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2013 AGWMR

04 / 03 / 2014



BUILDING A BETTER WORLD

March 4, 2014

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

Sandoval GC A#1A Meter Code: 89620

Latitude: 36.772101, Longitude: -107.753601

SITE DETAILS

Site Location: Latitude: 36.772101, Longitude: -107.753601

Land Type: Federal

Operator: BP/America Production Company

SITE BACKGROUND

Site Assessment: 5/94
 Excavation: 9/94 (50 cy)
 Re-Excavation: 7/97 (504 cy)

ORC Nutirent Injection 10/01

Sandoval GC A#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 (EPCPG) program methods. Currently, the Site is operated by BP America Production Company and is active.

The Site is located on Federal land. Various Site investigations have occurred from 1994 through 1997. Monitoring wells were installed in 1994 (MW-1). Additional borings for wells were advanced for well purposes but were refused in 1995 and 1997. Currently, groundwater sampling is conducted on a semi-annual basis and free product is not observed.

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 the existing monitoring well elevation and location.

On June 8, September 9, and December 12, 2013, water levels were gauged at MW-1, and groundwater samples were collected using a HydraSleeveTM (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

Sandoval GC A#1A Meter Code: 89620

Latitude: 36.772101, Longitude: -107.753601

SUMMARY TABLES

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

SITE MAPS

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

ANALYTICAL LAB REPORTS

The groundwater analytical lab reports are included as Appendix A.

RESULTS

- The groundwater flow direction cannot be determined based on our observations because MW-1 was the only monitoring well where groundwater elevation data was collected (see Figures 2, 4, and 6).
- BTEX constituents were either non detect or reported values were below the quantitative limit (J-flagged values) during each of the three 2013 quarterly sampling events.

PLANNED FUTURE ACTIVITIES

Following the completion of a Site access agreement with the current Site operator, the installation of additional monitoring wells is proposed at the Site to further assess the extent of dissolved phase hydrocarbons and to define the groundwater gradient at the Site. MW-1 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

Sandoval GC A #1A								
	Benzene Toluene Ethylbenzene Total Xylenes Depth to Depth to							
Location	Date	(µg/L)	(µg/L)	(μg/L)	(μg/L)	Water (ft.)	LNAPL (ft.)	Thickness (ft.)
NMWQC	C Standards:	10	750	750	620	NA	NA	NA
MW-1	05/30/95	5500	3980	579	4780	34.49	-	-
MW-1	04/12/96	10400	8960	925	10100	35.39	-	-
MW-1	07/26/96	8980	7980	1000	9430	35.61	-	-
MW-1	10/18/96	11050	9960	900	10700	35.79	-	-
MW-1	01/21/97	7700	7210	787	8430	35.80	-	-
MW-1	04/16/97	8900	8680	996	9250	35.99	-	-
MW-1	07/11/97	8240	7850	709	8230	36.05	-	-
MW-1	09/04/97	4420	2370	850	9660	35.18	-	-
MW-1	10/22/97	3460	39.6	714	7690	35.14	-	-
MW-1	01/06/98	3850	194	795	8570	35.10	-	-
MW-1	04/23/98	4330	406	783	7220	35.15	-	-
MW-1	04/19/99	4300	1260	629	7440	35.10	-	-
MW-1	04/13/00	2300	1500	590	5900	34.70	-	-
MW-1	05/30/01	2800	710	560	5200	34.97	-	-
MW-1	10/08/01					35.19	-	-
MW-1	05/16/02	3000	1500	440	5300	35.11	-	-
MW-1	05/21/03	3850	601	443	6360	35.26	-	-
MW-1	11/16/04	2490	30.9	346	2860	34.84	-	-
MW-1	11/08/05	338	8.5	80.1	757	33.87	-	-
MW-1	11/08/06	198	3.4	14.9	83.6	34.02	-	-
MW-1	11/29/07	441	3.8	52.2	72.2	33.29	-	-
MW-1	11/18/08	120	<2	17.9	8.3	33.41	-	-
MW-1	11/04/09	88.4	<1	14.8	4.3	33.64	-	-
MW-1	06/03/10					33.46	-	-
MW-1	11/09/10	54	<2	8.7	12.7	32.94	-	-
MW-1	11/16/11	31.3	<1	14.2	8.9	33.28	-	-
MW-1	06/08/13	0.27 J	< 0.30	<0.20	<0.23	33.67	-	-
MW-1	09/09/13	0.36 J	< 0.30	<0.20	<0.23	33.78	-	-
MW-1	12/12/13	0.31 J	<0.38	<0.20	< 0.65	33.80	-	-

Notes:

Results highlighted yellow exceed their respective New Mexico Water Quality Control Comission standards.

[&]quot;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 8, 2013 GROUNDWATER ANALYTICAL RESULTS MAP

FIGURE 2: JUNE 8, 2013 GROUNDWATER ELEVATION MAP

FIGURE 3: SEPTEMBER 9, 2013 GROUNDWATER ANALYTICAL RESULTS MAP

FIGURE 4: SEPTEMBER 9, 2013 GROUNDWATER ELEVATION MAP

FIGURE 5: DECEMBER 12, 2013 GROUNDWATER ANALYTICAL RESULTS MAP

FIGURE 6: DECEMBER 12, 2013 GROUNDWATER ELEVATION MAP

APPENDIX A

JUNE 8, 2013 GROUNDWATER SAMPLING ANALYTICAL REPORT SEPTEMBER 9, 2013 GROUNDWATER SAMPLING ANALYTICAL REPORT DECEMBER 12, 2013 GROUNDWATER SAMPLING ANALYTICAL REPORT



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: 560-40556-1

TestAmerica Sample Delivery Group: June 2013

Client Project/Site: Sandoval

For:

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

Attn: Mr. Daniel Wade

Authorized for release by: 6/19/2013 9:31:29 AM

Cimothy C. Kllogg

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

·····LINKS ·······

Review your project results through

Total Access

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: Sandoval TestAmerica Job ID: 560-40556-1

SDG: June 2013

Qualifiers

GC/MS VOA

J Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Not detected at the reporting limit (or MDL or EDL if shown)

Relative Percent Difference, a measure of the relative difference between two points

Reporting Limit or Requested Limit (Radiochemistry)

Practical Quantitation Limit

Toxicity Equivalent Factor (Dioxin)

Toxicity Equivalent Quotient (Dioxin)

Quality Control

Relative error ratio

Glossary

ND

PQL

QC

RER

RPD

TEF

TEQ

RL

Case Narrative

Client: MWH Americas Inc Project/Site: Sandoval TestAmerica Job ID: 560-40556-1

SDG: June 2013

Job ID: 560-40556-1

Laboratory: TestAmerica Corpus Christi

Narrative

Receipt

 $The sample was received on 6/12/2013 \ 10:00 \ AM; the sample arrived in good condition, properly preserved and, where required, on ice.$

The temperature of the cooler at receipt was 4.0° C. No analytical or quality issues were noted.

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Detection Summary

Client: MWH Americas Inc Project/Site: Sandoval TestAmerica Job ID: 560-40556-1

SDG: June 2013

Client Sample ID: MW-1 Lab Sample ID: 560-40556-1

Analyte	Result Qualifier	RL	MDL Unit	Dil Fac D	Method	Prep Type
Benzene	0.00027 J	0.0010	0.00014 mg/L		8260B	Total/NA

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Client Sample Results

Client: MWH Americas Inc Project/Site: Sandoval

TestAmerica Job ID: 560-40556-1 SDG: June 2013

Client Sample ID: MW-1 Lab Sample ID: 560-40556-1 Date Collected: 06/09/13 09:00

Matrix: Water

Date Received: 06/12/13 10:00

Method: 8260B - Volatile Organic Compounds (GC/MS)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00027	J	0.0010	0.00014	mg/L			06/16/13 17:22	1
Ethylbenzene	<0.00020		0.0010	0.00020	mg/L			06/16/13 17:22	1
Toluene	<0.00030		0.0010	0.00030	mg/L			06/16/13 17:22	1
Xylenes, Total	<0.00023		0.0030	0.00023	mg/L			06/16/13 17:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		70 - 130					06/16/13 17:22	1
4-Bromofluorobenzene (Surr)	95		70 - 130					06/16/13 17:22	1
Dibromofluoromethane (Surr)	105		70 - 130					06/16/13 17:22	1
1,2-Dichloroethane-d4 (Surr)	103		70 - 130					06/16/13 17:22	1

QC Sample Results

Client: MWH Americas Inc Project/Site: Sandoval

TestAmerica Job ID: 560-40556-1

SDG: June 2013

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

Lab Sample ID: MB 560-89164/8

Matrix: Water

Analysis Batch: 89164

Client Sample ID:	Method Blank
Prep '	Type: Total/NA

-	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00014		0.0010	0.00014	mg/L			06/16/13 09:48	1
Ethylbenzene	<0.00020		0.0010	0.00020	mg/L			06/16/13 09:48	1
Toluene	<0.00030		0.0010	0.00030	mg/L			06/16/13 09:48	1
Xylenes, Total	<0.00023		0.0030	0.00023	mg/L			06/16/13 09:48	1

MB MB Limits Surrogate %Recovery Qualifier Prepared Analyzed Dil Fac 70 - 130 Toluene-d8 (Surr) 103 06/16/13 09:48 95 70 - 130 06/16/13 09:48 4-Bromofluorobenzene (Surr) Dibromofluoromethane (Surr) 103 70 - 130 06/16/13 09:48 1,2-Dichloroethane-d4 (Surr) 101 70 - 130 06/16/13 09:48

Lab Sample ID: LCS 560-89164/3

Matrix: Water

Analysis Batch: 89164

Client Sample ID: Lab Control Sample Prep Type: Total/NA

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit %Rec Limits Benzene 0.0250 0.0281 112 70 - 130 mg/L Ethylbenzene 0.0250 0.0246 mg/L 98 70 - 130 Toluene 0.0250 0.0277 111 70 - 130 mg/L Xylenes, Total 0.0750 0.0741 mg/L 99 70 - 130

LCS LCS Surrogate %Recovery Qualifier Limits Toluene-d8 (Surr) 104 70 - 130 4-Bromofluorobenzene (Surr) 107 70 - 130 Dibromofluoromethane (Surr) 105 70 - 130 1,2-Dichloroethane-d4 (Surr) 97 70 - 130

TestAmerica Corpus Christi

Lab Chronicle

Client: MWH Americas Inc Project/Site: Sandoval

TestAmerica Job ID: 560-40556-1

SDG: June 2013

Client Sample ID: MW-1

Lab Sample ID: 560-40556-1

Matrix: Water

Date Collected: 06/09/13 09:00 Date Received: 06/12/13 10:00

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	89164	06/16/13 17:22	RT	TAL CC

Laboratory References:

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

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Certification Summary

Client: MWH Americas Inc
Project/Site: Sandoval

TestAmerica Job ID: 560-40556-1
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

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Method Summary

Client: MWH Americas Inc Project/Site: Sandoval

TestAmerica Job ID: 560-40556-1

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: Sandoval TestAmerica Job ID: 560-40556-1

SDG: June 2013

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-40556-1	MW-1	Water	06/09/13 09:00	06/12/13 10:00

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		TestAmerica 1733 N. Padre Island Drive Corpus Christi, TX 78408			TAL-8222-560 (0412)	0 (0412)
		Phone: 361.289.2673/Fax: 361.28	39.2471			

A STATE OF THE STATE OF THE STATE OF THE PROPERTY OF THE STATE OF THE

Client: MWH Americas Inc

Job Number: 560-40556-1

SDG Number: June 2013

Login Number: 40556 List Source: TestAmerica Corpus Christi

List Number: 1

Creator: McDermott, Vivian

Oreator. McDermott, vivian	
Question	Answer Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td>	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

TestAmerica Corpus Christi



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: 560-42551-1

TestAmerica Sample Delivery Group: September 2013 Client Project/Site: Sandoval 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 11:49:22 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: Sandoval Groundwater Analysis

TestAmerica Job ID: 560-42551-1

SDG: September 2013

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
-----------	-----------------------

Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

MDL

ML

NC

ND **PQL**

QC RER

RL

RPD

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

Reporting Limit or Requested Limit (Radiochemistry) Relative Percent Difference, a measure of the relative difference between two points

TEF Toxicity Equivalent Factor (Dioxin) TEQ Toxicity Equivalent Quotient (Dioxin)

Method Detection Limit

Minimum Level (Dioxin)

Practical Quantitation Limit

Not detected at the reporting limit (or MDL or EDL if shown)

Not Calculated

Quality Control

Relative error ratio

Case Narrative

Client: MWH Americas Inc

Project/Site: Sandoval Groundwater Analysis

TestAmerica Job ID: 560-42551-1

SDG: September 2013

Job ID: 560-42551-1

Laboratory: TestAmerica Corpus Christi

Narrative

Job Narrative 560-42551-1

Comments

No additional comments.

Receipt

The sample was received on 9/14/2013 10:05 AM; the sample arrived in good condition, properly preserved and, where required, on ice.

The temperature of the cooler at receipt was 2.0° C.

GC/MS VOA

No analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.

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Detection Summary

Client: MWH Americas Inc

Project/Site: Sandoval Groundwater Analysis

TestAmerica Job ID: 560-42551-1

SDG: September 2013

Client Sample ID: MW-1 Lab Sample ID: 560-42551-1

Analyte	Result Qualifier	RL	MDL Unit	Dil Fac D	Method	Prep Type
Benzene	0.00036 J	0.0010	0.00014 mg/L		8260B	Total/NA

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Client Sample Results

Client: MWH Americas Inc

Project/Site: Sandoval Groundwater Analysis

TestAmerica Job ID: 560-42551-1

SDG: September 2013

Lab Sample ID: 560-42551-1

Matrix: Water

Date Collected: 09/09/13 15:00 Date Received: 09/14/13 10:05

Client Sample ID: MW-1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00036	J	0.0010	0.00014	mg/L			09/18/13 20:28	1
Ethylbenzene	<0.00020		0.0010	0.00020	mg/L			09/18/13 20:28	1
Toluene	<0.00030		0.0010	0.00030	mg/L			09/18/13 20:28	1
Xylenes, Total	<0.00023		0.0030	0.00023	mg/L			09/18/13 20:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	94		70 - 130			-		09/18/13 20:28	1
4-Bromofluorobenzene (Surr)	91		70 - 130					09/18/13 20:28	1
Dibromofluoromethane (Surr)	94		70 - 130					09/18/13 20:28	1
1.2-Dichloroethane-d4 (Surr)	104		70 - 140					09/18/13 20:28	

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QC Sample Results

Client: MWH Americas Inc

Project/Site: Sandoval Groundwater Analysis

TestAmerica Job ID: 560-42551-1

SDG: September 2013

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

< 0.00023

Lab Sample ID: MB 560-92892/8

Matrix: Water

Analyte

Benzene

Toluene

Ethylbenzene

Xylenes, Total

Analysis Batch: 92892

Client Sample ID: Method Blank

09/18/13 18:46

Prep Type: Total/NA

MB MB MDL Unit Result Qualifier RLD Prepared Dil Fac Analyzed <0.00014 0.0010 0.00014 mg/L 09/18/13 18:46 <0.00020 0.0010 0.00020 mg/L 09/18/13 18:46 < 0.00030 0.0010 0.00030 mg/L 09/18/13 18:46

0.00023 mg/L

LCS LCS

0.0235

0.0248

0.0221

0.0747

Result Qualifier

mg/L

mg/L

MB MB Surrogate Qualifier Limits Prepared Dil Fac %Recovery Analyzed Toluene-d8 (Surr) 93 70 - 130 09/18/13 18:46 87 70 - 130 4-Bromofluorobenzene (Surr) 09/18/13 18:46 Dibromofluoromethane (Surr) 70 - 130 09/18/13 18:46 94 70 - 140 09/18/13 18:46 1,2-Dichloroethane-d4 (Surr) 104

Spike

Added

0.0250

0.0250

0.0250

0.0750

0.0030

Lab Sample ID: LCS 560-92892/3

Matrix: Water

Analyte

Benzene

Toluene

Ethylbenzene

Xylenes, Total

Analysis Batch: 92892

Client Sample ID: Lab Control Sample Prep Type: Total/NA

%Rec. Unit %Rec Limits 94 70 - 130 mg/L mg/L 99 70 - 130

89

100

LCS LCS Surrogate Qualifier Limits %Recovery Toluene-d8 (Surr) 96 70 - 130 4-Bromofluorobenzene (Surr) 99 70 - 130 Dibromofluoromethane (Surr) 97 70 - 130 1,2-Dichloroethane-d4 (Surr) 70 - 140 100

70 - 130

70 - 130

TestAmerica Corpus Christi

Certification Summary

Client: MWH Americas Inc

Project/Site: Sandoval Groundwater Analysis

TestAmerica Job ID: 560-42551-1

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

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Method Summary

Client: MWH Americas Inc

Project/Site: Sandoval Groundwater Analysis

TestAmerica Job ID: 560-42551-1

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

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Sample Summary

Client: MWH Americas Inc

Project/Site: Sandoval Groundwater Analysis

TestAmerica Job ID: 560-42551-1

SDG: September 2013

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-42551-1	MW-1	Water	09/09/13 15:00	09/14/13 10:05

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Loc: 560 **42551 TestAmerica** 0 - ASNAO2 P - Na2O4S Q - Na2SSO3 R - H2SSC4 T - TSP Dodecatydrate Special Instructions/Note: CO Madio Z - other (specify) Company Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Disposal By Lab Archive For Month #136 # 14 B 31/4 | 1 | 111, Preservation Codes COC No: 560-10718-1157 ō, Page: Page Job#: Archive For Total Number of containers Method of Shipment: 560-42551 Chain of Custody 110 **Analysis Requested** cooler Temperature(s) "C and Other Remarks." Speçial Instructions/QC Requirements: Lab PM: 560-42 Kellogg, Timothy L. E-Mail: tim.kellogg@testamericainc.com Received by: Received by: Chain of Custo X318 - 809Z Perform MS/MSD (Yes or No) Ime: Field Filtered Sample (Yes or No) Sample Matrix
Type (wwwter, sealed, C=comp, o=wasterled, G=grab) InT=Tissue, A=Air)
Preservation Code: Matrix Water Company Company 303-912-2629 Radiological O Po# Purchase Order not required Sample Time 1800 Standaro Sampler: DES (AT Requested (days): Unknown Due Date Requested: WO#: TWO # C-STLI-Sample Date 9/4/13 Project #: 56000058 Date/Time: Poison B Skin Irritant Possible Hazard Identification

Non-Hazard Flammable Kin Inti
Deliverable Requested: I, III, IV, Other (specify) Custody Seal No. Corpus Christi, TX 78408 Phone (361) 289-2673 Fax (361) 289-2471 **TestAmerica Corpus Christi** Daniel.A. Wade@us.mwhglobal.com 1801 California Street Suite 2900 San Juan River Basin Pit Sites 1733 N. Padre Island Drive Custody Seals Intact: Sandoval Inpty Kit Refinquished by Client Information Sample Identification MWH Americas Inc 13-420-3414(Tel) Mr. Daniel Wade MW-1 elinquished by: State, Zip: CO, 80202 Denver

Page 10 of 11

Client: MWH Americas Inc

Login Number: 42551

List Number: 1 Creator: Wing, Randi

Job Number: 560-42551-1 SDG Number: September 2013

List Source: TestAmerica Corpus Christi

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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	



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: 560-44344-1

TestAmerica Sample Delivery Group: December 2013 Client Project/Site: Sandoval 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 6:43:04 PM

Timothy C. Kllogg

Timothy Kellogg, Lab Director (361)289-2673

tim.kellogg@testamericainc.com

.....LINKS

Review your project results through
Total Access

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

TestAmerica Job ID: 560-44344-1 Project/Site: Sandoval Groundwater Analysis

SDG: December 2013

Qualifiers

GC VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

PQL

QC

RER

RPD

TEF

TEQ

RL

Practical Quantitation Limit

Toxicity Equivalent Factor (Dioxin)

Toxicity Equivalent Quotient (Dioxin)

Reporting Limit or Requested Limit (Radiochemistry)

Relative Percent Difference, a measure of the relative difference between two points

Quality Control

Relative error ratio

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)

Case Narrative

Client: MWH Americas Inc

Project/Site: Sandoval Groundwater Analysis

TestAmerica Job ID: 560-44344-1

SDG: December 2013

Job ID: 560-44344-1

Laboratory: TestAmerica Corpus Christi

Narrative

Receipt

The sample was received on 12/17/2013 10:40 AM; the sample 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: Sandoval Groundwater Analysis

TestAmerica Job ID: 560-44344-1

SDG: December 2013

Client Sample ID: MW-1 Lab Sample ID: 560-44344-1

Analyte	Result Qualifier	RL	MDL Unit	Dil Fac D	Method	Prep Type
Benzene	0.00031 J	0.0020	0.00020 mg/L		8021B	Total/NA

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Client Sample Results

Client: MWH Americas Inc

TestAmerica Job ID: 560-44344-1 Project/Site: Sandoval Groundwater Analysis

SDG: December 2013

Client Sample ID: MW-1

Lab Sample ID: 560-44344-1 Date Collected: 12/12/13 13:30

Matrix: Water

Date Received: 12/17/13 10:40

Method: 8021B - Volatile Orga	nic Compounds	(GC)							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00031	J	0.0020	0.00020	mg/L			12/21/13 23:02	1
Toluene	<0.00038		0.0020	0.00038	mg/L			12/21/13 23:02	1
Ethylbenzene	<0.00020		0.0020	0.00020	mg/L			12/21/13 23:02	1
Xylenes, Total	<0.00065		0.0020	0.00065	mg/L			12/21/13 23:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		58 - 129			-		12/21/13 23:02	1
Trifluorotoluene (Surr)	90		54 - 130					12/21/13 23:02	1

QC Sample Results

Client: MWH Americas Inc

Project/Site: Sandoval Groundwater Analysis

TestAmerica Job ID: 560-44344-1

SDG: December 2013

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 560-96483/5

Lab Sample ID: LCS 560-96483/4

Matrix: Water

Matrix: Water

Analysis Batch: 96483

Analysis Batch: 96483

Client San	nple ID: N	lethod Blank
	Prep Tv	pe: Total/NA

	IVID	IVID							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00020		0.0020	0.00020	mg/L			12/21/13 21:49	1
Toluene	<0.00038		0.0020	0.00038	mg/L			12/21/13 21:49	1
Ethylbenzene	<0.00020		0.0020	0.00020	mg/L			12/21/13 21:49	1
Xylenes, Total	<0.00065		0.0020	0.00065	mg/L			12/21/13 21:49	1

MB MB Limits Dil Fac Surrogate %Recovery Qualifier Prepared Analyzed 4-Bromofluorobenzene (Surr) 58 - 129 12/21/13 21:49 88 Trifluorotoluene (Surr) 86 54 - 130 12/21/13 21:49

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.0400	0.0355		mg/L		89	70 - 130	
Toluene	0.0400	0.0358		mg/L		90	70 - 130	
Ethylbenzene	0.0400	0.0361		mg/L		90	70 - 130	
Xylenes, Total	0.120	0.106		mg/L		88	70 _ 130	

	LCS	LUS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	91		58 - 129
Trifluorotoluene (Surr)	87		54 - 130

Lab Chronicle

Client: MWH Americas Inc

Project/Site: Sandoval Groundwater Analysis

TestAmerica Job ID: 560-44344-1

SDG: December 2013

Client Sample ID: MW-1 Lab Sample ID: 560-44344-1 Date Collected: 12/12/13 13:30

Matrix: Water

Date Received: 12/17/13 10:40

Batch Batch Dilution Batch Prepared

Prep Type Method Run Factor Number or Analyzed Type Analyst Lab Total/NA Analysis 8021B 96483 12/21/13 23:02 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

TestAmerica Job ID: 560-44344-1 Project/Site: Sandoval Groundwater Analysis

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: Sandoval Groundwater Analysis

TestAmerica Job ID: 560-44344-1

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

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Sample Summary

Client: MWH Americas Inc

Project/Site: Sandoval Groundwater Analysis

TestAmerica Job ID: 560-44344-1

SDG: December 2013

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-44344-1	MW-1	Water	12/12/13 13:30	12/17/13 10:40

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Chain of Custody Record

TestAmerica Corpus Christi

1733 N. Padre Island Drive

THE LEADER WETTWHENKE THE TESTING

TestAmerica

44344 Special Instructions/Note: -oc: 260 Company Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Disposal By Lab Archive For Montt 560-11604-1157.1 G - Amchlor H - Ascorbic Acid C - Zn Acet. D - Nitric Acid E - NaHSO4 I - Ice J - DI Water K - EDTA L - EDA Page: Page 1 of Archive For ate/Time: 17-13 Total Number of containers 560-44344 Chain of Custody Date/Time: Aethod of Shipmen Carrier Tracking No(s) Analysis Requested Cooler Temperature(s) °C and Other Remarks Special Instructions/QC Requirements: E-Mail: tim.kellogg@testamericainc.com Received by: Lab PM: Kellogg, Timothy L. 3260B - BTEX (ON TO SeY) GRIMSIM mooting Field Filtered Sample (Yes or No) Type (W=water, S=solid, C=Comp, O=wastefoll, G=grab) BT=Tissue, A=AIr) (W=water, S=solid, O=waste/oil, Matrix Preservation Code: Water Company Company 2772 Sample 2060 Radiological J oo#. Purchase Order not required Sample Time 533 29) STANDAY! Date; W FAT Requested (days): Unknown Due Date Requested: 12/12/13 303 WO#: TWO # C-STLI-Sample Date Project #: 56000058 SSOW#: Date/Time: hone: Poison B Email: Christotoher.c.) ee Cinchyolort.com Skin Irritant Rossible Hazard Identification

Non-Hazard Flammable Skin Irri
Deliverable Requested: I, II, III, IV, Other (specify Olent Corlact: Mr. Banjel Wade Christop McC Custody Seal No. Corpus Christi, TX 78408 Phone (861) 289-2673 Fax (361) 289-2471 Address: 1801 California Street Suite 2900 San Juan River Basin Pit Sites Empty Kit Relinquished by: SANDONA Client Information Sample Identification Company: MWH Americas Inc 713-420-3414(Tel) Refinduished by: State, Zip CO, 80202 City: Denver \leq

Page 11 of 12

Job Number: 560-44344-1

SDG Number: December 2013

Login Number: 44344 List Source: TestAmerica Corpus Christi

List Number: 1

Creator: Rood, Vivian R

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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	