM	R17539
Toluene	ND	1.0	P	µg/L	1	3/24/2014 7:20:05 PM	R17539
Ethylbenzene	ND	1.0	P	µg/L	1	3/24/2014 7:20:05 PM	R17539
Xylenes, Total	ND	2.0	P	µg/L	1	3/24/2014 7:20:05 PM	R17539
Surr: 4-Bromofluorobenzene	98.5	82.9-139	P	%REC	1	3/24/2014 7:20:05 PM	R17539

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#: 1403910

27-Mar-14

Client: LTE

Project: San Juan Basin Remediation Pritchard #2A

Sample ID	5ML RB	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles						
Client ID:	PBW	Batch ID: R17539		RunNo: 17539						
Prep Date:		Analysis Date: 3/24/2014		SeqNo: 505125		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	19		20.00		94.9	82.9	139			

Sample ID	100NG BTEX LCS		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSW		Batch ID: R17539		RunNo: 17539					
Prep Date:			Analysis Date: 3/24/2014		SeqNo: 505126		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	102	80	120			
Toluene	20	1.0	20.00	0	102	80	120			
Ethylbenzene	20	1.0	20.00	0	100	80	120			
Xylenes, Total	61	2.0	60.00	0	102	80	120			
Surr: 4-Bromofluorobenzene	20		20.00		101	82.9	139			

Sample ID	1403910-001AMS			SampType:	MS		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	MW-3			Batch ID:	R17539		RunNo:	17539			
Prep Date:				Analysis Date:	3/24/2014		SeqNo:	505129		Units:	µg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	30	1.0	20.00	9.192	103	71	129				
Toluene	20	1.0	20.00	0	102	68.4	135				
Ethylbenzene	21	1.0	20.00	0.3780	101	69.4	135				
Xylenes, Total	63	2.0	60.00	0	106	72.4	135				
Surr: 4-Bromofluorobenzene	20		20.00		101	82.9	139				

Sample ID	1403910-001AMSD		SampType: MSD		TestCode: EPA Method 8021B: Volatiles					
Client ID:	MW-3		Batch ID: R17539		RunNo: 17539					
Prep Date:			Analysis Date: 3/24/2014		SeqNo: 505130		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	30	1.0	20.00	9.192	103	71	129	0.0468	20	
Toluene	21	1.0	20.00	0	103	68.4	135	0.458	20	
Ethylbenzene	21	1.0	20.00	0.3780	101	69.4	135	0.409	20	
Xylenes, Total	63	2.0	60.00	0	105	72.4	135	0.183	20	
Surr: 4-Bromofluorobenzene	20		20.00		101	82.9	139	0	0	

Qualifiers:

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

Sample Log-In Check List

Client Name: LTE

Work Order Number: 1403910

RcptNo: 1

Received by/date:

mg 03/21/14

Logged By: Michelle Garcia

3/21/2014 10:00:00 AM

Michelle Garcia

Completed By: Michelle Garcia

3/21/2014 10:36:26 AM

Michelle Garcia

Reviewed By:

CS

03/21/14

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:

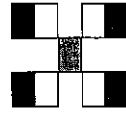
Trip Blank was made and provided by client. 03/21/2014

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

UNIFORMING TIME:



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Client: LT ENVIRONMENTAL

Project Name: San Juan Basin Remediation
PRITCHARD #2A

Mailing Address: 2243 MAIN AVE

Demingo Co 88301

Phone #: 970-385-1096

email or Fax#: gager@ltenv.com

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

Accreditation ☐ NELAP ☐ Other

☐ EDD (Type)

Sample Temperature: 1.0

Container Type and #

Preservative Type

HEAL No.

On Ice: ☒ Yes ☐ No

Sampler: Daniel Newman

Project Manager: Ashley Ayer

Project #: 034013010

Analysis Request

BTX + MTBE + TMBs (8021)

BTX + MTBE + TMBs (8021)

BTX + MTBE + TMBs (8021)

BTX + MTBE + TMBs (8021)

BTX + MTBE + TMBs (8021)

BTX + MTBE + TMBs (8021)

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BTX + MTBE + TMBs (8021)

BTX + MTBE + TMBs (8021)

BTX + MTBE + TMBs (8021)

BTX + MTBE + TMBs (8021)

Received by: Christine Walker Date: 3/20/14 Time: 1200

Received by: Christine Walker Date: 03/21/14 Time: 1000

Relinquished by: Christine Walker

Relinquished by: Christine Walker

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



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

June 20, 2014

Brook Herb

LTE

2243 Main Ave Suite 3

Durango, CO 81301

TEL: (970) 946-1093

FAX

RE: Pritchard #2A

OrderNo.: 1406676

Dear Brook Herb:

Hall Environmental Analysis Laboratory received 4 sample(s) on 6/14/2014 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 qualifiers 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,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1406676**

Date Reported: **6/20/2014**

CLIENT: LTE

Client Sample ID: MW-5

Project: Pritchard #2A

Collection Date: 6/12/2014 3:30:00 PM

Lab ID: 1406676-001

Matrix: AQUEOUS

Received Date: 6/14/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: NSB	
Benzene	170	5.0		µg/L	5	6/18/2014 4:08:06 PM	R19363
Toluene	18	1.0		µg/L	1	6/16/2014 2:11:51 PM	R19307
Ethylbenzene	1.8	1.0		µg/L	1	6/16/2014 2:11:51 PM	R19307
Xylenes, Total	180	2.0		µg/L	1	6/16/2014 2:11:51 PM	R19307
Surr: 4-Bromofluorobenzene	127	82.9-139		%REC	1	6/16/2014 2:11:51 PM	R19307

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	Page 1 of 6
	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.

Analytical Report

Lab Order **1406676**

Date Reported: **6/20/2014**

CLIENT: LTE

Client Sample ID: MW-3

Project: Pritchard #2A

Collection Date: 6/12/2014 2:00:00 PM

Lab ID: 1406676-002

Matrix: AQUEOUS

Received Date: 6/14/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: NSB	
Benzene	69	1.0		µg/L	1	6/16/2014 2:42:02 PM	R19307
Toluene	ND	1.0		µg/L	1	6/16/2014 2:42:02 PM	R19307
Ethylbenzene	1.0	1.0		µg/L	1	6/16/2014 2:42:02 PM	R19307
Xylenes, Total	8.4	2.0		µg/L	1	6/16/2014 2:42:02 PM	R19307
Surr: 4-Bromofluorobenzene	118	82.9-139		%REC	1	6/16/2014 2:42:02 PM	R19307

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.

Analytical Report

Lab Order **1406676**

Date Reported: **6/20/2014**

CLIENT: LTE

Client Sample ID: MW-1

Project: Pritchard #2A

Collection Date: 6/12/2014 1:30:00 PM

Lab ID: 1406676-003

Matrix: AQUEOUS

Received Date: 6/14/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	7.1	1.0		µg/L	1	6/16/2014 3:12:19 PM	R19307
Toluene	3.3	1.0		µg/L	1	6/16/2014 3:12:19 PM	R19307
Ethylbenzene	ND	1.0		µg/L	1	6/16/2014 3:12:19 PM	R19307
Xylenes, Total	130	2.0		µg/L	1	6/16/2014 3:12:19 PM	R19307
Surr: 4-Bromofluorobenzene	125	82.9-139		%REC	1	6/16/2014 3:12:19 PM	R19307

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.

Analytical Report

Lab Order **1406676**

Date Reported: **6/20/2014**

CLIENT: LTE

Client Sample ID: TRIP BLANK

Project: Pritchard #2A

Collection Date: 6/12/2014

Lab ID: 1406676-004

Matrix: TRIP BLANK

Received Date: 6/14/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	1.0		µg/L	1	6/16/2014 3:42:28 PM	R19307
Toluene	ND	1.0		µg/L	1	6/16/2014 3:42:28 PM	R19307
Ethylbenzene	ND	1.0		µg/L	1	6/16/2014 3:42:28 PM	R19307
Xylenes, Total	ND	2.0		µg/L	1	6/16/2014 3:42:28 PM	R19307
Surr: 4-Bromofluorobenzene	114	82.9-139		%REC	1	6/16/2014 3:42:28 PM	R19307

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	Page 4 of 6
	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#: 1406676

20-Jun-14

Client: LTE
Project: Pritchard #2A

Sample ID	5ML RB	SampType: MBLK			TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBW	Batch ID: R19307			RunNo: 19307					
Prep Date:		Analysis Date: 6/16/2014			SeqNo: 558173		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	23		20.00		113	82.9	139			

Sample ID	100NG BTEX LCS		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSW		Batch ID: R19307		RunNo: 19307					
Prep Date:			Analysis Date: 6/16/2014		SeqNo: 558174		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	102	80	120			
Toluene	20	1.0	20.00	0	102	80	120			
Ethylbenzene	20	1.0	20.00	0	100	80	120			
Xylenes, Total	63	2.0	60.00	0	105	80	120			
Surr: 4-Bromofluorobenzene	24		20.00		120	82.9	139			

Sample ID	1406676-001AMS		SampType: MS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	MW-5		Batch ID: R19307		RunNo: 19307					
Prep Date:			Analysis Date: 6/16/2014		SeqNo: 558179		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	180	1.0	20.00	117.4	321	71	129			ES
Toluene	49	1.0	20.00	18.19	154	68.4	135			S
Ethylbenzene	23	1.0	20.00	1.832	107	69.4	135			
Xylenes, Total	310	2.0	60.00	184.9	202	72.4	135			ES
Surr: 4-Bromofluorobenzene	25		20.00		124	82.9	139			

Sample ID	1406676-001AMSD		SampType: MSD		TestCode: EPA Method 8021B: Volatiles					
Client ID:	MW-5		Batch ID: R19307		RunNo: 19307					
Prep Date:			Analysis Date: 6/16/2014		SeqNo: 558180		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	180	1.0	20.00	117.4	330	71	129	0.988	20	ES
Toluene	49	1.0	20.00	18.19	154	68.4	135	0.220	20	S
Ethylbenzene	23	1.0	20.00	1.832	107	69.4	135	0.542	20	
Xylenes, Total	310	2.0	60.00	184.9	207	72.4	135	0.995	20	ES
Surr: 4-Bromofluorobenzene	26		20.00		132	82.9	139	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1406676

20-Jun-14

Client: LTE
Project: Pritchard #2A

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBW	Batch ID:	R19316	RunNo:	19316					
Prep Date:		Analysis Date:	6/17/2014	SeqNo:	559069	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	20		20.00		102	82.9	139			

Sample ID	100NG BTEX LCS	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSW	Batch ID:	R19316	RunNo:	19316					
Prep Date:		Analysis Date:	6/17/2014	SeqNo:	559070	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	22		20.00		109	82.9	139			

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								
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			
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 | |

Sample Log-In Check List

Client Name: LTE

Work Order Number: 1406676

RcptNo: 1

Received by/date:

Logged By: Ashley Gallegos

6/14/2014 10:00:00 AM

Completed By: Ashley Gallegos

6/16/2014 8:42:49 AM

Reviewed By:

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 $>0^{\circ}\text{C}$ 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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.9	Good	Yes			

9-1111-1111

☒ Standard ☐ Rush

5



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

September 18, 2014

Brooke Herb

LTE

2243 Main Ave Suite 3

Durango, CO 81301

TEL: (970) 946-1093

FAX

RE: Pritchard #2A

OrderNo.: 1409580

Dear Brooke Herb:

Hall Environmental Analysis Laboratory received 5 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 qualifiers 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,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1409580**

Date Reported: **9/18/2014**

CLIENT: LTE

Client Sample ID: MW-6

Project: Pritchard #2A

Collection Date: 9/11/2014 11:20:00 AM

Lab ID: 1409580-001

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: DJF	
Benzene	530	20		µg/L	20	9/15/2014 3:05:47 PM	R21216
Toluene	27	20		µg/L	20	9/15/2014 3:05:47 PM	R21216
Ethylbenzene	94	20		µg/L	20	9/15/2014 3:05:47 PM	R21216
Xylenes, Total	240	40		µg/L	20	9/15/2014 3:05:47 PM	R21216
Surr: 4-Bromofluorobenzene	125	66.6-167		%REC	20	9/15/2014 3:05:47 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	Page 1 of 6
	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.

Analytical Report

Lab Order **1409580**

Date Reported: **9/18/2014**

CLIENT: LTE

Client Sample ID: MW-5

Project: Pritchard #2A

Collection Date: 9/11/2014 12:15:00 PM

Lab ID: 1409580-002

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: NSB
Benzene	40	1.0		µg/L	1	9/13/2014 12:18:59 AM	R21183
Toluene	3.4	1.0		µg/L	1	9/13/2014 12:18:59 AM	R21183
Ethylbenzene	ND	1.0		µg/L	1	9/13/2014 12:18:59 AM	R21183
Xylenes, Total	55	2.0		µg/L	1	9/13/2014 12:18:59 AM	R21183
Surr: 4-Bromofluorobenzene	111	66.6-167		%REC	1	9/13/2014 12:18:59 AM	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	Page 2 of 6
	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.

Analytical Report

Lab Order **1409580**

Date Reported: **9/18/2014**

CLIENT: LTE

Client Sample ID: MW-1

Project: Pritchard #2A

Collection Date: 9/11/2014 1:00:00 PM

Lab ID: 1409580-003

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: NSB
Benzene	12	1.0		µg/L	1	9/13/2014 1:19:18 AM	R21183
Toluene	12	1.0		µg/L	1	9/13/2014 1:19:18 AM	R21183
Ethylbenzene	ND	1.0		µg/L	1	9/13/2014 1:19:18 AM	R21183
Xylenes, Total	100	2.0		µg/L	1	9/13/2014 1:19:18 AM	R21183
Surr: 4-Bromofluorobenzene	107	66.6-167		%REC	1	9/13/2014 1:19:18 AM	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.

Analytical Report

Lab Order **1409580**

Date Reported: **9/18/2014**

CLIENT: LTE

Client Sample ID: MW-3

Project: Pritchard #2A

Collection Date: 9/11/2014 1:20:00 PM

Lab ID: 1409580-004

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	28	1.0		µg/L	1	9/13/2014 1:49:33 AM	R21183
Toluene	ND	1.0		µg/L	1	9/13/2014 1:49:33 AM	R21183
Ethylbenzene	ND	1.0		µg/L	1	9/13/2014 1:49:33 AM	R21183
Xylenes, Total	7.6	2.0		µg/L	1	9/13/2014 1:49:33 AM	R21183
Surr: 4-Bromofluorobenzene	106	66.6-167		%REC	1	9/13/2014 1:49:33 AM	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	Page 4 of 6
	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.

Analytical Report

Lab Order **1409580**

Date Reported: **9/18/2014**

CLIENT: LTE

Client Sample ID: Trip Blank

Project: Pritchard #2A

Collection Date:

Lab ID: 1409580-005

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	9/13/2014 2:19:53 AM	R21183
Toluene	ND	1.0		µg/L	1	9/13/2014 2:19:53 AM	R21183
Ethylbenzene	ND	1.0		µg/L	1	9/13/2014 2:19:53 AM	R21183
Xylenes, Total	ND	2.0		µg/L	1	9/13/2014 2:19:53 AM	R21183
Surr: 4-Bromofluorobenzene	103	66.6-167		%REC	1	9/13/2014 2:19:53 AM	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	Page 5 of 6
	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#: 1409580

18-Sep-14

Client: LTE
Project: Pritchard #2A

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. | 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 | |

Sample Log-In Check List

Client Name: LTE

Work Order Number: 1409580

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 8:27:29 AM
Reviewed By:		09/12/14

Chain of Custody

- Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
- Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
- How was the sample delivered? Courier






Log In

- Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
- Were all samples received at a temperature of >0° C to 6.0°C Yes ☒ No ☐ NA ☐
- Sample(s) in proper container(s)? Yes ☒ No ☐
- Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
- Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
- Was preservative added to bottles? Yes ☐ No ☒ NA ☐
- VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
- Were any sample containers received broken? Yes ☐ No ☒
- Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
- Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
- Is it clear what analyses were requested? Yes ☒ No ☐
- 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)

- Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:		Date:	
By Whom:		Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> 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			



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

December 11, 2014

Ashley Ager

LTE

2243 Main Ave Suite 3

Durango, CO 81301

TEL: (970) 946-1093

FAX

RE: Pritchard #2A

OrderNo.: 1412393

Dear Ashley Ager:

Hall Environmental Analysis Laboratory received 4 sample(s) on 12/9/2014 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 qualifiers 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,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order: 1412393

Date Reported: 12/11/2014

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** LTE
Project: Pritchard #2A**Lab Order:** 1412393**Lab ID:** 1412393-001**Collection Date:** 12/8/2014 11:45:00 AM**Client Sample ID:** MW-1**Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	31	2.0		µg/L	2	12/9/2014 11:00:15 PM	R23036
Toluene	42	2.0		µg/L	2	12/9/2014 11:00:15 PM	R23036
Ethylbenzene	ND	2.0		µg/L	2	12/9/2014 11:00:15 PM	R23036
Xylenes, Total	270	4.0		µg/L	2	12/9/2014 11:00:15 PM	R23036
Surr: 4-Bromofluorobenzene	113	66.6-167		%REC	2	12/9/2014 11:00:15 PM	R23036

Lab ID: 1412393-002**Collection Date:** 12/8/2014 12:40:00 PM**Client Sample ID:** MW-3**Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	38	1.0		µg/L	1	12/9/2014 11:27:29 PM	R23036
Toluene	1.0	1.0		µg/L	1	12/9/2014 11:27:29 PM	R23036
Ethylbenzene	ND	1.0		µg/L	1	12/9/2014 11:27:29 PM	R23036
Xylenes, Total	5.9	2.0		µg/L	1	12/9/2014 11:27:29 PM	R23036
Surr: 4-Bromofluorobenzene	114	66.6-167		%REC	1	12/9/2014 11:27:29 PM	R23036

Lab ID: 1412393-003**Collection Date:** 12/8/2014 1:55:00 PM**Client Sample ID:** MW-5**Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	73	1.0		µg/L	1	12/9/2014 11:54:51 PM	R23036
Toluene	11	1.0		µg/L	1	12/9/2014 11:54:51 PM	R23036
Ethylbenzene	1.0	1.0		µg/L	1	12/9/2014 11:54:51 PM	R23036
Xylenes, Total	100	2.0		µg/L	1	12/9/2014 11:54:51 PM	R23036
Surr: 4-Bromofluorobenzene	114	66.6-167		%REC	1	12/9/2014 11:54:51 PM	R23036

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Analytical ReportLab Order: **1412393**Date Reported: **12/11/2014****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** LTE
Project: Pritchard #2A**Lab Order:** 1412393**Lab ID:** 1412393-004**Collection Date:****Client Sample ID:** Trip Blank**Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	1.0		µg/L	1	12/10/2014 12:49:02 AM R23036	
Toluene	ND	1.0		µg/L	1	12/10/2014 12:49:02 AM R23036	
Ethylbenzene	ND	1.0		µg/L	1	12/10/2014 12:49:02 AM R23036	
Xylenes, Total	ND	2.0		µg/L	1	12/10/2014 12:49:02 AM R23036	
Surr: 4-Bromofluorobenzene	111	66.6-167		%REC	1	12/10/2014 12:49:02 AM R23036	

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1412393

11-Dec-14

Client: LTE
Project: Pritchard #2A

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBW	Batch ID:	R23036	RunNo:	23036					
Prep Date:		Analysis Date:	12/9/2014	SeqNo:	680522	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		107	66.6	167			

Sample ID	100NG BTEX LCS	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSW	Batch ID:	R23036	RunNo:	23036					
Prep Date:		Analysis Date:	12/9/2014	SeqNo:	680523	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.4	80	120			
Toluene	20	1.0	20.00	0	101	80	120			
Ethylbenzene	21	1.0	20.00	0	103	80	120			
Xylenes, Total	63	2.0	60.00	0	105	80	120			
Surr: 4-Bromofluorobenzene	22		20.00		110	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	

Sample Log-In Check List

Client Name: LTE

Work Order Number: 1412393

RcptNo: 1

Received by/date:

AGS

12/09/14

Logged By:

Celina Sessa

12/9/2014 7:45:00 AM

Celina Sessa

Completed By:

Celina Sessa

12/9/2014 9:14:20 AM

Celina Sessa

Reviewed By:

[Signature]

12/09/14

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?

Yes ☒

No ☐

(Note discrepancies on chain of custody)

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?

Yes ☒

No ☐

(If no, notify customer for authorization.)

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	1.6	Good	Not Present			

Chain-of-Custody Record

Client: LT Environmental

Mailing Address: 2203 MAIN Ave #3

Phone #: 970-385-1096

email or Fax#: aager@ltenv.com

QA/QC Package:
☒ Standard
☐ NELAP
☐ EDD (Type) _____

Accreditation:
☐ Standard
☐ Level 4 (Full Validation)
☐ Other _____

Turn-Around Time:

☒ Standard ☐ Rush

Project Name: 034013010

Project #: Pritchard #2A

Project Manager: Ashley Ager

Sampler: Daniel Newman

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0

Date	Time	Matrix	Sample Request ID
2/8/14	1145	GW	MW-1
2/8/14	1240	GW	MW-3
2/8/14	1355	GW	MW-5
			TRIP BLANK

Container Type and #	Preservative Type	HEAL No.
VOA/3	HCL	1412393
VOA/3	HCL	-001
VOA/3	HCL	-002
VOA/3	HCL	-003
VOA/2	COOL	-004

Date: 2/8/14 Time: 1605

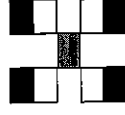
Relinquished by: [Signature]

Date: 2/8/14 Time: 1747

Relinquished by: Chris t Wade

Received by: Christel Ward Date: 12/14/14 Time: 1605

Received by: [Signature] Date: 12/09/14 Time: 0745



HALL ENVIRONMENTAL ANALYSIS LABORATORY

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Analysis Request

BTEX + MTBE + TPH (Gas only)	
BTEX + MTBE + TPH (8021)	X
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)	

Remarks: