

# 2014 ANNUAL GROUNDWATER REPORT

Fogelson 4-1  
Meter Code: 73220  
T29N, R11W, Sec 4, Unit P

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## SITE DETAILS

**Site Location:** Latitude: 36.750660 N, Longitude: -107.991560 W  
**Land Type:** Federal  
**Operator:** Burlington Resources Oil & Gas Company, LP

## SITE BACKGROUND

- **Site Assessment:** 3/94
- **Excavation:** 4/94 (65 cy)
- **Nutrient Injection:** 8/01 (Oxygen Release Compound)

Fogelson 4-1 (Site) is being managed pursuant to the procedures set forth in the document entitled, "Remediation Plan for Groundwater Encountered during Pit Closure Activities" (El Paso Natural Gas Company / El Paso Field Services Company, 1995). This remediation plan was conditionally approved by the New Mexico Oil Conservation Division (OCD) in correspondence dated November 30, 1995; and the OCD approval conditions were adopted into El Paso CGP Company, LLC's (EPCGP's) program methods. Currently, the Site is operated by Burlington Resources Oil & Gas Company, LP and is active.

The Site is located on Federal land. Various site investigations have occurred since 1994. Monitoring wells were installed in 1995 (MW-1, MW-2, and MW-3). Free product has been observed and periodically removed. Currently, groundwater sampling is conducted on a semi-annual basis and free product was not observed in 2014.

## SUMMARY OF 2014 ACTIVITIES

On April 5 and October 21, 2014, water levels were gauged at MW-1, MW-2, and MW-3, and groundwater samples were collected from each well using HydraSleeve™ (HydraSleeve) no-purge passive groundwater sampling devices. The HydraSleeves were set during the previous sampling event approximately 0.5 foot above termination depth of the monitoring wells using a suspension tether and stainless steel weights to collect a sample from the screened interval. Groundwater samples were placed into laboratory-supplied sample containers, packed on ice, and shipped under standard chain-of-custody protocols to Test America Laboratories, Inc. in Corpus Christi, Texas where they were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX). Additional field parameters were collected including dissolved oxygen, temperature, conductivity, pH, and oxidation-reduction potential (ORP) using a YSI multi-parameter instrument. The water remaining in the HydraSleeves was combined in a waste container and taken to Basin Disposal, Inc. for disposal.

## SUMMARY TABLES

Historic analytical and water level data are summarized in Table 1.

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## **SITE MAPS**

Groundwater analytical maps (Figures 1 and 3) and groundwater elevation contour maps (Figures 2 and 4) summarize the results of the 2014 groundwater sampling and gauging events.

## **ANALYTICAL LAB REPORTS**

The groundwater analytical lab reports are included as Appendix A.

## **RESULTS**

- The groundwater flow direction at the Site is generally to the west-southwest (see Figures 2 and 4).
- Concentrations of benzene, ethylbenzene, and total xylenes in groundwater collected from MW-1 were below the New Mexico Water Quality Control Commission (NMWQCC) standards in April, but above standards in October 2014. Toluene was not detected in April and below the standard in October 2014.
- Benzene, toluene, and total xylenes were not detected in MW-2 and MW-3 during the 2014 sampling events.
- Ethylbenzene was not detected in MW-2 during 2014. At MW-3, ethylbenzene was not detected in April and was reported below the quantification limit (J-flagged) during the October 2014 sampling event.

## **PLANNED FUTURE ACTIVITIES**

Installation of additional monitoring wells is planned, after establishment of a right-of-way with the United States Bureau of Land Management. The wells will be installed to further assess the extent of dissolved-phase hydrocarbons and to confirm and/or further define the groundwater gradient at the Site. MW-1, MW-2, and MW-3, and the newly-installed monitoring wells will be sampled on a semi-annual basis.

**TABLE**

**TABLE 1 – GROUNDWATER ANALYTICAL AND WATER LEVEL RESULTS**

**TABLE 1 - GROUNDWATER ANALYTICAL RESULTS**

Fogelson 4-1								
Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Depth to Water (ft.)	Depth to LNAPL (ft.)	LNAPL Thickness (ft.)
NMWQCC Standards:		10	750	750	620	NA	NA	NA
MW-1	11/06/95	1520	1050	907	9180	39.99	-	-
MW-1	12/06/96	1110	388	713	7730	40.74	-	-
MW-1	03/10/97	1240	318	850	9050	41.23	-	-
MW-1	06/06/97	1080	268	747	7700	41.44	-	-
MW-1	03/30/98	1070	522	789	8430	41.08	-	-
MW-1	06/04/98	1090	627	837	8880	41.02	-	-
MW-1	06/15/99	1000	550	770	7800	41.88	-	-
MW-1	06/19/00	790	280	1100	9300	40.17	-	-
MW-1	10/02/00	580	600	950	8000	40.22	-	-
MW-1	12/05/00	420	610	770	6000	40.09	-	-
MW-1	05/30/01	340	470	710	4800	40.54	-	-
MW-1	11/26/01	420	330	760	3400	41.00	-	-
MW-1	05/15/02	430	230	900	6000	41.37	-	-
MW-1	06/10/02					41.54	-	-
MW-1	11/04/02	625	370	862	5210	41.90	-	-
MW-1	05/21/03	339	296	723	4730	41.57	-	-
MW-1	11/15/03	401	308	755	4700	41.00	-	-
MW-1	11/16/04	185	59.9	550	2800	40.10	-	-
MW-1	11/08/05	174	34.3	675	2440	40.68	-	-
MW-1	11/08/06	206	41.6	694	2460	42.16	-	-
MW-1	11/29/07					42.16	-	-
MW-1	01/25/08					43.10	43.00	0.10
MW-1	08/12/08					43.14	-	-
MW-1	11/07/08					43.32	43.24	0.08
MW-1	02/06/09					43.12	-	-
MW-1	05/04/09					43.22	-	-
MW-1	08/26/09					43.53	43.46	0.07
MW-1	11/03/09	230	24.2 J	901	3290	43.52	-	-
MW-1	02/11/10					43.64	-	-
MW-1	05/25/10					43.75	-	-
MW-1	09/24/10					43.95	-	-
MW-1	11/09/10	198	23.5	840	3170	43.89	43.88	0.01
MW-1	02/01/11					44.03	-	-
MW-1	05/03/11					44.14	-	-
MW-1	09/27/11					44.30	-	-
MW-1	11/16/11	171	3.8 J	818	2770	44.33	-	-
MW-1	02/16/12					44.43	-	-
MW-1	05/07/12					44.50	-	-
MW-1	06/04/13	20.0	9.3 J	650	2400	44.75	-	-
MW-1	09/09/13	160.0	20	760	3200	44.87	-	-
MW-1	12/13/13	150	41	630	2700	44.85	-	-
MW-1	04/05/14	4.3	<0.38	20	76	44.75	-	-
MW-1	10/21/14	200.0	11	770	3600	44.86	-	-

**TABLE 1 - GROUNDWATER ANALYTICAL RESULTS**

Fogelson 4-1								
Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Depth to Water (ft.)	Depth to LNAPL (ft.)	LNAPL Thickness (ft.)
NMWQCC Standards:		10	750	750	620	NA	NA	NA
MW-2	07/27/00	<0.5	<0.5	8.8	<0.5	38.25	-	-
MW-2	05/30/01	<0.5	<0.5	7.5	1	38.17	-	-
MW-2	05/15/02	<0.5	<0.5	2	<1	38.56	-	-
MW-2	11/04/02					38.99	-	-
MW-2	05/21/03					39.24	-	-
MW-2	11/15/03					38.70	-	-
MW-2	11/16/04					37.40	-	-
MW-2	11/08/05					37.76	-	-
MW-2	11/08/06					38.65	-	-
MW-2	11/29/07					39.67	-	-
MW-2	08/12/08					39.75	-	-
MW-2	11/07/08					39.97	-	-
MW-2	02/06/09					39.73	-	-
MW-2	05/04/09					39.83	-	-
MW-2	08/26/09					40.19	-	-
MW-2	11/03/09					40.32	-	-
MW-2	02/11/10					40.17	-	-
MW-2	05/25/10					40.40	-	-
MW-2	09/24/10					40.74	-	-
MW-2	11/09/10	<2	<2	<2	<6	40.35	-	-
MW-2	02/01/11					40.39	-	-
MW-2	05/03/11					40.96	-	-
MW-2	09/27/11					41.05	-	-
MW-2	11/16/11	<1	<1	<1	<3	41.07	-	-
MW-2	02/16/12					41.15	-	-
MW-2	05/07/12					41.15	-	-
MW-2	06/04/13	<0.14	<0.30	<0.20	<0.23	41.54	-	-
MW-2	09/09/13	<0.14	<0.30	<0.20	<0.23	41.64	-	-
MW-2	12/13/13	<0.20	0.52 J	0.38 J	0.85 J	41.66	-	-
MW-2	04/05/14	<0.20	<0.38	<0.20	<0.65	41.64	-	-
MW-2	10/21/14	<0.38	<0.70	<0.50	<1.6	41.93	-	-

**TABLE 1 - GROUNDWATER ANALYTICAL RESULTS**

Fogelson 4-1								
Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Depth to Water (ft.)	Depth to LNAPL (ft.)	LNAPL Thickness (ft.)
NMWQCC Standards:		10	750	750	620	NA	NA	NA
MW-3	07/27/00	27	35	170	520	41.21	-	-
MW-3	05/30/01	1.3	<0.5	40	2.8	40.77	-	-
MW-3	05/15/02	0.64	<0.5	17	1.2	41.14	-	-
MW-3	11/04/02					41.48	-	-
MW-3	05/21/03	<1	<1	18.2	<3	41.71	-	-
MW-3	11/15/03					41.30	-	-
MW-3	11/16/04					40.10	-	-
MW-3	11/08/05					40.71	-	-
MW-3	11/08/06					41.47	-	-
MW-3	11/29/07					43.10	43.01	0.09
MW-3	08/12/08					42.47	-	-
MW-3	11/07/08					42.69	-	-
MW-3	02/06/09					42.47	-	-
MW-3	05/04/09					42.50	-	-
MW-3	08/26/09					42.90	-	-
MW-3	11/03/09					43.03	-	-
MW-3	02/11/10					42.79	-	-
MW-3	05/25/10					42.97	-	-
MW-3	09/24/10					43.25	-	-
MW-3	11/09/10	<2	<2	1.9 J	<6	42.97	-	-
MW-3	02/01/11					42.82	-	-
MW-3	05/03/11					43.41	-	-
MW-3	09/27/11					43.40	-	-
MW-3	11/16/11	<1	<1	0.77 J	<3	43.36	-	-
MW-3	02/16/12					43.41	-	-
MW-3	05/07/12					43.46	-	-
MW-3	06/04/13	<0.14	<0.30	<0.20	<0.23	43.82	-	-
MW-3	09/09/13	<0.14	<0.30	<0.20	<0.23	43.93	-	-
MW-3	12/13/13	<0.20	0.56 J	<0.20	<0.65	43.93	-	-
MW-3	04/05/14	<0.20	<0.38	<0.20	<0.65	43.88	-	-
MW-3	10/21/14	<0.38	<0.70	0.96 J	<1.6	44.16	-	-

Notes:  
 Results highlighted yellow exceed their respective New Mexico Water Quality Control Commission standards.  
 "J" = Result is less than the reporting limit but greater than or equal to the method detection limit and the result in an approximate value.  
 "<" = analyte was not detected at the indicated reporting limit (some historic data were reported at the detection limit).

## **FIGURES**

FIGURE 1: APRIL 5, 2014 GROUNDWATER ANALYTICAL RESULTS MAP

FIGURE 2: APRIL 5, 2014 GROUNDWATER ELEVATION MAP

FIGURE 3: OCTOBER 21, 2014 GROUNDWATER ANALYTICAL RESULTS MAP

FIGURE 4: OCTOBER 21, 2014 GROUNDWATER ELEVATION MAP



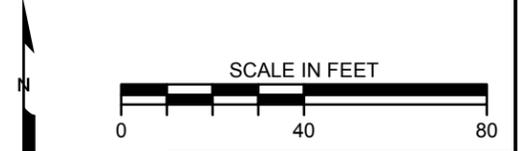
**LEGEND:**

- APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- FORMER PIT
- UNDERGROUND CABLE
- BENCHMARK
- BOLLARD
- MONITORING WELL
- DAMAGED MONITORING WELL
- RIG ANCHOR
- GAS VALVE

**EXPLANATION OF ANALYTES AND APPLICABLE STANDARDS:**

RESULTS IN **BOLDFACE** TYPE INDICATE CONCENTRATION IN EXCESS OF THE STANDARD FOR THAT ANALYTE.  
 NS = NOT SAMPLED  
 µg/L = MICROGRAMS PER LITER  
 <0.30 = BELOW METHOD DETECTION LIMIT  
 J = RESULT IS LESS THAN THE RL, BUT GREATER THAN OR EQUAL TO THE MDL AND THE CONCENTRATION IS AN APPROXIMATE VALUE.  
 MDL = METHOD DETECTION LIMIT  
 RL = REPORTING LIMIT OR REQUESTED LIMIT (RADIOCHEMISTRY)

ANALYTE	NMWOCC STANDARDS
B = Benzene	10 µg/L
T = Toluene	750 µg/L
E = Ethylbenzene	750 µg/L
X = Total Xylenes	620 µg/L

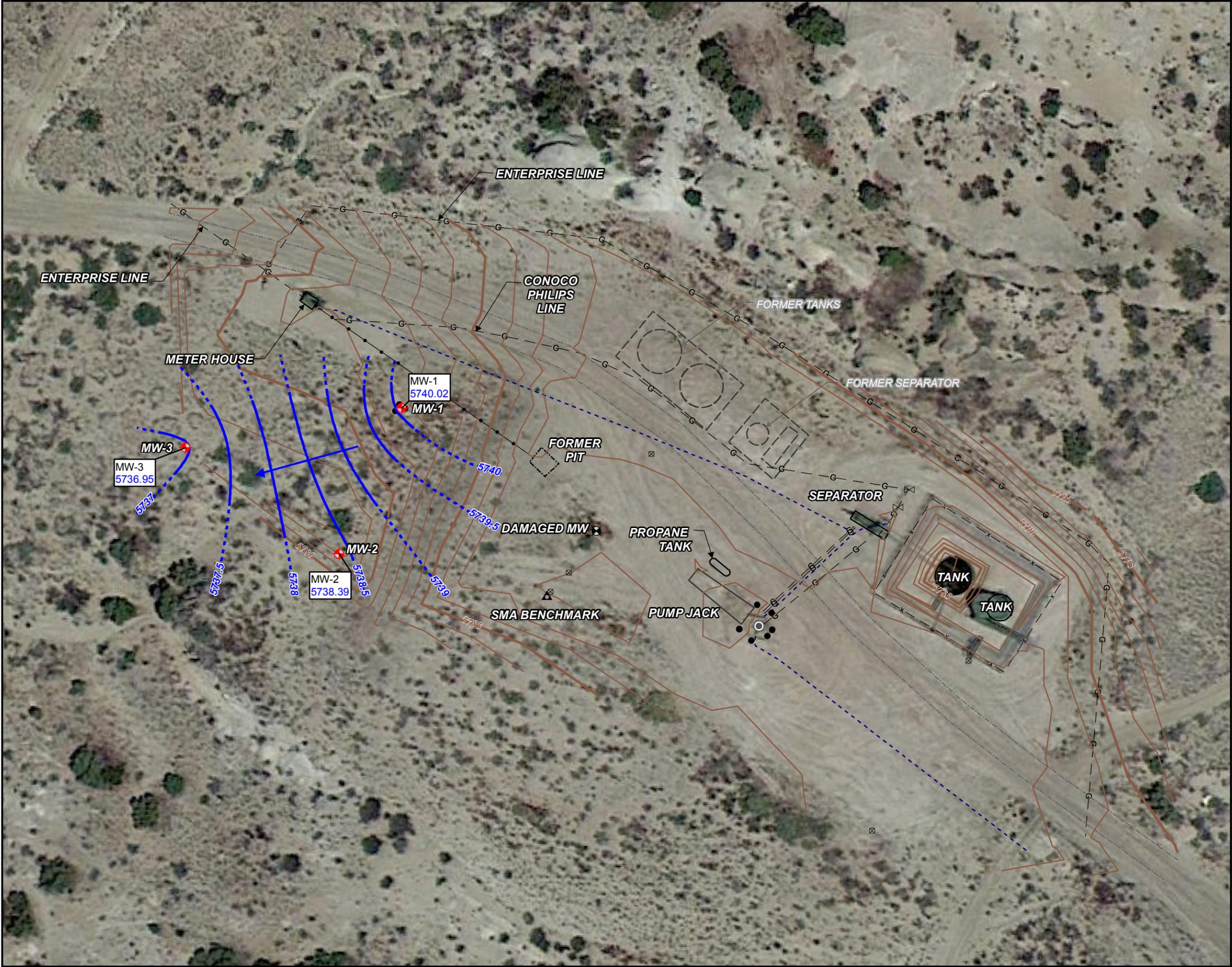


REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	12/09/2014	CCL	CCL	DAW

TITLE: **FOGELSON 4-1  
GROUNDWATER ANALYTICAL RESULTS  
SAMPLED APRIL 5, 2014**

PROJECT: **SAN JUAN RIVER BASIN  
MONITORING AND REMEDIATION  
SAN JUAN COUNTY, NEW MEXICO**

MWH Figure No.: **1**

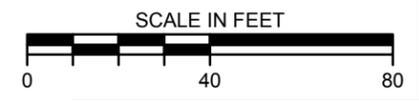


**LEGEND:**

-  5795 APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
-  ACCESS ROAD
-  FORMER PIT
-  UNDERGROUND CABLE
-  BENCHMARK
-  BOLLARD
-  MONITORING WELL
-  DAMAGED MONITORING WELL
-  RIG ANCHOR
-  GAS VALVE

**NOTES:**

-  5318.24 GROUNDWATER ELEVATION CORRECTED FOR PRODUCT THICKNESS. FEET ABOVE MEAN SEA LEVEL
-  5317 CORRECTED WATER LEVEL ELEVATION CONTOUR DASHED WHERE INFERRED (FEET ABOVE MEAN SEA LEVEL, 0.5 FOOT CONTOUR INTERVAL)
-  DIRECTION OF GROUNDWATER FLOW



REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	12/09/2014	CCL	CCL	DCW

TITLE: **FOGELSON 4-1  
GROUNDWATER ELEVATION MAP  
SAMPLED APRIL 5, 2014**

PROJECT: **SAN JUAN RIVER BASIN  
MONITORING AND REMEDIATION  
SAN JUAN COUNTY, NEW MEXICO**



Figure No.: **2**

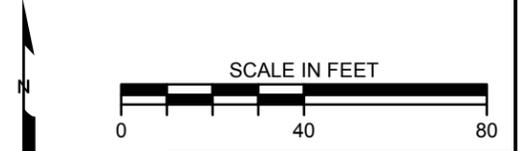


**LEGEND:**

- APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- FORMER PIT
- UNDERGROUND CABLE
- BENCHMARK
- BOLLARD
- MONITORING WELL
- DAMAGED MONITORING WELL
- RIG ANCHOR
- GAS VALVE

**EXPLANATION OF ANALYTES AND APPLICABLE STANDARDS:**  
 RESULTS IN **BOLDFACE** TYPE INDICATE CONCENTRATION IN EXCESS OF THE STANDARD FOR THAT ANALYTE.  
 NS = NOT SAMPLED  
 µg/L = MICROGRAMS PER LITER  
 <0.30 = BELOW METHOD DETECTION LIMIT  
 J = RESULT IS LESS THAN THE RL, BUT GREATER THAN OR EQUAL TO THE MDL AND THE CONCENTRATION IS AN APPROXIMATE VALUE.  
 MDL = METHOD DETECTION LIMIT  
 RL = REPORTING LIMIT OR REQUESTED LIMIT (RADIOCHEMISTRY)

ANALYTE	NMWOCC STANDARDS
B = Benzene	10 µg/L
T = Toluene	750 µg/L
E = Ethylbenzene	750 µg/L
X = Total Xylenes	620 µg/L

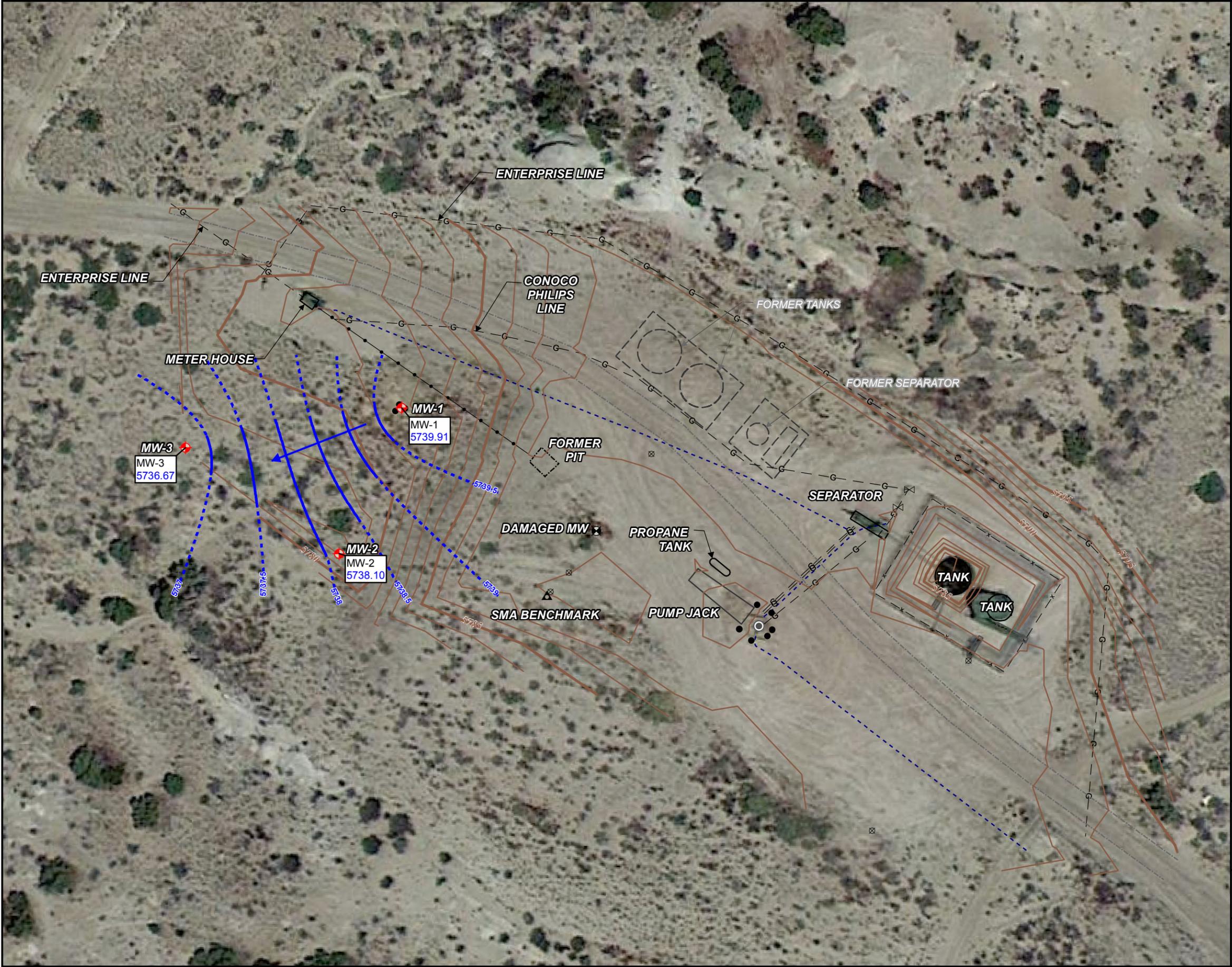


REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	12/09/2014	CCL	CCL	DAW

TITLE:  
**FOGELSON 4-1  
 GROUNDWATER ANALYTICAL RESULTS  
 SAMPLED OCTOBER 21, 2014**

PROJECT:  
**SAN JUAN RIVER BASIN  
 MONITORING AND REMEDIATION  
 SAN JUAN COUNTY, NEW MEXICO**

MWH Figure No.: **3**

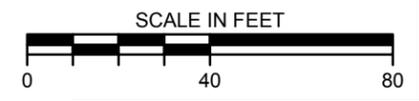
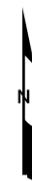


**LEGEND:**

-  5795 APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
-  ACCESS ROAD
-  FORMER PIT
-  UNDERGROUND CABLE
-  BENCHMARK
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**NOTES:**

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- 5317 CORRECTED WATER LEVEL ELEVATION CONTOUR DASHED WHERE INFERRED (FEET ABOVE MEAN SEA LEVEL, 0.5 FOOT CONTOUR INTERVAL)
-  DIRECTION OF GROUNDWATER FLOW



REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	12/09/2014	CCL	CCL	DCW

TITLE: **FOGELSON 4-1  
GROUNDWATER ELEVATION MAP  
SAMPLED OCTOBER 21, 2014**

PROJECT: **SAN JUAN RIVER BASIN  
MONITORING AND REMEDIATION  
SAN JUAN COUNTY, NEW MEXICO**



Figure No.: **4**

**APPENDIX A**

APRIL 5, 2014 GROUNDWATER SAMPLING ANALYTICAL REPORT

OCTOBER 21, 2014 GROUNDWATER SAMPLING ANALYTICAL REPORT

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Tel: (361)289-2673

TestAmerica Job ID: 560-46612-1

Client Project/Site: Fogelson 4-1 Com #14, 4/5/14 BTEX

For:

MWH Americas Inc  
1801 California Street  
Suite 2900  
Denver, Colorado 80202

Attn: Ms. Sarah Gardner



Authorized for release by:  
4/22/2014 10:09:54 AM

Neal Salcher, Senior Project Manager  
[neal.salcher@testamericainc.com](mailto:neal.salcher@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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## Definitions/Glossary

Client: MWH Americas Inc  
Project/Site: Fogelson 4-1 Com #14, 4/5/14 BTEX

TestAmerica Job ID: 560-46612-1

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Case Narrative

Client: MWH Americas Inc  
Project/Site: Fogelson 4-1 Com #14, 4/5/14 BTEX

TestAmerica Job ID: 560-46612-1

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**Job ID: 560-46612-1**

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**Laboratory: TestAmerica Corpus Christi**

## Narrative

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**Job Narrative**  
**560-46612-1**

## Comments

No additional comments.

## Receipt

The samples were received on 4/8/2014 9:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.9° C.

## GC VOA

Method(s) 8021B: The following sample(s) were collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, the pH was outside the required criteria when verified by the laboratory, and corrective action was not possible: (pH>2)

8021  
Batch 100888

No other analytical or quality issues were noted.

## Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



# Detection Summary

Client: MWH Americas Inc  
Project/Site: Fogelson 4-1 Com #14, 4/5/14 BTEX

TestAmerica Job ID: 560-46612-1

## Client Sample ID: MW-1

Lab Sample ID: 560-46612-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	4.3		2.0	0.20	ug/L	1		8021B	Total/NA
Ethylbenzene	20		2.0	0.20	ug/L	1		8021B	Total/NA
Xylenes, Total	76		2.0	0.65	ug/L	1		8021B	Total/NA

## Client Sample ID: MW-2

Lab Sample ID: 560-46612-2

No Detections.

## Client Sample ID: MW-3

Lab Sample ID: 560-46612-3

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Client Sample Results

Client: MWH Americas Inc  
 Project/Site: Fogelson 4-1 Com #14, 4/5/14 BTEX

TestAmerica Job ID: 560-46612-1

**Client Sample ID: MW-1**  
**Date Collected: 04/05/14 09:15**  
**Date Received: 04/08/14 09:45**

**Lab Sample ID: 560-46612-1**  
**Matrix: Water**

**Method: 8021B - Volatile Organic Compounds (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	4.3		2.0	0.20	ug/L			04/16/14 17:46	1
Toluene	<0.38		2.0	0.38	ug/L			04/16/14 17:46	1
Ethylbenzene	20		2.0	0.20	ug/L			04/16/14 17:46	1
Xylenes, Total	76		2.0	0.65	ug/L			04/16/14 17:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		58 - 129		04/16/14 17:46	1
Trifluorotoluene (Surr)	91		54 - 130		04/16/14 17:46	1

**Client Sample ID: MW-2**  
**Date Collected: 04/05/14 09:10**  
**Date Received: 04/08/14 09:45**

**Lab Sample ID: 560-46612-2**  
**Matrix: Water**

**Method: 8021B - Volatile Organic Compounds (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.20		2.0	0.20	ug/L			04/16/14 18:14	1
Toluene	<0.38		2.0	0.38	ug/L			04/16/14 18:14	1
Ethylbenzene	<0.20		2.0	0.20	ug/L			04/16/14 18:14	1
Xylenes, Total	<0.65		2.0	0.65	ug/L			04/16/14 18:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		58 - 129		04/16/14 18:14	1
Trifluorotoluene (Surr)	94		54 - 130		04/16/14 18:14	1

**Client Sample ID: MW-3**  
**Date Collected: 04/05/14 09:05**  
**Date Received: 04/08/14 09:45**

**Lab Sample ID: 560-46612-3**  
**Matrix: Water**

**Method: 8021B - Volatile Organic Compounds (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.20		2.0	0.20	ug/L			04/16/14 18:42	1
Toluene	<0.38		2.0	0.38	ug/L			04/16/14 18:42	1
Ethylbenzene	<0.20		2.0	0.20	ug/L			04/16/14 18:42	1
Xylenes, Total	<0.65		2.0	0.65	ug/L			04/16/14 18:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		58 - 129		04/16/14 18:42	1
Trifluorotoluene (Surr)	89		54 - 130		04/16/14 18:42	1

# QC Sample Results

Client: MWH Americas Inc  
 Project/Site: Fogelson 4-1 Com #14, 4/5/14 BTEX

TestAmerica Job ID: 560-46612-1

## Method: 8021B - Volatile Organic Compounds (GC)

**Lab Sample ID: MB 560-100888/3**

**Matrix: Water**

**Analysis Batch: 100888**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.20		2.0	0.20	ug/L			04/16/14 10:43	1
Toluene	<0.38		2.0	0.38	ug/L			04/16/14 10:43	1
Ethylbenzene	<0.20		2.0	0.20	ug/L			04/16/14 10:43	1
Xylenes, Total	<0.65		2.0	0.65	ug/L			04/16/14 10:43	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		58 - 129		04/16/14 10:43	1
Trifluorotoluene (Surr)	88		54 - 130		04/16/14 10:43	1

**Lab Sample ID: LCS 560-100888/2**

**Matrix: Water**

**Analysis Batch: 100888**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	40.0	40.0		ug/L		100	70 - 130
Toluene	40.0	41.1		ug/L		103	70 - 130
Ethylbenzene	40.0	40.9		ug/L		102	70 - 130
Xylenes, Total	120	118		ug/L		98	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	109		58 - 129
Trifluorotoluene (Surr)	99		54 - 130

# Certification Summary

Client: MWH Americas Inc  
Project/Site: Fogelson 4-1 Com #14, 4/5/14 BTEX

TestAmerica Job ID: 560-46612-1

## Laboratory: TestAmerica Corpus Christi

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Kansas	NELAP	7	E-10362	10-31-14
Oklahoma	State Program	6	9968	08-31-14
Texas	NELAP	6	T104704210	03-31-15

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# Method Summary

Client: MWH Americas Inc  
Project/Site: Fogelson 4-1 Com #14, 4/5/14 BTEX

TestAmerica Job ID: 560-46612-1

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Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	TAL CC

---

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL CC = TestAmerica Corpus Christi, 1733 N. Padre Island Drive, Corpus Christi, TX 78408, TEL (361)289-2673



# Sample Summary

Client: MWH Americas Inc  
Project/Site: Fogelson 4-1 Com #14, 4/5/14 BTEX

TestAmerica Job ID: 560-46612-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-46612-1	MW-1	Water	04/05/14 09:15	04/08/14 09:45
560-46612-2	MW-2	Water	04/05/14 09:10	04/08/14 09:45
560-46612-3	MW-3	Water	04/05/14 09:05	04/08/14 09:45

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TestAmerica Corpus Christi  
 1733 N. Padre Island Drive  
 Corpus Christi, TX 78408  
 Phone (361) 289-2673 Fax (361) 289-2471

# Chain of Custody Record

<b>Client Information</b> Client Contact: <b>Sarah Gardner / Chris Lee</b> Phone: <b>303 291 2239</b> Email: <b>tim.kellogg@testamericainc.com</b>		Lab Fw: <b>Kellogg, Timothy L.</b> E-Mail: <b>tim.kellogg@testamericainc.com</b>		Carrier Tracking No(s): <b>Fed ex</b> <b>#80364581188</b>		COC No. <b>560-13131-1157</b> Page: <b>1</b> Job #: <b>1188</b>		Loc: <b>560</b> <b>46612</b>	
Company: <b>MWH Americas Inc</b> Address: <b>1801 California Street Suite 2900</b> City: <b>Denver</b> State, Zip: <b>CO, 80202</b>		Due Date Requested: TAT Requested (days):		Analysis Requested		Preser: A - HCl B - NaI C - Zn D - NiCl <sub>2</sub> E - NaHSO <sub>4</sub> F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:		U - Meccu3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - ph 4-5 Z - other (specify)	
PO #: <b>Purchase Order not required</b> WO #: <b>TWO # C-STLI-</b> Project #: <b>56000058</b> SOW#:		Date Requested (days):		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> A		Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> A		Total Number of containers:	
Project Name: <b>San Juan River Basin Pt Sites</b> Site: <b>Fogelson 4-1 Com #14</b>		Sample Date		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=air)		Special Instructions/Note:	
<b>Sample Identification</b>		Sample Date		Sample Time		Preservation Code:		Total Number of containers:	
<b>MW-1</b>		<b>4/5/14</b>		<b>915</b>		<b>Water</b>		<b>3</b>	
<b>MW-2</b>		<b>4/5/14</b>		<b>910</b>		<b>Water</b>		<b>3</b>	
<b>MW-3</b>		<b>4/5/14</b>		<b>905</b>		<b>Water</b>		<b>3</b>	
<b>Possible Hazard Identification</b> <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Date:		Date:		Date:		Date:	
Relinquished by: <b>Sarah Gardner</b>		Date/Time: <b>4/7/14 900</b>		Company: <b>MWH</b>		Received by: <b>Kelly</b>		Date/Time: <b>4/8/14 9:45</b>	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: <b>eps 1.7c ca 1.9c pre/sed</b>		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		Special Instructions/QC Requirements:	
Empty Kit Relinquished by:		Date:		Method of Shipment:		Barcode: 		560-46612 Chain of Custody	

## Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 560-46612-1

SDG Number:

**Login Number: 46612**

**List Number: 1**

**Creator: Rood, Vivian R**

**List Source: TestAmerica Corpus Christi**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Pensacola  
3355 McLemore Drive  
Pensacola, FL 32514  
Tel: (850)474-1001

TestAmerica Job ID: 400-97668-1  
Client Project/Site: KM Fogelson 4-1

For:  
MWH Americas Inc  
1801 California Street  
Suite 2900  
Denver, Colorado 80202

Attn: Ms. Sarah Gardner



Authorized for release by:  
11/6/2014 12:44:22 PM  
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Designee for  
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### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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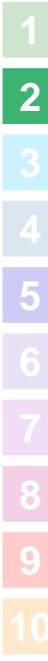
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# Definitions/Glossary

Client: MWH Americas Inc  
Project/Site: KM Fogelson 4-1

TestAmerica Job ID: 400-97668-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Case Narrative

Client: MWH Americas Inc  
Project/Site: KM Fogelson 4-1

TestAmerica Job ID: 400-97668-1

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**Job ID: 400-97668-1**

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**Laboratory: TestAmerica Pensacola**

## Narrative

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**Job Narrative**  
**400-97668-1**

## Comments

No additional comments.

## Receipt

The samples were received on 10/28/2014 9:39 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.0° C.

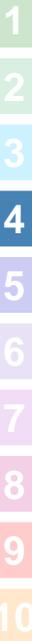
## GC/MS VOA

Method(s) 8260B: The following sample (400-97668-1), MW-1 (400-97668-1) was analyzed outside of holding time due to the pH being out of range. The sample was marked as preserved when received at the lab. The holding time expired on 10-28-14 and the sample was analyzed on 10-29-14.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

## VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



# Sample Summary

Client: MWH Americas Inc  
Project/Site: KM Fogelson 4-1

TestAmerica Job ID: 400-97668-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-97668-1	MW-1	Water	10/21/14 14:00	10/28/14 09:39
400-97668-2	MW-2	Water	10/21/14 13:55	10/28/14 09:39
400-97668-3	MW-3	Water	10/21/14 13:50	10/28/14 09:39
400-97668-4	TRIP BLANK	Water	10/21/14 14:10	10/28/14 09:39

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# Client Sample Results

Client: MWH Americas Inc  
Project/Site: KM Fogelson 4-1

TestAmerica Job ID: 400-97668-1

**Client Sample ID: MW-1**  
**Date Collected: 10/21/14 14:00**  
**Date Received: 10/28/14 09:39**

**Lab Sample ID: 400-97668-1**  
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	200	H	10	3.8	ug/L			10/29/14 16:08	10
Ethylbenzene	770	H	10	5.0	ug/L			10/29/14 16:08	10
Toluene	11	H	10	7.0	ug/L			10/29/14 16:08	10
Xylenes, Total	3600	H	100	16	ug/L			10/29/14 16:08	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	95		78 - 118					10/29/14 16:08	10
Dibromofluoromethane	98		81 - 121					10/29/14 16:08	10
Toluene-d8 (Surr)	103		80 - 120					10/29/14 16:08	10

**Client Sample ID: MW-2**  
**Date Collected: 10/21/14 13:55**  
**Date Received: 10/28/14 09:39**

**Lab Sample ID: 400-97668-2**  
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.38		1.0	0.38	ug/L			10/30/14 17:25	1
Ethylbenzene	<0.50		1.0	0.50	ug/L			10/30/14 17:25	1
Toluene	<0.70		1.0	0.70	ug/L			10/30/14 17:25	1
Xylenes, Total	<1.6		10	1.6	ug/L			10/30/14 17:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	94		78 - 118					10/30/14 17:25	1
Dibromofluoromethane	105		81 - 121					10/30/14 17:25	1
Toluene-d8 (Surr)	94		80 - 120					10/30/14 17:25	1

**Client Sample ID: MW-3**  
**Date Collected: 10/21/14 13:50**  
**Date Received: 10/28/14 09:39**

**Lab Sample ID: 400-97668-3**  
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.38		1.0	0.38	ug/L			10/30/14 17:49	1
Ethylbenzene	0.96	J	1.0	0.50	ug/L			10/30/14 17:49	1
Toluene	<0.70		1.0	0.70	ug/L			10/30/14 17:49	1
Xylenes, Total	<1.6		10	1.6	ug/L			10/30/14 17:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	94		78 - 118					10/30/14 17:49	1
Dibromofluoromethane	107		81 - 121					10/30/14 17:49	1
Toluene-d8 (Surr)	95		80 - 120					10/30/14 17:49	1

**Client Sample ID: TRIP BLANK**  
**Date Collected: 10/21/14 14:10**  
**Date Received: 10/28/14 09:39**

**Lab Sample ID: 400-97668-4**  
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.38		1.0	0.38	ug/L			10/30/14 18:14	1
Ethylbenzene	<0.50		1.0	0.50	ug/L			10/30/14 18:14	1
Toluene	<0.70		1.0	0.70	ug/L			10/30/14 18:14	1

TestAmerica Pensacola

# Client Sample Results

Client: MWH Americas Inc  
Project/Site: KM Fogelson 4-1

TestAmerica Job ID: 400-97668-1

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 400-97668-4**

**Date Collected: 10/21/14 14:10**

**Matrix: Water**

**Date Received: 10/28/14 09:39**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	<1.6		10	1.6	ug/L			10/30/14 18:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	96		78 - 118		10/30/14 18:14	1
Dibromofluoromethane	106		81 - 121		10/30/14 18:14	1
Toluene-d8 (Surr)	94		80 - 120		10/30/14 18:14	1

# QC Sample Results

Client: MWH Americas Inc  
Project/Site: KM Fogelson 4-1

TestAmerica Job ID: 400-97668-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 400-234691/4**

**Matrix: Water**

**Analysis Batch: 234691**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.38		1.0	0.38	ug/L			10/29/14 09:55	1
Ethylbenzene	<0.50		1.0	0.50	ug/L			10/29/14 09:55	1
Toluene	<0.70		1.0	0.70	ug/L			10/29/14 09:55	1
Xylenes, Total	<1.6		10	1.6	ug/L			10/29/14 09:55	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	94		78 - 118		10/29/14 09:55	1
Dibromofluoromethane	99		81 - 121		10/29/14 09:55	1
Toluene-d8 (Surr)	98		80 - 120		10/29/14 09:55	1

**Lab Sample ID: LCS 400-234691/1002**

**Matrix: Water**

**Analysis Batch: 234691**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	53.3		ug/L		107	79 - 120
Ethylbenzene	50.0	52.2		ug/L		104	80 - 120
Toluene	50.0	49.9		ug/L		100	80 - 120
Xylenes, Total	100	103		ug/L		103	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	92		78 - 118
Dibromofluoromethane	104		81 - 121
Toluene-d8 (Surr)	97		80 - 120

**Lab Sample ID: MB 400-234848/4**

**Matrix: Water**

**Analysis Batch: 234848**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.38		1.0	0.38	ug/L			10/30/14 09:43	1
Ethylbenzene	<0.50		1.0	0.50	ug/L			10/30/14 09:43	1
Toluene	<0.70		1.0	0.70	ug/L			10/30/14 09:43	1
Xylenes, Total	<1.6		10	1.6	ug/L			10/30/14 09:43	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	95		78 - 118		10/30/14 09:43	1
Dibromofluoromethane	104		81 - 121		10/30/14 09:43	1
Toluene-d8 (Surr)	97		80 - 120		10/30/14 09:43	1

**Lab Sample ID: LCS 400-234848/1002**

**Matrix: Water**

**Analysis Batch: 234848**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	51.1		ug/L		102	79 - 120
Ethylbenzene	50.0	47.9		ug/L		96	80 - 120

TestAmerica Pensacola

# QC Sample Results

Client: MWH Americas Inc  
 Project/Site: KM Fogelson 4-1

TestAmerica Job ID: 400-97668-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-234848/1002

Matrix: Water

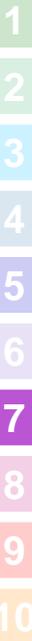
Analysis Batch: 234848

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	50.0	46.4		ug/L		93	80 - 120
Xylenes, Total	100	95.4		ug/L		95	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	92		78 - 118
Dibromofluoromethane	106		81 - 121
Toluene-d8 (Surr)	97		80 - 120



# Lab Chronicle

Client: MWH Americas Inc  
Project/Site: KM Fogelson 4-1

TestAmerica Job ID: 400-97668-1

## Client Sample ID: MW-1

Date Collected: 10/21/14 14:00

Date Received: 10/28/14 09:39

Lab Sample ID: 400-97668-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	234691	10/29/14 16:08	CLN	TAL PEN

## Client Sample ID: MW-2

Date Collected: 10/21/14 13:55

Date Received: 10/28/14 09:39

Lab Sample ID: 400-97668-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	234848	10/30/14 17:25	WPD	TAL PEN

## Client Sample ID: MW-3

Date Collected: 10/21/14 13:50

Date Received: 10/28/14 09:39

Lab Sample ID: 400-97668-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	234848	10/30/14 17:49	WPD	TAL PEN

## Client Sample ID: TRIP BLANK

Date Collected: 10/21/14 14:10

Date Received: 10/28/14 09:39

Lab Sample ID: 400-97668-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	234848	10/30/14 18:14	WPD	TAL PEN

### Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

# Method Summary

Client: MWH Americas Inc  
Project/Site: KM Fogelson 4-1

TestAmerica Job ID: 400-97668-1

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Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN

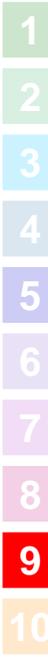
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**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001



### Chain of Custody Record

<b>Client Information</b> Client Contact: Ms. Sarah Gardner Company: MWH Americas Inc Address: 1801 California Street, Suite 2900 City: Denver State, Zip: CO, 80202 Phone: 303-291-2239 (Tel) Email: sarah.gardner@mwhglobal.com Project Name: KM Fogelson 4-1 Site:		Sampler: <i>Chns Lee, Sarah Gardner</i> Lab PVI: Salcher, Neal Phone: 303 291-2242 E-Mail: neal.salcher@testamericainc.com		Camer Tracking No(s): COC No: 560-15208-1505.1 Page: Page 1 of 1 Job #:	
Due Date Requested: TAT Requested (days): PO #: Purchase Order Requested WO #: As per Enfos Project #: 56004959 SSOW#:		<b>Analysis Requested</b>  400-97668 COC			
<b>Sample Identification</b> MW-1 MW-2 MW-3 TRIP BLANK		Sample Date 10/21/14 10/21/14 10/21/14 10/21/14	Sample Time 1400 1355 1350 1410	Sample Type (C=Comp, G=grab) G G G G	Matrix (W=water, S=solid, O=waste/oil, BT=Trace, A=Air) Water Water Water Water
Field Filtered Sample (Yes or No)		Preservation Code:		Special Instructions/Note:	
Total Number of Containers		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - None O - AsNaO2 P - Na2OAS Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecalhydrate U - Acetone V - MCAA W - ph 4-5 Z - other (specify)			
<b>Possible Hazard Identification</b> <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)					
<b>Empty Kit Relinquished by:</b> Relinquished by: <i>Sarah Gardner</i> Relinquished by: <i>MWH</i> Relinquished by:					
Date/Time: 10/27/14 915 Date/Time:		Date/Time: 10/28/14 085 Date/Time:		Date/Time:	
Company: MWH Company:		Company: MWH Company:		Company:	
Custody Seals Intact: Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks: 3.0°C			