3R – 315

2013 AGWMR

03 / 11 / 2014

COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental, Inc.
2243 Main Avenue, Suite 3
Durango, Colorado 81301
T 970.385.1096 / F 970.385.1873

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

FLORANCE #40
ADMINISTRATIVE/ENVIRONMENTAL ORDER NUMBER 3RP-315-0

FEBRUARY 2014

Prepared for:

WILLIAMS FIELD SERVICES, LLC
TULSA, OKLAHOMA

2013 ANNUAL GROUNDWATER REPORT

FLORANCE #40
ADMINISTRATIVE/ENVIRONMENTAL ORDER NUMBER
3RP-315-0

FEBRUARY 2014

Prepared for:

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

Prepared by:

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

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EXECUTIVE SUMMARY

Groundwater at the Florance #40 (Administrative/Environmental Order Number 3RP-315-0) natural gas production well (Site) is impacted by petroleum hydrocarbons due to releases from two separate source areas: a former dehydrator pit and a former earthen separator pit. BP America Production Company (BP) is responsible for impacts from the former separator pit; and Williams Field Services, LLC (Williams) retains remedial responsibility for the dehydrator pit.

In January 2013, Williams retained LT Environmental Inc., (LTE) to visit the Site, evaluate the status of groundwater monitoring wells, complete annual sampling requirements, and recommend improvements to the groundwater remediation program.

During 2013, LTE conducted four groundwater monitoring events (February 2013, June 2013, September 2013, and December 2013). Depth to groundwater data in 2013 indicated the groundwater flow direction is south/southwest. Monitoring wells AMOCO, MW-1, and MW-5 are located upgradient of Williams' responsibility; and phase-separated hydrocarbons (PSH) were observed in monitoring well MW-1. Overall depth to groundwater at the Site has dropped to elevations that are below the total depths of most of the groundwater monitoring wells at the Site. Groundwater monitoring wells MW-3, MW-5, MW-6, and MW-7 were not sampled between January 2013 and December 2013 due to insufficient water volume in the monitoring wells. Monitoring well MW-4 was not sampled between January 2013 and December 2013 due to measurable PSH on the water table in the well.

Williams proposes to conduct product recovery at monitoring well MW-4 and monitor depth to groundwater and PSH in the seven monitoring wells, including AMOCO and MW-1, quarterly. When possible, groundwater samples will be collected from MW-3, MW-4, MW-5, MW-6, and MW-7 and analyzed for benzene, toluene, ethylbenzene, and total xylenes.

1.0 INTRODUCTION

LT Environmental, Inc. (LTE) on behalf of Williams Field Services, LLC (Williams) has prepared this report detailing groundwater monitoring completed from January 2013 through December 2013 at the Florance #40 (Administrative/Environmental Order Number 3RP-315-0) natural gas production well (Site). The scope of work for this project was continued monitoring of petroleum hydrocarbon impacts to groundwater as a result of operations of a former separator pit. January 2013 through December 2013, LTE, on behalf of Williams, conducted quarterly groundwater monitoring to measure depth to groundwater and depth to product and collect groundwater samples, when possible, for laboratory analysis.

1.1 LOCATION

The Site is located at latitude 36.799827 and longitude -107.678573 in Unit G, Section 21, Township 30 North, Range 8 West. The Site is near Gobernador Canyon in the San Juan Basin in San Juan County, New Mexico (Figure 1).

1.2 HISTORY

There are two separate source areas at the Site: a former Amoco Production Company (Amoco) separator pit that is now the responsibility of BP America Production Company (BP) and a former Public Service Company of New Mexico (PNM) dehydrator pit that is now Williams' responsibility (Figure 2). According to a letter dated December 30, 1997, from the New Mexico Oil Conservation Division (NMOCD) to Amoco, Amoco was responsible for remediation of soil and groundwater contamination downgradient of the former Amoco separator pit, and PNM was responsible for groundwater contamination downgradient of the former PNM dehydrator pit. The level of investigation or remediation by BP for the former Amoco pit is unknown.

In 1996, 646 cubic yards of petroleum hydrocarbon impacted soil was removed from the former dehydrator pit. The floor of the excavation was 17 feet below ground surface (bgs); field screening indicated petroleum hydrocarbon impacted soil remained at this depth. A test hole (later converted to groundwater monitoring well MW-2) was installed 24 feet south of the former PNM dehydrator pit. Impacts were observed from 20 feet bgs to the total depth of 50 feet bgs in soil and groundwater sampled from the monitoring well contained 11,507 micrograms per liter (µg/L) of benzene, toluene, ethylbenzene, and total xylenes (BTEX). Groundwater monitoring well MW-1 was installed upgradient (north) of the source area; impacted soil was observed between 40 feet bgs and 55 feet bgs.

In 1997, groundwater monitoring wells MW-3 and MW-4 were installed. In August 1997, the casing for groundwater monitoring well MW-2 collapsed; the well was replaced with groundwater monitoring well MW-6 in March 2000, at the same time groundwater monitoring wells MW-5 and MW-7 were installed.

In 1998, Blagg Engineering installed groundwater monitoring well AMOCO in or adjacent to the former Amoco pit.

Between September 1999 and December 2012, Williams monitored groundwater at the Site. Groundwater monitoring wells AMOCO, MW-1, MW-3, and MW-6 contained phase-separated hydrocarbons (PSH) at some time between 1997 and 2002; it is not known if PSH was recovered from groundwater monitoring wells during this time. A fully saturated product recovery sock was discovered in groundwater monitoring well MW-1 during the February 2013 site visit, indicating product recovery had been occurring in this well. Records regarding these activities can be found in previous groundwater reports submitted to the NMOCD.

2.0 METHODOLOGY

Groundwater monitoring activities were conducted at the Site in February 2013, June 2013, September 2013, and December 2013. Monitoring wells AMOCO and MW-1 were sampled in February 2013 during the initial site evaluation. However, since the monitoring wells are in BP's area of responsibility, they were not sampled again. Depth to water and depth to product measurements were obtained from each well on site during the four sampling events in 2013 to assess groundwater flow behavior. A product recovery sock was observed in groundwater monitoring well MW-1 during the four 2013 sampling events.

2.1 WATER AND PRODUCT LEVEL MEASUREMENTS

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

2.2 GROUNDWATER SAMPLING

Prior to sampling groundwater, depth to groundwater and total depth of 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 new disposable polyvinyl chloride (PVC) bailer. As water was removed from the monitoring well, pH, electric conductivity and temperature were measured. Monitoring wells were purged until these properties stabilized, indicating the purge water was representative of aquifer conditions, or until the well was purged dry. Stabilization was defined as three consecutive stable readings for each water property (±0.4 units for pH, ±10 percent for electric conductivity, and ±2º Celsius for temperature). Purge water was containerized and disposed of at a facility designated by Williams. A copy of the 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. They were immediately sealed and packed on ice. The samples were transferred to Hall Environmental Analysis Laboratory (HEAL) for analysis. Samples were stored on ice in a sealed cooler and maintained under chain-of-custody (COC) procedures. COC forms were completed documenting the date and time sampled, sample number, type of sample, sampler's

name, preservative used (if any), analyses required, and sampler's signature. HEAL analyzed the samples for benzene, toluene, ethylbenzene, and total xylenes (BTEX) according to United States Environmental Protection Agency Method 8021.

2.3 GROUNDWATER CONTOUR MAPS

LTE used existing top-of-casing well elevations and depth-to-groundwater measurements to draft the February quarterly groundwater contour map (Figure 2). In June 2013, LTE resurveyed the monitoring well casing elevations to obtain more accurate elevations. New top-of-casing elevations were surveyed first by determining a new ground surface with an online positioning user service global positioning system (OPUS GPS) and tying that elevation to each monitoring well via differential leveling to an accuracy of +/- 0.01 feet. The groundwater elevation maps in June 2013, September 2013, and December 2013 reflect data obtained during this survey (Figures 3 through 5). Contours were inferred based on groundwater elevations and observation of physical characteristics at the Site (topography, proximity to irrigation ditches, etc.).

3.0 RESULTS

Groundwater flow direction is generally south-southwest except in September, when an additional data point from a previously dry monitoring well indicated flow shifts to the southeast near the central portion of the Site. Groundwater elevations and product thickness data are included in Table 1.

As part of the initial site evaluation, LTE sampled monitoring well AMOCO, upgradient of the Williams source area, and the groundwater sample contained BTEX concentrations exceeding New Mexico Water Quality Control Commission (NMWQCC) standards. Additionally, MW-1, also upgradient of the Williams source area, contained PSH in February and December of 2013.

Groundwater monitoring wells MW-3, MW-5, MW-6, and MW-7 did not contain sufficient groundwater to sample during the 2013 sampling events. MW-4 contained PSH during every sampling event in 2013 ranging from 0.01 feet in June 2013 to 0.03 feet in September 2013. Table 2 summarizes the groundwater analytical results and copies of the laboratory reports can be found in Appendix B.

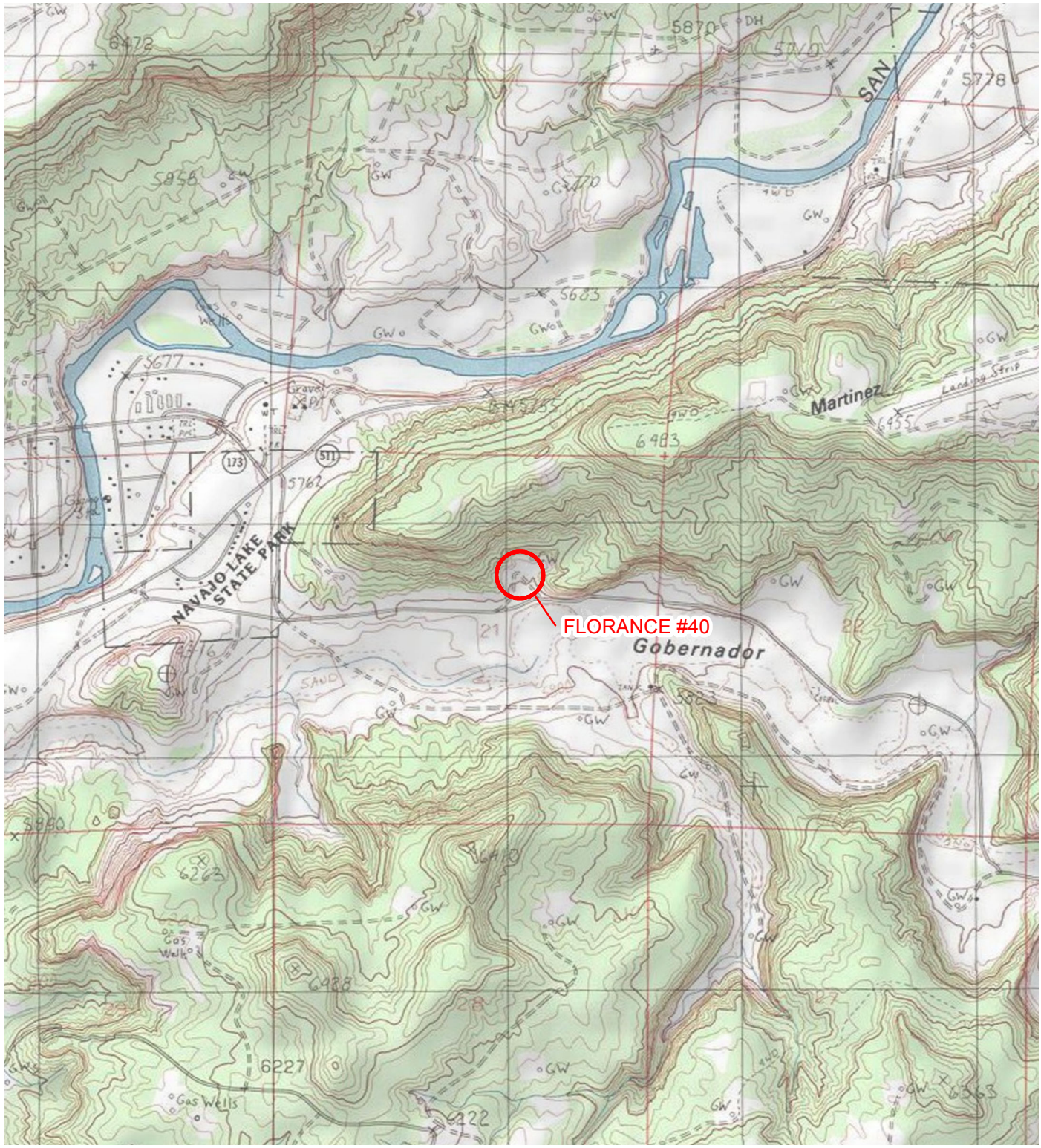
4.0 CONCLUSIONS

Groundwater in monitoring wells AMOCO and MW-1 is impacted, but is outside Williams' area of responsibility. Within Williams' area of responsibility, the overall depth to groundwater at the Site has dropped to elevations that are below the total depths of most wells in the groundwater monitoring well network. Groundwater monitor wells MW-3, MW-5, MW-6, and MW-7 are dry and groundwater monitoring well MW-4 contains measurable PSH.

5.0 RECOMMENDATIONS

Williams proposes to continue to conduct quarterly monitoring for the presence of PSH and depth to groundwater in the seven monitoring wells including AMOCO and MW-1. When possible, quarterly groundwater samples will be collected from MW-3, MW-4, MW-6, and MW-7. Additionally, Williams proposes to sample groundwater monitoring well MW-5 when water is present to use as the upgradient well from their area of responsibility at the Site.

FIGURES



LEGEND

SITE LOCATION

IMAGE COURTESY OF ESRI/BING MAPS

0 2,000 4,000

Feet

N

FIGURE 1
SITE LOCATION MAP
FLORANCE #40
SAN JUAN COUNTY, NEW MEXICO

WILLIAMS FIELD SERVICES, LLC

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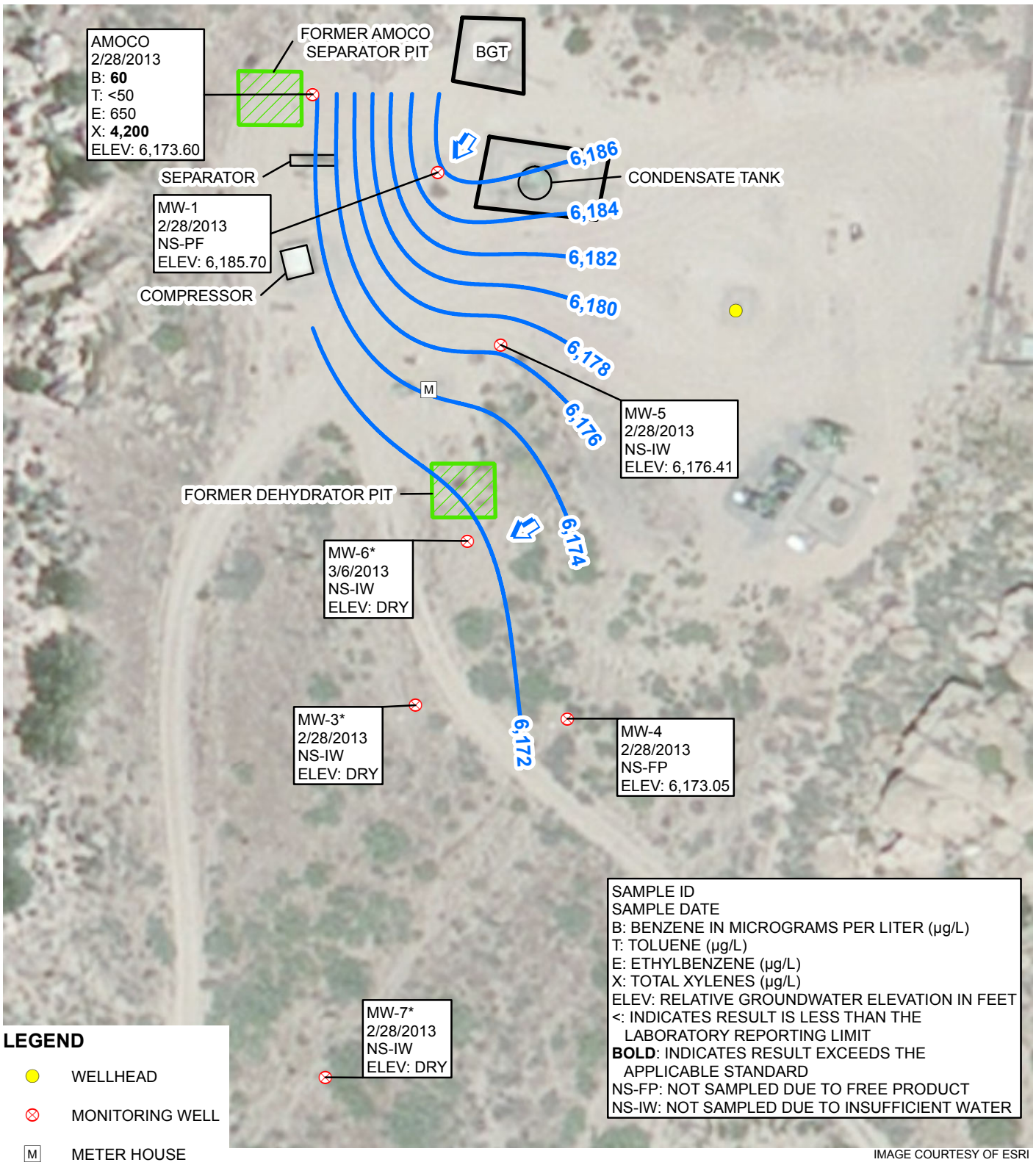

FIGURE 2
GROUNDWATER ELEVATION & ANALYTICAL RESULTS (MARCH 2013)
FLORANCE #40
SAN JUAN COUNTY, NEW MEXICO
WILLIAMS FIELD SERVICES, LLC

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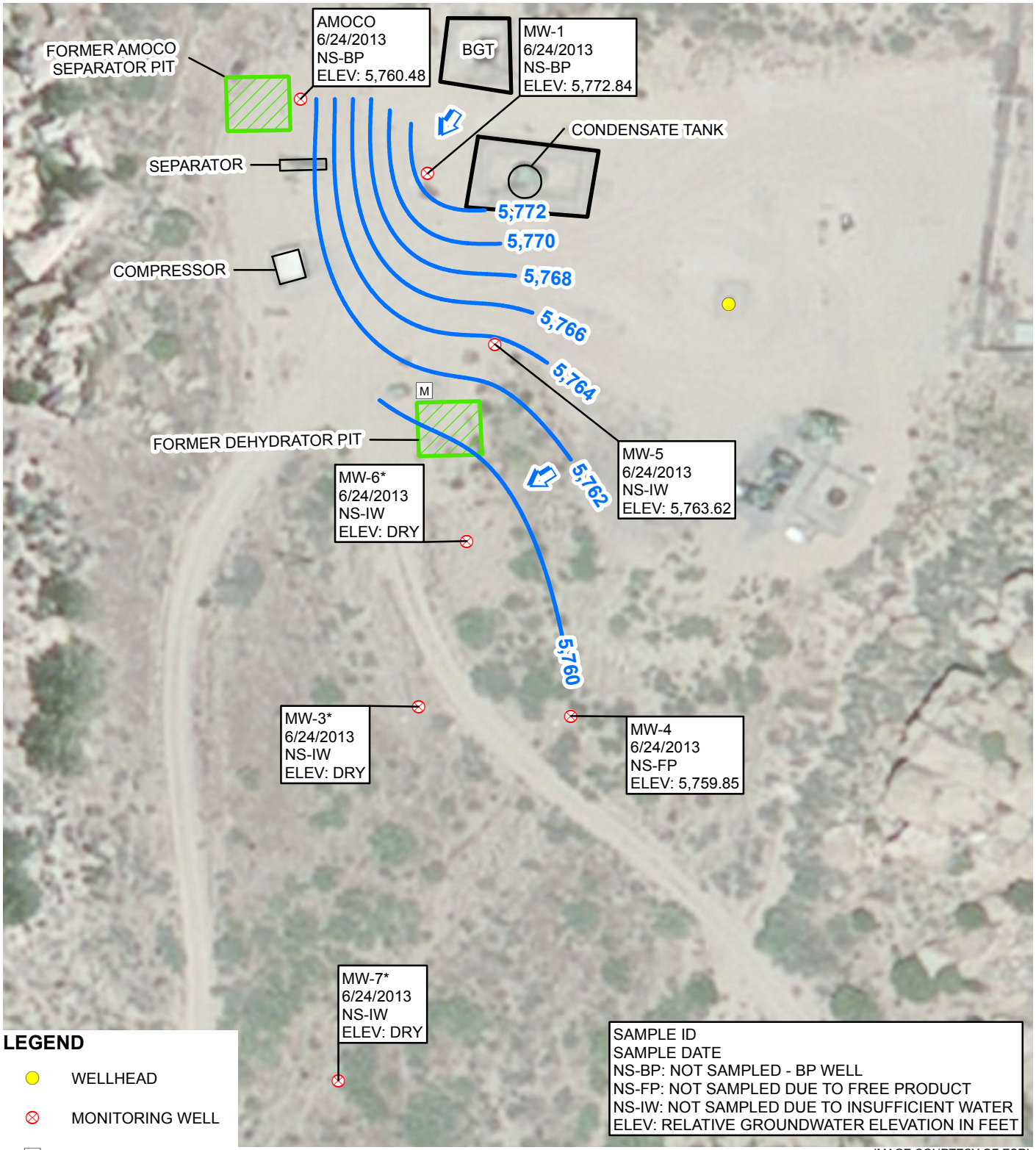


LEGEND

- WELLHEAD
- MONITORING WELL
- M — METER HOUSE
- ESTIMATED GROUNDWATER FLOW DIRECTION
- RELATIVE GROUNDWATER ELEVATION CONTOUR
  CONTOUR INTERVAL = 2 FEET
- BERM

BGT: BELOW GRADE TANK

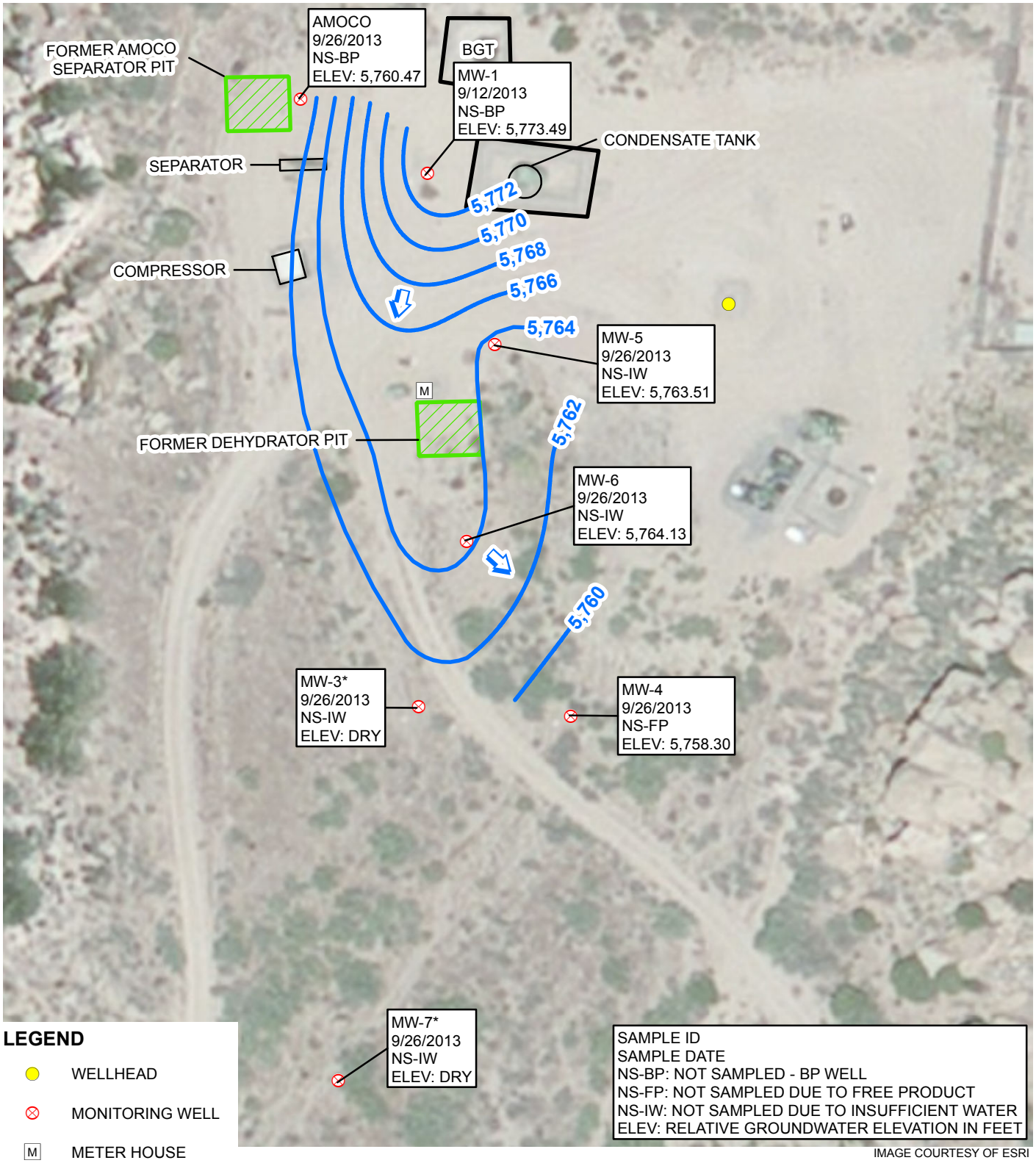
*MW-3, MW-6, AND MW-7 NOT USED TO GENERATE GROUNDWATER ELEVATION CONTOURS

0 60 120
Feet

N

FIGURE 3
GROUNDWATER ELEVATION
(JUNE 2013)
FLORANCE #40
SAN JUAN COUNTY, NEW MEXICO
WILLIAMS FIELD SERVICES, LLC

P:\Williams Field Services\GIS\MXD\034013010_FLORANCE#40\034013010_FLORANCE_#40_FIG02_GWELEV_GWANALY_2013_Q2.mxd



LEGEND

- WELLHEAD
- MONITORING WELL
- M METER HOUSE
- ESTIMATED GROUNDWATER FLOW DIRECTION
- RELATIVE GROUNDWATER ELEVATION CONTOUR
- CONTOUR INTERVAL = 2 FEET
- BERM

BGT: BELOW GRADE TANK

*MW-3 AND MW-7 NOT USED TO GENERATE GROUNDWATER ELEVATION CONTOURS

SAMPLE ID
SAMPLE DATE
NS-BP: NOT SAMPLED - BP WELL
NS-FP: NOT SAMPLED DUE TO FREE PRODUCT
NS-IW: NOT SAMPLED DUE TO INSUFFICIENT WATER
ELEV: RELATIVE GROUNDWATER ELEVATION IN FEET

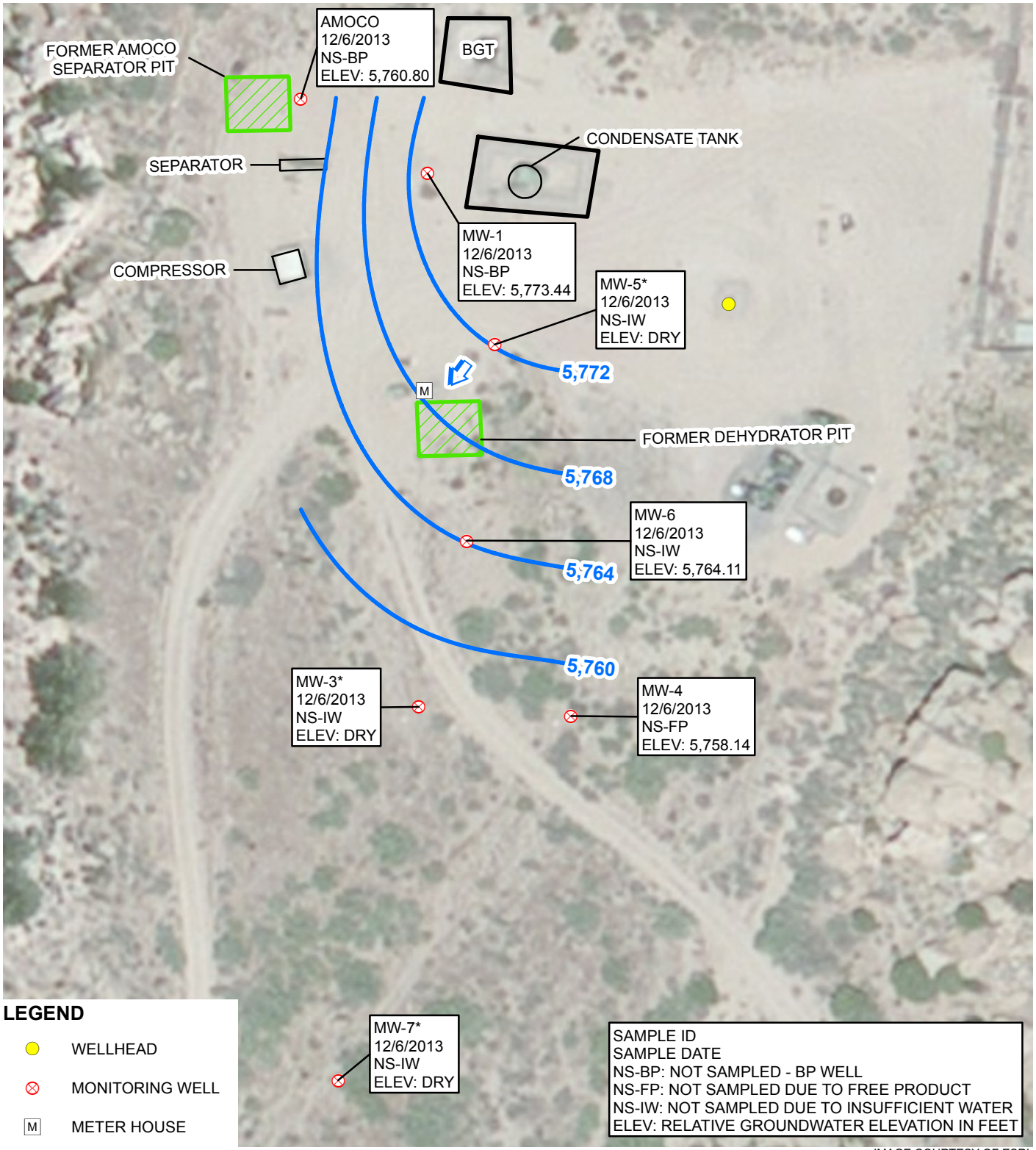
IMAGE COURTESY OF ESRI

0 60 120
Feet

N

FIGURE 4
GROUNDWATER ELEVATION MAP
(SEPTEMBER 2013)
FLORANCE #40
SAN JUAN COUNTY, NEW MEXICO
WILLIAMS FIELD SERVICES, LLC

P:\Williams Field Services\GIS\MXD\034013010_FLORANCE#40\034013010_FLORANCE_#40_FIG02_GWELEV_2013_Q3.mxd



LEGEND

- WELLHEAD
- MONITORING WELL
- M METER HOUSE
- ESTIMATED GROUNDWATER FLOW DIRECTION
- RELATIVE GROUNDWATER ELEVATION CONTOUR
- CONTOUR INTERVAL = 4 FEET
- BERM

BGT: BELOW GRADE TANK

*MW-3, MW-5, AND MW-7 NOT USED TO GENERATE GROUNDWATER ELEVATION CONTOURS

FIGURE 5
GROUNDWATER ELEVATION MAP
(DECEMBER 2013)
FLORANCE #40
SAN JUAN COUNTY, NEW MEXICO
WILLIAMS FIELD SERVICES, LLC

P:\Williams Field Services\GIS\MXD\034013010_FLORANCE#40\034013010_FLORANCE_#40_FIG03_GWE_ANALY_2013_Q4.mxd

TABLES

TABLE 1

GROUNDWATER ELEVATION SUMMARY
FLORANCE #40
WILLIAMS FIELD SERVICES, LLC

Well ID	Date	Top of Casing Elevation (feet AMSL)	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet AMSL)
AMOCO	1/3/2012	6,234.87	UNK	UNK	UNK	UNK
AMOCO	4/2/2012	6,234.87	UNK	UNK	UNK	UNK
AMOCO	6/13/2012	6,234.87	UNK	UNK	UNK	UNK
AMOCO	10/2/2012	6,234.87	UNK	UNK	UNK	UNK
AMOCO	12/6/2012	6,234.87	UNK	UNK	UNK	UNK
AMOCO	2/28/2013	6,234.87	61.27	NP	NP	6,173.60
AMOCO	6/24/2013	5,822.11*	61.63	NP	NP	5,760.48
AMOCO	9/26/2013	5,822.11	61.64	NP	NP	5,760.47
AMOCO	12/6/2013	5,822.11	61.31	NP	NP	5,760.80
MW-1	1/3/2012	6,231.60	UNK	UNK	UNK	UNK
MW-1	4/2/2012	6,231.60	UNK	UNK	UNK	UNK
MW-1	6/13/2012	6,231.60	UNK	UNK	UNK	UNK
MW-1	10/2/2012	6,231.60	UNK	UNK	UNK	UNK
MW-1	12/6/2012	6,231.60	UNK	UNK	UNK	UNK
MW-1**	2/28/2013	6,231.60	45.92	45.90	0.02	6,185.70
MW-1**	6/24/2013	5,818.84*	46.00	NP	NP	5,772.84
MW-1**	9/26/2013	5,818.84	45.35	NP	NP	5,773.49
MW-1**	12/6/2013	5,818.84	45.42	45.40	0.02	5,773.44
MW-3	1/3/2012	6,219.05	UNK	UNK	UNK	UNK
MW-3	4/2/2012	6,219.05	UNK	UNK	UNK	UNK
MW-3	6/13/2012	6,219.05	UNK	UNK	UNK	UNK
MW-3	10/2/2012	6,219.05	UNK	UNK	UNK	UNK
MW-3	12/6/2012	6,219.05	UNK	UNK	UNK	UNK
MW-3	2/28/2013	6,219.05	NP	NP	DRY	DRY
MW-3	6/24/2013	5,806.34*	NP	NP	DRY	DRY
MW-3	9/26/2013	5,806.34	NP	NP	DRY	DRY
MW-3	12/6/2013	5,806.34	NP	NP	DRY	DRY
MW-4	1/3/2012	6,219.64	UNK	UNK	UNK	UNK
MW-4	4/2/2012	6,219.64	UNK	UNK	UNK	UNK
MW-4	6/13/2012	6,219.64	UNK	UNK	UNK	UNK
MW-4	10/2/2012	6,219.64	UNK	UNK	UNK	UNK
MW-4	12/6/2012	6,219.64	UNK	UNK	UNK	UNK
MW-4	2/28/2013	6,219.64	46.61	46.59	0.02	6,173.05
MW-4	6/24/2013	5,806.56*	46.72	46.71	0.01	5,759.85
MW-4	9/26/2013	5,806.56	48.28	48.25	0.03	5,758.30
MW-4	12/6/2013	5,806.56	48.44	48.42	0.02	5,758.14
MW-5	1/3/2012	6,228.57	UNK	UNK	UNK	UNK
MW-5	4/2/2012	6,228.57	UNK	UNK	UNK	UNK
MW-5	6/13/2012	6,228.57	UNK	UNK	UNK	UNK
MW-5	10/2/2012	6,228.57	UNK	UNK	UNK	UNK
MW-5	12/6/2012	6,228.57	UNK	UNK	UNK	UNK
MW-5	2/28/2013	6,228.57	52.16	NP	NP	6,176.41
MW-5	6/24/2013	5,815.74*	52.12	NP	NP	5,763.62
MW-5	9/26/2013	5,815.74	52.23	NP	NP	5,763.51
MW-5	12/6/2013	5,815.74	DRY	NP	NP	DRY
MW-6	1/3/2012	6,221.28	UNK	UNK	UNK	UNK
MW-6	4/2/2012	6,221.28	UNK	UNK	UNK	UNK
MW-6	6/13/2012	6,221.28	UNK	UNK	UNK	UNK
MW-6	10/2/2012	6,221.28	UNK	UNK	UNK	UNK
MW-6	12/6/2012	6,221.28	UNK	UNK	UNK	UNK
MW-6	3/6/2013	6,221.28	DRY	DRY	DRY	DRY
MW-6	6/24/2013	5,808.50*	DRY	DRY	DRY	DRY
MW-6	9/26/2013	5,808.50	44.37	NP	NP	5,764.13
MW-6	12/6/2013	5,808.50	44.39	NP	NP	5,764.11

TABLE 1

GROUNDWATER ELEVATION SUMMARY
FLORANCE #40
WILLIAMS FIELD SERVICES, LLC

Well ID	Date	Top of Casing Elevation (feet AMSL)	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet AMSL)
MW-7	1/3/2012	6,211.30	UNK	UNK	UNK	UNK
MW-7	4/2/2012	6,211.30	UNK	UNK	UNK	UNK
MW-7	6/13/2012	6,211.30	UNK	UNK	UNK	UNK
MW-7	10/2/2012	6,211.30	UNK	UNK	UNK	UNK
MW-7	12/6/2012	6,211.30	UNK	UNK	UNK	UNK
MW-7	2/28/2013	6,211.30	DRY	DRY	DRY	DRY
MW-7	6/24/2013	5,798.73*	DRY	DRY	DRY	DRY
MW-7	9/26/2013	5,798.73	DRY	DRY	DRY	DRY
MW-7	12/6/2013	5,798.73	DRY	DRY	DRY	DRY

Notes:
* Top of casing elevation was resurveyed on 6/20/13
** Product recovery sock was present in well
AMSL - Above Mean Sea Level
BTOC - Below Top of Casing
DEST - well has been destroyed
Groundwater elevation calculation in wells with product: (Top of Casing Elevation - Depth to Water) + (Product Thickness * 0.8)
NP - No Product
UNK - data is not known

TABLE 2

GROUNDWATER LABORATORY ANALYTICAL RESULTS
FLORANCE #40
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**
AMOCO	11/15/2000	**966**	64.4	**1,070**	**12,700**
AMOCO	1/22/2001	**1,210**	299	**1,750**	**19,400**
AMOCO	4/30/2001	**1,080**	71	**1,030**	**11,600**
AMOCO	10/16/2001	**930**	13	**1,100**	**12,000**
AMOCO	3/30/2002	**610**	**790**	**1,100**	**13,000**
AMOCO	6/16/2002	**740**	ND	**3,400**	**22,000**
AMOCO	12/13/2002	**570**	ND	670	**8,400**
AMOCO	12/3/2003	**440**	<100	**760**	**8,600**
AMOCO	3/10/2004	**200**	56	430	**7,400**
AMOCO	6/27/2004	**270**	150	600	**6,600**
AMOCO	9/20/2004	**210**	61	430	**3,900**
AMOCO	12/6/2004	**1,000**	100	**750**	**7,800**
AMOCO	3/8/2005	**330**	94	730	**5,900**
AMOCO	11/30/2005	**325**	59.7	**809**	**11,400**
AMOCO	7/18/2006	**375**	<20.0	**1,100**	**9,010**
AMOCO	3/27/2008	**168**	<25.0	**1,800**	**10,200**
AMOCO	3/27/2008	**183**	<25.0	**3,920**	**11,000**
AMOCO	6/4/2008	**211**	<25.0	**1,350**	**8,170**
AMOCO	9/18/2008	**169**	<50.0	**2,110**	**17,500**
AMOCO	12/5/2008	**134**	<100	**1,280**	**10,900**
AMOCO	3/28/2009	**130**	<100	**1760**	**15,800**
AMOCO	7/8/2009	**220**	<50.0	**2,350**	**16,400**
AMOCO	9/11/2009	**133**	<100	**2,880**	**20,700**
AMOCO	12/20/2019	**106**	<10.0	**823**	**5,450**
AMOCO	3/29/2010	**114**	<100	**1,230**	**8,840**
AMOCO	6/23/2010	**116**	<25.0	**3,400**	**19,000**
AMOCO	9/10/2010	**112**	<50.0	**2,980**	**22,000**
AMOCO	12/4/2010	**103**	<50.0	**1,710**	**10,900**
AMOCO	3/11/2011	**78.1**	23.3	**1,130**	**6,350**
AMOCO	6/14/2011	**88.1**	<10	**1,980**	**14,200**
AMOCO	9/12/2011	**75.6**	<1.0	670	**3,710**
AMOCO	1/3/2012	**73.8**	<5.0	732	**3,380**
AMOCO	4/2/2012	NS	NS	NS	NS
AMOCO	6/13/2012	**81.8**	30.5	**966**	**4,480**
AMOCO	10/2/2012	**71.6**	<5.0	**881**	**4,320**
AMOCO	12/6/2012	**80.4**	<5.0	**952**	**3,730**
AMOCO	2/28/2013	**60**	<50	650	**4,200**
AMOCO	6/24/2013	NS-BP	NS-BP	NS-BP	NS-BP
AMOCO	9/26/2013	NS-BP	NS-BP	NS-BP	NS-BP

TABLE 2

GROUNDWATER LABORATORY ANALYTICAL RESULTS
FLORANCE #40
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**
AMOCO	12/6/2013	NS-BP	NS-BP	NS-BP	NS-BP
MW-1	1/2/1997	**357**	**1,550**	**1,060**	**5,830**
MW-1	5/8/1997	**3,643**	**11,525**	**1,097**	**16,005**
MW-1	8/13/1997	**3,653**	**12,785**	**1,160**	**16,191**
MW-1	11/25/1997	**3,942**	**14,574**	**1,262**	**17,568**
MW-1	1/23/1998	**4,421**	**15,035**	**1,181**	**19,184**
MW-1	4/28/1998	**4,000**	**13,000**	**1,000**	**18,800**
MW-1	8/7/1998	**3,600**	**11,000**	**970**	**15,400**
MW-1	12/15/1998	**3,800**	**7,200**	**670**	**17,900**
MW-1	2/9/1999	**3,400**	**5,300**	**1,100**	**18,900**
MW-1	4/21/1999	**3,500**	**3,500**	**810**	**16,500**
MW-1	7/28/1999	**2,700**	**1,800**	**220**	**15,300**
MW-1	11/1/1999	**3,200**	**1,100**	**910**	**17,600**
MW-1	7/13/2006	**16**	6	**<1.0**	**57**
MW-1	1/3/2012	NS	NS	NS	NS
MW-1	4/2/2012	NS	NS	NS	NS
MW-1	6/13/2012	NS	NS	NS	NS
MW-1	10/2/2012	NS	NS	NS	NS
MW-1	12/6/2012	**1,670**	<10.0	**1,300**	**995**
MW-1	2/28/2013	NS-BP	NS-BP	NS-BP	NS-BP
MW-1	6/24/2013	NS-BP	NS-BP	NS-BP	NS-BP
MW-1	9/12/2013	NS-BP	NS-BP	NS-BP	NS-BP
MW-1	12/6/2013	NS-BP	NS-BP	NS-BP	NS-BP
MW-3	2/6/1997	**171.0**	735	149	**1,572**
MW-3	5/8/1997	**97**	27	115	302
MW-3	11/1/1999	**1,600**	**820**	640	**6,400**
MW-3	7/13/2006	**57**	6.3	<1.0	8
MW-3	1/3/2012	NS	NS	NS	NS
MW-3	4/2/2012	NS	NS	NS	NS
MW-3	6/13/2012	NS	NS	NS	NS
MW-3	10/2/2012	NS	NS	NS	NS
MW-3	12/6/2012	NS	NS	NS	NS
MW-3	2/28/2013	NS-IW	NS-IW	NS-IW	NS-IW
MW-3	6/24/2013	NS-IW	NS-IW	NS-IW	NS-IW
MW-3	9/26/2013	NS-IW	NS-IW	NS-IW	NS-IW
MW-3	12/6/2013	NS-IW	NS-IW	NS-IW	NS-IW

TABLE 2

GROUNDWATER LABORATORY ANALYTICAL RESULTS
FLORANCE #40
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	5/8/1997	<0.2	0.3	<0.2	0.5
MW-4	8/13/1997	<1.0	<1.0	<1.0	<1.0
MW-4	11/25/1997	<0.2	<0.2	<0.2	<0.4
MW-4	1/23/1998	<0.2	<0.2	<0.2	<0.4
MW-4	11/15/2000	<1.0	<1.0	<1.0	<1.0
MW-4	1/22/2001	**15.1**	46.1	14.7	306
MW-4	4/30/2001	**103**	3.85	2.38	42.5
MW-4	10/16/2001	<2.0	<2.0	<2.0	<2.0
MW-4	3/30/2002	**42**	13	19	150
MW-4	6/16/2002	**56**	32	68	470
MW-4	9/25/2002	**170**	85	170	**1,200**
MW-4	12/13/2002	**130**	39	180	**990**
MW-4	3/8/2005	**17**	15	170	**1,100**
MW-4	7/18/2006	**<20.0**	<20.0	230	**1,640**
MW-4	3/27/2008	<10.0	<10.0	285	**2,390**
MW-4	6/4/2008	<1.0	<10.0	232	**1,830**
MW-4	9/18/2008	<5.0	16.1	218	**1,640**
MW-4	12/5/2008	<5.0	<5.0	55.6	410
MW-4	3/28/2009	<5.0	<5.0	111	**732**
MW-4	7/8/2009	6.1	<5.0	91.2	587
MW-4	9/11/2009	<1.0	<1.0	39.9	199
MW-4	12/20/2009	<1.0	<1.0	28.1	145
MW-4	3/29/2010	<5.0	7.1	65.5	360
MW-4	6/23/2010	<5.0	<5.0	70.1	439
MW-4	9/10/2010	<1.0	<1.0	11.8	110
MW-4	12/4/2010	<5.0	<5.0	15.8	152
MW-4	3/11/2011	<5.0	<5.0	18.1	167
MW-4	6/14/2011	<1.0	<1.0	4.9	33.3
MW-4	9/12/2011	<1.0	<1.0	<1.0	7.9
MW-4	1/3/2012	<1.0	<1.0	<1.0	3.6
MW-4	4/2/2012	NS	NS	NS	NS
MW-4	6/13/2012	<1.0	<1.0	<1.0	<3.0
MW-4	10/2/2012	<5.0	<5.0	<5.0	<15.0
MW-4	12/6/2012	<1.0	<1.0	<1.0	<3.0
MW-4	2/28/2013	NSP	NSP	NSP	NSP
MW-4	6/24/2013	NSP	NSP	NSP	NSP
MW-4	9/26/2013	NS-IW	NS-IW	NS-IW	NS-IW
MW-4	12/6/2013	NSP	NSP	NSP	NSP

TABLE 2

GROUNDWATER LABORATORY ANALYTICAL RESULTS
FLORANCE #40
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	5/8/1997	<2.0	0.3	<0.2	0.4
MW-5	8/13/1997	**3,683**	**12,739**	**1,143**	**16,086**
MW-5	11/25/1997	<0.2	<0.2	<0.2	<0.4
MW-5	1/23/1998	**4,299**	**14,477**	**1,120**	**18,281**
MW-5	2/9/1999	**3,500**	**5,100**	**100**	**17,700**
MW-5	4/21/1999	**3,300**	**3,400**	**790**	**16,400**
MW-5	3/21/2000	**730**	**220**	**1,200**	**11,600**
MW-5	6/14/2000	**800**	**33**	**980**	**5,890**
MW-5	11/15/2000	**953**	65	**1,600**	**8,010**
MW-5	1/22/2001	**818**	<1	**1,390**	**7,530**
MW-5	4/30/2001	**873**	124	**1,450**	**4,320**
MW-5	10/16/2001	**770**	73	**1,300**	**8,000**
MW-5	3/30/2002	**350**	12	**540**	**440**
MW-5	6/16/2002	**300**	ND	**290**	**110**
MW-5	9/25/2002	**250**	15	**110**	**330**
MW-5	12/13/2002	**100**	ND	**48**	**150**
MW-5	7/13/2006	**22**	8	<1.0	**45**
MW-5	1/3/2012	<1.0	<1.0	<1.0	3.6
MW-5	4/2/2012	NS	NS	NS	NS
MW-5	6/13/2012	<1.0	<1.0	<1.0	<3.0
MW-5	10/2/2012	<5.0	<5.0	<5.0	<15.0
MW-5	12/6/2012	<1.0	<1.0	<1.0	<3.0
MW-5	2/28/2013	NS-IW	NS-IW	NS-IW	NS-IW
MW-5	6/24/2013	NS-IW	NS-IW	NS-IW	NS-IW
MW-5	9/26/2013	NS-IW	NS-IW	NS-IW	NS-IW
MW-5	12/6/2013	NS-IW	NS-IW	NS-IW	NS-IW
MW-6	3/21/2000	**4,200**	**12,000**	**1,300**	**15,200**
MW-6	6/14/2000	**4,400**	**11,000**	**1,200**	**15,200**
MW-6	7/13/2006	**795**	**1,480**	**285**	**2,450**
MW-6	3/27/2008	**3,670**	**2,150**	**1,210**	**14,300**
MW-6	6/4/2008	**2,380**	**1,370**	580	**11,900**
MW-6	9/18/2008	**3,600**	278	**1,290**	**18,100**
MW-6	12/5/2008	**1,580**	85.3	**828**	**10,100**
MW-6	3/28/2009	**1,790**	95	**886**	**15,300**
MW-6	9/11/2009	**1,200**	95	523	**3,580**
MW-6	6/23/2010	**815**	75.3	32.3	**3,090**
MW-6	9/10/2010	**674**	129	28.7	**4,010**
MW-6	1/3/2012	NS	NS	NS	NS

TABLE 2

GROUNDWATER LABORATORY ANALYTICAL RESULTS
FLORANCE #40
WILLIAMS FIELD SERVICES, LLC

Well Name	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standard (µg/L)		**10**	**750**	**750**	**620**
MW-6	4/2/2012	**86.7**	28	**799**	**4,240**
MW-6	6/13/2012	NS	NS	NS	NS
MW-6	10/2/2012	NS	NS	NS	NS
MW-6	12/6/2012	NS	NS	NS	NS
MW-6	3/6/2013	NS-IW	NS-IW	NS-IW	NS-IW
MW-6	6/24/2013	NS-IW	NS-IW	NS-IW	NS-IW
MW-6	9/26/2013	NS-IW	NS-IW	NS-IW	NS-IW
MW-6	12/6/2013	NS-IW	NS-IW	NS-IW	NS-IW
MW-7	3/21/2000	<0.5	<0.5	<0.5	5.9
MW-7	6/14/2000	<0.5	<0.5	<0.5	<1.5
MW-7	11/15/2000	<1.0	<1.0	<1.0	<1.0
MW-7	1/22/2001	<1.0	5.79	1.51	42.4
MW-7	4/30/2001	<1.0	<1.0	<1.0	<1.0
MW-7	10/16/2001	<1.0	<2.0	<2.0	3.2
MW-7	12/3/2003	<2.0	<2.0	<2.0	<5.0
MW-7	3/10/2004	ND	ND	ND	ND
MW-7	6/27/2004	ND	ND	ND	ND
MW-7	9/20/2004	ND	ND	ND	ND
MW-7	12/6/2004	<2.0	<2.0	<2.0	<5.0
MW-7	3/8/2005	<2.0	<2.0	<2.0	5.7
MW-7	6/19/2005	<2.0	<2.0	<2.0	<5.0
MW-7	9/15/2005	<2.0	<2.0	<2.0	<5.0
MW-7	11/30/2005	<2.0	<2.0	<2.0	<5.0
MW-7	7/13/2006	<1.0	<1.0	<1.0	<3.0
MW-7	3/27/2008	<1.0	<1.0	<1.0	<3.0
MW-7	6/4/2008	<1.0	<1.0	<1.0	<3.0
MW-7	9/18/2008	<1.0	<1.0	<1.0	<3.0
MW-7	12/5/2008	<1.0	<1.0	<1.0	<3.0
MW-7	3/28/2009	<1.0	<1.0	<1.0	<3.0
MW-7	7/8/2009	<1.0	<1.0	<1.0	<3.0
MW-7	9/11/2009	<1.0	<1.0	<1.0	<3.0
MW-7	12/20/2009	<1.0	<1.0	<1.0	<3.0
MW-7	3/29/2010	<5.0	<5.0	<5.0	<15.0
MW-7	6/23/2010	<1.0	<1.0	<1.0	<3.0
MW-7	9/10/2010	<1.0	<1.0	<1.0	<3.0
MW-7	12/4/2010	<1.0	<1.0	<1.0	<3.0
MW-7	3/11/2011	<1.0	<1.0	<1.0	<3.0
MW-7	6/14/2011	<1.0	<1.0	<1.0	<3.0

TABLE 2

GROUNDWATER LABORATORY ANALYTICAL RESULTS
FLORANCE #40
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	9/12/2011	<1.0	<1.0	<1.0	<3.0
MW-7	1/3/2012	<1.0	<1.0	<1.0	<3.0
MW-7	4/2/2012	<1.0	<1.0	<1.0	<3.0
MW-7	6/13/2012	NS	NS	NS	NS
MW-7	10/2/2012	NS	NS	NS	NS
MW-7	12/6/2012	NS	NS	NS	NS
MW-7	2/28/2013	NS-IW	NS-IW	NS-IW	NS-IW
MW-7	6/24/2013	NS-IW	NS-IW	NS-IW	NS-IW
MW-7	9/26/2013	NS-IW	NS-IW	NS-IW	NS-IW
MW-7	12/6/2013	NS-IW	NS-IW	NS-IW	NS-IW

Notes:
< - indicates result is less than laboratory reporting detection limit
Bold - indicates sample exceeds NMWQCC standard
µg/L - micrograms per liter
NS - Not sampled
NMWQCC - New Mexico Water Quality Control Commission
NS- BP - not sampled,monitoring well is BP's responsiblility
NS-IW - Not sampled - Insufficient water
NSP - not sampled due to the presence of free phase hydrocarbons in the well
ND - Analyte not detected

APPENDIX A

2013 FIELD NOTES

Water Sample Collection Form

Sample Location	Florance #40	Client	Williams Field Services, LLC
Sample Date	2/28/2013	Project Name	Historical Groundwater
Sample Time	10:53	Project #	034013001
Sample ID	Amoco Well	Sampler	Brooke Herb
Analyses	BTEX 8021		
Matrix	Groundwater	Laboratory	Hall Environmental
Turn Around Time	Standard	Shipping Method	Hand delivery
Depth to Water	61.27	TD of Well	62.65
Time	10:35	Depth to Product	NA

Vol. of H2O to purge 1.38 * 0.1631= 0.22 *3= 0.66

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

Method of Purging PVC Bailer

Method of Sampling PVC Bailer

Time	Vol. Removed (gal.)	Total Vol H2O removed (gal.)	pH (std. units)	Temp. (C)	Conductivity (us or ms)	Comments
10:35	0.15	0.15	6.95	16.2	1.93	Black, sheen, strong Hydrocarbon odor
10:40	0.10	0.25	7.02	16.3	2.17	No Change
						Bailed Dry

Comments:

Describe Deviations from SOP: Did not bail 3 casing volumes. Well bailed dry.

Signature: Brooke Herb **Date:** 2/28/2013

Water Sample Collection Form

Sample Location	Florance #40	Client	Williams Field Services, LLC
Sample Date	2/28/2013	Project Name	Historical Groundwater
Sample Time	NA	Project #	034013001
Sample ID	MW-1	Sampler	Brooke Herb
Analyses	NA		
Matrix	NA	Laboratory	NA
Turn Around Time	NA	Shipping Method	NA
Depth to Water	45.92	TD of Well	NM
Time	10:10	Depth to Product	45.9

Vol. of H2O to purge

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

Method of Purging NA

Method of Sampling NA

Time	Vol. Removed (gal.)	Total Vol H2O removed (gal.)	pH (std. units)	Temp. (C)	Conductivity (us or ms)	Comments

Comments: No sample was collected due to the presence of product.
Product recovery sock present in well; 100% saturated with product; black.
Sock returned to well after gauging.

Describe Deviations from SOP:

Signature: Brooke Herb **Date:** 2/28/2013

Water Sample Collection Form

Sample Location	Florance #40	Client	Williams Field Services, LLC
Sample Date	2/28/2013	Project Name	Historical Groundwater
Sample Time	NA	Project #	034013001
Sample ID	MW-3	Sampler	Brooke Herb
Analyses	NA		
Matrix	NA	Laboratory	NA
Turn Around Time	NA	Shipping Method	NA
Depth to Water	DRY	TD of Well	38.2 *
Time	9:00	Depth to Product	NA

Vol. of H2O to purge

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

Method of Purging NA

Method of Sampling NA

Time	Vol. Removed (gal.)	Total Vol H2O removed (gal.)	pH (std. units)	Temp. (C)	Conductivity (us or ms)	Comments

Comments: PVC inside metal casing is broken. TOC is no longer accurate. * TD taken from ground surface. Oil-water interface probe has small amount of black soil with HC odor on it. Metal stick up is 2.25 feet.

Describe Deviations from SOP:

Signature: Brooke Herb **Date:** 2/28/2013

Water Sample Collection Form

Sample Location	Florance #40	Client	Williams Field Services, LLC
Sample Date	2/28/2013	Project Name	Historical Groundwater
Sample Time	NA	Project #	034013001
Sample ID	MW-4	Sampler	Brooke Herb
Analyses	NA		
Matrix	NA	Laboratory	NA
Turn Around Time	NA	Shipping Method	NA
Depth to Water	46.61	TD of Well	NM
Time	9:17	Depth to Product	46.59

Vol. of H2O to purge

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

Method of Purging NA

Method of Sampling NA

Time	Vol. Removed (gal.)	Total Vol H2O removed (gal.)	pH (std. units)	Temp. (C)	Conductivity (us or ms)	Comments

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

Describe Deviations from SOP:

Signature: Brooke Herb **Date:** 2/28/2013

Water Sample Collection Form

Sample Location	Florance #40	Client	Williams Field Services, LLC
Sample Date	2/28/2013	Project Name	Historical Groundwater
Sample Time	NA	Project #	034013001
Sample ID	MW-5	Sampler	Brooke Herb
Analyses	NA		
Matrix	NA	Laboratory	NA
Turn Around Time	NA	Shipping Method	NA
Depth to Water	52.16	TD of Well	52.25
Time	9:45	Depth to Product	NA

Vol. of H2O to purge

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

Method of Purging NA

Method of Sampling NA

Time	Vol. Removed (gal.)	Total Vol H2O removed (gal.)	pH (std. units)	Temp. (C)	Conductivity (us or ms)	Comments

Comments: Slight hydrocarbon odor on probe. Tried to collect grab sample, not enough water. PVC has been broken on the top; however the side with the mark on it is still in place. TOC should still be accurate.

Describe Deviations from SOP:

Signature: Brooke Herb **Date:** 2/28/2013

Water Sample Collection Form

Sample Location	Florance #40	Client	Williams Field Services, LLC
Sample Date	3/6/2013	Project Name	Historical Groundwater
Sample Time	NA	Project #	034013001
Sample ID	MW-6	Sampler	Brooke Herb
Analyses	NA		
Matrix	NA	Laboratory	NA
Turn Around Time	NA	Shipping Method	NA
Depth to Water	DRY	TD of Well	44.36
Time	7:15	Depth to Product	NA

Vol. of H2O to purge

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

Method of Purging NA

Method of Sampling NA

Time	Vol. Removed (gal.)	Total Vol H2O removed (gal.)	pH (std. units)	Temp. (C)	Conductivity (us or ms)	Comments

Comments: Saturated soil at 44.36 feet bgs. Oil-water interface probe has small amount of black soil with HC odor on it.

Describe Deviations from SOP:

Signature: Brooke Herb **Date:** 3/6/2013

Water Sample Collection Form

Sample Location	Florance #40	Client	Williams Field Services, LLC
Sample Date	2/28/2013	Project Name	Historical Groundwater
Sample Time	NA	Project #	034013001
Sample ID	MW-7	Sampler	Brooke Herb
Analyses	NA		
Matrix	NA	Laboratory	NA
Turn Around Time	NA	Shipping Method	NA
Depth to Water	DRY	TD of Well	36.60
Time	9:28	Depth to Product	NA

Vol. of H2O to purge

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

Method of Purging NA

Method of Sampling NA

Time	Vol. Removed (gal.)	Total Vol H2O removed (gal.)	pH (std. units)	Temp. (C)	Conductivity (us or ms)	Comments

Comments: Saturated soil at 36.60 feet bgs. Tried to collect groundwater, no water in bailer.

Describe Deviations from SOP:

Signature: Brooke Herb **Date:** 2/28/2013

APPENDIX B

ANALYTICAL LABORATORY REPORT

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

March 07, 2013

Julie Linn

LTE
2243 Main Ave Suite 3
Durango, CO 81301
TEL: (970) 385-1096
FAX:

RE: Florance #40 OrderNo.: 1303038

Dear Julie Linn:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/2/2013 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1303038**
Date Reported: **3/7/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Client Sample ID: AMOCO
Project: Florance #40
Collection Date: 2/28/2013 10:53:00 AM
Lab ID: 1303038-001
Matrix: AQUEOUS
Received Date: 3/2/2013 12:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	60	50		µg/L	50	3/5/2013 1:32:39 PM
Toluene	ND	50		µg/L	50	3/5/2013 1:32:39 PM
Ethylbenzene	650	50		µg/L	50	3/5/2013 1:32:39 PM
Xylenes, Total	4200	100		µg/L	50	3/5/2013 1:32:39 PM
Surr: 4-Bromofluorobenzene	106	69.7-152		%REC	50	3/5/2013 1:32:39 PM

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1303038**

07-Mar-13

Client: LTE

Project: Florance #40

Sample ID: **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R8955**	RunNo: **8955**
Prep Date:	Analysis Date: **3/4/2013**	SeqNo: **255896** Units: **%REC**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	19		20.00		93.9	69.7	152			

Sample ID: **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R8955**	RunNo: **8955**
Prep Date:	Analysis Date: **3/4/2013**	SeqNo: **255897** Units: **%REC**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	21		20.00		103	69.7	152			

Sample ID: **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R8983**	RunNo: **8983**
Prep Date:	Analysis Date: **3/5/2013**	SeqNo: **256581** 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		93.8	69.7	152			

Sample ID: **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R8983**	RunNo: **8983**
Prep Date:	Analysis Date: **3/5/2013**	SeqNo: **256582** 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	107	80	120			
Ethylbenzene	21	1.0	20.00	0	107	80	120			
Xylenes, Total	66	2.0	60.00	0	109	80	120			
Surr: 4-Bromofluorobenzene	21		20.00		104	69.7	152			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: LTE Work Order Number: 1303038

Received by/date: AF 03/02/13

Logged By: **Lindsay Mangin** 3/2/2013 12:00:00 PM

Completed By: **Lindsay Mangin** 3/4/2013 9:08:16 AM

Reviewed By: IO 03/04/2013

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? Courier

Log In

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

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

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

18. Additional remarks:

-002A - ONE VOA HAS SOME HEAD SPACE.

19. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.9	Good	Yes			

Chain-of-Custody Record

Client: LT Environmental

Mailing Address: 2243 Main Ave S.3
Durango CO 81301

Phone #: 970.385.1096

email or Fax#: jlinn@ltenv.com

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

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name: Florance #40

Project #: [illegible]

Project Manager: Julie Linn

Sampler: Brooke Herb

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.9

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1303038	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)
2/28/13	10:53	GW	AMOCO	VOA/3	cool	-001	X															

Date:	Time:	Relinquished by:	Received by:	Date	Time
1/1/13	16:10	[signature]	Christine Walters	3/1/13	1610
3/1/13	1715	Christine Walters	[signature]	3/2/13	1200

Remarks:

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