

3R – 322

2013 AGWMR

03 / 11 / 2014



March 11, 2014

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

RE: Online Submission of 2013 Annual Groundwater Reports

Dear Mr. Von Gonten

LT Environmental (LTE), Inc., on behalf of Williams Field Services, LLC (Williams), is electronically submitting the attached 2013 annual groundwater monitoring reports for the following sites:

- Davis #1
- Dogie Compressor Station East Pit
- Florance #40
- Florance #47
- Ice Canyon Drip
- Jicarilla Contract #147-6
- Pritchard #2A.

If you have any questions regarding these reports please contact Ashley Ager with LTE at 970-385-1096 or aager@ltenv.com or Danny Ruetlinger with Williams at danny.reutlinger@williams.com.

Sincerely,

LT ENVIRONMENTAL, INC.

Ashley Ager
Senior Geologist/Office Manager

Brooke Herb
Staff Geologist

cc: Danny Ruetlinger
Attachments (7)

2013 ANNUAL GROUNDWATER REPORT

ICE CANYON DRIP

ADMINISTRATIVE/ENVIRONMENTAL ORDER NUMBER

3RP-322-0

FEBRUARY 2014

Prepared for:

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



2013 ANNUAL GROUNDWATER REPORT
ICE CANYON DRIP
ADMINISTRATIVE/ENVIRONMENTAL ORDER NUMBER
3RP-322-0

FEBRUARY 2014

Prepared for:

WILLIAMS FIELD SERVICES, LLC
PO Box 3483, MD 48-6
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Prepared by:

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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. During 2013, LT Environmental Inc., (LTE) was retained by Williams Field Services, LLC (Williams) to visit the Site and evaluate the status of groundwater monitoring wells, complete monitoring requirements, and install a new groundwater monitoring well.

Between March 2013 and December 2013, four groundwater monitoring events were conducted (March 2013, June 2013, September 2013, and December 2013). Groundwater monitoring well top-of-casing elevations were re-surveyed on June 19, 2013. Depth to groundwater data for the monitoring events conducted in 2013 indicated the groundwater flow direction was to the south-southwest.

Laboratory analytical results indicated benzene, toluene, ethylbenzene, and total xylenes (BTEX) concentrations in groundwater monitoring wells MW-1, MW-3, and MW-7 were compliant with the New Mexico Water Quality Control Commission (NMWQCC) groundwater standards in March 2013. Williams ceased groundwater sampling in these wells after the first quarter sampling event due to BTEX concentrations being compliant with the NMWQCC standards for eight or more quarters. Groundwater sampling ceased in monitoring wells MW-4, MW-5, and MW-8 after the second quarter monitoring event due to BTEX concentrations being compliant with the NMWQCC standards for eight or more quarters. In March 2013, 0.01 feet of free-phase hydrocarbons (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. Monitoring well MW-6 had an insufficient volume of water to collect a sample in March, June, and September 2013. Laboratory analytical results indicated that BTEX concentrations were compliant with the NMWQCC groundwater standards in December 2013 in monitoring well MW-6. BTEX concentrations were compliant with the NMWQCC standards in samples collected from monitoring well SVE-4, except in June 2013, when the benzene concentration of 13 micrograms per liter exceeded the NMWQCC groundwater standard.

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 well for MW-2. 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. Monitoring well MW-2R was immediately developed after installation. Monitoring well MW-2R was sampled in December 2013; laboratory analytical results indicate BTEX concentrations were compliant with the NMWQCC groundwater standards.

Groundwater monitoring wells will be monitored quarterly for groundwater elevations and presence of PSH. Groundwater samples will be collected from monitoring well SVE-4 quarterly until eight quarters of BTEX concentrations compliant with the NMWQCC standards have been documented.

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 March 2013 through December 2013 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. 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 ($\mu\text{g/L}$) of benzene. In January 1998, an additional 8,690 cubic yards of impacted soil was 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.

Between May 1998 and December 2012, groundwater at the Site was monitored. Groundwater monitoring well MW-2 and the SVE well have both 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).

2.0 METHODOLOGY

During 2013, LTE conducted quarterly groundwater monitoring activities at the Site. The activities included measuring groundwater elevations at nine monitoring wells and collecting groundwater samples when possible at select wells. In March 2013, a site visit was conducted by LTE to observe site conditions and evaluate the status of the groundwater monitoring wells. Depth to groundwater and depth to product were measured and groundwater samples were collected, when possible, for laboratory analysis of BTEX. During the June 2013 site visit, LTE personnel conducted quarterly sampling and resurveyed existing monitoring well top-of-casings. On October 23, 2013, LTE installed MW-2R to replace MW-2 and immediately developed the well. Samples were collected from MW-2R in December 2013.

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

LTE conducted at least one quarterly sampling event at monitoring wells MW-1, MW-3, MW-4, MW-6, MW-7, MW-8, and SVE-4. Monitoring well MW-2 was not sampled due to an obstruction in the well. Prior to sampling groundwater, depth to groundwater and total depth of groundwater monitoring wells were measured 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 well, pH, electric conductivity, and temperature were monitored. Groundwater monitoring wells were purged until these parameters stabilized, indicating that the purge water was representative of aquifer conditions, or until the well was purged dry. Stabilization was defined as three consecutive stable readings for each water property (± 0.4 units for pH, ± 10 percent for electric conductivity, and $\pm 2^\circ$ Celsius for temperature). All purge water was containerized and disposed of at a facility designated by Williams. A copy of the 2013 quarterly field notes are presented in Appendix A.

Once each 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 groundwater elevations obtained from monitoring wells during the March 2013 site visit to draft a groundwater contour map (Figure 2). LTE returned to the Site to re-survey top-of-casing well elevations on June 21, 2013. The updated top-of-casing elevations were used to draft groundwater contours and determine groundwater flow for the June, September, and December 2013 quarterly monitoring events (Figures 3 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 MONITORING WELL INSTALLATION AND DEVELOPMENT

LTE installed a monitoring well at the Site on October 23, 2013, using a GeoProbe[®] drill rig. An LTE Geologist logged continuous soil samples and described lithology using the Unified Soil Classification System (USCS). The borehole logs are included as Appendix C. The interval from immediately beneath the ground surface and then approximately every two feet thereafter were screened for volatile aromatic hydrocarbons as well as any soil that was stained or had a hydrocarbon odor. Screening was conducted with a photo-ionization detector (PID) equipped with a 10.6 electron volt lamp.

Monitoring well MW-2R was constructed with 2-inch diameter schedule 40 PVC and included 15 feet of 0.01-inch machine slotted flush-threaded PVC well screen. A clean 10-20 grade silica sand gravel pack was placed from the bottom of the boring to 2 feet above the top of the screen. Above the gravel pack, 3/8-inch bentonite chips were set to the surface. LTE installed a concrete surface completion and a steel well protector with locking cap around the PVC stick-up. The monitoring well construction diagram is included in Appendix C. After installation, the new monitoring well was surveyed and developed. The top-of-casing elevation was determined to an accuracy of no less than plus or minus 0.01 feet.

Groundwater monitoring well MW-2R was developed utilizing a clean, disposable PVC bailer. LTE purged fluid until the pH, specific conductivity, and temperature were stabilized and turbidity was reduced to the greatest extent possible. All purge water was collected and disposed of at the Dogie Compressor Station, New Mexico. A monitoring well development form is included as Appendix D. Monitoring well MW-2R was sampled in December 2013.

3.0 RESULTS

Depth to groundwater data during the 2013 monitoring events are summarized on Table 1. Groundwater flow direction was determined to be to the south/southwest except in September when flow direction was to the west (Figure 2 through 5).

Laboratory analytical results indicated BTEX concentrations in MW-1, MW-3, MW-4, MW-5, MW-6, MW-7, and MW-8 were compliant with the NMWQCC groundwater standards or were below the laboratory reporting detection limits during 2013. Sampling of these monitoring wells ceased since BTEX concentrations historically have been compliant with the NMWQCC standards. In March 2013, 0.01 feet of PSH was measured in monitoring wells MW-5 and SVE-4. Due to laboratory analytical results from previous and subsequent samples and observations made before and after March 2013, it is likely the equipment was malfunctioning and no PSH was actually present.

During the June 2013 monitoring event, laboratory analytical results indicated that SVE-4 exceeded the benzene concentration for the NMWQCC groundwater standard of 10 µg/L with a concentration of 13 µg/L. SVE-4 was compliant with NMWQCC groundwater standards during the September and December 2013 monitoring events. Groundwater monitoring well MW-2 was not sampled during the 2013 monitoring events due to an obstruction in the well. Laboratory

analytical results for groundwater are summarized in Table 2. Copies of the laboratory analytical results are in Appendix B.

The soil observed in soil boring MW-2R is a well graded sand that extended from the ground surface to 21 feet bgs. The well graded sand is underlain by a silty sand to the terminus of the groundwater monitoring well at 48 feet bgs. Groundwater was encountered at 38 feet bgs. Laboratory analytical results from groundwater sampling in December 2013 indicate no BTEX concentrations were detected.

4.0 CONCLUSIONS

A new monitoring well, MW-2R, installed in the original source area was sampled and laboratory analytical results indicated BTEX concentrations at the source have naturally attenuated. Groundwater sampled from surrounding monitoring wells did not contain detectable BTEX concentrations, except at monitoring well SVE-4, which contained 13 µg/L of benzene in June 2013.

5.0 RECOMMENDATIONS

Williams ceased groundwater sampling at MW-1, MW-3, MW-4, MW-5, MW-7, and MW-8 in 2013 since eight or more consecutive quarters of sampling or recent and historical results indicated BTEX concentrations were compliant with the NMWQCC standards. Additionally, Williams intends to cease sampling at monitoring wells MW-6 and MW-2R. Monitoring well MW-6 typically does not contain a significant volume of groundwater to collect a sample and historical records indicate it was compliant with the NMWQCC standards in 2005. A sample collected in December of 2013 confirms these results. Since the groundwater sample collected after installation from monitoring well MW-2R was below laboratory detection limits, the well will not be sampled again. Groundwater samples will be collected from SVE-4 quarterly 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



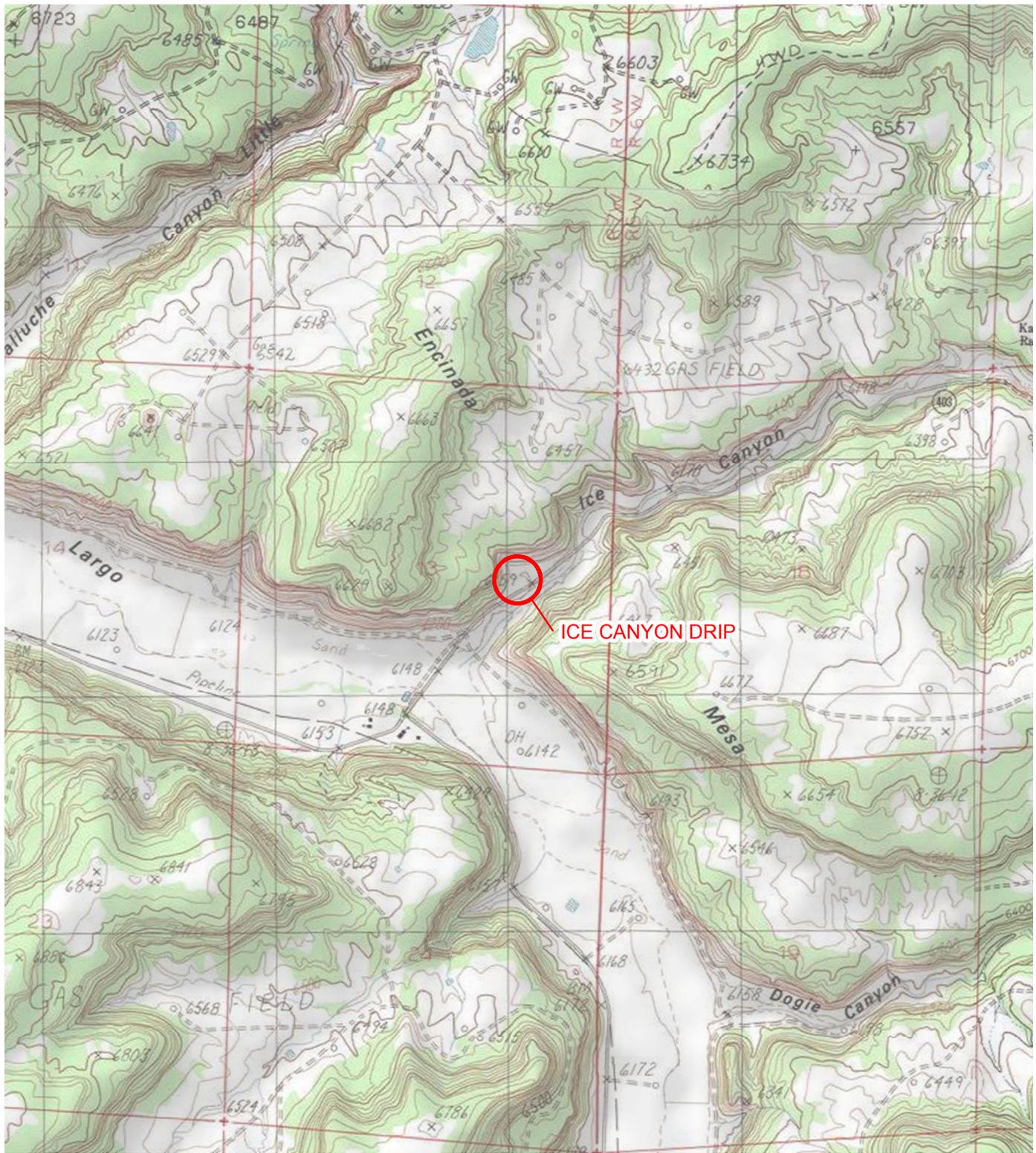


IMAGE COURTESY OF ESRI/BING MAPS

LEGEND

 SITE LOCATION

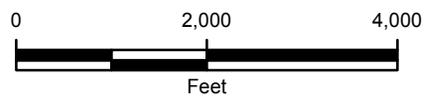
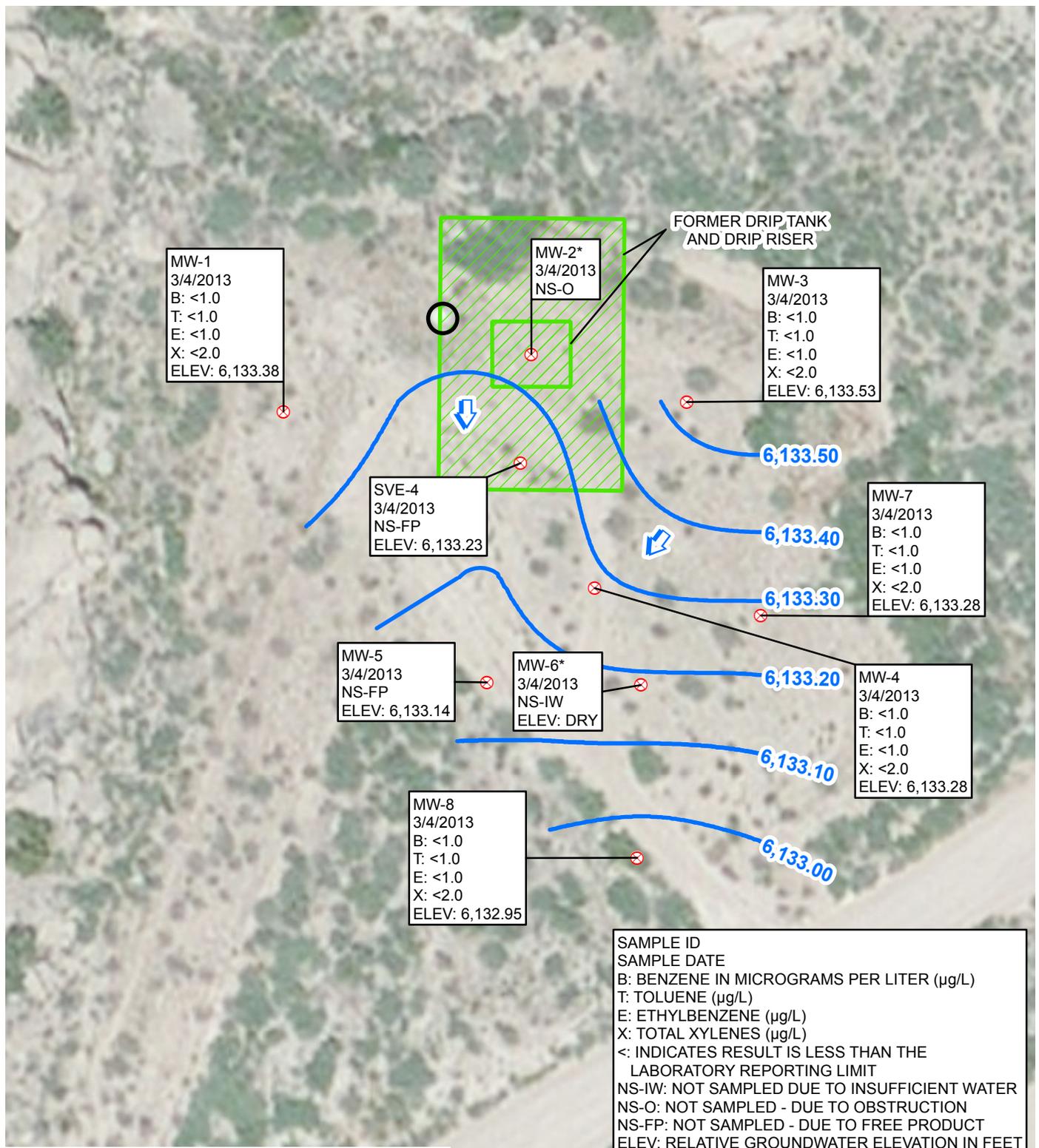


FIGURE 1
SITE LOCATION MAP
ICE CANYON DRIP
RIO ARRIBA COUNTY, NEW MEXICO



WILLIAMS FIELD SERVICES, LLC



SAMPLE ID
 SAMPLE DATE
 B: BENZENE IN MICROGRAMS PER LITER (µg/L)
 T: TOLUENE (µg/L)
 E: ETHYLBENZENE (µg/L)
 X: TOTAL XYLENES (µg/L)
 <: INDICATES RESULT IS LESS THAN THE LABORATORY REPORTING LIMIT
 NS-IW: NOT SAMPLED DUE TO INSUFFICIENT WATER
 NS-O: NOT SAMPLED - DUE TO OBSTRUCTION
 NS-FP: NOT SAMPLED - DUE TO FREE PRODUCT
 ELEV: RELATIVE GROUNDWATER ELEVATION IN FEET

LEGEND

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

*MW-2 AND MW-6 NOT USED TO GENERATE GROUNDWATER ELEVATION CONTOURS

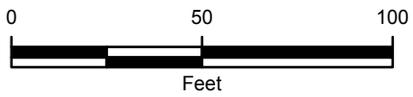
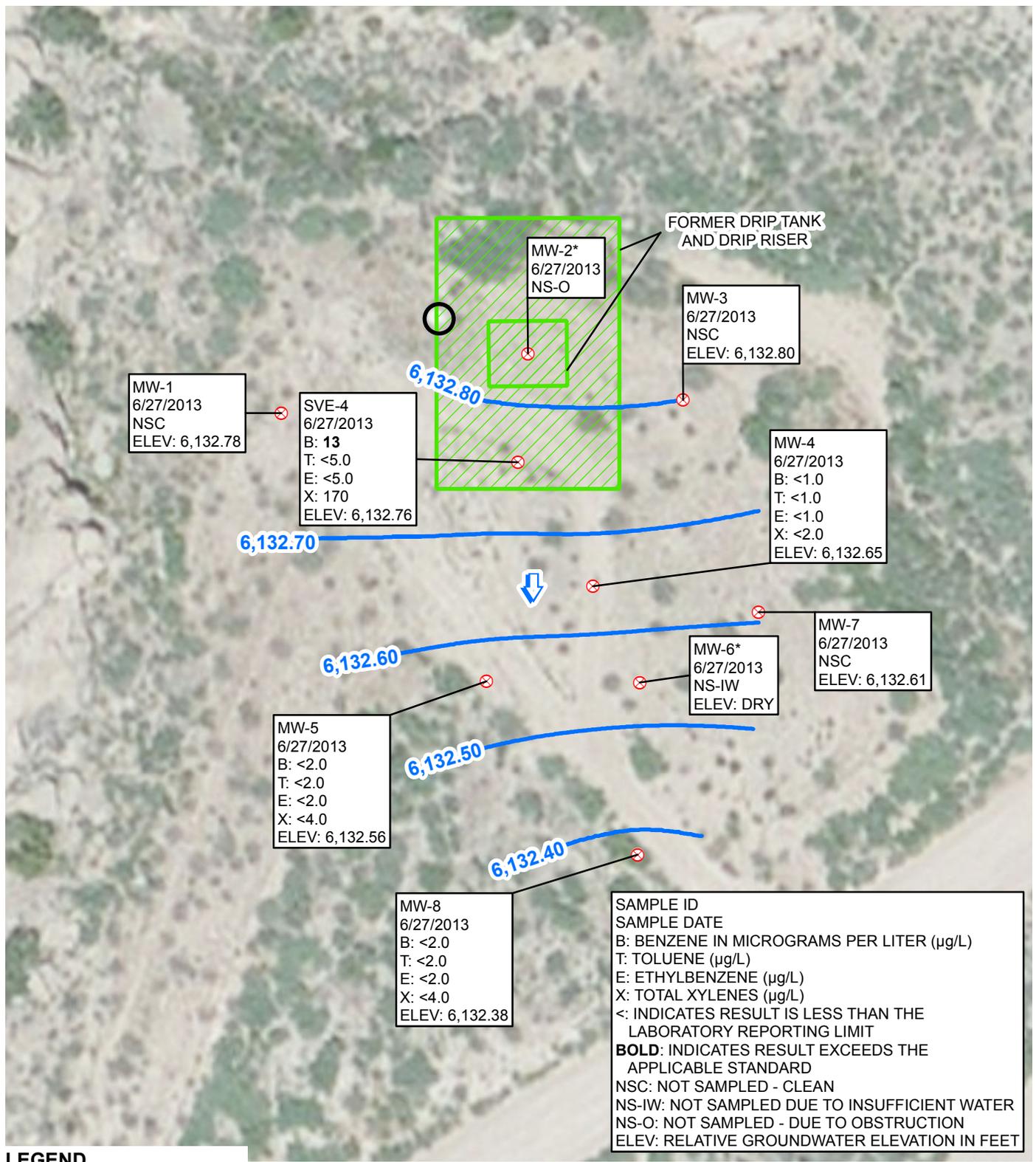


FIGURE 2
GROUNDWATER ELEVATION & ANALYTICAL RESULTS (MARCH 2013)
ICE CANYON DRIP
RIO ARRIBA COUNTY, NEW MEXICO
WILLIAMS FIELD SERVICES, LLC





MW-1
6/27/2013
NSC
ELEV: 6,132.78

SVE-4
6/27/2013
B: **13**
T: <5.0
E: <5.0
X: 170
ELEV: 6,132.76

MW-2*
6/27/2013
NS-O

FORMER DRIP TANK
AND DRIP RISER

MW-3
6/27/2013
NSC
ELEV: 6,132.80

MW-4
6/27/2013
B: <1.0
T: <1.0
E: <1.0
X: <2.0
ELEV: 6,132.65

MW-7
6/27/2013
NSC
ELEV: 6,132.61

MW-6*
6/27/2013
NS-IW
ELEV: DRY

MW-5
6/27/2013
B: <2.0
T: <2.0
E: <2.0
X: <4.0
ELEV: 6,132.56

MW-8
6/27/2013
B: <2.0
T: <2.0
E: <2.0
X: <4.0
ELEV: 6,132.38

SAMPLE ID
SAMPLE DATE
B: BENZENE IN MICROGRAMS PER LITER (µg/L)
T: TOLUENE (µg/L)
E: ETHYLBENZENE (µg/L)
X: TOTAL XYLENES (µg/L)
<: INDICATES RESULT IS LESS THAN THE
LABORATORY REPORTING LIMIT
BOLD: INDICATES RESULT EXCEEDS THE
APPLICABLE STANDARD
NSC: NOT SAMPLED - CLEAN
NS-IW: NOT SAMPLED DUE TO INSUFFICIENT WATER
NS-O: NOT SAMPLED - DUE TO OBSTRUCTION
ELEV: RELATIVE GROUNDWATER ELEVATION IN FEET

LEGEND

- ⊗ MONITORING WELL
- DRIP TANK
- ↑ ESTIMATED GROUNDWATER FLOW DIRECTION
- RELATIVE GROUNDWATER ELEVATION CONTOUR
CONTOUR INTERVAL = 0.50 FEET

*MW02 AND MW06 NOT USED TO GENERATE
GROUNDWATER ELEVATION CONTOURS

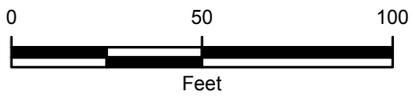
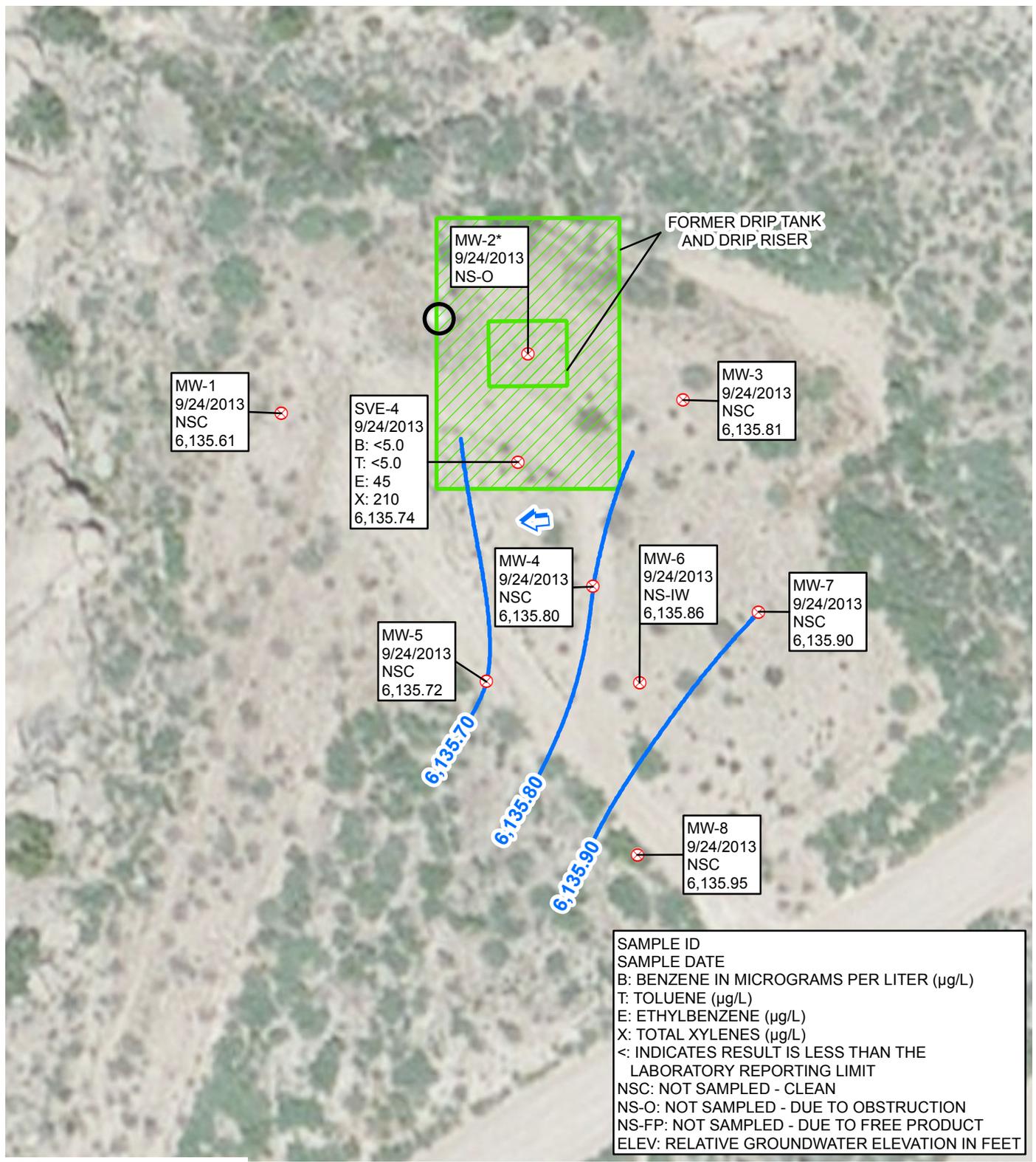


FIGURE 3
**GROUNDWATER ELEVATION &
ANALYTICAL RESULTS (JUNE 2013)**
ICE CANYON DRIP
RIO ARRIBA COUNTY, NEW MEXICO
WILLIAMS FIELD SERVICES, LLC





LEGEND

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

*MW-2 NOT USED TO GENERATE GROUNDWATER ELEVATION CONTOURS

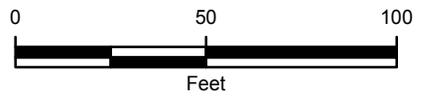


FIGURE 4
GROUNDWATER ELEVATION & ANALYTICAL RESULTS (SEPTEMBER 2013)
ICE CANYON DRIP
RIO ARRIBA COUNTY, NEW MEXICO
WILLIAMS FIELD SERVICES, LLC



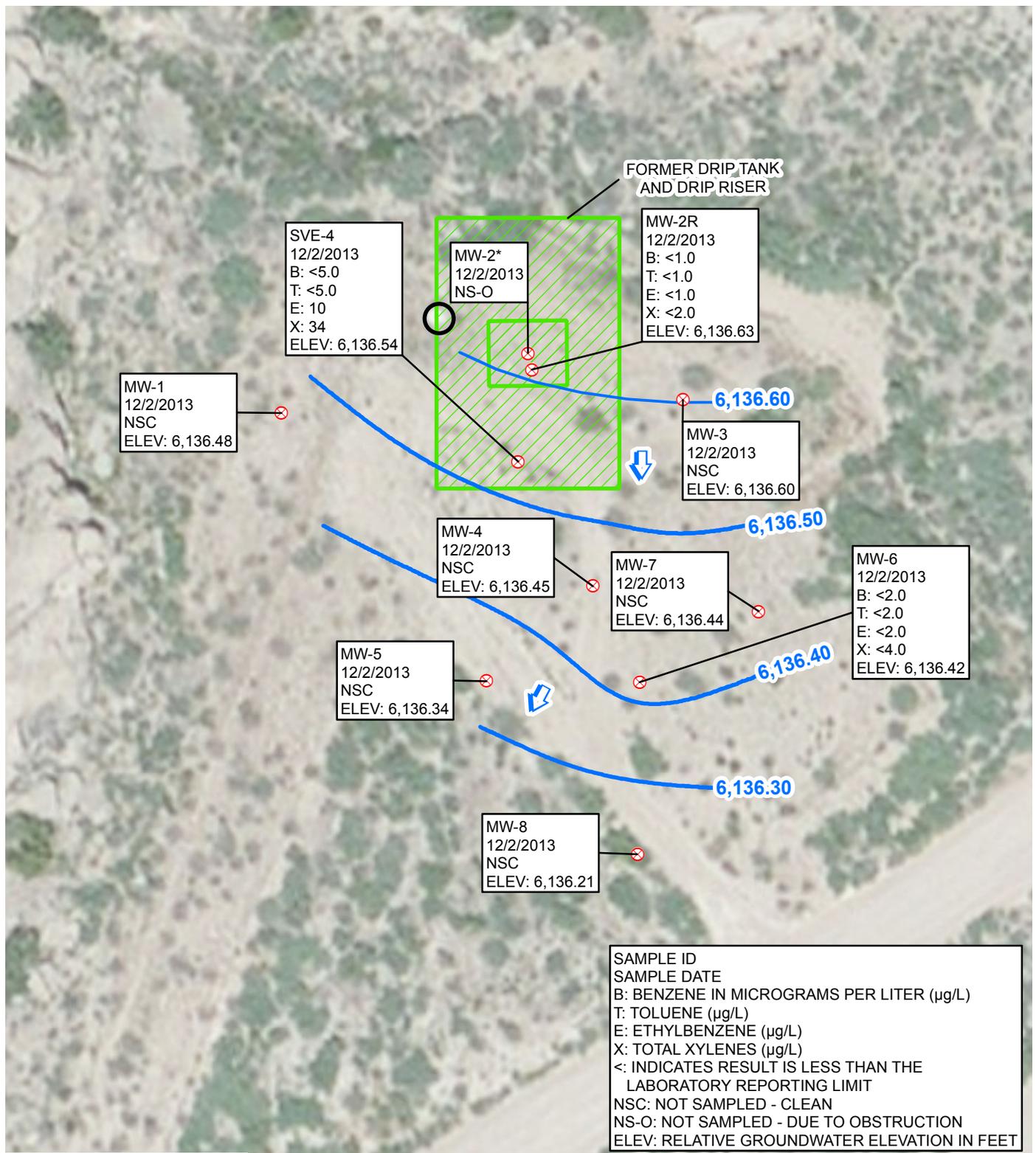
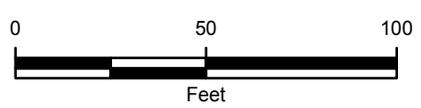


IMAGE COURTESY OF ESRI/BING MAPS

LEGEND

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



*MW-2 NOT USED TO GENERATE GROUNDWATER ELEVATION CONTOURS

FIGURE 5
GROUNDWATER ELEVATION & ANALYTICAL RESULTS (DECEMBER 2013)
ICE CANYON DRIP
RIO ARRIBA COUNTY, NEW MEXICO
WILLIAMS FIELD SERVICES, LLC



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-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-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-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-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 a	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-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
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



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	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-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-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

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 a	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

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)

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

a - Phase separated hydrocarbons not likely present in wells. Malfunction in interface probe.



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



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	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
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



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	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
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



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	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
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



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	12/9/1998	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
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



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	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
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



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	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



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	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
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	6/27/2014	<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



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	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
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

Notes:

< - indicates result is less than laboratory reporting detection limit

* - indicates sample was diluted

Bold - indicates sample exceeds NMWQCC standard

ND - not detected

NMWQCC - New Mexico Water Quality Control Commission

NS - not sampled

NS-FP - not sampled due to the presence of phase separated 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

µg/L - micrograms per liter

** - Phase separated hydrocarbons not likely present in wells. Malfunction in interface probe.



APPENDIX A
2013 FIELD NOTES



Water Sample Collection Form

Sample Location	<u>Ice Canyon Drip</u>	Client	<u>Williams Field Services, LLC</u>
Sample Date	<u>3/4/2013</u>	Project Name	<u>Historical Groundwater</u>
Sample Time	<u>8:27</u>	Project #	<u>034013001</u>
Sample ID	<u>MW-1</u>	Sampler	<u>Brooke Herb</u>
Analyses	<u>BTEX 8021</u>		
Matrix	<u>Groundwater</u>	Laboratory	<u>Hall Environmental</u>
Turn Around Time	<u>Standard</u>	Shipping Method	<u>Hand delivery</u>
Depth to Water	<u>46.75</u>	TD of Well	<u>48.21</u>
Time	<u>8:00</u>	Depth to Product	<u>NA</u>
Vol. of H2O to purge	<u>1.46 * 0.16 = 0.23 * 3 = 0.70</u> <i>(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols</i>		
Method of Purging	<u>PVC Bailer</u>		
Method of Sampling	<u>PVC Bailer</u>		

Time	Vol. Removed (gallons)	Total Vol H2O removed (gallons)	pH (standard units)	Temp. (°C)	Conductivity (µs)	Comments
8:17	0.15	0.15	6.59	14.4	2.26	Clear with black flecks, roots, no odor, no sheen
						Bailed Dry

Comments: _____

Describe Deviations from SOP: Well bailed dry immediately. Was able to collect enough groundwater to fill 3 VOAs

Signature: Brooke Herb **Date:** 3/4/2013



Water Sample Collection Form

Sample Location	<u>Ice Canyon Drip</u>	Client	<u>Williams Field Services, LLC</u>
Sample Date	<u>3/4/2013</u>	Project Name	<u>Historical Groundwater</u>
Sample Time	<u>NA</u>	Project #	<u>034013001</u>
Sample ID	<u>MW-2</u>	Sampler	<u>Brooke Herb</u>
Analyses	<u>NA</u>		
Matrix	<u>NA</u>	Laboratory	<u>NA</u>
Turn Around Time	<u>NA</u>	Shipping Method	<u>NA</u>
Depth to Water	<u>NA</u>	TD of Well	<u>NA</u>
Time	<u>8:45</u>	Depth to Product	<u>NA</u>
Vol. of H2O to purge	<u>(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols</u>		
Method of Purging	<u>NA</u>		
Method of Sampling	<u>NA</u>		

Time	Vol. Removed (gallons)	Total Vol H2O removed (gallons)	pH (standard units)	Temp. (°C)	Conductivity (µs)	Comments

Comments: Obstruction in well at 30.52 feet. Was unable to get probe past it.
Water was not encountered.

Describe Deviations from SOP: _____

Signature: Brooke Herb **Date:** 3/4/2013



Water Sample Collection Form

Sample Location	<u>Ice Canyon Drip</u>	Client	<u>Williams Field Services, LLC</u>
Sample Date	<u>3/4/2013</u>	Project Name	<u>Historical Groundwater</u>
Sample Time	<u>9:35</u>	Project #	<u>034013001</u>
Sample ID	<u>MW-3</u>	Sampler	<u>Brooke Herb</u>
Analyses	<u>BTEX 8021</u>		
Matrix	<u>Groundwater</u>	Laboratory	<u>Hall Environmental</u>
Turn Around Time	<u>Standard</u>	Shipping Method	<u>Hand delivery</u>
Depth to Water	<u>40.66</u>	TD of Well	<u>46.12</u>
Time	<u>9:00</u>	Depth to Product	<u>NA</u>
Vol. of H2O to purge	<u>5.46 * 0.16 = 0.87 * 3 = 2.62</u> <i>(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols</i>		
Method of Purging	<u>PVC Bailer</u>		
Method of Sampling	<u>PVC Bailer</u>		

Time	Vol. Removed (gallons)	Total Vol H2O removed (gallons)	pH (standard units)	Temp. (°C)	Conductivity (µs)	Comments
9:10	0.25	0.25	6.83	14.2	1,571	Brown, silty
	0.25	0.50	7.02	14.5	1,538	Darker brown, more silt
	0.25	0.75	7.07	14.4	1,563	More silt
	0.25	1.00	7.16	14.2	1,548	No change
	1.00	2.00	7.14	14.5	1,554	No change
	0.25	2.25	7.21	14.6	1,530	No change
	0.25	2.50	7.23	14.4	1,529	No change
	0.25	2.75	7.23	14.4	1,534	No change
9:33	0.25	3.00	7.23	14.4	1,532	No change

Comments: _____

Describe Deviations from SOP: _____

Signature: Brooke Herb **Date:** 3/4/2013



Water Sample Collection Form

Sample Location	<u>Ice Canyon Drip</u>	Client	<u>Williams Field Services, LLC</u>
Sample Date	<u>3/4/2013</u>	Project Name	<u>Historical Groundwater</u>
Sample Time	<u>10:10</u>	Project #	<u>034013001</u>
Sample ID	<u>MW-4</u>	Sampler	<u>Brooke Herb</u>
Analyses	<u>BTEX 8021</u>		
Matrix	<u>Groundwater</u>	Laboratory	<u>Hall Environmental</u>
Turn Around Time	<u>Standard</u>	Shipping Method	<u>Hand delivery</u>
Depth to Water	<u>40.45</u>	TD of Well	<u>46.29</u>
Time	<u>9:45</u>	Depth to Product	<u>NA</u>
Vol. of H2O to purge	<u>5.84 * 0.16 = 0.93 * 3 = 2.80</u> <i>(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols</i>		
Method of Purging	<u>PVC Bailer</u>		
Method of Sampling	<u>PVC Bailer</u>		

Time	Vol. Removed (gallons)	Total Vol H2O removed (gallons)	pH (standard units)	Temp. (°C)	Conductivity (µs)	Comments
9:50	0.25	0.25	7.00	15.5	1,522	Clear with a light brown tint
	0.25	0.50	6.89	15.4	1,549	No change
	0.25	0.75	6.93	15.7	1,518	more silt
	0.25	1.00	6.98	15.5	1,534	No change
	1.00	2.00	7.16	15.0	1,499	More silt, dark grayish brown
	0.25	2.25	7.20	14.9	1,530	Very silty
	0.25	2.50	7.19	15.0	1,531	No change
	0.25	2.75	7.27	15.0	1,542	No change
	0.25	3.00	7.25	15.0	1,532	No change
10:10	0.25	3.25	7.25	15.1	1538	No change

Comments: _____

Describe Deviations from SOP: _____

Signature: Brooke Herb **Date:** 3/4/2013



Water Sample Collection Form

Sample Location	<u>Ice Canyon Drip</u>	Client <u>Williams Field Services, LLC</u>
Sample Date	<u>3/4/2013</u>	Project Name <u>Historical Groundwater</u>
Sample Time	<u>NA</u>	Project # <u>034013001</u>
Sample ID	<u>MW-5</u>	Sampler <u>Brooke Herb</u>
Analyses	<u>NA</u>	
Matrix	<u>NA</u>	Laboratory <u>NA</u>
Turn Around Time	<u>NA</u>	Shipping Method <u>NA</u>
Depth to Water	<u>36.83</u>	TD of Well <u>NM</u>
Time	<u>11:00</u>	Depth to Product <u>36.82</u>
Vol. of H2O to purge	<u>(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols</u>	
Method of Purging	<u>NA</u>	
Method of Sampling	<u>NA</u>	

Time	Vol. Removed (gallons)	Total Vol H2O removed (gallons)	pH (standard units)	Temp. (°C)	Conductivity (µs)	Comments

Comments: No sample was collected due to the presence of product.

Describe Deviations from SOP: _____

Signature: Brooke Herb **Date:** 3/4/2013



Water Sample Collection Form

Sample Location	<u>Ice Canyon Drip</u>	Client	<u>Williams Field Services, LLC</u>
Sample Date	<u>3/4/2013</u>	Project Name	<u>Historical Groundwater</u>
Sample Time	<u>NA</u>	Project #	<u>034013001</u>
Sample ID	<u>MW-6</u>	Sampler	<u>Brooke Herb</u>
Analyses	<u>NA</u>		
Matrix	<u>NA</u>	Laboratory	<u>NA</u>
Turn Around Time	<u>NA</u>	Shipping Method	<u>NA</u>
Depth to Water	<u>DRY</u>	TD of Well	<u>37.52</u>
Time	<u>10:50</u>	Depth to Product	<u>NA</u>
Vol. of H2O to purge	<u>(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols</u>		
Method of Purging	<u>NA</u>		
Method of Sampling	<u>NA</u>		

Time	Vol. Removed (gallons)	Total Vol H2O removed (gallons)	pH (standard units)	Temp. (°C)	Conductivity (µs)	Comments

Comments: Well dry at 37.52 feet bgs.
 No surface completion; PVC locked.

Describe Deviations from SOP: _____

Signature: Brooke Herb **Date:** 3/4/2013



Water Sample Collection Form

Sample Location	<u>Ice Canyon Drip</u>	Client	<u>Williams Field Services, LLC</u>
Sample Date	<u>3/4/2013</u>	Project Name	<u>Historical Groundwater</u>
Sample Time	<u>11:40</u>	Project #	<u>034013001</u>
Sample ID	<u>MW-7</u>	Sampler	<u>Brooke Herb</u>
Analyses	<u>BTEX 8021</u>		
Matrix	<u>Groundwater</u>	Laboratory	<u>Hall Environmental</u>
Turn Around Time	<u>Standard</u>	Shipping Method	<u>Hand delivery</u>
Depth to Water	<u>38.28</u>	TD of Well	<u>43.78</u>
Time	<u>9:45</u>	Depth to Product	<u>NA</u>
Vol. of H2O to purge	<u>5.5 * 0.16 = 0.88 * 3 = 2.64</u> <i>(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols</i>		
Method of Purging	<u>PVC Bailer</u>		
Method of Sampling	<u>PVC Bailer</u>		

Time	Vol. Removed (gallons)	Total Vol H2O removed (gallons)	pH (standard units)	Temp. (°C)	Conductivity (µs)	Comments
10:30	0.25	0.25	7.25	13.7	1,482	clear, no silt, odor
	0.25	0.50	7.31	13.9	1,534	no change
	0.25	0.75	7.30	13.7	1,525	minor silt
	0.25	1.00	7.37	13.6	1,512	no change
10:40						Bailed Dry

Comments: Returned to collect sample at 11:40

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

Signature: Brooke Herb **Date:** 3/4/2013



Water Sample Collection Form

Sample Location	<u>Ice Canyon Drip</u>	Client	<u>Williams Field Services, LLC</u>
Sample Date	<u>3/4/2013</u>	Project Name	<u>Historical Groundwater</u>
Sample Time	<u>11:35</u>	Project #	<u>034013001</u>
Sample ID	<u>MW-8</u>	Sampler	<u>Brooke Herb</u>
Analyses	<u>BTEX 8021</u>		
Matrix	<u>Groundwater</u>	Laboratory	<u>Hall Environmental</u>
Turn Around Time	<u>Standard</u>	Shipping Method	<u>Hand delivery</u>
Depth to Water	<u>34.69</u>	TD of Well	<u>42.05</u>
Time	<u>11:00</u>	Depth to Product	<u>NA</u>
Vol. of H2O to purge	<u>7.36 * 0.16 = 1.17 * 3 = 3.53</u> <i>(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols</i>		
Method of Purging	<u>PVC Bailer</u>		
Method of Sampling	<u>PVC Bailer</u>		

Time	Vol. Removed (gallons)	Total Vol H2O removed (gallons)	pH (standard units)	Temp. (°C)	Conductivity (µs)	Comments
11:15	0.25	0.25	7.30	15.0	1,555	very silty, dark grayish brown
	0.25	0.50	7.28	15.2	1,566	no change
	0.25	0.75	7.27	15.2	1,561	no change
	0.25	1.00	7.31	15.1	1,580	no change
	1.00	2.00	7.32	15.1	1,585	no change
	0.50	2.50	7.33	15.1	1,597	no change
	0.25	2.75	7.34	15.1	1,583	no change
	0.25	3.00	7.34	15.1	1,580	no change
	0.25	3.25	7.35	15.0	1,578	no change
11:35	0.25	3.50	7.35	15.0	1,581	no change

Comments: _____

Describe Deviations from SOP: _____

Signature: Brooke Herb **Date:** 3/4/2013



Water Sample Collection Form

Sample Location	<u>Ice Canyon Drip</u>	Client	<u>Williams Field Services, LLC</u>
Sample Date	<u>3/4/2013</u>	Project Name	<u>Historical Groundwater</u>
Sample Time	<u>NA</u>	Project #	<u>034013001</u>
Sample ID	<u>SVE-4"</u>	Sampler	<u>Brooke Herb</u>
Analyses	<u>NA</u>		
Matrix	<u>NA</u>	Laboratory	<u>NA</u>
Turn Around Time	<u>NA</u>	Shipping Method	<u>NA</u>
Depth to Water	<u>42.73</u>	TD of Well	<u>NM</u>
Time	<u>8:35</u>	Depth to Product	<u>42.72</u>
Vol. of H2O to purge	<u>(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols</u>		
Method of Purging	<u>NA</u>		
Method of Sampling	<u>NA</u>		

Time	Vol. Removed (gallons)	Total Vol H2O removed (gallons)	pH (standard units)	Temp. (°C)	Conductivity (µs)	Comments

Comments: No sample was collected due to the presence of product.
Product recovery sock in well; returned to well after DTW and DTP data were gathered.

Describe Deviations from SOP: _____

Signature: Brooke Herb **Date:** 3/4/2013



Water Sample Collection Form

Sample Location	<u>Ice Canyon</u>	Client	<u>Williams</u>
Sample Date	<u>6/27/13</u>	Project Name	<u>Groundwater</u>
Sample Time	<u>200</u>	Project #	<u>034013010</u>
Sample ID	<u>MW-4</u>	Sampler	<u>B Herb</u>
Analyses	<u>BTEX</u>	Laboratory	<u>Hall</u>
Matrix	<u>GW</u>	Shipping Method	<u>Drop off FedEx</u>
Turn Around Time	<u>Std.</u>	Other QA/QC	<u>NA</u>
Trip Blank	<u>Yes</u>	TD of Well	<u>46.29</u>
Depth to Water	<u>41.11</u>	Depth to Product	<u>NA</u>
Time	<u>1137</u>		
Vol. of H2O to purge	<u>5.18 x .1631 = 0.84 x 3 = 2.53</u> <small>(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols</small>		
Method of Purging	<u>Bottom Valve Barker</u>		
Method of Sampling	<u>"</u>	<u>"</u>	<u>"</u>

Time	Vol. Removed (gal.)	Total Vol H2O removed (gal.)	pH (std. units)	Temp. 28 (C)	Conductivity (us or ms)	Comments
1140	0.25	0.25	7.85	18.3	1910 us	Clear no odor no silt
	0.25	0.50	6.85	16.6	1.70 ms	minor silt
	0.25	0.75	6.90	16.6	1.65 ms	more silt
	0.25	1.00	7.04	16.5	1.67	light grayish Brown
	0.75	1.75	6.98	16.8	1.62	no change
	0.25	2.00	7.25	16.7	1.72	Silty
	0.25	2.25	7.26	16.6	1.66	no change
	0.25	2.50	7.27	16.5	1.70	"
1158	0.25	2.75	7.26	16.6	1.66	"

Comments: _____

Describe Deviations from SOP: _____

Signature: [Signature] Date: 6/27/13



Water Sample Collection Form

Sample Location	<u>ICE CANYON</u>	Client	<u>Williams</u>
Sample Date	<u>6/27/13</u>	Project Name	<u>Groundwater</u>
Sample Time	<u>1340</u>	Project #	<u>03403010</u>
Sample ID	<u>MW-5</u>	Sampler	<u>B+H</u>
Analyses	<u>BTEX</u>	Laboratory	<u>Hall</u>
Matrix	<u>GW</u>	Shipping Method	<u>Drop off / Fedex</u>
Turn Around Time	<u>Std.</u>	Other QA/QC	<u>NA</u>
Trip Blank	<u>Yes</u>	TD of Well	<u>41.84</u>
Depth to Water	<u>37.46</u>	Depth to Product	<u>NA</u>
Time	<u>1250</u>		
Vol. of H2O to purge	<u>$4.39 \times .1631 = 0.72 \times 3 = 2.15$</u>		
	<i>(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols</i>		
Method of Purging	<u>Bottom Valve Bailer</u>		
Method of Sampling	<u>" " "</u>		

Time	Vol. Removed (gal.)	Total Vol H2O removed (gal.)	pH (std. units)	Temp. (C)	Conductivity (us or ms)	Comments
<u>1250</u>	<u>0.25</u>	<u>0.25</u>	<u>6.88</u>	<u>19.9</u>	<u>1.96</u>	<u>clear w/ blk particles</u>
	<u>0.25</u>	<u>0.50</u>	<u>6.89</u>	<u>18.2</u>	<u>1.93</u>	<u>greenish clear slight blk</u>
	<u>0.25</u>	<u>0.75</u>	<u>6.87</u>	<u>17.6</u>	<u>1.96</u>	<u>very silty dark gray/blk</u>
			<u>BAILED DRY</u>			

Comments: Leave well @ 1300 - Bailed dry
was able to fill 2 non-preserved vials
Water reached w/ H₂O

Describe Deviations from SOP: see above

Signature: [Signature] Date: 6/27/13



Water Sample Collection Form

Sample Location Ice Canyon Drip Client Williams
 Sample Date 6/27/13 Project Name Groundwater
 Sample Time 1245 Project # 03401390
 Sample ID MW-8 Sampler B Herb
 Analyses BTEX 8021
 Matrix GW Laboratory Hall
 Turn Around Time STO. Shipping Method Drop off
 Trip Blank Yes Other QA/QC NA
 Depth to Water 35.31 TD of Well 42.05
 Time 1210 Depth to Product NA
 Vol. of H2O to purge (6.74 x 1631) = 1.60 x 3 = 3.30
 (height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols
 Method of Purging Bottom Valve Bailer
 Method of Sampling " " "

Time	Vol. Removed (gal.)	Total Vol H2O removed (gal.)	pH (std. units)	Temp. (C)	Conductivity (us or ms)	Comments
1215	0.25	0.25	6.98	18.2	1858	minor silt clear no odor
	0.25	0.50	7.26	16.7	1882	Silty Brown
	0.25	0.75	7.19	17.6	1863	no change
	0.25	1.00	7.18	18.0	1899	very silty brown
	0.50	1.50	7.21	17.3	1877	no change
	0.50	2.00	7.26	17.3	1869	"
	0.50	2.50	7.25	17.4	1898	"
	0.25	2.75	7.26	17.0	1938	"
	0.25	3.00	7.27	17.0	1908	"
	0.25	3.25	7.28	16.9	1940	"
	0.25	3.50	7.28	16.9	1928	"

Comments: _____

Describe Deviations from SOP: _____

Signature: B Herb Date: 6/27/13



Water Sample Collection Form

Sample Location Ice Canyon Client Williams
 Sample Date 6/27/13 Project Name Groundwater
 Sample Time 1350 Project # 034013010
 Sample ID SVE-411 Sampler B. Herb
 Analyses BTEX Laboratory Hall
 Matrix GW Shipping Method Drop off / Fedex
 Turn Around Time Std. Other QA/QC NA
 Trip Blank Yes TD of Well 43.82
 Depth to Water 43.21 Depth to Product NA
 Time 1345
 Vol. of H₂O to purge 0.61 x .1631 = 0.09 x 3 = 0.29
(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols
 Method of Purging NA/Grab
 Method of Sampling Bottom Valve Bailer

Time	Vol. Removed (gal.)	Total Vol H ₂ O removed (gal.)	pH (std. units)	Temp. (C)	Conductivity (us or ms)	Comments

Comments: Insufficient water to take parameters was able to fill 3 non-preserved VOA's water reacted w/ HCl

Describe Deviations from SOP: See Above

Signature: [Signature] Date: 6/27/13



Water Sample Collection Form

Sample Location ICE CANYON DRIP Client Williams
 Sample Date 9/24/13 Project Name groundwater
 Sample Time 1450 Project #
 Sample ID SVE4 Sampler Daniel Newman
 Analyses BTEX
 Matrix HCL Laboratory Lall
 Turn Around Time std. Shipping Method Christine
 Trip Blank yes Other QA/QC N/A
 Depth to Water 40.23 TD of Well 43.82
 Time 1425 Depth to Product N/A
 Vol. of H2O to purge 43.82 - 40.23 = 3.59 x 0.6524 = 2.342116 x 3 = 7.026348
 (height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols
 Method of Purging Bottom Valve Bailer
 Method of Sampling " " "

Time	Vol. Removed (gal.)	Total Vol H2O removed (gal.)	pH (std. units)	Temp. (C)	Conductivity (us or ms)	Comments
1440	.25	.25	7.18	17.5	2.25	Black, HClodor, silty
1446	.20	.45	7.37	17.9	2.29	"
1447	.25	.70	7.35	16.6	2.29	"
1448	.15	.85	7.34	16.6	2.32	"
1449	.15	1.00	7.34	16.3	2.33	"

Comments: Bailing Dry OBTAINED SAMPLE FROM Bailer Before well Bailed Dry,

Bailer cracked Had to replace it with a new one

Describe Deviations from SOP: Bailed dry before 3 casing volumes

Signature: [Signature] Date: 9/24/13



Water Sample Collection Form

Sample Location Ice Canyon
 Sample Date 12/2/13
 Sample Time 1621
 Sample ID MW-2R
 Analyses BTEX
 Matrix GW
 Turn Around Time Standard
 Trip Blank yes
 Depth to Water 37.67
 Time 1546
 Vol. of H2O to purge 6 gal

Client Williams
 Project Name Historical GW
 Project # 034013010
 Sampler DH
 Laboratory Hall
 Shipping Method Christine
 Other QA/QC Standard
 TD of Well 49.68
 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 Boiler
 Method of Sampling Boiler

Time	Vol. Removed (gal.)	Total Vol H2O removed (gal.)	pH (std. units)	(F) Temp. (C)	Conductivity (uS or ms)	Comments
1546	.25	.25	7.07	60.4	1970	Clear, No odor
	.25	.50	7.02	60.3	1938	Clear, slight odor
	.25	.75	6.98	60.1	1959	Slightly cloudy, slight odor
	.25	1.00	2.00	59.7	1933	Cloudy, slight ^{banquet. H2S} HC odor
	.25	1.25	6.96	59.7	1896	"
	.25	1.50	6.99	59.5	1850	"
	.25	1.75	6.99	59.4	1785	"
	.25	2.00	2.02	59.2	1727	"
	.50	2.50	2.02	59.2	1723	"
	.50	3.00	2.04	59.0	1646	"
	.50	3.50	2.06	58.8	1640	"
	.50	4.00	2.08	59.0	1636	"
	.50	4.50	2.04	58.8	1648	"
	.50	5.00	2.06	58.8	1634	Less cloudy
	1.00	6.00	2.07	58.8	1640	Less cloudy

Comments: _____

Describe Deviations from SOP: _____

Signature: [Signature] Date: 12/2/13



Water Sample Collection Form

Sample Location <u>Ple Canyon</u>	Client <u>Williams</u>
Sample Date <u>12/21/13</u>	Project Name <u>Historical Groundwater</u>
Sample Time <u>1654</u>	Project # <u>084013010</u>
Sample ID <u>DPN SVE 4</u>	Sampler <u>DM</u>
Analyses <u>STEX</u>	
Matrix <u>AW</u>	Laboratory <u>Hall</u>
Turn Around Time <u>Standard</u>	Shipping Method <u>Christine</u>
Trip Blank <u>yes</u>	Other QA/QC <u>Standard</u>
Depth to Water <u>39.43</u>	TD of Well <u>43.82</u>
Time <u>1628</u>	Depth to Product <u>NA</u>
Vol. of H2O to purge <u>8.75 gal</u>	
<small>(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols</small>	
Method of Purging <u>Bailer</u>	
Method of Sampling <u>Bailer</u>	

Time	Vol. Removed (gal.)	Total Vol H2O removed (gal.)	pH (std. units)	(F) Temp. (°C)	Conductivity (us or ms)	Comments
1628	.25	.25	7.11	59.5	1.67	Clear, He odor
	.25	.50	6.62	59.7	1.70	
	.25	.75	6.62	59.4	1.69	Clear orange Hve, He odor
	.25	1.00	6.60	59.7	1.70	
	.50	1.50	6.61	59.7	1.74	
	.50	2.00	6.61	59.9	1.72	Dark cloudy He odor
	.25	2.25	6.63	59.5	1.76	Dark cloudy He odor Sheen
	.25	2.50	6.65	59.7	1.75	Bubbling down
	.20	2.70	6.65	59.7	1.74	
	.15	2.85	6.66	58.5	1.75	Black, sheen, He odor Bubbling down
	.15	3.00	6.68	59.2	1.76	
	.10	3.10	6.67	59.2	1.74	Bailed Dry

Comments: Bailed Dry return to sample

Describe Deviations from SOP: Bailed well Dry returned to sample

Signature: [Signature] Date: 12/21/13



Water Sample Collection Form

Sample Location ICE CANYON
 Sample Date 12/2/13
 Sample Time 10:45 AM / 6:45
 Sample ID MW-6
 Analyses BTEX
 Matrix GW
 Turn Around Time Standard
 Trip Blank Yes
 Depth to Water 34.94
 Time 1620
 Vol. of H2O to purge 38.62 - 34.94 = 3.68 * 0.1631 = 0.600208 * 3 = 1.8
 Method of Purging Bailer
 Method of Sampling Bailer

Client Williams
 Project Name Historical Groundwater
 Project # _____
 Sampler DN
 Laboratory HALL
 Shipping Method Christine
 Other QA/QC Standard
 TD of Well 38.62
 Depth to Product N/A

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

Time	Vol. Removed (gal.)	Total Vol H2O removed (gal.)	pH (std. units)	Temp. (C)	Conductivity (us or (ms))	Comments
1620	0.25	0.25	6.90	57.2	4.41	strong H2O odor, clear
	0.25	0.50	7.05	56.8	4.46	Strong H2O odor, gray, grass on H ₂ O
	0.15	0.65	7.04	56.8	4.43	Strong H2O odor, gray sediment, grass
	0.15	0.80	7.03	56.9	4.47	No change

PPE
 2.21
 2.32
 2.34
 2.36

Comments: Bailing Dry sample collected after well recharged

Describe Deviations from SOP: Bailed Dry sample collected after well recharged

Signature: [Signature] Date: 12/2/13



APPENDIX B
LABORATORY ANALYTICAL RESULTS





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

March 11, 2013

Julie Linn

LTE

2243 Main Ave Suite 3

Durango, CO 81301

TEL: (970) 385-1096

FAX

RE: Ice Canyon Drip

OrderNo.: 1303300

Dear Julie Linn:

Hall Environmental Analysis Laboratory received 5 sample(s) on 3/7/2013 for the analyses presented in the following report.

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

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

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written in a cursive style.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1303300

Date Reported: 3/11/2013

CLIENT: LTE

Client Sample ID: MW-1

Project: Ice Canyon Drip

Collection Date: 3/4/2013 8:27:00 AM

Lab ID: 1303300-001

Matrix: AQUEOUS

Received Date: 3/7/2013 9:56:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0	P	µg/L	1	3/7/2013 3:24:32 PM
Toluene	ND	1.0	P	µg/L	1	3/7/2013 3:24:32 PM
Ethylbenzene	ND	1.0	P	µg/L	1	3/7/2013 3:24:32 PM
Xylenes, Total	ND	2.0	P	µg/L	1	3/7/2013 3:24:32 PM
1,2,4-Trimethylbenzene	ND	1.0	P	µg/L	1	3/7/2013 3:24:32 PM
1,3,5-Trimethylbenzene	ND	1.0	P	µg/L	1	3/7/2013 3:24:32 PM
Surr: 4-Bromofluorobenzene	90.0	69.4-129	P	%REC	1	3/7/2013 3:24:32 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1303300

Date Reported: 3/11/2013

CLIENT: LTE

Client Sample ID: MW-3

Project: Ice Canyon Drip

Collection Date: 3/4/2013 9:35:00 AM

Lab ID: 1303300-002

Matrix: AQUEOUS

Received Date: 3/7/2013 9:56:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0	P	µg/L	1	3/7/2013 3:54:38 PM
Toluene	ND	1.0	P	µg/L	1	3/7/2013 3:54:38 PM
Ethylbenzene	ND	1.0	P	µg/L	1	3/7/2013 3:54:38 PM
Xylenes, Total	ND	2.0	P	µg/L	1	3/7/2013 3:54:38 PM
1,2,4-Trimethylbenzene	ND	1.0	P	µg/L	1	3/7/2013 3:54:38 PM
1,3,5-Trimethylbenzene	ND	1.0	P	µg/L	1	3/7/2013 3:54:38 PM
Surr: 4-Bromofluorobenzene	93.4	69.4-129	P	%REC	1	3/7/2013 3:54:38 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1303300

Date Reported: 3/11/2013

CLIENT: LTE

Client Sample ID: MW-4

Project: Ice Canyon Drip

Collection Date: 3/4/2013 10:10:00 AM

Lab ID: 1303300-003

Matrix: AQUEOUS

Received Date: 3/7/2013 9:56:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0	P	µg/L	1	3/7/2013 4:24:46 PM
Toluene	ND	1.0	P	µg/L	1	3/7/2013 4:24:46 PM
Ethylbenzene	ND	1.0	P	µg/L	1	3/7/2013 4:24:46 PM
Xylenes, Total	ND	2.0	P	µg/L	1	3/7/2013 4:24:46 PM
1,2,4-Trimethylbenzene	ND	1.0	P	µg/L	1	3/7/2013 4:24:46 PM
1,3,5-Trimethylbenzene	ND	1.0	P	µg/L	1	3/7/2013 4:24:46 PM
Surr: 4-Bromofluorobenzene	87.2	69.4-129	P	%REC	1	3/7/2013 4:24:46 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1303300

Date Reported: 3/11/2013

CLIENT: LTE

Client Sample ID: MW-7

Project: Ice Canyon Drip

Collection Date: 3/4/2013 11:40:00 AM

Lab ID: 1303300-004

Matrix: AQUEOUS

Received Date: 3/7/2013 9:56:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0	P	µg/L	1	3/7/2013 4:54:46 PM
Toluene	ND	1.0	P	µg/L	1	3/7/2013 4:54:46 PM
Ethylbenzene	ND	1.0	P	µg/L	1	3/7/2013 4:54:46 PM
Xylenes, Total	ND	2.0	P	µg/L	1	3/7/2013 4:54:46 PM
1,2,4-Trimethylbenzene	ND	1.0	P	µg/L	1	3/7/2013 4:54:46 PM
1,3,5-Trimethylbenzene	ND	1.0	P	µg/L	1	3/7/2013 4:54:46 PM
Surr: 4-Bromofluorobenzene	87.6	69.4-129	P	%REC	1	3/7/2013 4:54:46 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1303300

Date Reported: 3/11/2013

CLIENT: LTE

Client Sample ID: MW-8

Project: Ice Canyon Drip

Collection Date: 3/4/2013 11:35:00 AM

Lab ID: 1303300-005

Matrix: AQUEOUS

Received Date: 3/7/2013 9:56:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	2.0	P	µg/L	2	3/7/2013 5:24:54 PM
Toluene	ND	2.0	P	µg/L	2	3/7/2013 5:24:54 PM
Ethylbenzene	ND	2.0	P	µg/L	2	3/7/2013 5:24:54 PM
Xylenes, Total	ND	4.0	P	µg/L	2	3/7/2013 5:24:54 PM
1,2,4-Trimethylbenzene	ND	2.0	P	µg/L	2	3/7/2013 5:24:54 PM
1,3,5-Trimethylbenzene	ND	2.0	P	µg/L	2	3/7/2013 5:24:54 PM
Surr: 4-Bromofluorobenzene	89.4	69.4-129	P	%REC	2	3/7/2013 5:24:54 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1303300

11-Mar-13

Client: LTE
Project: Ice Canyon Drip

Sample ID: 5ML RB	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBW	Batch ID: R9057	RunNo: 9057								
Prep Date:	Analysis Date: 3/7/2013	SeqNo: 258308	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								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
Surr: 4-Bromofluorobenzene	19		20.00		96.6	69.4	129			

Sample ID: 100NG BTEX LCS	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSW	Batch ID: R9057	RunNo: 9057								
Prep Date:	Analysis Date: 3/7/2013	SeqNo: 258309	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	95.2	80	120			
Toluene	19	1.0	20.00	0	95.6	80	120			
Ethylbenzene	19	1.0	20.00	0	96.6	80	120			
Xylenes, Total	59	2.0	60.00	0	98.8	80	120			
1,2,4-Trimethylbenzene	19	1.0	20.00	0	94.3	80	120			
1,3,5-Trimethylbenzene	20	1.0	20.00	0	98.5	80	120			
Surr: 4-Bromofluorobenzene	20		20.00		101	69.4	129			

Qualifiers:

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

Sample Log-In Check List

Client Name: **LTE** Work Order Number: **1303300**

Received by/date: *LM* **03/07/13**
 Logged By: **Lindsay Mangin** **3/7/2013 9:56:00 AM** *Jessie Hopper*
 Completed By: **Lindsay Mangin** **3/7/2013 12:46:36 PM** *Jessie Hopper*
 Reviewed By: *SO* **03/07/2013**

Chain of Custody

- 1. Were seals intact? Yes No Not Present
- 2. Is Chain of Custody complete? Yes No Not Present
- 3. How was the sample delivered? *client courier JP 03/07/13*

Log In

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

Checked by:

Special Handling (if applicable)

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

Person Notified: _____ Date: _____
 By Whom: _____ Via: eMail Phone Fax In Person
 Regarding: _____
 Client Instructions: _____

18. Additional remarks:

19. Cooler Information

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

Chain-of-Custody Record

Client: LT Environmental

Mailing Address: 2043 Main Ave S3

Durango CO 81301

Phone #: 970-385-1090

email or Fax#: jlinne@env.com

QA/QC Package: Level 4 (Full Validation)

Accreditation Standard Other

NELAP Other

EDD (Type)

Turn-Around Time:

Standard Rush

Project Name:

ICE CANYON DRIP

Project #:

Project Manager:

Julie Linn

Sampler: Brooke Herb

On/ice: Yes No

Sample Temperature: 18

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
4/13	8:27	GW	MW-1	VOA/3	COOL	1303300-001
4/13	9:35	GW	MW-3	VOA/3	COOL	-002
4/13	10:10	GW	MW-4	VOA/3	COOL	-003
4/13	11:40	GW	MW-7	VOA/3	COOL	-004
4/13	11:35	GW	MW-8	VOA/3	COOL	-005

BTEX + MTBE + TMBs (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 PCBs	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
X											
X											
X											
X											
X											

Analysis Request

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Received by: Christina Walker Date: 3/14/13 Time: 1705

Date: 6/13 Time: 1757 Relinquished by: Christina Walker Date: 03/07/13 Time: 0950

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

July 22, 2013

Ashley Ager

LTE

2243 Main Ave Suite 3

Durango, CO 81301

TEL: (970) 946-1093

FAX

RE: Ice Canyon Drip

OrderNo.: 1306C42

Dear Ashley Ager:

Hall Environmental Analysis Laboratory received 5 sample(s) on 6/28/2013 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 in a cursive style.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1306C42

Date Reported: 7/22/2013

CLIENT: LTE

Client Sample ID: MW-4

Project: Ice Canyon Drip

Collection Date: 6/27/2013 12:00:00 PM

Lab ID: 1306C42-001

Matrix: AQUEOUS

Received Date: 6/28/2013 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	7/1/2013 5:19:05 PM	R11690
Toluene	ND	1.0		µg/L	1	7/1/2013 5:19:05 PM	R11690
Ethylbenzene	ND	1.0		µg/L	1	7/1/2013 5:19:05 PM	R11690
Xylenes, Total	ND	2.0		µg/L	1	7/1/2013 5:19:05 PM	R11690
Surr: 4-Bromofluorobenzene	107	69.4-129		%REC	1	7/1/2013 5:19:05 PM	R11690

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 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1306C42

Date Reported: 7/22/2013

CLIENT: LTE

Client Sample ID: MW-8

Project: Ice Canyon Drip

Collection Date: 6/27/2013 12:45:00 PM

Lab ID: 1306C42-002

Matrix: AQUEOUS

Received Date: 6/28/2013 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	7/1/2013 6:49:54 PM	R11690
Toluene	ND	2.0		µg/L	2	7/1/2013 6:49:54 PM	R11690
Ethylbenzene	ND	2.0		µg/L	2	7/1/2013 6:49:54 PM	R11690
Xylenes, Total	ND	4.0		µg/L	2	7/1/2013 6:49:54 PM	R11690
Surr: 4-Bromofluorobenzene	111	69.4-129		%REC	2	7/1/2013 6:49:54 PM	R11690

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 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1306C42

Date Reported: 7/22/2013

CLIENT: LTE

Client Sample ID: MW-5

Project: Ice Canyon Drip

Collection Date: 6/27/2013 1:40:00 PM

Lab ID: 1306C42-003

Matrix: AQUEOUS

Received Date: 6/28/2013 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	7/1/2013 7:20:20 PM	R11690
Toluene	ND	2.0		µg/L	2	7/1/2013 7:20:20 PM	R11690
Ethylbenzene	ND	2.0		µg/L	2	7/1/2013 7:20:20 PM	R11690
Xylenes, Total	ND	4.0		µg/L	2	7/1/2013 7:20:20 PM	R11690
Surr: 4-Bromofluorobenzene	106	69.4-129		%REC	2	7/1/2013 7:20:20 PM	R11690

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 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1306C42

Date Reported: 7/22/2013

CLIENT: LTE
Project: Ice Canyon Drip
Lab ID: 1306C42-004

Matrix: AQUEOUS

Client Sample ID: SVE-4"
Collection Date: 6/27/2013 1:50:00 PM
Received Date: 6/28/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	13	5.0		µg/L	5	7/2/2013 10:29:12 PM	R11718
Toluene	ND	5.0		µg/L	5	7/2/2013 10:29:12 PM	R11718
Ethylbenzene	ND	5.0		µg/L	5	7/2/2013 10:29:12 PM	R11718
Xylenes, Total	170	10		µg/L	5	7/2/2013 10:29:12 PM	R11718
Surr: 4-Bromofluorobenzene	106	69.4-129		%REC	5	7/2/2013 10:29:12 PM	R11718

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 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1306C42

Date Reported: 7/22/2013

CLIENT: LTE

Client Sample ID: Trip Blank

Project: Ice Canyon Drip

Collection Date:

Lab ID: 1306C42-005

Matrix: AQUEOUS

Received Date: 6/28/2013 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	7/1/2013 8:20:45 PM	R11690
Toluene	ND	1.0		µg/L	1	7/1/2013 8:20:45 PM	R11690
Ethylbenzene	ND	1.0		µg/L	1	7/1/2013 8:20:45 PM	R11690
Xylenes, Total	ND	2.0		µg/L	1	7/1/2013 8:20:45 PM	R11690
Surr: 4-Bromofluorobenzene	107	69.4-129		%REC	1	7/1/2013 8:20:45 PM	R11690

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 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1306C42

22-Jul-13

Client: LTE
Project: Ice Canyon Drip

Sample ID B9	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBW	Batch ID: R11690		RunNo: 11690							
Prep Date:	Analysis Date: 7/1/2013		SeqNo: 331778		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	22		20.00		110	69.4	129			

Sample ID 100NG BTEX LCS	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSW	Batch ID: R11690		RunNo: 11690							
Prep Date:	Analysis Date: 7/1/2013		SeqNo: 331779		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	104	80	120			
Toluene	21	1.0	20.00	0	104	80	120			
Ethylbenzene	21	1.0	20.00	0	104	80	120			
Xylenes, Total	63	2.0	60.00	0	105	80	120			
Surr: 4-Bromofluorobenzene	22		20.00		112	69.4	129			

Sample ID 1306C42-001AMS	SampType: MS		TestCode: EPA Method 8021B: Volatiles							
Client ID: MW-4	Batch ID: R11690		RunNo: 11690							
Prep Date:	Analysis Date: 7/1/2013		SeqNo: 331784		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.5	80	120			
Toluene	20	1.0	20.00	0	97.8	80	120			
Ethylbenzene	20	1.0	20.00	0	99.4	80	120			
Xylenes, Total	60	2.0	60.00	0	100	80	120			
Surr: 4-Bromofluorobenzene	22		20.00		110	69.4	129			

Sample ID 1306C42-001AMSD	SampType: MSD		TestCode: EPA Method 8021B: Volatiles							
Client ID: MW-4	Batch ID: R11690		RunNo: 11690							
Prep Date:	Analysis Date: 7/1/2013		SeqNo: 331785		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	80	120	1.25	20	
Toluene	20	1.0	20.00	0	100	80	120	2.46	20	
Ethylbenzene	20	1.0	20.00	0	101	80	120	1.18	20	
Xylenes, Total	61	2.0	60.00	0	102	80	120	2.11	20	
Surr: 4-Bromofluorobenzene	22		20.00		111	69.4	129	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- 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 for VOA and TOC only.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1306C42

22-Jul-13

Client: LTE
Project: Ice Canyon Drip

Sample ID: 5ML RB	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBW	Batch ID: R11718	RunNo: 11718								
Prep Date:	Analysis Date: 7/2/2013	SeqNo: 332833	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	19		20.00		97.5	69.4	129			

Sample ID: 100NG BTEX LCS	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSW	Batch ID: R11718	RunNo: 11718								
Prep Date:	Analysis Date: 7/2/2013	SeqNo: 332834	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.4	80	120			
Toluene	20	1.0	20.00	0	99.1	80	120			
Ethylbenzene	20	1.0	20.00	0	99.5	80	120			
Xylenes, Total	60	2.0	60.00	0	99.6	80	120			
Surr: 4-Bromofluorobenzene	20		20.00		102	69.4	129			

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 for VOA and TOC only. |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |

Sample Log-In Check List

Client Name: LTE

Work Order Number: 1306C42

RcptNo: 1

Received by/date: AT 06/28/13

Logged By: Anne Thorne 6/28/2013 10:00:00 AM *Anne Thorne*

Completed By: Anne Thorne 6/29/2013 *Anne Thorne*

Reviewed By: IO 07/01/13

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	1.0	Good	Yes			

Chain-of-Custody Record

Client: LT Environmental
 Mailing Address: 2243 Main Ave #3
Durango CO 81301
 Phone #: 970 385 1090
 email or Fax#: aa@ltenv.com
 QA/QC Package: Level 4 (Full Validation)
 Accreditation: Standard Other _____
 NELAP Other _____
 EDD (Type) _____

Turn-Around Time:

Standard Rush

Project Name:

Ice Canyon Drip

Project #:

Project Manager:

Ashley Ager

Sampler: Brooke Herb

On Ice Dry No

Sample Temperature: 10

Container Type and #

Preservative Type

HEALING

Date Time Matrix Sample Request ID

2/1/13	1200	GW	MW-4
2/1/13	1245	GW	MW-8
2/1/13	1310	GW	MW-5
2/1/13	1350	GW	SVE-4"
2/1/13			TRIP BLANK

VOA/3 HCl
VOA/3 HCl
VOA/3 COOL
VOA/3 COOL
VOA/2 HCl

-001
-002
-003
-004
-005

X
X
X
X
X

Analysis Request

BTEX + MTBE + TMS (8021)	
BTEX + MTBE + TPH (Gas only)	
TPH Method 8015B (Gas/Diesel)	
TPH (Method 418.1)	
EDB (Method 504.1)	
8310 (PNA or PAH)	
RCRA 8 Metals	
Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	
8081 Pesticides / 8082 PCB's	
8260B (VOA)	
8270 (Semi-VOA)	
Air Bubbles (Y or N)	

Remarks:

Please Note MW-5 & SVE-4"
Are not preserved

Received by:

Christina Drake 2/27/13 1700
Christina Drake 2/28/13 1700

Relinquished by:

Christina Drake
Christina Drake

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

October 03, 2013

Ashley Ager

LTE

2243 Main Ave Suite 3

Durango, CO 81301

TEL: (970) 946-1093

FAX

RE: Ice Canyon Drip

OrderNo.: 1309C90

Dear Ashley Ager:

Hall Environmental Analysis Laboratory received 1 sample(s) on 9/26/2013 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 white background.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1309C90

Date Reported: 10/3/2013

CLIENT: LTE
Project: Ice Canyon Drip
Lab ID: 1309C90-001

Matrix: AQUEOUS

Client Sample ID: SVE 4
Collection Date: 9/24/2013 2:50:00 PM
Received Date: 9/26/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	12		µg/L	5	9/27/2013 7:05:44 PM	R13687
Benzene	ND	5.0		µg/L	5	9/27/2013 7:05:44 PM	R13687
Toluene	ND	5.0		µg/L	5	9/27/2013 7:05:44 PM	R13687
Ethylbenzene	45	5.0		µg/L	5	9/27/2013 7:05:44 PM	R13687
Xylenes, Total	210	10		µg/L	5	9/27/2013 7:05:44 PM	R13687
1,2,4-Trimethylbenzene	82	5.0		µg/L	5	9/27/2013 7:05:44 PM	R13687
1,3,5-Trimethylbenzene	35	5.0		µg/L	5	9/27/2013 7:05:44 PM	R13687
Surr: 4-Bromofluorobenzene	132	85-136		%REC	5	9/27/2013 7:05:44 PM	R13687

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 for VOA and TOC only.
	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#: 1309C90

03-Oct-13

Client: LTE
Project: Ice Canyon Drip

Sample ID 5ML RB	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBW	Batch ID: R13687		RunNo: 13687							
Prep Date:	Analysis Date: 9/27/2013		SeqNo: 389905		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	2.5								
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
Surr: 4-Bromofluorobenzene	22		20.00		111	85	136			

Sample ID 100NG BTEX LCS	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSW	Batch ID: R13687		RunNo: 13687							
Prep Date:	Analysis Date: 9/27/2013		SeqNo: 389906		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	19	2.5	20.00	0	95.4	76.8	124			
Benzene	20	1.0	20.00	0	97.6	80	120			
Toluene	20	1.0	20.00	0	99.2	80	120			
Ethylbenzene	20	1.0	20.00	0	100	80	120			
Xylenes, Total	62	2.0	60.00	0	104	80	120			
1,2,4-Trimethylbenzene	21	1.0	20.00	0	104	80	120			
1,3,5-Trimethylbenzene	21	1.0	20.00	0	106	80	120			
Surr: 4-Bromofluorobenzene	23		20.00		114	85	136			

Sample ID 1309C89-001AMS	SampType: MS		TestCode: EPA Method 8021B: Volatiles							
Client ID: BatchQC	Batch ID: R13687		RunNo: 13687							
Prep Date:	Analysis Date: 9/27/2013		SeqNo: 389911		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	90	12	100.0	0	89.6	56.1	130			
Benzene	110	5.0	100.0	0	110	73.4	119			
Toluene	110	5.0	100.0	9.090	105	80	120			
Ethylbenzene	150	5.0	100.0	44.38	104	80	120			
Xylenes, Total	510	10	300.0	208.0	101	80	120			
1,2,4-Trimethylbenzene	200	5.0	100.0	105.7	95.0	80	120			
1,3,5-Trimethylbenzene	120	5.0	100.0	11.61	107	80	120			
Surr: 4-Bromofluorobenzene	130		100.0		131	85	136			

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 for VOA and TOC only.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1309C90

03-Oct-13

Client: LTE
Project: Ice Canyon Drip

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	97	12	100.0	0	96.9	56.1	130	7.86	20	
Benzene	110	5.0	100.0	0	112	73.4	119	0.928	20	
Toluene	110	5.0	100.0	9.090	105	80	120	0.193	20	
Ethylbenzene	150	5.0	100.0	44.38	105	80	120	0.666	20	
Xylenes, Total	510	10	300.0	208.0	101	80	120	0.540	20	
1,2,4-Trimethylbenzene	200	5.0	100.0	105.7	98.1	80	120	1.54	20	
1,3,5-Trimethylbenzene	120	5.0	100.0	11.61	109	80	120	1.46	20	
Surr: 4-Bromofluorobenzene	130		100.0		131	85	136	0	0	

Qualifiers:

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

Sample Log-In Check List

Client Name: LTE

Work Order Number: 1309C90

RcptNo: 1

Received by/date:

mg 09/26/2013

Logged By: Ashley Gallegos

9/26/2013 10:00:00 AM

AG

Completed By: Ashley Gallegos

9/26/2013 6:01:42 PM

AG

Reviewed By:

mg 09/27/13

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	1.0	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, 2013

Ashley Ager

LTE

2243 Main Ave Suite 3

Durango, CO 81301

TEL: (970) 946-1093

FAX

RE: Ice Canyon Drip

OrderNo.: 1312260

Dear Ashley Ager:

Hall Environmental Analysis Laboratory received 4 sample(s) on 12/5/2013 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 white background.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1312260

Date Reported: 12/11/2013

CLIENT: LTE

Client Sample ID: MW-2

Project: Ice Canyon Drip

Collection Date: 12/2/2013 4:21:00 PM

Lab ID: 1312260-001

Matrix: AQUEOUS

Received Date: 12/5/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	12/7/2013 4:16:56 AM
Toluene	ND	1.0		µg/L	1	12/7/2013 4:16:56 AM
Ethylbenzene	ND	1.0		µg/L	1	12/7/2013 4:16:56 AM
Xylenes, Total	ND	2.0		µg/L	1	12/7/2013 4:16:56 AM
Surr: 4-Bromofluorobenzene	101	85-136		%REC	1	12/7/2013 4:16:56 AM

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 for VOA and TOC only.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE

Client Sample ID: MW-6

Project: Ice Canyon Drip

Collection Date: 12/2/2013 4:45:00 PM

Lab ID: 1312260-002

Matrix: AQUEOUS

Received Date: 12/5/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	2.0		µg/L	2	12/9/2013 11:55:25 PM
Toluene	ND	2.0		µg/L	2	12/9/2013 11:55:25 PM
Ethylbenzene	ND	2.0		µg/L	2	12/9/2013 11:55:25 PM
Xylenes, Total	ND	4.0		µg/L	2	12/9/2013 11:55:25 PM
Surr: 4-Bromofluorobenzene	101	85-136		%REC	2	12/9/2013 11:55:25 PM

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 for VOA and TOC only.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Project: Ice Canyon Drip
Lab ID: 1312260-003

Matrix: AQUEOUS

Client Sample ID: SVE-4
Collection Date: 12/2/2013 4:54:00 PM
Received Date: 12/5/2013 10:00:00 AM

Table with columns: Analyses, Result, RL, Qual, Units, DF, Date Analyzed. Includes EPA METHOD 8021B: VOLATILES and Analyst: NSB.

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

Table with columns: Qualifiers, * Value exceeds Maximum Contaminant Level, B Analyte detected in the associated Method Blank, etc.

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1312260

Date Reported: 12/11/2013

CLIENT: LTE

Client Sample ID: Trip Blank

Project: Ice Canyon Drip

Collection Date:

Lab ID: 1312260-004

Matrix: AQUEOUS

Received Date: 12/5/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	12/10/2013 1:55:51 AM
Toluene	ND	1.0		µg/L	1	12/10/2013 1:55:51 AM
Ethylbenzene	ND	1.0		µg/L	1	12/10/2013 1:55:51 AM
Xylenes, Total	ND	2.0		µg/L	1	12/10/2013 1:55:51 AM
Surr: 4-Bromofluorobenzene	101	85-136		%REC	1	12/10/2013 1:55:51 AM

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 for VOA and TOC only.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1312260

11-Dec-13

Client: LTE
Project: Ice Canyon Drip

Sample ID 5ML RB	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBW	Batch ID: R15341		RunNo: 15341							
Prep Date:	Analysis Date: 12/6/2013		SeqNo: 441968		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		92.7	85	136			

Sample ID 100NG BTEX LCS	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSW	Batch ID: R15341		RunNo: 15341							
Prep Date:	Analysis Date: 12/6/2013		SeqNo: 441969		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	105	80	120			
Toluene	21	1.0	20.00	0	104	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	19		20.00		97.0	85	136			

Sample ID B16	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBW	Batch ID: R15367		RunNo: 15367							
Prep Date:	Analysis Date: 12/9/2013		SeqNo: 442688		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		94.4	85	136			

Sample ID 100NG BTEX LCS	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSW	Batch ID: R15367		RunNo: 15367							
Prep Date:	Analysis Date: 12/9/2013		SeqNo: 442689		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	108	80	120			
Toluene	22	1.0	20.00	0	108	80	120			
Ethylbenzene	21	1.0	20.00	0	106	80	120			
Xylenes, Total	65	2.0	60.00	0	108	80	120			
Surr: 4-Bromofluorobenzene	21		20.00		104	85	136			

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 for VOA and TOC only.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1312260

11-Dec-13

Client: LTE
Project: Ice Canyon Drip

Sample ID	1312260-003AMS		SampType:	MS		TestCode:	EPA Method 8021B: Volatiles				
Client ID:	SVE-4		Batch ID:	R15367		RunNo:	15367				
Prep Date:			Analysis Date:	12/10/2013		SeqNo:	442696		Units: µg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	120	5.0	100.0	0	116	73.4	119				
Toluene	120	5.0	100.0	0	116	80	120				
Ethylbenzene	120	5.0	100.0	10.14	114	80	120				
Xylenes, Total	380	10	300.0	33.96	115	80	120				
Surr: 4-Bromofluorobenzene	110		100.0		111	85	136				

Sample ID	1312260-003AMSD		SampType:	MSD		TestCode:	EPA Method 8021B: Volatiles				
Client ID:	SVE-4		Batch ID:	R15367		RunNo:	15367				
Prep Date:			Analysis Date:	12/10/2013		SeqNo:	442697		Units: µg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	120	5.0	100.0	0	117	73.4	119	0.637	20		
Toluene	120	5.0	100.0	0	117	80	120	0.403	20		
Ethylbenzene	120	5.0	100.0	10.14	113	80	120	1.08	20		
Xylenes, Total	380	10	300.0	33.96	115	80	120	0.150	20		
Surr: 4-Bromofluorobenzene	110		100.0		113	85	136	0	0		

Qualifiers:

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

Sample Log-In Check List

Client Name: LTE

Work Order Number: 1312260

RcptNo: 1

Received by/date: MG 12/05/13

Logged By: Anne Thorne 12/5/2013 10:00:00 AM *Anne Thorne*

Completed By: Anne Thorne 12/6/2013 *Anne Thorne*

Reviewed By: AT 12/06/13

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:

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: TE Environmental

Mailing Address: 2243 Main Ave
Deming Co 81301

Phone #: 505-385-1090

Email or Fax#: agager@henv.com

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

Accreditation: NELAP Other _____

EDD (Type) _____

Turn-Around Time:

Standard Rush

Project Name:

Teel Canyon Drip

Project #:

Project Manager:

Ashley Ppger

Sampler: Devon Herrmann

On Ice: Yes No

Container Type and #

Preservative Type

HEAL NO. 1312260

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)
2/2/13	1601	GW	MW-2	VO9/3	HCL	-001	X											
2/13	1645	GW	MW-6	VO14/3	HCL	-002	X											
2/13	1654	GW	SVE-4	VO14/3	HCL	-003	X											
			Trip Blank			-004	X											

Relinquished by:

Amstrakubalen 12/3/13 1815

Received by:

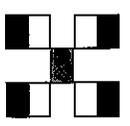
M. Williams On 12/05/13 1000

Remarks:

Please forward results to

agager@henv.com

Alert made for phlat 1/12/14



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

This document is the property of Hall Environmental. Any data generated from this record will be clearly marked on this analytical report.

APPENDIX C

BOREHOLE LOG AND MONITORING WELL COMPLETION DIAGRAMS





Compliance « Engineering » Remediation
 LT Environmental, Inc.
 2243 Main Avenue, Suite 3
 Durango, Colorado 81301

Boring/Well Number: MW-2014
 Date: 10/23/13
 Project: ICE CANYON
 Project Number: -

Logged By: DN
 Drilled By: Earthwork

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Lab/Logs: GPS Elevation: GPS Detector: PID Drilling Method: Geo Probe Sampling Method: Continuous Hole Diameter: 2" Total Depth: 48'
 Casing Type: PVL Casing Diameter: 2" Casing Length: 48' Slot Size: 0.01 Slot Length: 15' Depth to Water: 30'

Gravel Pack: 10-20 silica Seal: Bentonite Grout: Bentonite Comments: N/A

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Soil/Rock Type	Lithology/Remarks	Well Completion
					0			0' - 4'	
					1			NR	
<u>DN</u> Yes	<u>Dry</u>	<u>0</u>	<u>NO</u>	<u>N/A</u>	2	<u>SW</u>	<u>SW</u>	<u>Dry</u> <u>80% coarse sand</u> <u>20% Fine sand</u> <u>7.5yr 5/4 Brown</u>	
					3				
					4				
					5			NR	
<u>NO</u>	<u>wet</u>	<u>0</u>	<u>NO</u>	<u>N/A</u>	6		<u>SW</u>	<u>wet</u> <u>80% coarse Sand</u> <u>20% Fine sand</u> <u>7.5yr 4/6</u> <u>Strong Brown</u>	
					7				
					8				
					9			NR	
<u>NO</u>	<u>wet</u>	<u>0</u>	<u>NO</u>	<u>NA</u>	10		<u>SW</u>	<u>SAME AS ABOVE</u>	
					11				



Compliance • Engineering • Remediation
LT Environmental, Inc.
 2243 Main Avenue, Suite 3
 Durango, Colorado 81301

Boring/Well Number:
 MW-2 Rice Canyon

Date:
 10/28/05

Project:
 Daniel Newman

Project Number:

Logged By:
 Daniel Newman

Drilled By:

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Lat/Long: Elevation: Detector: Drilling Method:
 Casing Type: Casing Diameter: Casing Length: Slot Size: Sampling Method:
 Gravel Pack: Seal: Grout: Comments: Slot Length: Depth to Water:

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Soil/Rock Type	Lithology/Remarks	Well Completion
					11			SAME AS ABOVE	
					12			NR	
					13				
					14				
NO	wet	0	NO	N/A	15			Same AS ABOVE	
					16		NR	Same AS ABOVE	
					17				
					18				
					19			NR	
					20				
					21				
NO	wet	0	NO	N/A	22		SM	wet 7.5YR 3/3 Dark Brown	



Compliance • Engineering • Remediation
 LT Environmental, Inc.
 2243 Main Avenue, Suite 3
 Durango, Colorado 81301

Boring/Well Number:
 MW-2 RFE Cannon

Date:
 10/23/13

Project:

Project Number:

Logged By:
 Daniel Newman

Drilled By:

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Hole Diameter: Total Depth:

Lat/Long:	Elevation:	Detector:	Drilling Method:	Sampling Method:	Depth to Water:
Casing Type:	Casing Diameter:	Casing Length:	Slot Size:	Slot Length:	
Gravel Pack:	Seal:	Grout:	Comments:		

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Soil/Rock Type	Lithology/Remarks	Well Completion
					22			7.5 yr 3/3 DARK Brown	X
					23		sm	80% Fine 10% coarse 10% silt	X
					24				X
					25	X		NR	X
NU	wet 0	0	NU	N/A	26		sm	Same as above	X
					27				X
					28				X
					29			NR	X
NU	wet 0	0	NU	N/A	30		sm	Same as above	X
					31				X
					32				X
					33	X		NR	X



Compliance • Engineering • Remediation
LT Environmental, Inc.
 2243 Main Avenue, Suite 3
 Durango, Colorado 81301

Boring/Well Number:
 MW 2 Rice Canyon

Date:
 10/23/13

Project Number:

Logged By:
 Daniel Newman

Drilled By:

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Lat/Long:	Elevation:	Detector:	Drilling Method:	Sampling Method:	Hole Diameter:	Total Depth:
Casing Type:	Casing Diameter:	Casing Length:	Slot Size:	Slot Length:	Depth to Water:	
Gravel Pack:	Seal:	Grout:	Comments:			

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Soil/Rock Type	Lithology/Remarks	Well Completion
NO	wet	0	NO	N/A	33	SM		Same as above	
NO	wet	0	35.75 36.00	N/A	36	impacted		wet SM 80 Fine 10 coarse 10 silt SY 2.5/1 Black	
NO	SAT	0	NO	NA	37			NR	
NO	SAT	0	36.75 39.50	MW1 38.75 36.50	38	SM		SAT 80 Fine 7.5YR 3/3 10 coarse Dark Brown 10 silt	
	SAT	7480			39	impacted		SYR 5/1 Black	
					40			7.5YR 3/3 Dark Brown	
					41			NR	
					42			SAT 80 Fine 10 Coarse 10 silt	
					43	SM		7.5YR 3/3 Dark Brown	
					44				



Compliance • Engineering • Remediation
LT Environmental, Inc.
 2243 Main Avenue, Suite 3
 Durango, Colorado 81301

Boring/Well Number: **MW-251 Carolla Contract** Date: **10/23/13**
 Project: _____ Project Number: _____

Logged By: **Daniel Newman**
 Drilled By: _____

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Lat/Long:	Elevation:	Detector:	Drilling Method:	Sampling Method:	Hole Diameter:	Total Depth:
Casing Type:	Casing Diameter:	Casing Length:	Slot Size:	Slot Length:	Depth to Water:	
Gravel Pack:	Seal:	Grout:	Comments:			

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Soil/Rock Type	Lithology/Remarks	Well Completion
					44			Starts @ 44' DN Lithology/Remarks Starts @ 44'	
					45		Sm	SAT	
					46			5m 44'-48'	
					47			30 Fine	
					48			10 coarse	
					5			10 silt	
					6			7.5 yk 3/3 Dark Brown	
					7				
					8				
					9				
					10				
					11				

APPENDIX D
MONITORING WELL DEVELOPMENT FORMS



LT Environmental, Inc.
 2243 North Main Avenue, Suite #3
 Durango, Colorado 81301
 (970) 385-1096

Monitoring Well Development Form

Project Name: San Juan Basin Groundwater, ICG Canyon
 Project Number: 34013010

Well Name: MW-2R Sampler: Chris Brown

Start Date: 11/1/13 Start Time: _____

Depth to Water: 38.94 Total Depth of Well: 50.39
 Time: 15:05 Depth to Product: 11.65

Casing Volume: 11.65 x 0.1631 = 1.90 x 5 = 9.50 gal (height of water column * 0.1631 for 2" well or 0.6524 for 4" well)

Method of Purging: Dedicated PVC Bailer

Method of Sampling: Dedicated PVC Bailer

Time	Vol. Removed	Total Vol. Removed (gallons)	pH (std. units)	Temp. (F)	Conductivity (us or ms)	Comments
15:18	1.00	1.00	6.96	61.2	2.05	Brown, turbid
15:21	2.00	2.00	6.42	59.9	1.96	SAA
15:24	3.00	3.00	6.60	59.9	2.03	SAA
15:28	4.00	4.00	6.56	59.9	2.01	SAA
15:32	5.00	5.00	6.51	47.1	2.122	SAA
15:36	6.00	6.00	6.78	59.7	1.80	SAA
15:40	7.00	7.00	6.76	59.9	1.85	SAA
15:45	8.00	8.00	6.71	59.7	2.02	SAA
15:49	9.00	9.00	6.72	59.7	1.99	SAA
15:55	10.00	10.00	6.77	59.3	2.00	SAA
15:59	11.00	11.00	6.69	59.4	1.83	SAA
16:03	12.00	12.00	6.77	59.5	2.09	SAA
16:07	13.00	13.00	6.73	59.2	1.98	SAA
16:11	14.00	14.00	6.72	59.4	2.00	SAA
16:15	15.00	15.00	6.70	59.2	1.99	SAA

Comments: _____

