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2013 AGWMR

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MWH

BUILDING A BETTER WORLD

March 4, 2014

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2014 MAR -7 A 11: 23

Mr. Glenn von Gonten
New Mexico Oil Conservation Division (NMOCD)
1220 South St., Francis Drive
Santa Fe, NM 87505

RE: 2013 Annual Report Submittals
San Juan River Basin Program - Pit Sites

Dear Mr. von Gonten

On behalf of El Paso CGP Company (EPCGPC), MWH is submitting the enclosed 2013 Annual Reports for 18 of its remaining San Juan River Basin pit groundwater remediation sites. The reports present the 2013 sampling data and planned activities for 2014 at these sites.

If you have any questions concerning the enclosed reports, please contact either Joe Wiley (representing EPCGPC) at 713-420-3475 or me at 515-253-0830.

Sincerely,

David C. Wombacher
Principal Engineer

/mja:dcw:hls
Enclosures

cc: Bill Freeman – NNEPA, Shiprock, NM (Navajo Nation Lands, See Table 1)
Mark Kelly – BLM, Farmington, NM (Federal Lands, See Table 1)
Brandon Powell – NMOCD, Aztec, NM (all 18 reports)
Joe Wiley – EPCGP Company (all 18 reports, electronic)

P:\Word Processing\EL PASO\NEW MEXICO\SAN JUAN RIVER BASIN PROGRAM\PIT SITES\LTR-03-14-2013 ANNUAL REPORT SUBMITTALS\Ltr-03-14-von Gonten-2013 Annual Report Submittals.docx

TABLE 1
REPORT LISTING AND LAND TYPE
SAN JUAN RIVER BASIN PROGRAM – PIT SITES

METER or LINE ID	NMOCD CASE NO.	SITE NAME	Land Type
87640	3RP-155-0	Canada Mesa #2	Federal
89961	3RP-170-0	Fields A#7A	Federal
73220	3RP-068-0	Fogelson 4-1 Com. #14	Federal
95608	3RP-407-0	Gallegos Canyon Unit #124E	Navajo
03906	3RP-179-0	GCU Com A #142E	State/Fee
89894	3RP-186-0	Hammond #41A	Federal
94715	3RP-196-0	James F. Bell #1E	Federal
70194	3RP-201-0	Johnston Fed #4	State/Fee
89232	3RP-202-0	Johnston Fed #6A	Federal
LD072	3RP-204-0	K27 LD072	Federal
LD087	3RP-205-0	K-31 Line Drip	State/Fee
72556	3RP-207-0	Knight #1	State/Fee
LD174	3RP-212-0	Lateral L 40	Federal
LD151	3RP-213-0	Lateral 0-21 Line Drip	Federal
94810	3RP-223-0	Miles Fed 1A	Federal
89620	3RP-235-0	Sandoval GC A #1A	Federal
70445	3RP-074-0	Standard Oil Com #1	State/Fee
71669	3RP-239-0	State Gas Com N #1	State/Fee

2013 ANNUAL GROUNDWATER REPORT

Miles Federal #1A
Meter Code: 94810
T26N, R7W, Sec5, Unit F

SITE DETAILS

Site Location: Latitude: 36.515700 N, Longitude -107.601460 W
Land Type: Federal
Operator: Cross Timbers Energy, LLC

SITE BACKGROUND

- **Site Assessment:** 1/94
- **Excavation:** 6/94

Miles Federal #1A (Site) is managed pursuant to the procedures set forth in the document entitled, "Remediation Plan for Groundwater Encountered during Pit Closure Activities" (Remediation Plan, 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 (EPCGP's) program methods. Currently, the site is operated by Cross Timbers Energy, LLC and is active.

The site is located on Federal land. Several Site investigations were conducted from 1994 to 1999. Monitoring wells were installed in 1994 (MW-1) and 1999 (MW-2 and MW-3). A temporary piezometer was installed in 1997 (PZ-1). Free product recovery has been periodically conducted at the Site. Currently, groundwater sampling is conducted on a semi-annual basis. Free product was not observed in 2013.

SUMMARY OF 2013 ACTIVITIES

In July 2013, a Site survey was completed to re-develop a base Site map and to confirm the accuracy of existing monitoring well elevations and locations.

On June 5, September 10, and December 11, 2013, water levels were gauged at MW-1, MW-2, and MW-3 and groundwater samples were collected from MW-1, MW-2, and MW-3 well using a HydraSleeve™ (HydraSleeve); a disposable, no-purge passive groundwater sampling device. The HydraSleeves were set during the previous sampling event approximately 0.5 feet above termination depth of the monitoring wells using a suspension tether and 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 in Corpus Christi, Texas where they were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX). A selective free product recovery sock kit was removed from monitoring well MW-1 during the June 2013 monitoring event. Additional field parameters were collected including dissolved oxygen, temperature, conductivity, pH, and ORP using a YSI multi-parameter instrument. The de minimis water remaining in HydraSleeves was combined in a waste container and transferred to an off-site 55-gallon drum for later disposal by Safety-Kleen.

2013 ANNUAL GROUNDWATER REPORT

Miles Federal #1A

Meter Code: 94810

T26N, R7W, Sec5, Unit F

SUMMARY TABLES

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

SITE MAPS

Groundwater analytical and groundwater elevation contour maps from each sampling event are included as Figures 1 through 6.

ANALYTICAL LAB REPORTS

The groundwater analytical lab reports are included as Appendix A.

RESULTS

- The groundwater flow direction is generally to the northwest at the Site (see Figures 2, 4, and 6).
- Concentrations of benzene in groundwater collected from MW-1 remained above the New Mexico Water Quality Control Commission (NMWQCC) standard during each of the three 2013 quarterly sampling events. Total xylenes remained above the NMWQCC standard in the June and September sampling, but was below standard in the December sampling event. Toluene and ethylbenzene were not detected above standards during any sampling event in 2013.
- BTEX constituents were not detected in groundwater samples collected from MW-2 during each of the three events.
- BTEX constituents were not detected in samples collected from MW-3 during each of the three events.

PLANNED FUTURE ACTIVITIES

Following the completion of a Site access agreement with the current Site operator, the installation of additional monitoring wells is planned at the Site 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, MW-3, and the newly installed monitoring wells will be sampled on a semi-annual basis.

TABLES

TABLE 1 – GROUNDWATER ANALYTICAL AND WATER LEVEL RESULTS

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

Miles Fed 1A								
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	11/05/96	1050	1630	391	2620	30.58	30.10	0.48
MW-1	02/07/97	671	809	439	2550	30.05	29.91	0.14
MW-1	05/06/97	300	350	320	1880	30.18	30.04	0.14
MW-1	04/11/01					31.81	30.61	1.20
MW-1	07/03/01					32.76	31.18	1.58
MW-1	09/04/01					31.80	30.68	1.12
MW-1	10/01/01					31.41	31.16	0.25
MW-1	01/02/02					32.17	31.20	0.97
MW-1	04/01/02					31.45	31.09	0.36
MW-1	07/15/02					32.35	31.43	0.92
MW-1	10/08/02					31.73	31.33	0.40
MW-1	01/27/03					31.59	31.21	0.38
MW-1	04/26/03					31.30	31.16	0.14
MW-1	07/17/03					32.31	31.73	0.58
MW-1	01/19/04					31.49	31.32	0.17
MW-1	07/27/04					32.47	31.89	0.58
MW-1	10/20/04					32.24	31.95	0.29
MW-1	01/25/05					31.91	31.75	0.16
MW-1	04/14/05					31.52	-	-
MW-1	07/19/05					32.43	32.32	0.11
MW-1	10/21/05					32.02	-	-
MW-1	01/23/06					31.93	31.92	0.01
MW-1	04/28/06					31.85	-	-
MW-1	07/26/06					31.94	-	-
MW-1	10/24/06					30.71	-	-
MW-1	01/17/07					30.99	-	-
MW-1	04/24/07					30.95	-	-
MW-1	07/31/07					31.32	-	-
MW-1	10/25/07					31.40	-	-
MW-1	01/25/08					31.12	-	-
MW-1	04/17/08	122	203	369	2550	31.04	-	-
MW-1	07/23/08					31.23	-	-
MW-1	10/08/08					31.77	-	-
MW-1	01/16/09					31.74	31.66	0.08
MW-1	04/06/09	104	199	596	1840	31.82	-	-
MW-1	08/25/09					32.30	-	-
MW-1	11/02/09					32.20	-	-
MW-1	02/16/10					31.74	-	-
MW-1	06/02/10	186	266	370	2320	31.53	31.50	0.03
MW-1	09/27/10					31.89	-	-
MW-1	11/01/10					31.76	-	-
MW-1	02/01/11					31.63	-	-
MW-1	05/09/11	14.6	19.3	86.9	236	31.60	-	-
MW-1	09/23/11					32.40	-	-
MW-1	11/02/11					32.27	-	-
MW-1	02/22/12					31.99	-	-
MW-1	05/15/12	60.9	79.9	136	602	32.08	-	-
MW-1	06/05/13	44	78	120	830	31.80	-	-
MW-1	09/10/13	300	510	250	2200	31.30	-	-
MW-1	12/11/13	21	37	21	230	31.16	-	-

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

Miles Fed 1A								
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	10/15/99	<0.5	2.1	5.5	2.8	27.97	-	-
MW-2	07/03/01					32.51	-	-
MW-2	09/04/01					28.30	-	-
MW-2	10/01/01					28.61	-	-
MW-2	07/15/02	<0.5	0.6	0.9	1.4	31.46	-	-
MW-2	10/08/02					30.77	-	-
MW-2	01/27/03					30.64	-	-
MW-2	04/26/03					31.51	-	-
MW-2	07/17/03					31.23	-	-
MW-2	01/19/04					31.14	-	-
MW-2	07/27/04					31.37	-	-
MW-2	10/20/04					31.33	-	-
MW-2	01/25/05					31.56	-	-
MW-2	04/14/05					31.33	-	-
MW-2	07/19/05					31.97	-	-
MW-2	10/21/05					31.09	-	-
MW-2	01/23/06					31.19	-	-
MW-2	04/28/06					31.21	-	-
MW-2	07/26/06					31.24	-	-
MW-2	10/24/06					30.55	-	-
MW-2	01/17/07					30.29	-	-
MW-2	04/24/07					30.75	-	-
MW-2	07/31/07					30.56	-	-
MW-2	10/25/07					30.71	-	-
MW-2	01/25/08					30.41	-	-
MW-2	04/17/08	<2	<2	<2	<6	30.36	-	-
MW-2	07/23/08					31.14	-	-
MW-2	10/08/08					31.57	-	-
MW-2	01/16/09					30.98	-	-
MW-2	04/06/09	<1	<1	<1	<2	31.40	-	-
MW-2	08/25/09					31.85	-	-
MW-2	11/02/09					31.93	-	-
MW-2	02/16/10					31.43	-	-
MW-2	06/02/10	<2	<2	<2	<6	31.33	-	-
MW-2	09/27/10					31.63	-	-
MW-2	11/01/10					31.57	-	-
MW-2	02/01/11					31.39	-	-
MW-2	05/09/11	<1	<1	<1	<3	31.40	-	-
MW-2	09/23/11					32.05	-	-
MW-2	11/02/11					32.01	-	-
MW-2	02/22/12					31.76	-	-
MW-2	05/15/12	<1	<1	<1	<3	31.87	-	-
MW-2	06/05/13	<0.14	<0.30	<0.20	<0.23	31.56	-	-
MW-2	09/10/13	<0.14	<0.30	<0.20	<0.23	31.13	-	-
MW-2	12/11/13	<2.0	<3.8	<2.0	<6.5	30.95	-	-

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

Miles Fed 1A								
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	10/15/99	<0.5	0.9	<0.5	3.1	27.92	-	-
MW-3	07/03/01	<0.5	<0.5	<0.5	<0.5	28.97	-	-
MW-3	09/04/01					28.40	-	-
MW-3	10/01/01					28.63	-	-
MW-3	07/15/02					31.46	-	-
MW-3	10/08/02					31.22	-	-
MW-3	01/27/03					31.11	-	-
MW-3	04/26/03					30.99	-	-
MW-3	07/17/03					31.62	-	-
MW-3	01/19/04					30.66	-	-
MW-3	07/27/04					31.30	-	-
MW-3	10/20/04					31.32	-	-
MW-3	01/25/05					31.08	-	-
MW-3	04/14/05					30.87	-	-
MW-3	07/19/05					31.56	-	-
MW-3	10/21/05					31.66	-	-
MW-3	01/23/06					31.61	-	-
MW-3	04/28/06					31.62	-	-
MW-3	07/26/06					31.72	-	-
MW-3	10/24/06					30.03	-	-
MW-3	01/17/07					30.81	-	-
MW-3	04/24/07					30.28	-	-
MW-3	07/31/07					31.12	-	-
MW-3	10/25/07					31.19	-	-
MW-3	01/25/08					20.93	-	-
MW-3	04/17/08	<2	<2	<2	<6	30.36	-	-
MW-3	07/23/08					30.58	-	-
MW-3	10/08/08					31.15	-	-
MW-3	01/16/09					31.47	-	-
MW-3	04/06/09	<1	<1	<1	<2	30.93	-	-
MW-3	08/25/09					31.60	-	-
MW-3	11/02/09					31.47	-	-
MW-3	02/16/10					30.89	-	-
MW-3	06/02/10	<2	<2	<2	<6	30.88	-	-
MW-3	09/27/10					31.20	-	-
MW-3	11/01/10					30.96	-	-
MW-3	02/01/11					30.91	-	-
MW-3	05/09/11					30.95	-	-
MW-3	09/23/11					31.55	-	-
MW-3	11/02/11					31.52	-	-
MW-3	02/22/12					31.37	-	-
MW-3	05/15/12					31.45	-	-
MW-3	06/05/13	<0.14	<0.30	<0.20	<0.23	31.15	-	-
MW-3	09/10/13	<0.14	<0.30	<0.20	<0.23	30.58	-	-
MW-3	12/11/13	<0.20	<0.38	<0.20	<0.65	30.43	-	-
Notes: Results highlighted yellow exceed their respective New Mexico Water Quality Control Commission standards. "J" = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. "<" = analyte was not detected at the indicated reporting limit (some historic data were reported at the detection limit).								

FIGURES

FIGURE 1: JUNE 5, 2013 GROUNDWATER ANALYTICAL RESULTS MAP

FIGURE 2: JUNE 5, 2013 GROUNDWATER ELEVATION MAP

FIGURE 3: SEPTEMBER 10, 2013 GROUNDWATER ANALYTICAL RESULTS MAP

FIGURE 4: SEPTEMBER 10, 2013 GROUNDWATER ELEVATION MAP

FIGURE 5: DECEMBER 11, 2013 GROUNDWATER ANALYTICAL RESULTS MAP

FIGURE 6: DECEMBER 11, 2013 GROUNDWATER ELEVATION MAP

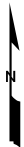


LEGEND:

- 6050 APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- GAS — NATURAL GAS LINE
- MONITORING WELL
- ▲ SMA BENCHMARK

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

ANALYTE	NMWQCC 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	10/18/2013	CCL	CCL	DAW

TITLE: **MILES FED #1A**
GROUNDWATER ANALYTICAL RESULTS
SAMPLED JUNE 5, 2013

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



Figure No.:

1

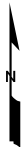


LEGEND:

- APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- NATURAL GAS LINE
- MONITORING WELL
- SMA BENCHMARK

NOTES:

- GROUNDWATER ELEVATION CORRECTED FOR PRODUCT THICKNESS. FEET ABOVE MEAN SEA LEVEL
- CORRECTED WATER LEVEL ELEVATION CONTOUR DASHED WHERE INFERRED (FEET ABOVE MEAN SEA LEVEL, 0.1 FOOT CONTOUR INTERVAL)
- DIRECTION OF GROUNDWATER FLOW



REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	10/18/2013	CCL	CCL	DAW

TITLE: **MILES FED #1A**
GROUNDWATER ELEVATION MAP
GAUGED JUNE 5, 2013

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



Figure No.:

2



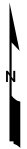


LEGEND:

- APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- NATURAL GAS LINE
- MONITORING WELL
- SMA BENCHMARK

NOTES:

- GROUNDWATER ELEVATION CORRECTED FOR PRODUCT THICKNESS. FEET ABOVE MEAN SEA LEVEL
- CORRECTED WATER LEVEL ELEVATION CONTOUR DASHED WHERE INFERRED (FEET ABOVE MEAN SEA LEVEL, 0.1 FOOT CONTOUR INTERVAL)
- DIRECTION OF GROUNDWATER FLOW



REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	10/18/2013	CCL	CCL	DAW

TITLE: *MILES FED #1A
GROUNDWATER ELEVATION MAP
GAUGED SEPTEMBER 10, 2013*

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



Figure No.:

4

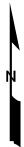


LEGEND:

- APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- NATURAL GAS LINE
- MONITORING WELL
- SMA BENCHMARK

EXPLANATION OF ANALYTES AND APPLICABLE STANDARDS:
RESULTS IN **BOLD**FACE 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

ANALYTE	NMWQCC 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	9/14/2014	CCL	CCL	DAW

TITLE:
MILES FED #1A
GROUNDWATER ANALYTICAL RESULTS
SAMPLED DECEMBER 11, 2013

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



Figure No.:

5

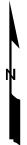


LEGEND:

- 6050 APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- GAS NATURAL GAS LINE
- MONITORING WELL
- ▲ SMA BENCHMARK

NOTES:

- 6288.85 GROUNDWATER ELEVATION CORRECTED FOR PRODUCT THICKNESS. FEET ABOVE MEAN SEA LEVEL
- 6288 CORRECTED WATER LEVEL ELEVATION CONTOUR DASHED WHERE INFERRED (FEET ABOVE MEAN SEA LEVEL, 0.1 FOOT CONTOUR INTERVAL)
- DIRECTION OF GROUNDWATER FLOW



REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	1/17/2014	CCL	CCL	DAW

TITLE: **MILES FED #1A**
GROUNDWATER ELEVATION MAP
GAUGED DECEMBER 11, 2013

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



Figure No.:

6

APPENDIX A

JUNE 5, 2013 GROUNDWATER SAMPLING ANALYTICAL REPORT
SEPTEMBER 10, 2013 GROUNDWATER SAMPLING ANALYTICAL REPORT
DECEMBER 11, 2013 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

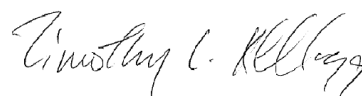
TestAmerica Job ID: 560-40546-1

TestAmerica Sample Delivery Group: June 2013
Client Project/Site: Miles Fed. #1A

For:

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

Attn: Mr. Daniel Wade



Authorized for release by:
6/19/2013 9:13:42 AM

Timothy Kellogg, Lab Director
tim.kellogg@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

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.

Definitions/Glossary

Client: MWH Americas Inc
Project/Site: Miles Fed. #1A

TestAmerica Job ID: 560-40546-1
SDG: June 2013

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)
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: Miles Fed. #1A

TestAmerica Job ID: 560-40546-1
SDG: June 2013

Job ID: 560-40546-1

Laboratory: TestAmerica Corpus Christi

Narrative

Receipt

The samples were received on 6/12/2013 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.5° C. No analytical or quality issues were noted.

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Detection Summary

Client: MWH Americas Inc
Project/Site: Miles Fed. #1A

TestAmerica Job ID: 560-40546-1
SDG: June 2013

Client Sample ID: MW-1

Lab Sample ID: 560-40546-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.044		0.0030	0.00042	mg/L	3		8260B	Total/NA
Ethylbenzene	0.12		0.0030	0.00060	mg/L	3		8260B	Total/NA
Toluene	0.078		0.0030	0.00090	mg/L	3		8260B	Total/NA
Xylenes, Total	0.83		0.0090	0.00068	mg/L	3		8260B	Total/NA

Client Sample ID: MW-2

Lab Sample ID: 560-40546-2

No Detections.

Client Sample ID: MW-3

Lab Sample ID: 560-40546-3

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

Client Sample Results

Client: MWH Americas Inc
Project/Site: Miles Fed. #1A

TestAmerica Job ID: 560-40546-1
SDG: June 2013

Client Sample ID: MW-1

Date Collected: 06/08/13 13:15

Date Received: 06/12/13 10:00

Lab Sample ID: 560-40546-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.044		0.0030	0.00042	mg/L			06/13/13 18:25	3
Ethylbenzene	0.12		0.0030	0.00060	mg/L			06/13/13 18:25	3
Toluene	0.078		0.0030	0.00090	mg/L			06/13/13 18:25	3
Xylenes, Total	0.83		0.0090	0.00068	mg/L			06/13/13 18:25	3

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	109		70 - 130		06/13/13 18:25	3
4-Bromofluorobenzene (Surr)	95		70 - 130		06/13/13 18:25	3
Dibromofluoromethane (Surr)	91		70 - 130		06/13/13 18:25	3
1,2-Dichloroethane-d4 (Surr)	104		70 - 130		06/13/13 18:25	3

Client Sample ID: MW-2

Date Collected: 06/08/13 13:10

Date Received: 06/12/13 10:00

Lab Sample ID: 560-40546-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00014		0.0010	0.00014	mg/L			06/13/13 18:50	1
Ethylbenzene	<0.00020		0.0010	0.00020	mg/L			06/13/13 18:50	1
Toluene	<0.00030		0.0010	0.00030	mg/L			06/13/13 18:50	1
Xylenes, Total	<0.00023		0.0030	0.00023	mg/L			06/13/13 18:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		70 - 130		06/13/13 18:50	1
4-Bromofluorobenzene (Surr)	95		70 - 130		06/13/13 18:50	1
Dibromofluoromethane (Surr)	99		70 - 130		06/13/13 18:50	1
1,2-Dichloroethane-d4 (Surr)	110		70 - 130		06/13/13 18:50	1

Client Sample ID: MW-3

Date Collected: 06/08/13 13:00

Date Received: 06/12/13 10:00

Lab Sample ID: 560-40546-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00014		0.0010	0.00014	mg/L			06/13/13 19:15	1
Ethylbenzene	<0.00020		0.0010	0.00020	mg/L			06/13/13 19:15	1
Toluene	<0.00030		0.0010	0.00030	mg/L			06/13/13 19:15	1
Xylenes, Total	<0.00023		0.0030	0.00023	mg/L			06/13/13 19:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		70 - 130		06/13/13 19:15	1
4-Bromofluorobenzene (Surr)	93		70 - 130		06/13/13 19:15	1
Dibromofluoromethane (Surr)	100		70 - 130		06/13/13 19:15	1
1,2-Dichloroethane-d4 (Surr)	109		70 - 130		06/13/13 19:15	1

TestAmerica Corpus Christi

QC Sample Results

Client: MWH Americas Inc
Project/Site: Miles Fed. #1A

TestAmerica Job ID: 560-40546-1
SDG: June 2013

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

Lab Sample ID: MB 560-89039/9

Matrix: Water

Analysis Batch: 89039

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00014		0.0010	0.00014	mg/L			06/13/13 11:48	1
Ethylbenzene	<0.00020		0.0010	0.00020	mg/L			06/13/13 11:48	1
Toluene	<0.00030		0.0010	0.00030	mg/L			06/13/13 11:48	1
Xylenes, Total	<0.00023		0.0030	0.00023	mg/L			06/13/13 11:48	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		70 - 130		06/13/13 11:48	1
4-Bromofluorobenzene (Surr)	94		70 - 130		06/13/13 11:48	1
Dibromofluoromethane (Surr)	104		70 - 130		06/13/13 11:48	1
1,2-Dichloroethane-d4 (Surr)	109		70 - 130		06/13/13 11:48	1

Lab Sample ID: LCS 560-89039/3

Matrix: Water

Analysis Batch: 89039

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0250	0.0246		mg/L		98	70 - 130
Ethylbenzene	0.0250	0.0247		mg/L		99	70 - 130
Toluene	0.0250	0.0246		mg/L		99	70 - 130
Xylenes, Total	0.0750	0.0761		mg/L		102	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	99		70 - 130
4-Bromofluorobenzene (Surr)	102		70 - 130
Dibromofluoromethane (Surr)	100		70 - 130
1,2-Dichloroethane-d4 (Surr)	108		70 - 130

Lab Chronicle

Client: MWH Americas Inc
Project/Site: Miles Fed. #1A

TestAmerica Job ID: 560-40546-1
SDG: June 2013

Client Sample ID: MW-1

Date Collected: 06/08/13 13:15

Date Received: 06/12/13 10:00

Lab Sample ID: 560-40546-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		3	89039	06/13/13 18:25	MHR	TAL CC

Client Sample ID: MW-2

Date Collected: 06/08/13 13:10

Date Received: 06/12/13 10:00

Lab Sample ID: 560-40546-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	89039	06/13/13 18:50	MHR	TAL CC

Client Sample ID: MW-3

Date Collected: 06/08/13 13:00

Date Received: 06/12/13 10:00

Lab Sample ID: 560-40546-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	89039	06/13/13 19:15	MHR	TAL CC

Laboratory References:

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

Certification Summary

Client: MWH Americas Inc
Project/Site: Miles Fed. #1A

TestAmerica Job ID: 560-40546-1
SDG: June 2013

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	10-31-13
Oklahoma	State Program	6	9968	08-31-13
Texas	NELAP	6	T104704210-12-8	03-31-14
USDA	Federal		P330-11-00060	02-03-14

Method Summary

Client: MWH Americas Inc
Project/Site: Miles Fed. #1A

TestAmerica Job ID: 560-40546-1
SDG: June 2013

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	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: Miles Fed. #1A

TestAmerica Job ID: 560-40546-1
SDG: June 2013

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-40546-1	MW-1	Water	06/08/13 13:15	06/12/13 10:00
560-40546-2	MW-2	Water	06/08/13 13:10	06/12/13 10:00
560-40546-3	MW-3	Water	06/08/13 13:00	06/12/13 10:00

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 560-40546-1

SDG Number: June 2013

Login Number: 40546

List Number: 1

Creator: McDermott, Vivian

List Source: TestAmerica Corpus Christi

Question	Answer	Comment
Radioactivity wasn't checked or is <= 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 <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

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

TestAmerica Job ID: 560-42540-1

TestAmerica Sample Delivery Group: September 2013
Client Project/Site: Miles Federal #1A Groundwater Analysis

For:

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

Attn: Mr. Daniel Wade



Authorized for release by:

10/3/2013 11:17:27 AM

Lindy Maingot, Project Manager I
lindy.maingot@testamericainc.com

Designee for

Timothy Kellogg, Lab Director
tim.kellogg@testamericainc.com

LINKS

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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.

Definitions/Glossary

Client: MWH Americas Inc
Project/Site: Miles Federal #1A Groundwater Analysis

TestAmerica Job ID: 560-42540-1
SDG: September 2013

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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: Miles Federal #1A Groundwater Analysis

TestAmerica Job ID: 560-42540-1
SDG: September 2013

Job ID: 560-42540-1

Laboratory: TestAmerica Corpus Christi

Narrative

Job Narrative
560-42540-1

Comments

No additional comments.

Receipt

The samples were received on 9/14/2013 10:05 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.4° C.

GC/MS VOA

No analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.

Detection Summary

Client: MWH Americas Inc
Project/Site: Miles Federal #1A Groundwater Analysis

TestAmerica Job ID: 560-42540-1
SDG: September 2013

Client Sample ID: MW-1

Lab Sample ID: 560-42540-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.30		0.020	0.0028	mg/L	20		8260B	Total/NA
Ethylbenzene	0.25		0.020	0.0040	mg/L	20		8260B	Total/NA
Toluene	0.51		0.020	0.0060	mg/L	20		8260B	Total/NA
Xylenes, Total	2.2		0.060	0.0045	mg/L	20		8260B	Total/NA

Client Sample ID: MW-2

Lab Sample ID: 560-42540-2

No Detections.

Client Sample ID: MW-3

Lab Sample ID: 560-42540-3

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

Client Sample Results

Client: MWH Americas Inc
Project/Site: Miles Federal #1A Groundwater Analysis

TestAmerica Job ID: 560-42540-1
SDG: September 2013

Client Sample ID: MW-1

Date Collected: 09/10/13 14:00

Date Received: 09/14/13 10:05

Lab Sample ID: 560-42540-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.30		0.020	0.0028	mg/L			09/18/13 18:52	20
Ethylbenzene	0.25		0.020	0.0040	mg/L			09/18/13 18:52	20
Toluene	0.51		0.020	0.0060	mg/L			09/18/13 18:52	20
Xylenes, Total	2.2		0.060	0.0045	mg/L			09/18/13 18:52	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		70 - 130		09/18/13 18:52	20
4-Bromofluorobenzene (Surr)	102		70 - 130		09/18/13 18:52	20
Dibromofluoromethane (Surr)	95		70 - 130		09/18/13 18:52	20
1,2-Dichloroethane-d4 (Surr)	92		70 - 140		09/18/13 18:52	20

Client Sample ID: MW-2

Date Collected: 09/10/13 13:55

Date Received: 09/14/13 10:05

Lab Sample ID: 560-42540-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00014		0.0010	0.00014	mg/L			09/18/13 19:17	1
Ethylbenzene	<0.00020		0.0010	0.00020	mg/L			09/18/13 19:17	1
Toluene	<0.00030		0.0010	0.00030	mg/L			09/18/13 19:17	1
Xylenes, Total	<0.00023		0.0030	0.00023	mg/L			09/18/13 19:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		70 - 130		09/18/13 19:17	1
4-Bromofluorobenzene (Surr)	94		70 - 130		09/18/13 19:17	1
Dibromofluoromethane (Surr)	101		70 - 130		09/18/13 19:17	1
1,2-Dichloroethane-d4 (Surr)	95		70 - 140		09/18/13 19:17	1

Client Sample ID: MW-3

Date Collected: 09/10/13 13:50

Date Received: 09/14/13 10:05

Lab Sample ID: 560-42540-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00014		0.0010	0.00014	mg/L			09/18/13 19:42	1
Ethylbenzene	<0.00020		0.0010	0.00020	mg/L			09/18/13 19:42	1
Toluene	<0.00030		0.0010	0.00030	mg/L			09/18/13 19:42	1
Xylenes, Total	<0.00023		0.0030	0.00023	mg/L			09/18/13 19:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		70 - 130		09/18/13 19:42	1
4-Bromofluorobenzene (Surr)	95		70 - 130		09/18/13 19:42	1
Dibromofluoromethane (Surr)	101		70 - 130		09/18/13 19:42	1
1,2-Dichloroethane-d4 (Surr)	96		70 - 140		09/18/13 19:42	1

TestAmerica Corpus Christi

QC Sample Results

Client: MWH Americas Inc
Project/Site: Miles Federal #1A Groundwater Analysis

TestAmerica Job ID: 560-42540-1
SDG: September 2013

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

Lab Sample ID: MB 560-92870/8

Matrix: Water

Analysis Batch: 92870

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00014		0.0010	0.00014	mg/L			09/18/13 12:35	1
Ethylbenzene	<0.00020		0.0010	0.00020	mg/L			09/18/13 12:35	1
Toluene	<0.00030		0.0010	0.00030	mg/L			09/18/13 12:35	1
Xylenes, Total	<0.00023		0.0030	0.00023	mg/L			09/18/13 12:35	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		70 - 130		09/18/13 12:35	1
4-Bromofluorobenzene (Surr)	92		70 - 130		09/18/13 12:35	1
Dibromofluoromethane (Surr)	102		70 - 130		09/18/13 12:35	1
1,2-Dichloroethane-d4 (Surr)	96		70 - 140		09/18/13 12:35	1

Lab Sample ID: LCS 560-92870/3

Matrix: Water

Analysis Batch: 92870

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0250	0.0239		mg/L		96	70 - 130
Ethylbenzene	0.0250	0.0247		mg/L		99	70 - 130
Toluene	0.0250	0.0243		mg/L		97	70 - 130
Xylenes, Total	0.0750	0.0731		mg/L		97	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	100		70 - 130
4-Bromofluorobenzene (Surr)	104		70 - 130
Dibromofluoromethane (Surr)	99		70 - 130
1,2-Dichloroethane-d4 (Surr)	93		70 - 140

Certification Summary

Client: MWH Americas Inc
Project/Site: Miles Federal #1A Groundwater Analysis

TestAmerica Job ID: 560-42540-1
SDG: September 2013

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	10-31-13
Oklahoma	State Program	6	9968	08-31-14
Texas	NELAP	6	T104704210-12-8	03-31-14
USDA	Federal		P330-11-00060	02-03-14

Method Summary

Client: MWH Americas Inc
Project/Site: Miles Federal #1A Groundwater Analysis

TestAmerica Job ID: 560-42540-1
SDG: September 2013

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	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: Miles Federal #1A Groundwater Analysis

TestAmerica Job ID: 560-42540-1
SDG: September 2013

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-42540-1	MW-1	Water	09/10/13 14:00	09/14/13 10:05
560-42540-2	MW-2	Water	09/10/13 13:55	09/14/13 10:05
560-42540-3	MW-3	Water	09/10/13 13:50	09/14/13 10:05

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 560-42540-1

SDG Number: September 2013

Login Number: 42540

List Number: 1

Creator: Wing, Randi

List Source: TestAmerica Corpus Christi

Question	Answer	Comment
Radioactivity wasn't checked or is </= 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.	N/A	
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 <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

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

TestAmerica Job ID: 560-44349-1

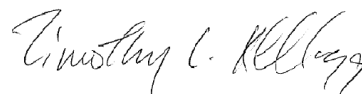
TestAmerica Sample Delivery Group: December 2013

Client Project/Site: Miles Federal #1A Groundwater Analysis

For:

MWH Americas Inc
2890 East Cottonwood Pkwy
Suite 300
Salt Lake City, Utah 84121

Attn: Mr. Cary Ruble



Authorized for release by:
12/30/2013 6:58:49 PM

Timothy Kellogg, Lab Director
(361)289-2673
tim.kellogg@testamericainc.com

LINKS

Review your project
results through

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Have a Question?



Visit us at:

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.

Definitions/Glossary

Client: MWH Americas Inc
Project/Site: Miles Federal #1A Groundwater Analysis

TestAmerica Job ID: 560-44349-1
SDG: December 2013

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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: Miles Federal #1A Groundwater Analysis

TestAmerica Job ID: 560-44349-1
SDG: December 2013

Job ID: 560-44349-1

Laboratory: TestAmerica Corpus Christi

Narrative

Receipt

The samples were received on 12/17/2013 10:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.5° C. No analytical or quality issues were noted.

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Detection Summary

Client: MWH Americas Inc
Project/Site: Miles Federal #1A Groundwater Analysis

TestAmerica Job ID: 560-44349-1
SDG: December 2013

Client Sample ID: MW-1

Lab Sample ID: 560-44349-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.021		0.0020	0.00020	mg/L	1		8021B	Total/NA
Toluene	0.037		0.0020	0.00038	mg/L	1		8021B	Total/NA
Ethylbenzene	0.021		0.0020	0.00020	mg/L	1		8021B	Total/NA
Xylenes, Total	0.23		0.0020	0.00065	mg/L	1		8021B	Total/NA

Client Sample ID: MW-2

Lab Sample ID: 560-44349-2

No Detections.

Client Sample ID: MW-3

Lab Sample ID: 560-44349-3

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

Client Sample Results

Client: MWH Americas Inc
Project/Site: Miles Federal #1A Groundwater Analysis

TestAmerica Job ID: 560-44349-1
SDG: December 2013

Client Sample ID: MW-1

Date Collected: 12/11/13 14:00

Date Received: 12/17/13 10:40

Lab Sample ID: 560-44349-1

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.021		0.0020	0.00020	mg/L			12/19/13 12:16	1
Toluene	0.037		0.0020	0.00038	mg/L			12/19/13 12:16	1
Ethylbenzene	0.021		0.0020	0.00020	mg/L			12/19/13 12:16	1
Xylenes, Total	0.23		0.0020	0.00065	mg/L			12/19/13 12:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		58 - 129					12/19/13 12:16	1
Trifluorotoluene (Surr)	94		54 - 130					12/19/13 12:16	1

Client Sample ID: MW-2

Date Collected: 12/11/13 14:05

Date Received: 12/17/13 10:40

Lab Sample ID: 560-44349-2

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0020		0.020	0.0020	mg/L			12/19/13 12:48	10
Toluene	<0.0038		0.020	0.0038	mg/L			12/19/13 12:48	10
Ethylbenzene	<0.0020		0.020	0.0020	mg/L			12/19/13 12:48	10
Xylenes, Total	<0.0065		0.020	0.0065	mg/L			12/19/13 12:48	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	83		58 - 129					12/19/13 12:48	10
Trifluorotoluene (Surr)	86		54 - 130					12/19/13 12:48	10

Client Sample ID: MW-3

Date Collected: 12/11/13 14:10

Date Received: 12/17/13 10:40

Lab Sample ID: 560-44349-3

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00020		0.0020	0.00020	mg/L			12/19/13 13:23	1
Toluene	<0.00038		0.0020	0.00038	mg/L			12/19/13 13:23	1
Ethylbenzene	<0.00020		0.0020	0.00020	mg/L			12/19/13 13:23	1
Xylenes, Total	<0.00065		0.0020	0.00065	mg/L			12/19/13 13:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	83		58 - 129					12/19/13 13:23	1
Trifluorotoluene (Surr)	85		54 - 130					12/19/13 13:23	1

QC Sample Results

Client: MWH Americas Inc
Project/Site: Miles Federal #1A Groundwater Analysis

TestAmerica Job ID: 560-44349-1
SDG: December 2013

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 560-96379/5

Matrix: Water

Analysis Batch: 96379

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00020		0.0020	0.00020	mg/L			12/19/13 09:53	1
Toluene	<0.00038		0.0020	0.00038	mg/L			12/19/13 09:53	1
Ethylbenzene	<0.00020		0.0020	0.00020	mg/L			12/19/13 09:53	1
Xylenes, Total	<0.00065		0.0020	0.00065	mg/L			12/19/13 09:53	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	84		58 - 129		12/19/13 09:53	1
Trifluorotoluene (Surr)	86		54 - 130		12/19/13 09:53	1

Lab Sample ID: LCS 560-96379/4

Matrix: Water

Analysis Batch: 96379

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0400	0.0364		mg/L		91	70 - 130
Toluene	0.0400	0.0361		mg/L		90	70 - 130
Ethylbenzene	0.0400	0.0367		mg/L		92	70 - 130
Xylenes, Total	0.120	0.108		mg/L		90	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	93		58 - 129
Trifluorotoluene (Surr)	89		54 - 130

Lab Sample ID: 560-44349-2 MS

Matrix: Water

Analysis Batch: 96379

Client Sample ID: MW-2

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.0020		0.400	0.347		mg/L		87	64 - 130
Toluene	<0.0038		0.400	0.348		mg/L		87	59 - 130
Ethylbenzene	<0.0020		0.400	0.351		mg/L		88	63 - 133
Xylenes, Total	<0.0065		1.20	1.02		mg/L		85	53 - 147

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	87		58 - 129
Trifluorotoluene (Surr)	86		54 - 130

Lab Sample ID: 560-44349-2 MSD

Matrix: Water

Analysis Batch: 96379

Client Sample ID: MW-2

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.0020		0.400	0.349		mg/L		87	64 - 130	1	20
Toluene	<0.0038		0.400	0.351		mg/L		88	59 - 130	1	20
Ethylbenzene	<0.0020		0.400	0.354		mg/L		89	63 - 133	1	20
Xylenes, Total	<0.0065		1.20	1.04		mg/L		86	53 - 147	1	20

TestAmerica Corpus Christi

QC Sample Results

Client: MWH Americas Inc
Project/Site: Miles Federal #1A Groundwater Analysis

TestAmerica Job ID: 560-44349-1
SDG: December 2013

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

Lab Sample ID: 560-44349-2 MSD

Matrix: Water

Analysis Batch: 96379

Client Sample ID: MW-2

Prep Type: Total/NA

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	88		58 - 129
Trifluorotoluene (Surr)	86		54 - 130

Lab Chronicle

Client: MWH Americas Inc
Project/Site: Miles Federal #1A Groundwater Analysis

TestAmerica Job ID: 560-44349-1
SDG: December 2013

Client Sample ID: MW-1

Date Collected: 12/11/13 14:00

Date Received: 12/17/13 10:40

Lab Sample ID: 560-44349-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	96379	12/19/13 12:16	RQH	TAL CC

Client Sample ID: MW-2

Date Collected: 12/11/13 14:05

Date Received: 12/17/13 10:40

Lab Sample ID: 560-44349-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		10	96379	12/19/13 12:48	RQH	TAL CC

Client Sample ID: MW-3

Date Collected: 12/11/13 14:10

Date Received: 12/17/13 10:40

Lab Sample ID: 560-44349-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	96379	12/19/13 13:23	RQH	TAL CC

Laboratory References:

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

Certification Summary

Client: MWH Americas Inc
Project/Site: Miles Federal #1A Groundwater Analysis

TestAmerica Job ID: 560-44349-1
SDG: December 2013

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	T104704210-12-8	03-31-14
USDA	Federal		P330-11-00060	02-03-14

Method Summary

Client: MWH Americas Inc
Project/Site: Miles Federal #1A Groundwater Analysis

TestAmerica Job ID: 560-44349-1
SDG: December 2013

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: Miles Federal #1A Groundwater Analysis

TestAmerica Job ID: 560-44349-1
SDG: December 2013

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-44349-1	MW-1	Water	12/11/13 14:00	12/17/13 10:40
560-44349-2	MW-2	Water	12/11/13 14:05	12/17/13 10:40
560-44349-3	MW-3	Water	12/11/13 14:10	12/17/13 10:40

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Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 560-44349-1

SDG Number: December 2013

Login Number: 44349

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.	N/A	