3R – 322

2014 AGWMR

04 / 10 / 2015

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

April 10, 2014

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

RE: Online Submission of 2014 Annual Groundwater Reports

Dear Mr. Von Gonten,

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

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

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

Sincerely,
Williams Field Services

Danny L. Reutlinger

Danny Reutlinger
Senior Project Manager

cc:
Attachments (7)

2014 ANNUAL GROUNDWATER REPORT

ICE CANYON DRIP
ADMINISTRATIVE/ENVIROMENTAL ORDER NUMBER 3RP-322-0

APRIL 2015

Prepared for:

WILLIAMS FIELD SERVICES, LLC
Tulsa, Oklahoma

2014 ANNUAL GROUNDWATER REPORT

ICE CANYON DRIP
ADMINISTRATIVE/ENVIRONMENTAL ORDER NUMBER
3RP-322-0

APRIL 2015

Prepared for:

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

Prepared by:

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

FIGURES

TABLES

APPENDICES

EXECUTIVE SUMMARY

Groundwater at the Ice Canyon Drip (Administrative/Environmental Order Number 3RP-322-0) (Site) is impacted by petroleum hydrocarbons due to a release from a former drip pit operated by the Gas Company of New Mexico (GCNM). Impacted soil was excavated in 1997 and 1998 and four monitoring wells (MW-1, MW-2, MW-3, and MW-4) were installed to assess groundwater quality. A pilot test for soil vapor extraction (SVE) was conducted, but no SVE system was implemented as a remedial option at the Site. Additional downgradient monitoring wells were installed in 2000. Williams Field Services, LLC (Williams) purchased GCNM facilities from Public Service Company of New Mexico (PNM) in 2000 and assumed environmental liability for the Site. Since that time, Williams has monitored groundwater quality and conducted free-product removal. Williams replaced the source monitoring well MW-2 with MW-2R in 2013.

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), which included measuring depth to groundwater in all monitoring wells and sampling monitoring well SVE-4 for analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX). BTEX concentrations in groundwater monitoring well SVE-4 were compliant with the New Mexico Water Quality Control Commission (NMWQCC) groundwater standards in all quarters except in June 2014, when concentrations of total xylenes of 2,400 micrograms per liter exceeded the NMWQCC groundwater standards.

Williams intends to continue quarterly groundwater monitoring until eight quarters of BTEX concentrations sampled from SVE-4 are compliant with the NMWQCC standards.

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 Ice Canyon Drip (Administrative/Environmental Order Number 3RP-322-0) (Site). The scope of work for this project includes quarterly monitoring of petroleum hydrocarbon impacts to groundwater resulting from the operation of a former drip pit.

1.1 LOCATION

The Site is located at latitude 36.485004 and longitude -107.522750 in Unit H, Section 13, Township 26 North, Range 7 West as depicted on Figure 1. The Site is in Ice Canyon in the San Juan Basin, Rio Arriba County, New Mexico.

1.2 HISTORY

Soil and groundwater was impacted by a former drip pit operated by Gas Company of New Mexico (GCNM). Remediation included excavation of 383 cubic yards of impacted soil in June 1997. A soil sample from the bottom of the excavation at 23 feet below ground surface (bgs) contained 144 milligrams per kilogram (mg/kg) total petroleum hydrocarbons (TPH)-diesel range organics (DRO) and 278 mg/kg benzene, toluene, ethylbenzene, and total xylenes (BTEX). In November 1997, a groundwater monitoring well was installed in the excavation. The depth to groundwater was 38 feet bgs and a groundwater sample contained 19,523 micrograms per liter (µg/L) of benzene. In January 1998, an additional 8,690 cubic yards of impacted soil were excavated. In May 1998, groundwater monitoring wells MW-1, MW-2, MW-3, and MW-4 were installed. In December 1998, a 4-inch soil vapor extraction (SVE) well was installed. In 2000, groundwater monitoring wells MW-5, MW-6, MW-7, and MW-8 were installed.

Williams purchased the GCNM facility from Public Service Company of New Mexico (PNM) in 2000, including environmental liability for the drip pit. Between May 1998 and December 2012, Williams monitored groundwater in all monitoring wells at the Site. Groundwater monitoring well MW-2 and the SVE-4 well contained phase-separated hydrocarbons (PSH) at some time between 1998 and 2013. Records regarding these activities can be found in previous groundwater reports submitted to the New Mexico Oil Conservation Division (NMOCD).

Williams no longer samples groundwater monitoring wells MW-1, MW-3, MW-4, MW-5, MW-7, or MW-8 since BTEX concentrations in groundwater samples collected from these monitoring wells were compliant with the New Mexico Water Quality Control Commission (NMWQCC) standards for eight or more quarters. In March 2013, 0.01 feet of PSH was measured in monitoring wells MW-5 and SVE-4. Based on laboratory analytical results from previous and subsequent samples and observations made before and after March 2013, it is likely that the equipment was malfunctioning and no PSH was actually present.

Groundwater monitoring well MW-2 was not sampled between March 2013 and December 2013 due to an obstruction in the well. On October 23, 2013, LTE installed MW-2R as a replacement monitoring well for MW-2. Groundwater monitoring well MW-2R is located south of MW-2 in

order to facilitate the gathering of groundwater elevation and groundwater analytical data from the source area. Groundwater monitoring well MW-2R was sampled in December 2013 and laboratory analytical results indicated BTEX concentrations were compliant with the NMWQCC groundwater standards. After having insufficient water to collect a sample during 2012 and the first three quarters of 2013, a groundwater sample was collected from groundwater monitoring well MW-6 in December 2013. BTEX concentrations were compliant with NMWQCC standards, and the well was removed from the sampling schedule.

2.0 METHODOLOGY

During 2014, LTE conducted quarterly groundwater monitoring activities at the Site. The activities included measuring groundwater elevations at nine monitoring wells and collecting groundwater samples from monitoring well SVE-4.

2.1 WATER AND PRODUCT LEVEL MEASUREMENTS

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

2.2 GROUNDWATER SAMPLING

Prior to sampling groundwater, depth to groundwater and total depth of the monitoring well was measured with a Keck oil/water interface probe. The volume of water in the monitoring well was calculated, and a minimum of three well casing volumes of water was purged from each well using a new disposable polyvinyl chloride (PVC) bailer. As water was removed from the monitoring well, pH, electric conductivity, and temperature were measured. The monitoring well was 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 (±) 0.4 units for pH, ±10 percent for electric conductivity, and ±2 degrees (º) Celsius for temperature). Purge water was containerized and disposed of at a facility designated by Williams. Copies of the 2014 field notes are presented in Appendix A.

Once the 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. Samples were stored on ice in a sealed cooler and maintained under chain-of-custody (COC) procedures. The samples were transferred to Hall Environmental Analysis Laboratory (HEAL) for analysis. 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. HEAL analyzed the samples for BTEX using United States Environmental Protection Agency (USEPA) Method 8021. 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.).

3.0 RESULTS

Depth to groundwater data during the 2014 monitoring events are summarized in Table 1. Groundwater flow direction was determined to be to the south except in December when flow direction was to the southwest (Figure 2 through 5).

Laboratory analytical results indicated BTEX concentrations in groundwater monitoring well SVE-4 were compliant with the NMWQCC groundwater standards in March 2014, September 2014, and December 2014. During the June 2014 monitoring event, laboratory analytical results indicated that concentrations of total xylenes exceeded the NMWQCC groundwater standard of 620 micrograms per liter (µg/L) with a concentration of 2,400 µg/L. Laboratory analytical results for groundwater are summarized in Table 2. Copies of the laboratory analytical results are in Appendix B.

4.0 CONCLUSIONS

BTEX concentrations in groundwater monitoring well SVE-4 were compliant with the NMWQCC groundwater standards in all quarters except in June 2014. The remaining eight monitoring wells at the Site are no longer sampled.

5.0 RECOMMENDATIONS

Williams will continue to collect quarterly groundwater samples from SVE-4 for analysis of BTEX until eight consecutive quarters are compliant with the NMWQCC groundwater standards. LTE will continue to monitor depth to groundwater at the nine monitoring wells, quarterly.

FIGURES

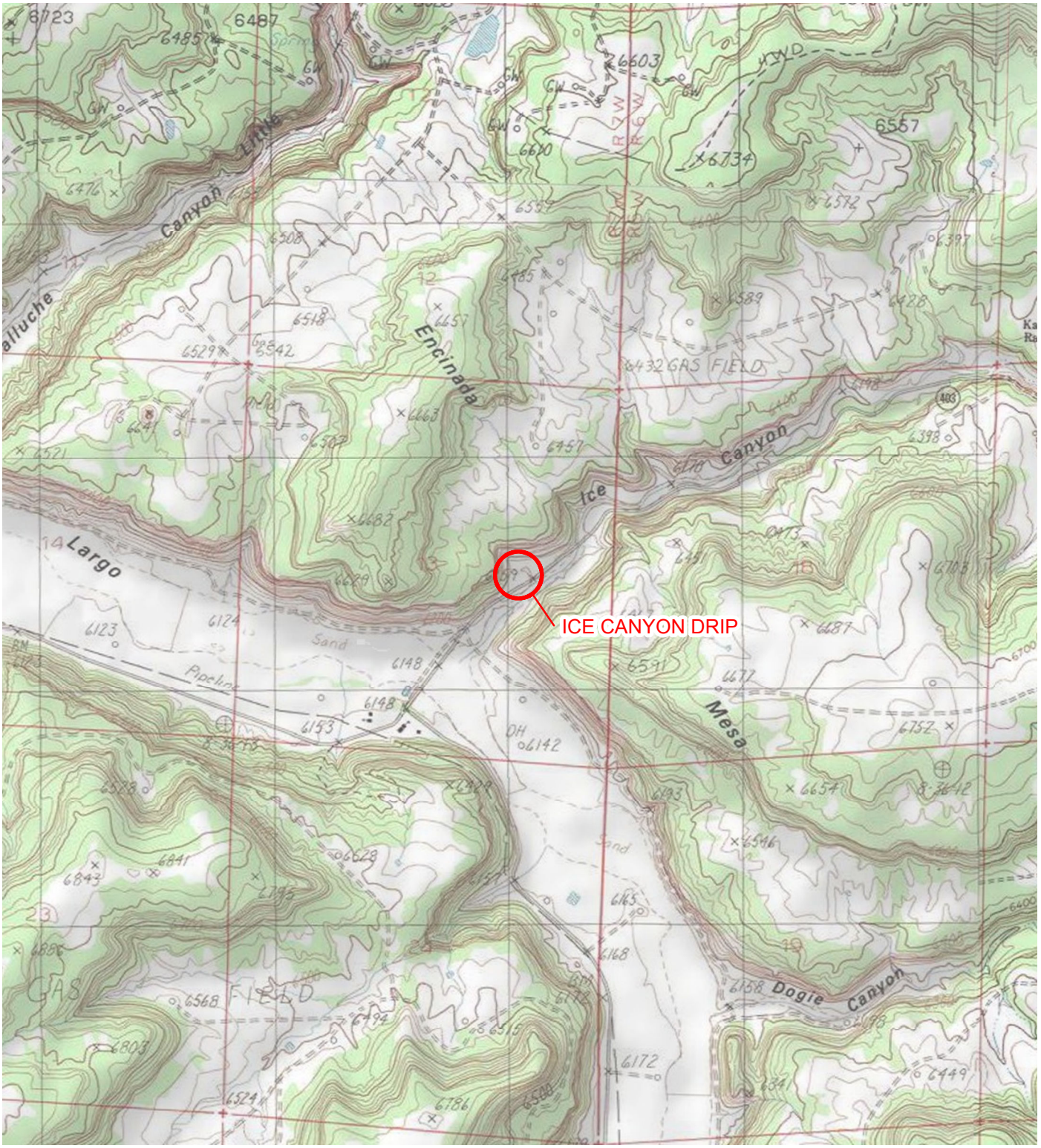

IMAGE COURTESY OF ESRI/BING MAPS

LEGEND

SITE LOCATION

0 2,000 4,000

Feet

N

FIGURE 1
SITE LOCATION MAP
ICE CANYON DRIP
RIO ARRIBA COUNTY, NEW MEXICO

WILLIAMS FIELD SERVICES, LLC

P:\Williams Four Corners\GIS\MXD\034013001_ICE_CANYON_DRIP\034013001_ICE_CANYON_FIG01_SL.mxd

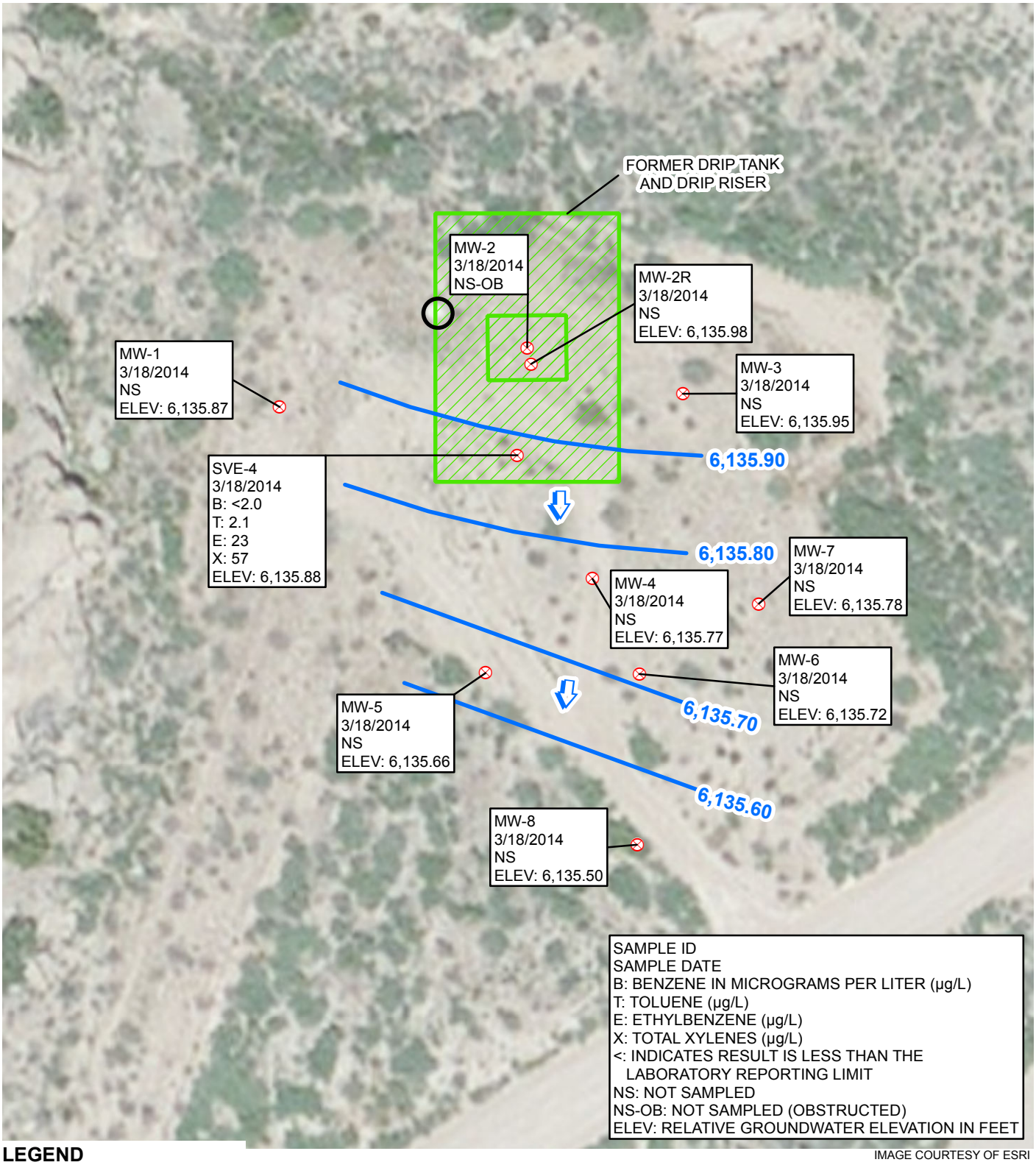

IMAGE COURTESY OF ESRI

LEGEND

- MONITORING WELL
- DRIP TANK
- ESTIMATED GROUNDWATER FLOW DIRECTION
- RELATIVE GROUNDWATER ELEVATION CONTOUR
  CONTOUR INTERVAL = 0.10 FEET

0 50 100
Feet

N

FIGURE 2
GROUNDWATER ELEVATION & ANALYTICAL RESULTS (MARCH 2014)
ICE CANYON DRIP
RIO ARRIBA COUNTY, NEW MEXICO
WILLIAMS FIELD SERVICES, LLC

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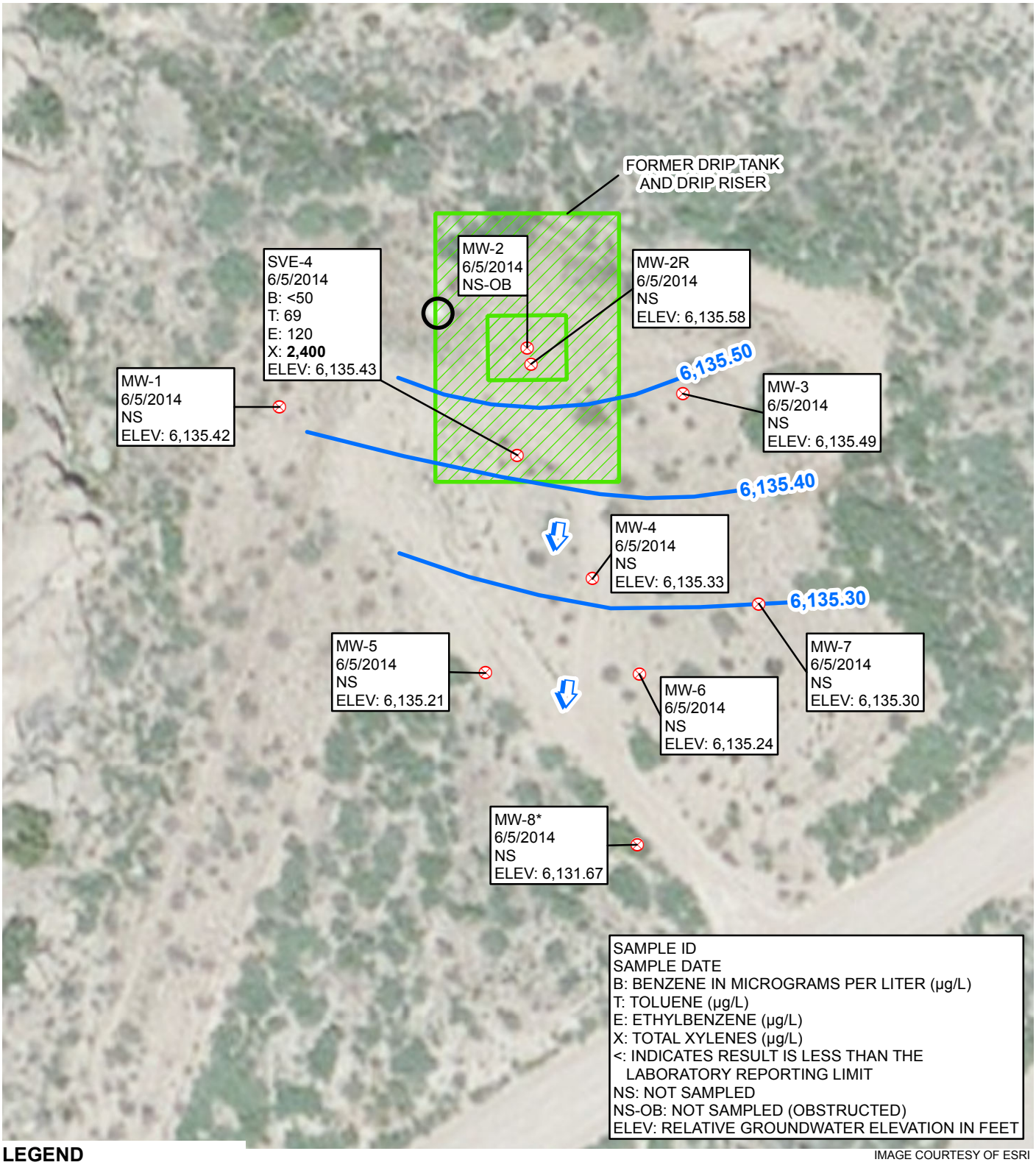

IMAGE COURTESY OF ESRI

LEGEND

- MONITORING WELL
- DRIP TANK
- ESTIMATED GROUNDWATER FLOW DIRECTION
- RELATIVE GROUNDWATER ELEVATION CONTOUR
  CONTOUR INTERVAL = 0.10 FEET

*MW-8 NOT USED TO GENERATE GROUNDWATER ELEVATION CONTOURS

0 50 100
Feet

N

FIGURE 3
GROUNDWATER ELEVATION & ANALYTICAL RESULTS (JUNE 2014)
ICE CANYON DRIP
RIO ARRIBA COUNTY, NEW MEXICO
WILLIAMS FIELD SERVICES, LLC

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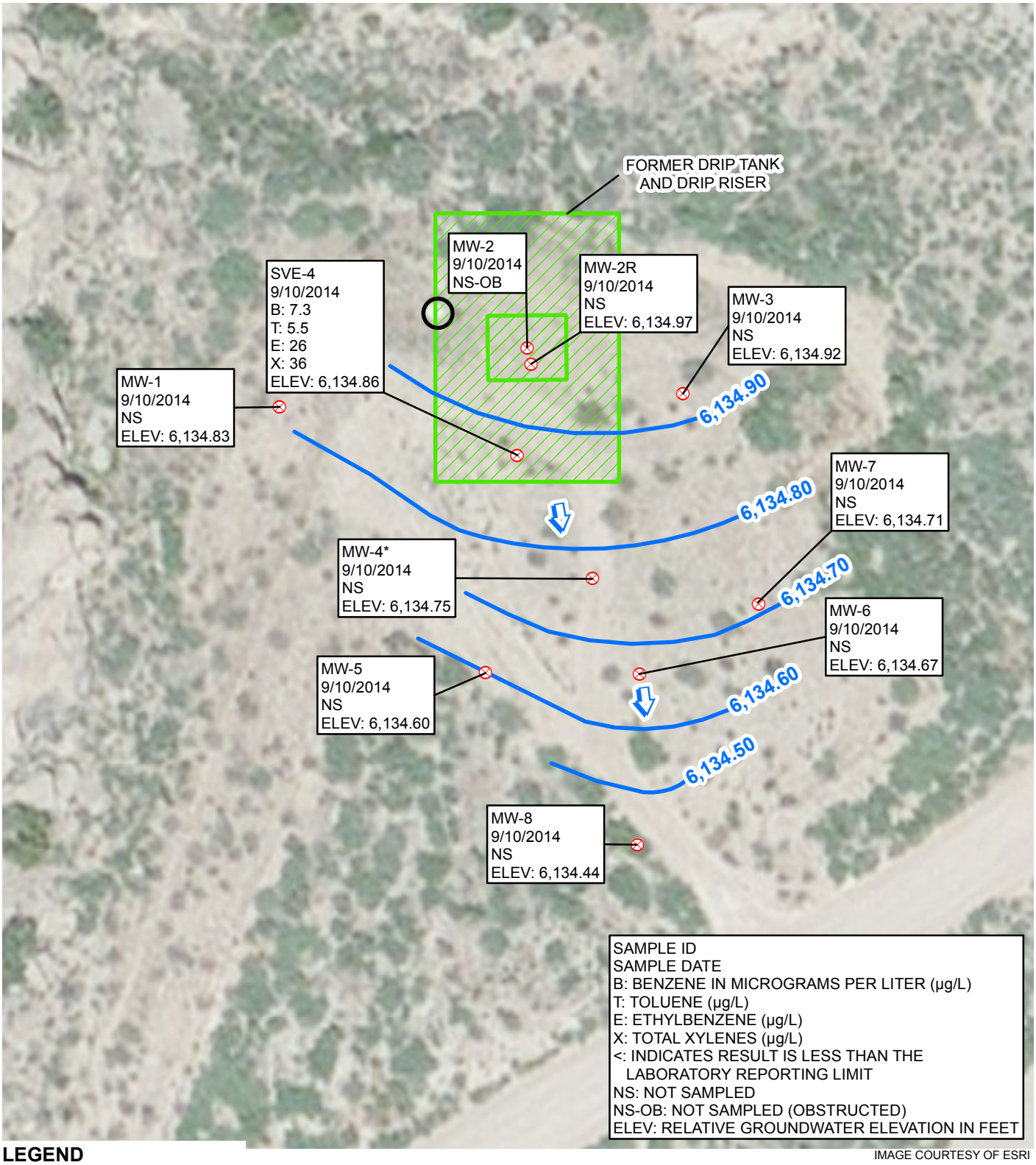

IMAGE COURTESY OF ESRI

LEGEND

- MONITORING WELL
- DRIP TANK
- ESTIMATED GROUNDWATER FLOW DIRECTION
- RELATIVE GROUNDWATER ELEVATION CONTOUR
  CONTOUR INTERVAL = 0.10 FOOT

*MW-4 WAS NOT USED TO GENERATE GROUNDWATER ELEVATION CONTOURS

0 50 100
Feet

N

FIGURE 4
GROUNDWATER ELEVATION & ANALYTICAL RESULTS (SEPTEMBER 2014)
ICE CANYON DRIP
RIO ARRIBA COUNTY, NEW MEXICO
WILLIAMS FIELD SERVICES, LLC

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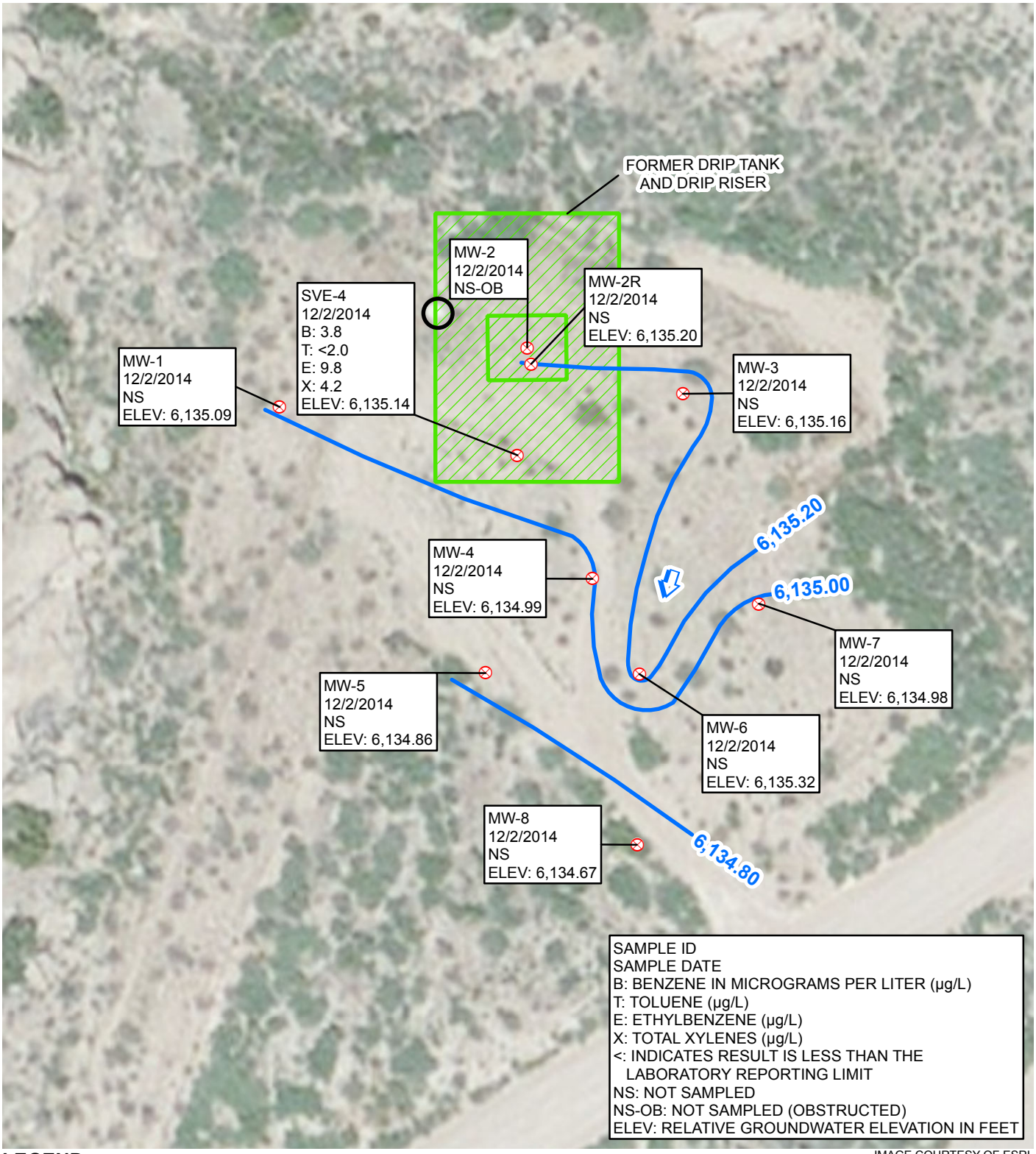

IMAGE COURTESY OF ESRI

LEGEND

- MONITORING WELL
- DRIP TANK
- ESTIMATED GROUNDWATER FLOW DIRECTION
- RELATIVE GROUNDWATER ELEVATION CONTOUR
  CONTOUR INTERVAL = 0.20 FOOT

0 50 100
Feet

N

FIGURE 5
GROUNDWATER ELEVATION & ANALYTICAL RESULTS (DECEMBER 2014)
ICE CANYON DRIP
RIO ARRIBA COUNTY, NEW MEXICO
WILLIAMS FIELD SERVICES, LLC

P:\Williams Field Services\GIS\MXD\034013010_ICE_CANYON_DRIP\034015003_ICE_CANYON_FIG05_GWE_GWA_2014_Q4.mxd

TABLES

TABLE 1

GROUNDWATER ELEVATION SUMMARY
ICE CANYON DRIP
WILLIAMS FIELD SERVICES, LLC

Well Name	Date	Top of Casing Elevation (feet AMSL)	Depth to Product (feet BTOC)	Product Thickness (feet)	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet AMSL)
MW-1	4/6/2012	6,180.13	UNK	UNK	UNK	UNK
MW-1	6/14/2012	6,180.13	UNK	UNK	UNK	UNK
MW-1	9/27/2012	6,180.13	UNK	UNK	UNK	UNK
MW-1	12/7/2012	6,180.13	UNK	UNK	UNK	UNK
MW-1	3/4/2013	6,180.13	NP	NP	46.75	6,133.38
MW-1	6/27/2013**	6,180.15	NP	NP	47.37	6,132.78
MW-1	9/24/2013	6,180.15	NP	NP	44.54	6,135.61
MW-1	12/2/2013	6,180.15	NP	NP	43.67	6,136.48
MW-1	3/18/2014	6,180.15	NP	NP	44.28	6,135.87
MW-1	6/5/2014	6,180.15	NP	NP	44.73	6,135.42
MW-1	9/10/2014	6,180.15	NP	NP	45.32	6,134.83
MW-1	12/2/2014	6,180.15	NP	NP	45.06	6,135.09
MW-2	4/6/2012	UNK	UNK	UNK	UNK	UNK
MW-2	6/14/2012	UNK	UNK	UNK	UNK	UNK
MW-2	9/27/2012	UNK	UNK	UNK	UNK	UNK
MW-2	12/7/2012	UNK	UNK	UNK	UNK	UNK
MW-2	3/4/2013	UNK	NS-OB	NS-OB	NS-OB	NS-OB
MW-2	6/27/2013**	6,174.91	NS-OB	NS-OB	NS-OB	NS-OB
MW-2	9/24/2013	6,174.91	NS-OB	NS-OB	NS-OB	NS-OB
MW-2R	12/2/2013	6,174.30	NP	NP	37.67	6,136.63
MW-2R	3/18/2014	6,174.30	NP	NP	38.32	6,135.98
MW-2R	6/5/2014	6,174.30	NP	NP	38.72	6,135.58
MW-2R	9/10/2014	6,171.30	NP	NP	36.33	6,134.97
MW-2R	12/2/2014	6,171.30	NP	NP	36.10	6,135.20
MW-3	4/6/2012	6,174.19	UNK	UNK	UNK	UNK
MW-3	6/14/2012	6,174.19	UNK	UNK	UNK	UNK
MW-3	9/27/2012	6,174.19	UNK	UNK	UNK	UNK
MW-3	12/7/2012	6,174.19	UNK	UNK	UNK	UNK
MW-3	3/4/2013	6,174.19	NP	NP	40.66	6,133.53
MW-3	6/27/2013**	6,174.09	NP	NP	41.29	6,132.80
MW-3	9/24/2013	6,174.09	NP	NP	38.28	6,135.81
MW-3	12/2/2013	6,174.09	NP	NP	37.49	6,136.60
MW-3	3/18/2014	6,174.09	NP	NP	38.14	6,135.95
MW-3	6/5/2014	6,174.09	NP	NP	38.60	6,135.49
MW-3	9/10/2014	6,174.09	NP	NP	39.17	6,134.92
MW-3	12/2/2014	6,174.09	NP	NP	38.93	6,135.16
MW-4	4/6/2012	6,173.73	UNK	UNK	UNK	UNK
MW-4	6/14/2012	6,173.73	UNK	UNK	UNK	UNK
MW-4	9/27/2012	6,173.73	UNK	UNK	UNK	UNK
MW-4	12/7/2012	6,173.73	UNK	UNK	UNK	UNK
MW-4	3/4/2013	6,173.73	NP	NP	40.45	6,133.28
MW-4	6/27/2013**	6,173.76	NP	NP	41.11	6,132.65
MW-4	9/24/2013	6,173.76	NP	NP	37.96	6,135.80
MW-4	12/2/2013	6,173.76	NP	NP	37.31	6,136.45
MW-4	3/18/2014	6,173.76	NP	NP	37.99	6,135.77
MW-4	6/5/2014	6,173.76	NP	NP	38.43	6,135.33
MW-4	9/10/2014	6,173.76	NP	NP	39.01	6,134.75
MW-4	12/2/2014	6,173.76	NP	NP	38.77	6,134.99
MW-5	4/6/2012	6,169.97	UNK	UNK	UNK	UNK
MW-5	6/14/2012	6,169.97	UNK	UNK	UNK	UNK
MW-5	9/27/2012	6,169.97	UNK	UNK	UNK	UNK
MW-5	12/7/2012	6,169.97	UNK	UNK	UNK	UNK
MW-5	3/4/2013 §	6,169.97	36.82	0.01	36.83	6,133.14
MW-5	6/27/2013**	6,170.01	NP	NP	37.45	6,132.56
MW-5	9/24/2013	6,170.01	NP	NP	34.29	6,135.72
MW-5	12/2/2013	6,170.01	NP	NP	33.67	6,136.34
MW-5	3/18/2014	6,170.01	NP	NP	34.35	6,135.66
MW-5	6/5/2014	6,170.01	NP	NP	34.80	6,135.21
MW-5	9/10/2014	6,170.01	NP	NP	35.41	6,134.60
MW-5	12/2/2014	6,170.01	NP	NP	35.15	6,134.86
MW-6	4/6/2012	6,171.36	UNK	UNK	UNK	UNK
MW-6	6/14/2012	6,171.36	UNK	UNK	UNK	UNK
MW-6	9/27/2012	6,171.36	UNK	UNK	UNK	UNK

TABLE 1

GROUNDWATER ELEVATION SUMMARY
ICE CANYON DRIP
WILLIAMS FIELD SERVICES, LLC

Well Name	Date	Top of Casing Elevation (feet AMSL)	Depth to Product (feet BTOC)	Product Thickness (feet)	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet AMSL)
MW-6	12/7/2012	6,171.36	UNK	UNK	UNK	UNK
MW-6	3/4/2013	6,171.36	NP	NP	NS-IW	NS-IW
MW-6	6/27/2013**	6,171.36	NP	NP	NS-IW	NS-IW
MW-6	9/24/2013	6,171.36	NP	NP	35.50	6,135.86
MW-6	12/2/2013	6,171.36	NP	NP	34.94	6,136.42
MW-6	3/18/2014	6,171.36	NP	NP	35.64	6,135.72
MW-6	6/5/2014	6,171.36	NP	NP	36.12	6,135.24
MW-6	9/10/2014	6,171.36	NP	NP	36.69	6,134.67
MW-6	12/2/2014	6,171.36	NP	NP	36.04	6,135.32
MW-7	4/6/2012	6,171.56	UNK	UNK	UNK	UNK
MW-7	6/14/2012	6,171.56	UNK	UNK	UNK	UNK
MW-7	9/27/2012	6,171.56	UNK	UNK	UNK	UNK
MW-7	12/7/2012	6,171.56	UNK	UNK	UNK	UNK
MW-7	3/4/2013	6,171.56	NP	NP	38.28	6,133.28
MW-7	6/27/2013**	6,171.55	NP	NP	38.94	6,132.61
MW-7	9/24/2013	6,171.55	NP	NP	35.65	6,135.90
MW-7	12/2/2013	6,171.55	NP	NP	35.11	6,136.44
MW-7	3/18/2014	6,171.55	NP	NP	35.77	6,135.78
MW-7	6/5/2014	6,171.55	NP	NP	36.25	6,135.30
MW-7	9/10/2014	6,171.55	NP	NP	36.84	6,134.71
MW-7	12/2/2014	6,171.55	NP	NP	36.57	6,134.98
MW-8	4/6/2012	6,167.64	UNK	UNK	UNK	UNK
MW-8	6/14/2012	6,167.64	UNK	UNK	UNK	UNK
MW-8	9/27/2012	6,167.64	UNK	UNK	UNK	UNK
MW-8	12/7/2012	6,167.64	UNK	UNK	UNK	UNK
MW-8	3/4/2013	6,167.64	NP	NP	34.69	6,132.95
MW-8	6/27/2013**	6,167.69	NP	NP	35.31	6,132.38
MW-8	9/24/2013	6,167.69	NP	NP	31.74	6,135.95
MW-8	12/2/2013	6,167.69	NP	NP	31.48	6,136.21
MW-8	3/18/2014	6,167.69	NP	NP	32.19	6,135.50
MW-8	6/5/2014	6,167.69	NP	NP	36.02	6,131.67
MW-8	9/10/2014	6,167.69	NP	NP	33.25	6,134.44
MW-8	12/2/2014	6,167.69	NP	NP	33.02	6,134.67
SVE-4	4/6/2012	6,175.95	UNK	UNK	UNK	UNK
SVE-4	6/14/2012	6,175.95	UNK	UNK	UNK	UNK
SVE-4	9/27/2012	6,175.95	UNK	UNK	UNK	UNK
SVE-4	12/7/2012	6,175.95	UNK	UNK	UNK	UNK
SVE-4*	3/4/2013 §	6,175.95	42.72	0.01	42.73	6,133.23
SVE-4*	6/27/2013**	6,175.97	NP	NP	43.21	6,132.76
SVE-4	9/24/2013	6,175.97	NP	NP	40.23	6,135.74
SVE-4	12/2/2013	6,175.97	NP	NP	39.43	6,136.54
SVE-4	3/18/2014	6,175.97	NP	NP	40.09	6,135.88
SVE-4	6/5/2014	6,175.97	NP	NP	40.54	6,135.43
SVE-4	9/10/2014	6,175.97	NP	NP	41.11	6,134.86
SVE-4	12/2/2014	6,175.97	NP	NP	40.83	6,135.14

Notes:

* Due to presence of product recovery device, this may not be static water level

** Top of casing elevation was resurveyed on 6/19/13

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

§- Phase separated hydrocarbons not likely present in wells. Malfunction in interface probe.
AMSL - above mean sea level
BTOC - below top of casing
NP - no product
NS-IW - well did not contain sufficient volume of water to be sampled
NS-OB - not sampled due to well obstruction
UNK - data is not known

TABLE 2

GROUNDWATER LABORATORY ANALYTICAL RESULTS
ICE CANYON DRIP
WILLIAMS FIELD SERVICES, LLC

Well Name	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standard (µg/L)		**10**	**750**	**750**	**620**
MW-1	6/4/1998	<0.5	<0.5	<0.5	<1.0
MW-1	9/14/1998	<1	<1	<1	<2
MW-1	12/9/1998	<1	<1	<1	<2
MW-1	2/10/1999	<0.5	<0.5	<0.5	<1
MW-1	3/13/2001	<1.0	<1.0	<1.0	<1.0
MW-1	5/4/2001	<1.0	<1.0	<1.0	<1.0
MW-1	10/29/2001	<1.0	<2.0	<2.0	<2.0
MW-1	3/25/2002	ND	ND	ND	ND
MW-1	6/17/2002	ND	ND	ND	ND
MW-1	12/16/2003	<2.0	<2.0	<2.0	<5.0
MW-1	9/18/2004	<2.0	<2.0	<2.0	<5.0
MW-1	12/8/2004	<2.0	<2.0	<2.0	<5.0
MW-1	3/4/2005	<2.0	<2.0	<2.0	<5.0
MW-1	6/16/2005	<2.0	<2.0	<2.0	<5.0
MW-1	9/14/2005	<2.0	<2.0	<2.0	<5.0
MW-1	3/30/2010	<1.0	<1.0	<1.0	<3.0
MW-1	6/22/2010	<1.0	<1.0	<1.0	<3.0
MW-1	9/16/2010	<1.0	<1.0	<1.0	<3.0
MW-1	12/8/2010	<1.0	<1.0	<1.0	<3.0
MW-1	3/10/2011	<1.0	<1.0	<1.0	<3.0
MW-1	6/15/2011	<1.0	<1.0	<1.0	<3.0
MW-1	9/13/2011	<1.0	<1.0	<1.0	<3.0
MW-1	1/6/2012	<1.0	<1.0	<1.0	<3.0
MW-1	4/6/2012	<1.0	<1.0	<1.0	<3.0
MW-1	6/14/2012	<1.0	<1.0	<1.0	<3.0
MW-1	9/27/2012	<1.0	<1.0	<1.0	<3.0
MW-1	12/7/2012	<1.0	<1.0	<1.0	<3.0
MW-1	3/4/2013	<1.0	<1.0	<1.0	<2.0
MW-2	11/12/1997	**19,523**	**31,288**	**886**	**7,437**
MW-2	6/4/1998	**4,200**	**3,400**	420	**7,800**
MW-2	9/14/1998	**1,900**	**640**	340	**4,300**
MW-2	12/9/1998	**3,800**	**1,500**	540	**6,580**
MW-2	2/10/1999	**5,100**	**3,100**	640	**8,600**
MW-2	4/27/1999	**4,800**	**2,000**	570	**7,400**
MW-2	9/20/1999	**4,900**	570	520	**5,300**
MW-2	11/16/1999	**5,700**	650	560	**7,800**
MW-2	2/7/2000	**6,000**	640	610	**7,900**
MW-2	5/18/2000	**5,900**	310	570	**7,000**

TABLE 2

GROUNDWATER LABORATORY ANALYTICAL RESULTS
ICE CANYON DRIP
WILLIAMS FIELD SERVICES, LLC

Well Name	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standard (µg/L)		**10**	**750**	**750**	**620**
MW-2	5/18/2000	**5,800**	**320**	580	**6,990**
MW-2	11/13/2000	**3,590**	482	374	**4,090**
MW-2	3/13/2001	**1,540**	191	182	**1,340**
MW-2	5/4/2001	**2,640**	248	293	**2,000**
MW-2	10/29/2001	**2,000**	2.3	300	200
MW-2	3/25/2002	**370**	16	70	330
MW-2	6/17/2002	**320**	ND	65	150
MW-2	9/26/2002	**320**	4.6	49	210
MW-2	12/16/2003*	**330**	15	110	46
MW-2	9/18/2004*	**1,900**	<20	420	**3,700**
MW-2	12/8/2004	**11**	<2.0	2.9	37
MW-2	3/4/2005	<2.0	<2.0	<2.0	9.2
MW-2	6/16/2005	50	3.7	<2.0	8.9
MW-2	9/14/2005	**160**	5.9	5.2	35
MW-2	12/2/2005	**146***	5.8	6.5	58.8
MW-2	7/14/2006	**568***	<1.0	39.8	75.7
MW-2	4/6/2012	NS	NS	NS	NS
MW-2	6/14/2012	NS	NS	NS	NS
MW-2	9/27/2012	NS	NS	NS	NS
MW-2	12/7/2012	NS	NS	NS	NS
MW-2	3/4/2013	NS-OB	NS-OB	NS-OB	NS-OB
MW-2	6/27/2013	NS-OB	NS-OB	NS-OB	NS-OB
MW-2	9/24/2013	NS-OB	NS-OB	NS-OB	NS-OB
MW-2R	12/2/2013	<1.0	<1.0	<1.0	<2.0
MW-3	6/4/1998	<0.5	<0.5	<0.5	<1.0
MW-3	9/14/1998	<1	<1	<1	<2
MW-3	12/9/1998	<1	<1	<1	<2
MW-3	2/10/1999	<0.5	<0.5	<0.5	<1
MW-3	11/13/2000	<1.0	<1.0	<1.0	<1.0
MW-3	3/13/2001	<1.0	<1.0	<1.0	<1.0
MW-3	5/4/2001	<1.0	<1.0	<1.0	<1.0
MW-3	10/29/2001	<1.0	<2.0	<2.0	<2.0
MW-3	3/25/2002	ND	ND	ND	ND
MW-3	6/17/2002	ND	ND	ND	ND
MW-3	12/16/2003	<2.0	<2.0	<2.0	<5.0
MW-3	9/18/2004	<2.0	<2.0	<2.0	<5.0
MW-3	12/8/2004	<2.0	<2.0	<2.0	<5.0

TABLE 2

GROUNDWATER LABORATORY ANALYTICAL RESULTS
ICE CANYON DRIP
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	3/4/2005	<2.0	<2.0	<2.0	<5.0
MW-3	6/16/2005	<2.0	<2.0	<2.0	<5.0
MW-3	9/14/2005	<2.0	<2.0	<2.0	<5.0
MW-3	12/2/2005	<2.0	<2.0	<2.0	<5.0
MW-3	3/30/2010	<1.0	<1.0	<1.0	<3.0
MW-3	9/16/2010	<1.0	<1.0	<1.0	<3.0
MW-3	6/15/2011	<1.0	<1.0	<1.0	<3.0
MW-3	1/6/2012	<1.0	<1.0	<1.0	<3.0
MW-3	4/6/2012	NS	NS	NS	NS
MW-3	6/14/2012	NS	NS	NS	NS
MW-3	9/27/2012	NS	NS	NS	NS
MW-3	12/7/2012	<1.0	<1.0	<1.0	<3.0
MW-3	3/4/2013	<1.0	<1.0	<1.0	<2.0
MW-4	6/19/1998	**610**	**1,100**	73	540
MW-4	9/14/1998	**58**	65	7	35
MW-4	12/9/1998	**450**	650	48	266
MW-4	2/10/1999	**1,400**	**3,100**	150	**1,000**
MW-4	4/27/1999	**1,200**	**2,900**	130	**970**
MW-4	9/20/1999	**540**	450	64	237
MW-4	11/16/1999	**1,000**	**2,200**	130	**790**
MW-4	2/7/2000	**480**	640	66	236
MW-4	5/18/2000	**550**	**910**	80	303
MW-4	11/13/2000	**495**	676	79.3	411
MW-4	3/13/2001	**30.9**	20.7	5.03	20.4
MW-4	5/4/2001	**45.5**	23.7	7.63	31.7
MW-4	10/29/2001	**11**	3.3	<2.0	3.4
MW-4	3/25/2002	5.1	2	ND	ND
MW-4	6/17/2002	ND	ND	ND	ND
MW-4	9/26/2002	**29**	20	2.5	28
MW-4	12/16/2003	<2.0	<2.0	<2.0	<5.0
MW-4	9/18/2004*	**60**	7.1	21	140
MW-4	12/8/2004	**34**	3.2	17	130
MW-4	3/4/2005	**12**	3.4	<2.0	8.5
MW-4	6/16/2005	**16**	<2.0	7.5	35
MW-4	9/14/2005	**20**	<2.0	13	72
MW-4	12/2/2005	**12.8**	<2.0	8.5	58.6
MW-4	7/14/2006	3.5	<1.0	1.3	13.4
MW-4	3/30/2010	<1.0	<1.0	<1.0	<3.0

TABLE 2

GROUNDWATER LABORATORY ANALYTICAL RESULTS
ICE CANYON DRIP
WILLIAMS FIELD SERVICES, LLC

Well Name	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standard (µg/L)		**10**	**750**	**750**	**620**
MW-4	6/22/2010	<1.0	<1.0	<1.0	<3.0
MW-4	9/16/2010	<1.0	<1.0	<1.0	<3.0
MW-4	12/8/2010	<1.0	<1.0	<1.0	<3.0
MW-4	3/10/2011	<1.0	<1.0	<1.0	<3.0
MW-4	6/15/2011	<1.0	<1.0	<1.0	<3.0
MW-4	9/13/2011	<1.0	<1.0	<1.0	<3.0
MW-4	1/6/2012	<1.0	<1.0	<1.0	<3.0
MW-4	4/6/2012	<1.0	<1.0	<1.0	<3.0
MW-4	6/14/2012	<1.0	<1.0	<1.0	<3.0
MW-4	9/27/2012	<1.0	<1.0	<1.0	<3.0
MW-4	12/7/2012	<1.0	<1.0	<1.0	<3.0
MW-4	3/4/2013	<1.0	<1.0	<1.0	<2.0
MW-4	6/27/2013	<1.0	<1.0	<1.0	<2.0
MW-5	9/14/1998	**1,900**	610	350	**4,210**
MW-5	12/9/1998	**420**	610	47	**256**
MW-5	9/20/1999	**510**	410	50	198
MW-5	2/10/1999	**4,900**	**2,900**	610	**8,100**
MW-5	11/16/1999	**170**	290	26	192
MW-5	2/7/2000	**290**	77	24	53.6
MW-5	5/18/2000	**240**	83	30	54
MW-5	11/13/2000	**267**	19.4	41.8	10.5
MW-5	3/13/2001	**95.1**	55.1	10.6	19.5
MW-5	5/4/2001	**70.8**	50.5	6.2	18.9
MW-5	10/29/2001	2.1	<2.0	<2.0	<2.0
MW-5	3/25/2002	2	ND	ND	ND
MW-5	6/17/2002	ND	ND	ND	ND
MW-5	9/26/2002	ND	3.6	ND	ND
MW-5	12/16/2003	**250**	16	24	26
MW-5	9/18/2004	**32**	6.9	<2.0	<5.0
MW-5	12/8/2004	**54**	5.6	<2.0	<5.0
MW-5	3/4/2005	**110**	18	4.3	12
MW-5	6/16/2005	**21**	8.6	<2.0	<5.0
MW-5	9/14/2005	**24**	3.9	<2.0	<5.0
MW-5	12/2/2005	**73.4**	7.1	<2.0	7.3
MW-5	7/18/2006	**16.1**	4.8	<1.0	4.2
MW-5	3/30/2010	1.4	<1.0	<1.0	<3.0
MW-5	6/22/2010	<1.0	<1.0	<1.0	<3.0
MW-5	9/16/2010	1.8	<1.0	<1.0	<3.0

TABLE 2

GROUNDWATER LABORATORY ANALYTICAL RESULTS
ICE CANYON DRIP
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	12/8/2010	<1.0	<1.0	<1.0	<3.0
MW-5	3/10/2011	<1.0	<1.0	<1.0	<3.0
MW-5	6/15/2011	2.7	<1.0	4.7	<3.0
MW-5	9/13/2011	1.7	<1.0	<1.0	<3.0
MW-5	1/6/2012	<1.0	<1.0	<1.0	<3.0
MW-5	4/6/2012	<1.0	<1.0	<1.0	<3.0
MW-5	6/14/2012	<1.0	<1.0	<1.0	<3.0
MW-5	9/27/2012	<1.0	<1.0	<1.0	<3.0
MW-5	12/7/2012	<1.0	<1.0	<1.0	<3.0
MW-5	3/4/2013**	NS-FP	NS-FP	NS-FP	NS-FP
MW-5	6/27/2013	<2.0	<2.0	<2.0	<4.0
MW-6	4/27/1999	**1,200**	**2,700**	120	**920**
MW-6	9/20/1999	**1,200**	**1,100**	570	**5,400**
MW-6	11/16/1999	**610**	310	290	**3,100**
MW-6	2/7/2000	**580**	48	260	**2,600**
MW-6	5/18/2000	**530**	12	230	**2,240**
MW-6	11/13/2000	**846**	25	278	**2,700**
MW-6	3/13/2001	**741**	26.7	240	**2,630**
MW-6	5/4/2001	**1,190**	41.7	369	**4,140**
MW-6	10/29/2001	**280**	7.3	170	**1,700**
MW-6	3/25/2002	**280**	7.3	170	**1,700**
MW-6	6/17/2002*	**220**	2.1	140	**670**
MW-6	12/16/2003	**57**	<20	210	**1,800**
MW-6	12/8/2004	**7.8**	7.4	32	**260**
MW-6	3/4/2005	**12**	12	43	**230**
MW-6	6/16/2005	**17**	17	60	**300**
MW-6	12/2/2005	<2.0	<2.0	<2.0	<5.0
MW-6	4/6/2012	NS	NS	NS	NS
MW-6	6/14/2012	NS	NS	NS	NS
MW-6	9/27/2012	NS	NS	NS	NS
MW-6	12/7/2012	NS	NS	NS	NS
MW-6	3/4/2013	NS-IW	NS-IW	NS-IW	NS-IW
MW-6	6/27/2013	NS-IW	NS-IW	NS-IW	NS-IW
MW-6	9/24/2013	NS-IW	NS-IW	NS-IW	NS-IW
MW-6	12/2/2013	<2.0	<2.0	<2.0	<4.0
MW-7	9/20/1999	2.3	<0.5	0.5	7.5
MW-7	11/16/1999	<0.5	<0.5	0.5	<1.5

TABLE 2

GROUNDWATER LABORATORY ANALYTICAL RESULTS
ICE CANYON DRIP
WILLIAMS FIELD SERVICES, LLC

Well Name	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standard (µg/L)		**10**	**750**	**750**	**620**
MW-7	2/7/2000	<0.5	<0.5	<0.5	<1.5
MW-7	5/18/2000	<0.5	<0.5	<0.5	<1.5
MW-7	11/13/2000	<1.0	<1.0	<1.0	1.97
MW-7	3/13/2001	<1.0	<1.0	<1.0	<1.0
MW-7	5/4/2001	<1.0	<1.0	<1.0	<1.0
MW-7	10/29/2001	<1.0	<2.0	<2.0	<2.0
MW-7	3/25/2002	ND	ND	ND	ND
MW-7	6/17/2002	ND	ND	ND	11
MW-7	12/16/2003	<2.0	<2.0	<2.0	<5.0
MW-7	9/18/2004	<2.0	<2.0	<2.0	<5.0
MW-7	12/8/2004	<2.0	<2.0	<2.0	<5.0
MW-7	3/4/2005	<2.0	<2.0	<2.0	<5.0
MW-7	6/16/2005	<2.0	<2.0	<2.0	<5.0
MW-7	9/14/2005	<2.0	<2.0	<2.0	<5.0
MW-7	12/2/2005	<2.0	<2.0	<2.0	<5.0
MW-7	7/14/2006	<1.0	<1.0	<1.0	<3.0
MW-7	3/30/2010	<1.0	<1.0	<1.0	<3.0
MW-7	6/22/2010	<1.0	<1.0	<1.0	<3.0
MW-7	9/16/2010	<1.0	<1.0	<1.0	<3.0
MW-7	12/8/2010	<1.0	<1.0	<1.0	<3.0
MW-7	3/10/2011	<1.0	<1.0	<1.0	<3.0
MW-7	6/15/2011	<1.0	<1.0	<1.0	<3.0
MW-7	9/13/2011	<1.0	<1.0	<1.0	<3.0
MW-7	1/6/2012	<1.0	<1.0	<1.0	<3.0
MW-7	4/6/2012	<1.0	<1.0	<1.0	<3.0
MW-7	6/14/2012	<1.0	<1.0	<1.0	<3.0
MW-7	9/27/2012	<1.0	<1.0	<1.0	<3.0
MW-7	12/7/2012	<1.0	<1.0	<1.0	<3.0
MW-7	3/4/2013	<1.0	<1.0	<1.0	<2.0
MW-8	11/16/1999	9.9	21	6.1	76
MW-8	2/7/2000	9.4	3.4	11	20.8
MW-8	5/18/2000	0.8	<0.5	1	<1.5
MW-8	11/13/2000	<1.0	<1.0	<1.0	<1.0
MW-8	3/13/2001	<1.0	<1.0	<1.0	<1.0
MW-8	5/4/2001	<1.0	<1.0	<1.0	<1.0
MW-8	10/29/2001	<1.0	<2.0	<2.0	<2.0
MW-8	3/25/2002	ND	ND	ND	ND
MW-8	6/17/2002	ND	ND	ND	ND

TABLE 2

GROUNDWATER LABORATORY ANALYTICAL RESULTS
ICE CANYON DRIP
WILLIAMS FIELD SERVICES, LLC

Well Name	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standard (µg/L)		**10**	**750**	**750**	**620**
MW-8	9/26/2002	ND	ND	ND	ND
MW-8	12/16/2003	<2.0	<2.0	<2.0	<5.0
MW-8	9/18/2004	<2.0	<2.0	<2.0	<5.0
MW-8	12/8/2004	<2.0	<2.0	<2.0	<5.0
MW-8	3/4/2005	<2.0	<2.0	<2.0	<5.0
MW-8	6/16/2005	<2.0	<2.0	<2.0	<5.0
MW-8	9/14/2005	<2.0	<2.0	<2.0	<5.0
MW-8	12/2/2005	<2.0	<2.0	<2.0	<5.0
MW-8	7/14/2006	<1.0	<1.0	<1.0	<3.0
MW-8	3/30/2010	<1.0	<1.0	<1.0	<3.0
MW-8	6/22/2010	<1.0	<1.0	<1.0	<3.0
MW-8	9/16/2010	<1.0	<1.0	<1.0	<3.0
MW-8	12/8/2010	<1.0	<1.0	<1.0	<3.0
MW-8	3/10/2011	<1.0	<1.0	<1.0	<3.0
MW-8	6/15/2011	<1.0	<1.0	<1.0	<3.0
MW-8	9/13/2011	<1.0	<1.0	<1.0	<3.0
MW-8	1/6/2012	<1.0	<1.0	<1.0	<3.0
MW-8	4/6/2012	<1.0	<1.0	<1.0	<3.0
MW-8	6/14/2012	<1.0	<1.0	<1.0	<3.0
MW-8	9/27/2012	<1.0	<1.0	<1.0	<3.0
MW-8	12/7/2012	<1.0	<1.0	<1.0	<3.0
MW-8	3/4/2013	<1.0	<1.0	<1.0	<3.0
MW-8	6/27/2013	<2.0	<2.0	<2.0	<4.0
SVE-4	2/7/2000	**10,000**	**22,000**	690	**7,500**
SVE-4	2/7/2000	**10,000**	**21,000**	680	**7,300**
SVE-4	3/4/2005*	**370**	280	530	**6,900**
SVE-4	6/16/2005*	**99**	29	<10	**5,600**
SVE-4	12/2/2005	**18.2**	19.6	27.5	**633**
SVE-4	3/30/2010	5.9	1.5	113	400
SVE-4	6/22/2010	6.9	<5.0	105	413
SVE-4	9/16/2010	<1.0	<1.0	9	<3.0
SVE-4	12/8/2010	1.3	<1.0	18.8	29.2
SVE-4	3/10/2011	5.3	<5.0	120	499
SVE-4	6/15/2011	4.7	1.6	84.7	247
SVE-4	9/13/2011	6.7	1.7	86.3	193
SVE-4	1/6/2012	5.6	<5.0	63.1	42.1
SVE-4	4/6/2012	3.7	63.9	2.3	142
SVE-4	6/14/2012	3.1	52.7	1.5	121

TABLE 2

GROUNDWATER LABORATORY ANALYTICAL RESULTS
ICE CANYON DRIP
WILLIAMS FIELD SERVICES, LLC

Well Name	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standard (µg/L)		**10**	**750**	**750**	**620**
SVE-4	9/27/2012	NS	NS	NS	NS
SVE-4	12/7/2012	<5.0	38.5	<5.0	92.6
SVE-4	3/4/2013**	NS-FP	NS-FP	NS-FP	NS-FP
SVE-4	6/27/2013	**13**	<5.0	<5.0	170
SVE-4	9/24/2013	<5.0	<5.0	45	210
SVE-4	12/2/2013	<5.0	<5.0	10	34
SVE-4	3/18/2014	<2.0	2.1	23	57
SVE-4	6/5/2014	<50	69	120	**2,400**
SVE-4	9/10/2014	7.3	5.5	26	36
SVE-4	12/2/2014	3.8	<2.0	9.8	4.2

Notes:
Bold - indicates sample exceeds NMWQCC standard
< - indicates result is less than laboratory reporting detection limit
* - indicates sample was diluted
** - Phase separated hydrocarbons not likely present in wells. Malfunction in interface probe.
µg/L - micrograms per liter
ND - not dectected
NMWQCC - New Mexico Water Quality Control Commission
NS - not sampled
NS-FP - not sampled due to the presence of phase seperated hydrocarbons in the well
NS-IW - well did not contain sufficient volume of water to be sampled
NS-OB - not sampled due to well obstruction

APPENDIX A

2014 QUARTERLY FIELD NOTES

Water Sample Collection Form

Sample Location	Ice Canyon	Client	Williams Field Services
Sample Date	3/18/2014	Project Name	San Juan Basin Remediation
Sample Time	1030	Project #	034013010
Sample ID	SVE-4	Sampler	Daniel Newman
Analyses	BTEX 8021		
Matrix	Groundwater	Laboratory	Hall Environmental
Turn Around Time	Standard	Shipping Method	Hand delivery
Depth to Water	40.09	TD of Well	43.80
Time	940	Depth to Product	N/A
Vol. of H2O to purge	43.80-40.09=3.71 x0.6524 x 2.42x3= 7.26 ~~x0.1631=0.605 x3=1.81~~ DN 7.26		

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

Method of Purging: PVC Bailer

Method of Sampling: PVC Bailer

Time	Vol. Removed (gal.)	Total Vol H2O removed (gal.)	pH (std. units)	Temp. (C)F	Conductivity (us or ms)	Comments	PPT
940	0.25	0.25	6.80	58.1	4.46	slight HC odor, clear gray	2.22
		0.50	6.78	57.2	4.42	slight HC odor, gray	2.12
		0.75	6.69	57.4	4.35	" No change "	2.19
		1.00	6.80	56.8	4.27	HC odor, Black, cloudy, sediment	2.12
		1.25	6.82	57.7	4.20	" No change "	2.09
		1.50	6.81	56.7	4.11	No change	2.07
		1.75	6.85	56.1	4.04	No change	2.01
		2.00	6.81	55.4	4.03	No change	2.04
	0.10	2.10	6.82	55.2	4.02	HC odor, Black, cloudy, Sed, Bail +	2.03
1000	0.10	2.20	6.84	55.5	4.04	HC odor, Black, cloudy, Sed, Bail +	2.04

Comments: Bailing Dry, check DTW @ other wells onsite & come back to Sample

- Come back @ 1030 & sampled 3 HCL VOA
- TAKE Purged Water to Dogie CS

Describe Deviations from SOP: N/A

Signature: [signature] **Date:** 3/18/14

Water Sample Collection Form

Sample Location	SVE-4 - Ice Canyon	Client	Williams Field Services
Sample Date	6/5/14	Project Name	San Juan Basin Remediation
Sample Time	1125	Project #	034013010
Sample ID	SVE-4	Sampler	Alex Crooks
Analyses	BTEX 8021		
Matrix	Groundwater	Laboratory	Hall Environmental
Turn Around Time	Standard	Shipping Method	Hand delivery
Depth to Water	40.54	TD of Well	43.80
Time	1100	Depth to Product	N/A

Vol. of H2O to purge: 43.80 - 40.54 = 3.26 X .6524 X 3 AC = 6.38

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

Method of Purging: PVC Bailer

Method of Sampling: PVC Bailer

Time	Vol. Removed (gal.)	Total Vol H2O removed (gal.)	pH (std. units)	Temp. (C)	Conductivity (us or ms)	Comments
1109	0.25	0.25	6.66	68.4	1.60	Lightgray / Stong odor
1111		0.5	6.86	63.9	1.57	"
1113		0.75	6.81	63.5	1.55	Black with Stong odor
1115		1.00	6.90	64.6	0.83	"
1119	1.00	2.00	6.88	66.2	0.81	"
1125	.50	2.50	6.86	67.5	0.82	"

Comments: Well Running dry - Took Sample at 1125

Describe Deviations from SOP: well bailed dry before 3casing volumes were purged.

Signature: Alex Crooks **Date:** 6/5/14

LTE

Water Sample Collection Form

Sample Location	Ice Canyon	Client	Williams Field Services
Sample Date	9/10/2014	Project Name	San Juan Basin Remediation
Sample Time	1030	Project #	034013010
Sample ID	SVE-4	Sampler	Alex Crooks
Analyses	BTEX 8021		
Matrix	Groundwater	Laboratory	Hall Environmental
Turn Around Time	Standard	Shipping Method	Hand delivery
Depth to Water	41.11	TD of Well	43.96
Time	1000	Depth to Product	N/A

Vol. of H2O to purge: 43.96 - 41.11 = 2.85 x .1631 ~~.6524~~ = 1.86 x 3 = ~~5.58~~ 1.4 AC

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

Method of Purging: PVC Bailer

Method of Sampling: PVC Bailer

Time	Vol. Removed (gal.)	Total Vol H2O removed (gal.)	pH (std. units)	Temp. ~~(C)~~ F	Conductivity (us or ms)	Comments
1000	.25	.25	7.03	69.9	1.26	Black, Cloudy, odor
1010	.75	1	7.28	62.4	.66	No Change
1015	.50	1.50	7.13	65.7	1.01	No change
1018	.25	1.75	—	—	—	Well has gone dry
1030	.25	2.00	7.08	62.5	1.34	Took Sample

Comments: Took Sample @ 1030

Describe Deviations from SOP:

Signature: Alex Crooks **Date:** 09/10/2014

Water Sample Collection Form

Sample Location	Ice Canyon	Client	Williams Field Services
Sample Date	12/2/14	Project Name	San Juan Basin Remediation
Sample Time	1010	Project #	034013010
Sample ID	SVE-4	Sampler	Daniel Newman
Analyses	BTEX 8021		
Matrix	Groundwater	Laboratory	Hall Environmental
Turn Around Time	Standard	Shipping Method	Christine
Depth to Water	40.83	TD of Well	43.80
Time	9.48	Depth to Product	N/A

Vol. of H2O to purge: 43.80 - 40.83 = 2.97 x 0.6524 = 1.93 x 3 = 5.81

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

Method of Purging: PVC Bailer

Method of Sampling: PVC Bailer

Time	Vol. Removed (gal.)	Total Vol H2O removed (gal.)	pH (std. units)	Temp. (F)	Conductivity (us or ms)	Comments
9.48	0.25	0.25	7.01	58.8	1.09	Clear w Black slight sheen, strong odor
	0.25	0.50	7.07	59.7	1.09	Black, slight sheen, strong odor
	0.25	0.75	7.19	59.5	1.09	No change
	025	1.00	7.25	59.4	1.08	No change
	0.15	1.15	7.28	59.2	1.09	Bailing down. No change
	0.15	1.30	7.26	59.2	1.09	NO change
	0.10	1.40	7.27	59.2	1.09	NO change
	0.10	1.50	7.27	59.2	1.09	NO CHANGE

12/2/14

Comments: Bailing down sampled @ 1010 @ 1.5 gallons
Fill 3 HCL VOA's
Decon Equipment

Describe Deviations from SOP: Was unable to purge 3 casing volumes
Because well was going dry

Signature: _____ **Date:** 12/2/14

LTE

APPENDIX B

LABORATORY ANALYTICAL RESULTS

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

March 26, 2014

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

RE: San Juan Basin Remediation Ice Canyon Drip OrderNo.: 1403802

Dear Ashley Ager:

Hall Environmental Analysis Laboratory received 2 sample(s) on 3/19/2014 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1403802**
Date Reported: **3/26/2014**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Client Sample ID: SVE-4
Project: San Juan Basin Remediation Ice Canyon
Collection Date: 3/18/2014 10:30:00 AM
Lab ID: 1403802-001
Matrix: AQUEOUS
Received Date: 3/19/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	2.0	P	µg/L	2	3/20/2014 3:23:33 PM	R17450
Toluene	2.1	2.0	P	µg/L	2	3/20/2014 3:23:33 PM	R17450
Ethylbenzene	23	2.0	P	µg/L	2	3/20/2014 3:23:33 PM	R17450
Xylenes, Total	57	4.0	P	µg/L	2	3/20/2014 3:23:33 PM	R17450
Surr: 4-Bromofluorobenzene	119	82.9-139	P	%REC	2	3/20/2014 3:23:33 PM	R17450

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Client Sample ID: Trip Blank
Project: San Juan Basin Remediation Ice Canyon
Collection Date:
Lab ID: 1403802-002
Matrix: AQUEOUS
Received Date: 3/19/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0	P	µg/L	1	3/20/2014 4:23:58 PM	R17450
Toluene	ND	1.0	P	µg/L	1	3/20/2014 4:23:58 PM	R17450
Ethylbenzene	ND	1.0	P	µg/L	1	3/20/2014 4:23:58 PM	R17450
Xylenes, Total	ND	2.0	P	µg/L	1	3/20/2014 4:23:58 PM	R17450
Surr: 4-Bromofluorobenzene	99.7	82.9-139	P	%REC	1	3/20/2014 4:23:58 PM	R17450

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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#: **1403802**

26-Mar-14

Client: LTE

Project: San Juan Basin Remediation Ice Canyon Drip

Sample ID	**5ML RB**	SampType:	**MBLK**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**PBW**	Batch ID:	**R17450**	RunNo:	**17450**					
Prep Date:		Analysis Date:	**3/20/2014**	SeqNo:	**503110**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	19		20.00		96.6	82.9	139			

Sample ID	**100NG BTEX LCS**	SampType:	**LCS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**LCSW**	Batch ID:	**R17450**	RunNo:	**17450**					
Prep Date:		Analysis Date:	**3/20/2014**	SeqNo:	**503111**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	100	80	120			
Toluene	20	1.0	20.00	0	101	80	120			
Ethylbenzene	20	1.0	20.00	0	99.8	80	120			
Xylenes, Total	61	2.0	60.00	0	101	80	120			
Surr: 4-Bromofluorobenzene	20		20.00		100	82.9	139			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: LTE | Work Order Number: 1403802 | RcptNo: 1

Received by/date: MG 03/19/14

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

Completed By: **Michelle Garcia** 3/19/2014 11:47:46 AM Michelle Garcia

Reviewed By: 03/19/14

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

17. Additional remarks: Trip Blank was provided by client. and made 03/19/14

18. **Cooler Information**

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

Chain-of-Custody Record

Client: LT Environmental

Mailing Address: 2737 Mesa Ave
Durango CO 81301

Phone #: 970-385-1096

email or Fax#: aager@ltenv.com

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

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name: San Juan Basin Remediation
Ice Canyon Drip

Project #:
034013010

Project Manager:
Ashley Ager

Sampler: Daniel Newman

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1403802	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or N)
3/18/14	1030	GW	SVE-4	3/VOA	HCL	-001	X														
3/18/14	930	AQ	Trip Blank	2/VOA	Cool	-002	X														
~~3/18/14~~	DW																				

Date:	Time:	Relinquished by:	Received by:	Date	Time
3/18/14	1515		Christa Walters	3/18/14	1515
3/18/14	1739	Christa Walters		03/19/14	1000

Remarks:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

June 16, 2014

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

RE: Williams Quarterly Monitoring OrderNo.: 1406320

Dear Brook Herb:

Hall Environmental Analysis Laboratory received 2 sample(s) on 6/6/2014 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Client Sample ID: SVE-4
Project: Williams Quarterly Monitoring
Collection Date: 6/5/2014 11:25:00 AM
Lab ID: 1406320-001
Matrix: AQUEOUS
Received Date: 6/6/2014 10:09:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **KJH**	
Benzene	ND	50	P	µg/L	50	6/12/2014 6:38:10 PM	R19231
Toluene	69	50	P	µg/L	50	6/12/2014 6:38:10 PM	R19231
Ethylbenzene	120	50	P	µg/L	50	6/12/2014 6:38:10 PM	R19231
Xylenes, Total	2400	75	P	µg/L	50	6/12/2014 6:38:10 PM	R19231
Surr: 1,2-Dichloroethane-d4	88.4	70-130	P	%REC	50	6/12/2014 6:38:10 PM	R19231
Surr: 4-Bromofluorobenzene	99.6	70-130	P	%REC	50	6/12/2014 6:38:10 PM	R19231
Surr: Dibromofluoromethane	96.1	70-130	P	%REC	50	6/12/2014 6:38:10 PM	R19231
Surr: Toluene-d8	87.7	70-130	P	%REC	50	6/12/2014 6:38:10 PM	R19231

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Client Sample ID: Trip Blank
Project: Williams Quarterly Monitoring
Collection Date:
Lab ID: 1406320-002
Matrix: AQUEOUS
Received Date: 6/6/2014 10:09:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **KJH**	
Benzene	ND	1.0		µg/L	1	6/11/2014 3:48:26 AM	R19173
Toluene	ND	1.0		µg/L	1	6/11/2014 3:48:26 AM	R19173
Ethylbenzene	ND	1.0		µg/L	1	6/11/2014 3:48:26 AM	R19173
Xylenes, Total	ND	1.5		µg/L	1	6/11/2014 3:48:26 AM	R19173
Surr: 1,2-Dichloroethane-d4	89.6	70-130		%REC	1	6/11/2014 3:48:26 AM	R19173
Surr: 4-Bromofluorobenzene	90.7	70-130		%REC	1	6/11/2014 3:48:26 AM	R19173
Surr: Dibromofluoromethane	101	70-130		%REC	1	6/11/2014 3:48:26 AM	R19173
Surr: Toluene-d8	87.5	70-130		%REC	1	6/11/2014 3:48:26 AM	R19173

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#: **1406320**

16-Jun-14

Client: LTE

Project: Williams Quarterly Monitoring

Sample ID **5mL-rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **R19173**	RunNo: **19173**
Prep Date:	Analysis Date: **6/10/2014**	SeqNo: **554181** 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	1.5								
Surr: 1,2-Dichloroethane-d4	9.2		10.00		92.2	70	130			
Surr: 4-Bromofluorobenzene	9.1		10.00		91.1	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	8.9		10.00		89.3	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **R19173**	RunNo: **19173**
Prep Date:	Analysis Date: **6/10/2014**	SeqNo: **554182** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	70	130			
Toluene	19	1.0	20.00	0	95.5	80	120			
Surr: 1,2-Dichloroethane-d4	8.8		10.00		88.3	70	130			
Surr: 4-Bromofluorobenzene	9.0		10.00		90.1	70	130			
Surr: Dibromofluoromethane	9.8		10.00		98.4	70	130			
Surr: Toluene-d8	8.4		10.00		84.0	70	130			

Sample ID **5mL-rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **R19204**	RunNo: **19204**
Prep Date:	Analysis Date: **6/11/2014**	SeqNo: **555363** Units: **%REC**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.3		10.00		92.7	70	130			
Surr: 4-Bromofluorobenzene	9.2		10.00		91.8	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	8.8		10.00		87.8	70	130			

Sample ID **100ng lcsb**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **R19204**	RunNo: **19204**
Prep Date:	Analysis Date: **6/11/2014**	SeqNo: **555364** Units: **%REC**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.1		10.00		90.7	70	130			
Surr: 4-Bromofluorobenzene	9.1		10.00		91.1	70	130			
Surr: Dibromofluoromethane	10		10.00		100	70	130			
Surr: Toluene-d8	8.8		10.00		88.3	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
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#: **1406320**

16-Jun-14

Client: LTE

Project: Williams Quarterly Monitoring

Sample ID **5mL-rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **R19231**	RunNo: **19231**
Prep Date:	Analysis Date: **6/12/2014**	SeqNo: **556228** 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	1.5								
Surr: 1,2-Dichloroethane-d4	9.3		10.00		93.2	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.3	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	8.8		10.00		88.3	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **R19231**	RunNo: **19231**
Prep Date:	Analysis Date: **6/12/2014**	SeqNo: **556229** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	106	70	130			
Toluene	21	1.0	20.00	0	104	80	120			
Surr: 1,2-Dichloroethane-d4	9.0		10.00		89.7	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		97.8	70	130			
Surr: Dibromofluoromethane	9.9		10.00		98.7	70	130			
Surr: Toluene-d8	8.7		10.00		87.4	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: LTE | Work Order Number: 1406320 | RcptNo: 1

Received by/date: CS 06/06/14

Logged By: **Michelle Garcia** 6/6/2014 10:09:00 AM Michelle Garcia

Completed By: **Michelle Garcia** 6/6/2014 11:46:32 AM Michelle Garcia

Reviewed By: AT 06/10/14

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

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

Chain-of-Custody Record

Client: CT environmental

Mailing Address: 2243 main Ave #3
Durango, Co 81301

Phone #: 970-385-1096

email or Fax#: bherb@ltenv.com

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

Accreditation
☐ NELAP ☐ Other _____
☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name: Williams Quarterly Monitoring

Project #: 034013010

Project Manager: Brooke Herb

Sampler: Alex Crooks

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.7°

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
6/5	1125	GW	SVE-4	3	HCl	-001	X															
			Trip Blank	3 2	HCl	-002	X															
				AT 06/19/14																		

Date:	Time:	Relinquished by:	Received by:	Date	Time
6/5/14	1415	Alex Crooks	Christine Walters	6/5/14	1415
6/5/14	1730	Christine Walters	Celina Sena	06/06/14	10:09

Remarks:

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

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

September 18, 2014

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

RE: Ice Canyon OrderNo.: 1409578

Dear Brook Herb:

Hall Environmental Analysis Laboratory received 2 sample(s) on 9/12/2014 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1409578**
Date Reported: **9/18/2014**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Client Sample ID: SVE-4
Project: Ice Canyon
Collection Date: 9/10/2014 10:30:00 AM
Lab ID: 1409578-001
Matrix: AQUEOUS
Received Date: 9/12/2014 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	7.3	1.0		µg/L	1	9/12/2014 1:12:16 PM	R21183
Toluene	5.5	1.0		µg/L	1	9/12/2014 1:12:16 PM	R21183
Ethylbenzene	26	1.0		µg/L	1	9/12/2014 1:12:16 PM	R21183
Xylenes, Total	36	2.0		µg/L	1	9/12/2014 1:12:16 PM	R21183
Surr: 4-Bromofluorobenzene	163	66.6-167		%REC	1	9/12/2014 1:12:16 PM	R21183

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Client Sample ID: Trip Blank
Project: Ice Canyon
Collection Date:
Lab ID: 1409578-002
Matrix: TRIP BLANK
Received Date: 9/12/2014 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	9/12/2014 3:15:59 PM	R21183
Toluene	ND	1.0		µg/L	1	9/12/2014 3:15:59 PM	R21183
Ethylbenzene	ND	1.0		µg/L	1	9/12/2014 3:15:59 PM	R21183
Xylenes, Total	ND	2.0		µg/L	1	9/12/2014 3:15:59 PM	R21183
Surr: 4-Bromofluorobenzene	103	66.6-167		%REC	1	9/12/2014 3:15:59 PM	R21183

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1409578**

18-Sep-14

Client: LTE

Project: Ice Canyon

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	**1409578-001AMS**	SampType:	**MS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**SVE-4**	Batch ID:	**R21183**	RunNo:	**21183**					
Prep Date:		Analysis Date:	**9/12/2014**	SeqNo:	**616446**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	25	1.0	20.00	7.258	90.3	80	120			
Toluene	24	1.0	20.00	5.538	93.5	80	120			
Ethylbenzene	45	1.0	20.00	25.75	97.1	79.7	126			
Xylenes, Total	97	2.0	60.00	36.36	101	80	120			
Surr: 4-Bromofluorobenzene	33		20.00		166	66.6	167			

Sample ID	**1409578-001AMSD**	SampType:	**MSD**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**SVE-4**	Batch ID:	**R21183**	RunNo:	**21183**					
Prep Date:		Analysis Date:	**9/12/2014**	SeqNo:	**616447**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	25	1.0	20.00	7.258	90.6	80	120	0.229	20	
Toluene	24	1.0	20.00	5.538	93.5	80	120	0.0578	20	
Ethylbenzene	45	1.0	20.00	25.75	96.6	79.7	126	0.213	20	
Xylenes, Total	96	2.0	60.00	36.36	100	80	120	0.781	20	
Surr: 4-Bromofluorobenzene	33		20.00		166	66.6	167	0	0	

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: LTE | Work Order Number: 1409578 | 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 8:17:45 AM

Reviewed By: 09/12/14

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.1	Good	Yes			

Chain-of-Custody Record

Client: Ct Environmental

Mailing Address: 2243 Main Ave
Durango, CO 81301

Phone #: 970-385-1096

email or Fax#: bherb@ltenv.com

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

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name:
Ice Canyon

Project #:
03401301O

Project Manager:
Brooke Herb

Sampler: Alex Crooks

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.1

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1409578	BTEX + ~~MTBE~~ + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or N)
9/10	1030	GW	SVE-4	3 VOA	HCl	-001	X														
			Trip Blank	3 VOA	HCl	-002	X														

Remarks:

Date	Time	Relinquished by:	Received by:	Date	Time
9/11	1450	Alex Crooks	Christie Walker	9/11/14	1450
9/11/14	1850	Christie Walker		09/12/14	0630

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

December 09, 2014

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

RE: Ice Canyon OrderNo.: 1412266

Dear Ashley Ager:

Hall Environmental Analysis Laboratory received 2 sample(s) on 12/4/2014 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Client Sample ID: SVE-4
Project: Ice Canyon
Collection Date: 12/2/2014 10:10:00 AM
Lab ID: 1412266-001
Matrix: AQUEOUS
Received Date: 12/4/2014 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	3.8	2.0	P	µg/L	2	12/5/2014 11:40:30 PM	R22975
Toluene	ND	2.0	P	µg/L	2	12/5/2014 11:40:30 PM	R22975
Ethylbenzene	9.8	2.0	P	µg/L	2	12/5/2014 11:40:30 PM	R22975
Xylenes, Total	4.2	4.0	P	µg/L	2	12/5/2014 11:40:30 PM	R22975
Surr: 4-Bromofluorobenzene	122	66.6-167	P	%REC	2	12/5/2014 11:40:30 PM	R22975

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Client Sample ID: TRIP BLANK
Project: Ice Canyon
Collection Date:
Lab ID: 1412266-002
Matrix: AQUEOUS
Received Date: 12/4/2014 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	12/6/2014 12:07:49 AM	R22975
Toluene	ND	1.0		µg/L	1	12/6/2014 12:07:49 AM	R22975
Ethylbenzene	ND	1.0		µg/L	1	12/6/2014 12:07:49 AM	R22975
Xylenes, Total	ND	2.0		µg/L	1	12/6/2014 12:07:49 AM	R22975
Surr: 4-Bromofluorobenzene	104	66.6-167		%REC	1	12/6/2014 12:07:49 AM	R22975

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1412266**

09-Dec-14

Client: LTE

Project: Ice Canyon

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

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

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: LTE | Work Order Number: 1412266 | RcptNo: 1

Received by/date: AT 12/04/14

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

Completed By: Ashley Gallegos 12/4/2014 3:10:16 PM

Reviewed By: AT 12/05/14

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

Person Notified: _____ Date _____

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

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.2	Good	Yes			

Chain-of-Custody Record

Client: LT Environmental

Mailing Address: 2243 main Ave #3
Durango Co 81301

Phone #: 970-385-0196

email or Fax#: AAger@ltenv.com

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

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name:
3401301C

Project #:
ICE CANYON

Project Manager:
Ashley Ager

Sampler: Daniel Newman

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.2

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
12/1/14	1010	GW	SVE-4	3VOA/HCl	HCL	1412266 -001	X															
			TripBlank	2VOA		-002	X															

Date:	Time:	Relinquished by:	Received by:	Date	Time
12/3/14	1558		Christy Walters	12/3/14	1558
12/3/14	1730	Christy Walters		12/04/14	0755

Remarks:

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