3R - 239

2013 AGWMR

04 / 03 / 2014

MWH

BUILDING A BETTER WORLD

March 4, 2014

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)

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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

State Gas Com N#1
Meter Code: 71669
T31N, R12W, Sec16, Unit H

SITE DETAILS

Site Location: Latitude: 36.901094 N, Longitude: -108.096457 W.
Land Type: State
Operator: XTO Energy

SITE BACKGROUND

- **Site Assessment:** 3/94
- **Excavation:** 5/94 (80 cy)

State Gas Com N#1, (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 XTO Energy and is active.

The Site is located on State/Fee land. Various Site investigations have occurred from 1994 through 2006. Monitoring wells were installed in 1995 (MW-1 through MW-4), 2000 (MW-5), and 2006 (MW-7 though MW-9). Free product recovery has been periodically conducted at the Site since 1997. Currently, groundwater sampling is conducted on a semi-annual basis and free product was 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 7, September 12, and December 13, 2013, water levels were gauged at MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, and MW-9. On June 7, Groundwater samples were collected from all seven monitoring wells using a HydraSleeve™ (HydraSleeve); a disposable, no-purge passive groundwater sampling device. Groundwater samples were collected at monitoring wells MW-1, MW-2, MW-3, MW-4, MW-6, and MW-9 in September and December. 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). Additional field parameters were collected including dissolved oxygen, temperature, conductivity, pH, and ORP using a YSI multi-parameter instrument, if free product was not present. 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

State Gas Com N#1
Meter Code: 71669
T31N, R12W, Sec16, Unit H

SUMMARY TABLES

Historic analytical and water level data are summarized in Table 1. When free product was present, static water level elevations were corrected for measurable thicknesses of free-product (specific gravity of 0.75).

SITE MAPS

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

ANALYTICAL LAB REPORTS

The groundwater analytical lab reports are included as Appendix A.

RESULTS

- The groundwater flow direction is generally to the south-southeast at the Site Figures 2, 4, and 6.

- Concentrations of benzene, toluene, and total xylenes in groundwater collected from MW-1 remained above the New Mexico Water Quality Control Commission (NMWQCC) standards during each of the three 2013 quarterly sampling events. Concentrations of ethylbenzene were below the NMWQCC standard during all 2013 sampling events.

- Concentrations of benzene, toluene, and total xylenes in groundwater collected from MW-2 remained above the NMWQCC standards during each of the three 2013 quarterly sampling events. Concentrations of ethylbenzene were below the NMWQCC standard during all 2013 sampling events.

- Concentrations of benzene, and total xylenes in groundwater collected from MW-3 remained above the NMWQCC standards during each of the three 2013 quarterly sampling events. Concentrations of toluene were below the quantitation limit (J-flagged values) during each of the three 2013 quarterly sampling events. Ethylbenzene concentrations were below their NMWQCC standards during all 2013 sampling events.

- Concentrations of benzene, toluene, and total xylenes in groundwater collected from MW-4 remained above the New Mexico Water Quality Control Commission (NMWQCC) standards during each of the three 2013 quarterly sampling events. Concentrations of ethylbenzene were below the NMWQCC standard during all 2013 sampling events.

- Concentrations of benzene, ethylbenzene, and total xylenes in groundwater collected from MW-5 remained above the NMWQCC standards during the June sampling event. Ethylbenzene was not detected in the collected groundwater

during the June sampling event. Approximately 0.18 feet of free product was measured during the September sampling event, and approximately 0.22 feet of free product was measured during the December sampling event.

- Concentrations of benzene, toluene, and total xylenes in groundwater collected from MW-6 remained above the NMWQCC standards during each of the three 2013 quarterly sampling events. Concentrations of ethylbenzene were below the NMWQCC standard during all 2013 sampling events.

- BTEX constituents were not detected in the groundwater collected from MW-9 during 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 the dissolved phase plume and to define the groundwater gradient at the Site. The existing monitoring wells (MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, and MW-9) and the newly installed monitoring wells will be sampled on a semi-annual basis. Monitoring wells MW-7, and MW-8 will be plugged and abandoned in accordance with NMED, Ground Water Quality Bureau, Monitoring Well Construction and Abandonment Guidelines, dated March 2011.

TABLES

TABLE 1 – GROUNDWATER ANALYTICAL AND WATER LEVEL RESULTS

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

State Gas Com N#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	10/17/95	14200	15600	1090	11000	76.08	-	-
MW-1	12/03/96	17200	15200	673	6670	77.02	76.09	0.93
MW-1	03/07/97	16900	16600	904	8420	77.20	76.12	1.08
MW-1	01/16/01					77.96	77.95	0.01
MW-1	01/24/01					78.28	78.27	0.01
MW-1	01/31/01					78.16	78.15	0.01
MW-1	02/19/01					78.19	78.18	0.01
MW-1	03/05/01					78.34	-	-
MW-1	06/05/01					77.71	-	-
MW-1	06/15/01					77.83	-	-
MW-1	07/13/01					76.52	76.51	0.01
MW-1	07/20/01					76.47	76.46	0.01
MW-1	08/01/01					77.22	-	-
MW-1	08/08/01					76.37	-	-
MW-1	08/16/01					76.35	-	-
MW-1	08/20/01					76.28	-	-
MW-1	09/05/01					76.20	-	-
MW-1	09/19/01					76.14	-	-
MW-1	09/26/01					76.09	-	-
MW-1	10/03/01					76.06	-	-
MW-1	10/11/01					76.04	-	-
MW-1	01/23/02					76.08	76.07	0.01
MW-1	05/17/02					76.17	-	-
MW-1	06/07/02					76.21	-	-
MW-1	09/04/02					76.21	76.20	0.01
MW-1	12/17/02					76.63	-	-
MW-1	06/26/03					75.76	-	-
MW-1	09/14/03					75.79	75.77	0.02
MW-1	12/09/03					75.62	-	-
MW-1	03/15/04					75.22	-	-
MW-1	06/17/04					74.84	-	-
MW-1	09/16/04					74.43	-	-
MW-1	12/20/04					74.21	-	-
MW-1	03/17/05					74.23	-	-
MW-1	06/17/05					74.15	-	-
MW-1	09/15/05	17300	10700	1560	19600	74.09	-	-
MW-1	12/22/05					74.02	-	-
MW-1	03/27/06					74.17	-	-
MW-1	06/19/06					74.34	-	-
MW-1	09/27/06	15100	9990	1150	10700	74.65	-	-
MW-1	12/20/06					74.81	-	-
MW-1	03/28/07					75.07	-	-
MW-1	06/14/07					75.09	-	-
MW-1	09/18/07	13800	10100	2260	21200	74.92	-	-
MW-1	12/17/07					74.79	-	-
MW-1	03/05/08					74.63	-	-
MW-1	06/12/08					74.52	-	-
MW-1	09/08/08	11700	7560	815	7740	74.55	-	-
MW-1	12/03/08					74.62	-	-
MW-1	03/10/09					74.56	-	-
MW-1	06/03/09					74.59	-	-
MW-1	08/26/09	12600	8470	973	8670	74.76	-	-
MW-1	11/05/09					74.66	-	-
MW-1	02/11/10					74.77	-	-
MW-1	05/21/10					75.10	-	-

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

State Gas Com N#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	09/29/10	10300	9470	1320	12500	75.45	75.43	0.02
MW-1	11/02/10					75.82	-	-
MW-1	02/02/11					75.24	-	-
MW-1	05/04/11					74.55	-	-
MW-1	09/29/11	12300	7800	907	7750	73.57	-	-
MW-1	11/11/11					73.46	-	-
MW-1	02/16/12					73.38	-	-
MW-1	05/08/12					73.53	-	-
MW-1	06/07/13	13000	7200	580	6700	74.82	-	-
MW-1	09/12/13	13000	5300	460	6600	75.00	-	-
MW-1	12/13/13	10000	6900	610	6400	74.95	-	-

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State Gas Com N#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	12/07/95	8540	18900	6230	9240	75.50		
MW-2	12/03/96	21700	5000	967	8310	76.66	75.45	1.21
MW-2	03/07/97	22100	5680	992	8360	76.88	75.51	1.37
MW-2	01/16/01					78.26	77.43	0.83
MW-2	01/24/01					79.06	78.72	0.34
MW-2	01/30/01					78.45	78.44	0.01
MW-2	04/02/01					78.36	-	-
MW-2	06/05/01					76.46	-	-
MW-2	06/15/01					76.54	-	-
MW-2	07/13/01					76.56	-	-
MW-2	07/20/01					76.48	-	-
MW-2	08/01/01					76.51	-	-
MW-2	08/08/01					76.50	-	-
MW-2	08/16/01					76.46	-	-
MW-2	08/20/01					76.43	-	-
MW-2	09/05/01					76.38	-	-
MW-2	09/19/01					76.34	-	-
MW-2	09/26/01					76.35	-	-
MW-2	10/03/01					76.31	-	-
MW-2	10/11/01					76.29	-	-
MW-2	01/23/02					76.08	76.07	0.01
MW-2	05/17/02					76.17	-	-
MW-2	06/07/02					76.21	-	-
MW-2	09/04/02					76.21	76.20	0.01
MW-2	12/17/02					76.63	-	-
MW-2	03/20/03					76.32	76.28	0.04
MW-2	06/26/03					76.22	76.19	0.03
MW-2	09/14/03					76.35	76.31	0.04
MW-2	12/09/03					76.22	76.15	0.07
MW-2	03/15/04					76.14	76.07	0.07
MW-2	06/17/04					75.98	75.93	0.05
MW-2	09/16/04					76.66	75.72	0.94
MW-2	12/20/04					75.50	75.46	0.04
MW-2	03/17/05					75.37	-	-
MW-2	06/17/05					75.72	-	-
MW-2	09/15/05	13700	2770	762	8610	75.38	-	-
MW-2	12/22/05					75.41	-	-
MW-2	03/27/06					75.42	-	-
MW-2	06/19/06					75.56	-	-
MW-2	09/27/06	13800	2150	880	8130	75.85	-	-
MW-2	12/20/06					75.92	-	-
MW-2	03/28/07					76.12	-	-
MW-2	06/14/07					76.29	-	-
MW-2	09/18/07	10100	1730	1200	12700	76.24	-	-
MW-2	12/17/07					76.22	-	-
MW-2	03/05/08					76.13	-	-
MW-2	06/12/08					76.12	-	-
MW-2	09/08/08	9120	1610	552	6380	76.10	-	-
MW-2	12/03/08					76.15	-	-
MW-2	03/10/09					76.13	-	-
MW-2	06/03/09					76.35	76.24	-
MW-2	08/26/09					76.43	76.36	-
MW-2	11/05/09					76.58	-	-
MW-2	02/11/10					76.52	-	-
MW-2	05/21/10					76.70	-	-

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

State Gas Com N#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	09/29/10	15600	1570	779	7730	76.88	-	-
MW-2	11/02/10					76.98	-	-
MW-2	02/02/11					76.83	-	-
MW-2	05/04/11					76.69	-	-
MW-2	09/29/11	12900	1270	838	6940	76.18	-	-
MW-2	11/11/11					76.13	-	-
MW-2	02/16/12					75.92	-	-
MW-2	05/08/12					75.98	-	-
MW-2	06/07/13	15000	1600	630	7000	76.88	-	-
MW-2	09/12/13	14000	1500	550	6300	77.07	-	-
MW-2	12/13/13	11000	7200	620	6500	77.08	-	-

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

State Gas Com N#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	12/07/95	18000	3760	1050	7070	75.03	-	-
MW-3	12/03/96	17700	7310	983	7200	76.10	75.26	0.84
MW-3	03/07/97	17700	7780	1020	7550	75.42	75.19	0.23
MW-3	10/03/00					77.12	76.97	0.15
MW-3	12/20/00					77.00	-	-
MW-3	01/10/01					76.90	-	-
MW-3	02/19/01					77.08	77.06	0.02
MW-3	03/05/01					77.20	77.17	0.03
MW-3	04/02/01					77.11	77.09	0.02
MW-3	06/05/01					77.11	-	-
MW-3	06/15/01					76.50	76.44	0.06
MW-3	07/13/01					77.17	77.14	0.03
MW-3	07/20/01					77.14	77.13	0.01
MW-3	08/01/01					76.47	76.38	0.09
MW-3	08/08/01					77.15	-	-
MW-3	08/16/01					77.15	-	-
MW-3	08/20/01					77.13	-	-
MW-3	09/05/01					77.08	-	-
MW-3	09/19/01					77.11	-	-
MW-3	09/26/01					77.10	-	-
MW-3	10/03/01					77.08	-	-
MW-3	10/11/01					77.09	-	-
MW-3	11/21/01					77.18	77.15	0.03
MW-3	12/13/01					77.12	77.10	0.02
MW-3	12/21/01					76.88	-	-
MW-3	12/28/01					75.99	75.97	0.02
MW-3	01/04/02					77.03		
MW-3	01/07/02					77.15	77.14	0.01
MW-3	01/23/02					76.94	76.93	0.01
MW-3	01/31/02					77.01	77.00	0.01
MW-3	02/07/02					77.17	77.16	0.01
MW-3	02/14/02					77.03	77.02	0.01
MW-3	02/20/02					77.12	77.11	0.01
MW-3	03/06/02					76.97	-	-
MW-3	03/11/02					76.94	-	-
MW-3	03/21/02					77.15	-	-
MW-3	03/28/02					77.04	-	-
MW-3	04/03/02					75.99	75.95	0.04
MW-3	04/12/02					77.15	-	-
MW-3	04/19/02					77.09	-	-
MW-3	04/25/02					77.08	-	-
MW-3	05/03/02					77.18	-	-
MW-3	05/10/02					77.12	-	-
MW-3	05/17/02					77.10	-	-
MW-3	06/07/02					76.07	76.03	0.04
MW-3	09/04/02					76.33	-	-
MW-3	12/17/02					75.85	75.81	0.04
MW-3	03/20/03					76.32	76.28	0.04
MW-3	06/26/03					76.22	76.19	0.03
MW-3	09/14/03					76.36	76.31	0.05
MW-3	12/09/03					76.22	76.15	0.07
MW-3	03/15/04					76.13	76.07	0.06
MW-3	06/17/04					76.02	75.98	0.04
MW-3	09/16/04					75.75	75.72	0.03
MW-3	12/20/04					75.50	75.46	0.04

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

State Gas Com N#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	03/17/05					75.43	75.39	0.04
MW-3	06/17/05					75.43	-	-
MW-3	09/15/05					75.49	-	-
MW-3	12/22/05					75.51	-	-
MW-3	03/27/06					75.54	-	-
MW-3	06/19/06					75.63	-	-
MW-3	09/27/06					75.88	-	-
MW-3	12/20/06					75.77	-	-
MW-3	03/28/07					75.92	-	-
MW-3	06/14/07					76.29	-	-
MW-3	09/18/07					76.21	-	-
MW-3	12/17/07					75.20	-	-
MW-3	03/05/08					76.10	-	-
MW-3	06/12/08					76.22	-	-
MW-3	09/08/08	70.3	1.5	3.3	19.1	76.14	-	-
MW-3	12/03/08					76.23	-	-
MW-3	03/10/09					76.20	-	-
MW-3	06/03/09					76.43	-	-
MW-3	08/26/09	20100	434	936	4690	76.38	-	-
MW-3	11/05/09					76.53	-	-
MW-3	02/11/10					76.41	-	-
MW-3	05/21/10					76.60	-	-
MW-3	09/29/10	23600	219 J	771	3480	76.80	-	-
MW-3	11/02/10					76.97	-	-
MW-3	02/02/11					76.85	-	-
MW-3	05/04/11					76.81	-	-
MW-3	09/29/11	18500	163	906	4520	76.41	76.39	0.02
MW-3	11/11/11					76.49	-	-
MW-3	02/16/12					76.33	-	-
MW-3	05/08/12					76.35	-	-
MW-3	06/07/13	24000	J100	540	2700	76.91	-	-
MW-3	09/12/13	22000	97 J	590	2700	77.10	-	-
MW-3	12/13/13	19000	85 J	620	2900	77.09	-	-

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State Gas Com N#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-4	12/07/95	20300	19600	1040	8880	75.81	-	-
MW-4	12/03/96	23600	19600	1000	8600	75.80	75.48	0.32
MW-4	03/07/97	24800	20100	1040	9080	75.92	-	-
MW-4	06/05/01					76.48	-	-
MW-4	07/13/01					76.59	-	-
MW-4	08/16/01					76.48	-	-
MW-4	09/10/01	17000	14000	610	6700	76.45	-	-
MW-4	12/04/01					77.29	-	-
MW-4	01/07/02					76.31	76.30	0.01
MW-4	01/23/02					75.96	75.95	0.01
MW-4	01/31/02					76.02	76.01	0.01
MW-4	02/07/02					76.22	76.21	0.01
MW-4	02/14/02					76.06	76.05	0.01
MW-4	02/20/02					76.10	76.09	0.01
MW-4	05/17/02					76.11	-	-
MW-4	09/04/02	17800	13900	750	10870	76.28	-	-
MW-4	12/17/02					76.04	-	-
MW-4	06/26/03					76.24	-	-
MW-4	09/14/03	24000	30800	4670	73200	76.28	-	-
MW-4	12/09/03					76.07	-	-
MW-4	03/15/04					76.05	-	-
MW-4	06/17/04					75.86	-	-
MW-4	09/16/04	26300	18500	1870	15200	75.54	-	-
MW-4	12/20/04					75.40	-	-
MW-4	03/17/05					75.27	-	-
MW-4	06/17/05					75.32	-	-
MW-4	09/15/05	18600	16900	1120	12800	75.26	-	-
MW-4	12/22/05					75.34	-	-
MW-4	03/27/06					75.31	-	-
MW-4	06/19/06					75.46	-	-
MW-4	09/27/06	19800	14200	978	12500	75.80	-	-
MW-4	12/20/06					75.70	-	-
MW-4	03/28/07					75.89	-	-
MW-4	06/14/07					76.22	-	-
MW-4	09/18/07	21100	15400	1560	17000	76.27	-	-
MW-4	12/17/07					76.13	-	-
MW-4	03/05/08					75.99	-	-
MW-4	06/12/08					76.03	-	-
MW-4	09/08/08	17000	12700	598	11700	75.99	-	-
MW-4	12/03/08					76.08	76.04	0.04
MW-4	03/10/09					76.23	-	-
MW-4	06/03/09					76.30	-	-
MW-4	08/26/09	17000	14400	934	11000	76.62	-	-
MW-4	11/05/09					76.47	-	-
MW-4	02/11/10					76.32	-	-
MW-4	05/21/10					76.58	-	-
MW-4	09/29/10	19400	13100	789	9500	76.85	-	-
MW-4	11/02/10					77.07	-	-
MW-4	02/02/11					76.80	-	-
MW-4	05/04/11					76.78	-	-
MW-4	09/29/11	18700	12500	1020	11400	76.27	-	-
MW-4	11/11/11					76.25	-	-
MW-4	02/16/12					76.97	-	-
MW-4	05/08/12					76.03	-	-
MW-4	06/07/13	21000	13000	290	8400	76.87	-	-

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

State Gas Com N#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-4	09/12/13	18000	11000	450	7300	77.08	-	-
MW-4	12/13/13	17000	11000	620	8100	77.11	-	-

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

State Gas Com N#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-5	08/30/00	27000	570	930	8600	74.19	-	-
MW-5	06/05/01					74.26	-	-
MW-5	07/13/01					74.34	-	-
MW-5	08/16/01					74.29	-	-
MW-5	09/10/01	16000	100	720	4600	74.30	-	-
MW-5	05/17/02					74.15	-	-
MW-5	09/04/02	21100	190	1310	5560	74.24	-	-
MW-5	12/17/02					73.78	-	-
MW-5	06/26/03					74.27	-	-
MW-5	09/14/03	23100	157	2480	11300	74.42	-	-
MW-5	12/09/03					74.25	-	-
MW-5	03/15/04					74.23	-	-
MW-5	06/17/04					74.21	-	-
MW-5	09/16/04	29400	<25	1320	1690	74.00	-	-
MW-5	12/20/04					73.83	-	-
MW-5	03/17/05					73.76	-	-
MW-5	06/17/05					73.81	-	-
MW-5	09/15/05	22800	14	1160	1620	73.80	-	-
MW-5	12/22/05					73.93	-	-
MW-5	03/27/06					73.94	-	-
MW-5	06/19/06					73.98	-	-
MW-5	09/27/06	26000	<100	1440	1800	74.20	-	-
MW-5	12/20/06					74.00	-	-
MW-5	03/28/07					74.17	-	-
MW-5	06/14/07					74.39	-	-
MW-5	09/18/07	26300	<100	914	1590	74.46	-	-
MW-5	12/17/07					74.41	-	-
MW-5	03/05/08					74.36	-	-
MW-5	06/12/08					74.53	-	-
MW-5	09/08/08	21600	<100	522	1580	74.47	-	-
MW-5	12/03/08					74.54	-	-
MW-5	03/10/09					74.53	-	-
MW-5	06/03/09					74.67	74.65	0.02
MW-5	08/26/09	19800	63.2 J	1280	2470	76.44	-	-
MW-5	11/05/09					74.83	-	-
MW-5	02/11/10					74.66	74.64	0.02
MW-5	05/21/10					75.00	74.95	0.05
MW-5	09/29/10	24600	<200	1330	4390	75.20	74.84	0.36
MW-5	11/02/10					76.67	76.32	0.35
MW-5	02/02/11					75.53	75.16	0.37
MW-5	05/04/11					77.53	77.50	0.03
MW-5	09/29/11	20600	8.9 J	1000	3370	75.09	74.69	0.40
MW-5	11/11/11					75.18	74.90	0.28
MW-5	02/16/12					74.99	74.82	0.17
MW-5	05/08/12					74.77	-	-
MW-5	06/07/13	16000	<60	1000	5400	75.25	75.16	0.09
MW-5	09/12/13					75.52	75.34	0.18
MW-5	12/13/13					75.52	75.30	0.22

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

State Gas Com N#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-6	12/20/01	5000	11000	420	4600	-	-	-
MW-6	12/28/01					-	-	-
MW-6	03/06/02					72.09	70.64	1.45
MW-6	03/11/02					71.95	71.38	0.57
MW-6	03/21/02					71.44	71.17	0.27
MW-6	04/03/02					71.06	71.04	0.02
MW-6	05/17/02					71.04	70.97	0.07
MW-6	09/04/02					71.28	71.05	0.23
MW-6	12/17/02					71.06	71.03	0.03
MW-6	03/20/03					71.43	70.90	0.53
MW-6	06/26/03					71.66	71.04	0.62
MW-6	09/14/03					72.25	71.04	1.21
MW-6	12/09/03					71.75	71.10	0.65
MW-6	03/15/04					71.74	71.11	0.63
MW-6	06/17/04					71.68	71.11	0.57
MW-6	09/16/04					71.79	71.05	0.74
MW-6	12/20/04					72.09	71.05	1.04
MW-6	03/17/05					71.79	70.96	0.83
MW-6	06/17/05					72.05	71.05	1.00
MW-6	09/15/05					72.14	71.04	1.10
MW-6	12/22/05					72.22	71.30	0.92
MW-6	03/27/06					72.10	71.02	1.08
MW-6	06/19/06					72.33	71.34	0.99
MW-6	07/21/06					72.44	71.54	0.90
MW-6	08/24/06					72.42	71.54	0.88
MW-6	09/27/06					72.37	71.57	0.80
MW-6	10/22/06					72.35	71.53	0.82
MW-6	11/07/06					72.43	71.66	0.77
MW-6	12/20/06					72.41	71.60	0.81
MW-6	01/16/07					72.45	71.62	0.83
MW-6	02/26/07					72.41	71.65	0.76
MW-6	03/26/07					72.50	71.76	0.74
MW-6	03/28/07					72.39	-	-
MW-6	04/30/07					72.49	71.77	0.72
MW-6	05/24/07					72.50	71.91	0.59
MW-6	06/14/07					72.42	71.83	0.59
MW-6	07/31/07					72.49	71.83	0.66
MW-6	08/29/07					72.47	71.82	0.65
MW-6	09/18/07					72.43	71.82	0.61
MW-6	10/31/07					72.40	72.12	0.28
MW-6	11/30/07					72.27	72.02	0.25
MW-6	12/17/07					72.18	72.11	0.07
MW-6	01/23/08					72.13	71.96	0.17
MW-6	03/05/08					71.95	71.94	0.01
MW-6	04/15/08					72.09	-	-
MW-6	05/08/08					71.94	-	-
MW-6	06/12/08					72.02	-	-
MW-6	07/17/08					72.07	-	-
MW-6	08/12/08					72.02	-	-
MW-6	09/08/08					71.92	71.91	0.01
MW-6	10/09/08					71.97	-	-
MW-6	11/07/08					71.98	-	-
MW-6	12/03/08					72.00	-	-
MW-6	01/16/09					72.15	-	-
MW-6	02/06/09					72.09	-	-

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

State Gas Com N#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-6	03/10/09					71.92	-	-
MW-6	04/01/09					71.84	-	-
MW-6	05/01/09					72.00	-	-
MW-6	06/03/09					72.06	-	-
MW-6	08/26/09					73.02	-	-
MW-6	11/05/09					72.18	-	-
MW-6	02/11/10					72.13	-	-
MW-6	05/21/10					72.20	-	-
MW-6	09/29/10	6950	14700	978	8990	72.15	-	-
MW-6	11/02/10					73.07	-	-
MW-6	02/02/11					72.25	-	-
MW-6	05/04/11					72.32	-	-
MW-6	09/29/11	5590	10200	991	8670	72.30	-	-
MW-6	11/11/11					72.78	-	-
MW-6	02/16/12					72.29	-	-
MW-6	05/08/12					72.37	-	-
MW-6	06/07/13	3400	4700	370	4900	72.51	-	-
MW-6	09/12/13	4500	7700	640	6300	72.40	-	-
MW-6	12/13/13	3600	5600	610	6000	72.63	-	-

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

State Gas Com N#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-7	12/20/06					74.38	-	-
MW-7	03/28/07					74.51	-	-
MW-7	06/14/07					74.47	-	-
MW-7	09/18/07					74.22	-	-
MW-7	12/17/07					74.12	-	-
MW-7	03/05/08					73.90	-	-
MW-7	04/15/08	<2	<2	<2	<6	72.82	-	-
MW-7	06/12/08					73.77	-	-
MW-7	09/08/08					73.76	73.75	0.01
MW-7	12/03/08					73.92	-	-
MW-7	03/10/09					73.83	-	-
MW-7	06/03/09					73.85	-	-
MW-7	08/25/09						-	-
MW-7	08/26/09	11200	4930	916	5760	73.63	-	-
MW-7	11/05/09					73.92	-	-
MW-7	02/11/10					73.91	-	-
MW-7	05/21/10					74.28	-	-
MW-7	09/29/10	13900	8690	982	7130	74.57	-	-
MW-7	11/02/10					74.76	-	-
MW-7	02/02/11					73.95	-	-
MW-7	05/04/11					73.00	-	-
MW-7	09/29/11	9280	3550	725	4270	71.93	-	-
MW-7	11/11/11					71.90	-	-
MW-7	02/16/12					71.85	-	-
MW-7	05/08/12					72.94	-	-
MW-7	06/07/13							

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

State Gas Com N#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-9	12/20/06					67.56	-	-
MW-9	03/28/07					67.72	-	-
MW-9	06/14/07					67.97	-	-
MW-9	09/18/07					68.10	-	-
MW-9	12/17/07					68.07	-	-
MW-9	03/05/08					68.04	-	-
MW-9	04/15/08	<2	<2	<2	<6	68.03	-	-
MW-9	06/12/08					68.27	-	-
MW-9	09/08/08	0.95 J	<1	<1	1.3 J	68.25	-	-
MW-9	12/03/08					68.26	-	-
MW-9	03/10/09					68.28	-	-
MW-9	06/03/09					68.44	-	-
MW-9	08/26/09	1.2	0.69 J	0.35J	2.7	68.40	-	-
MW-9	11/05/09					68.62	-	-
MW-9	02/11/10					68.30	-	-
MW-9	05/21/10					68.42	-	-
MW-9	09/29/10	0.79 J	17 J	<2	2.9 J	68.47	-	-
MW-9	11/02/10					68.73	-	-
MW-9	02/02/11					68.60	-	-
MW-9	05/04/11					68.74	-	-
MW-9	09/29/11	0.89 J	0.87 J	<1	<2	68.67	-	-
MW-9	11/11/11					68.65	-	-
MW-9	02/16/12					68.60	-	-
MW-9	05/08/12					68.62	-	-
MW-9	06/07/13	<0.14	<0.30	<0.20	<0.23	68.99	-	-
MW-9	09/12/13	<0.14	<0.30	<0.20	<0.23	69.18	-	-
MW-9	12/13/13	<0.20	<0.38	<0.20	<0.65	69.04	-	-

Notes:
Results highlighted yellow exceed their respective New Mexico Water Quality Control Comission 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

L:\San Juan River Basin\SJRB GENERAL\GIS-NEW_MXDs\STATE GAS COM N#1\2013 MAPS\State_Gas_Com_N#1_GARM_2Q_2013.mxd

STATE GAS COM
BA #1

SMA BENCHMARK
ELEV. 6124.06'
NAD 83 NAVD 88
STATE PLANE COORDINATE SYSTEM
NEW MEXICO WEST

FORMER PIT LOCATION
(APPROXIMATE)

FORMER PIT LOCATION
(APPROXIMATE)

COMPRESSOR

METER
HOUSE

MW-7

MW-8

TANK

MW-1

MW-1
B: **13000**
T: **7200**
E: 580
X: **6700**

MW-4

MW-2

MW-4
B: **21000**
T: **13000**
E: 290
X: **8400**

TANK

MW-3

PRODUCED WATER TANK

MW-3
B: **24000**
T: **J100**
E: 540
X: **2700**

MW-2
B: **15000**
T: **1600**
E: 630
X: **7000**

SEPARATOR

MW-5

MW-5
B: **16000**
T: <60
E: **1000**
X: **5400**

STATE GAS COMPANY
N#-1A

DRAINAGE

MW-6
B: **3400**
T: **4700**
E: 370
X: **4900**
MW-6

MW-9
B: <0.14
T: <0.30
E: <0.20
X: <0.23
MW-9

LEGEND:

- 6120 — APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- FENCE
- NATURAL GAS LINE
- PRODUCED WATER LINE
- UNKNOWN LINE
- UNDERGROUND CABLE
- MONITORING WELL
- DAMAGED MONITORING WELL
- RIG ANCHOR
- 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

N

SCALE IN FEET
0 70 140

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	10/24/2013	CCL	CCL	DAW

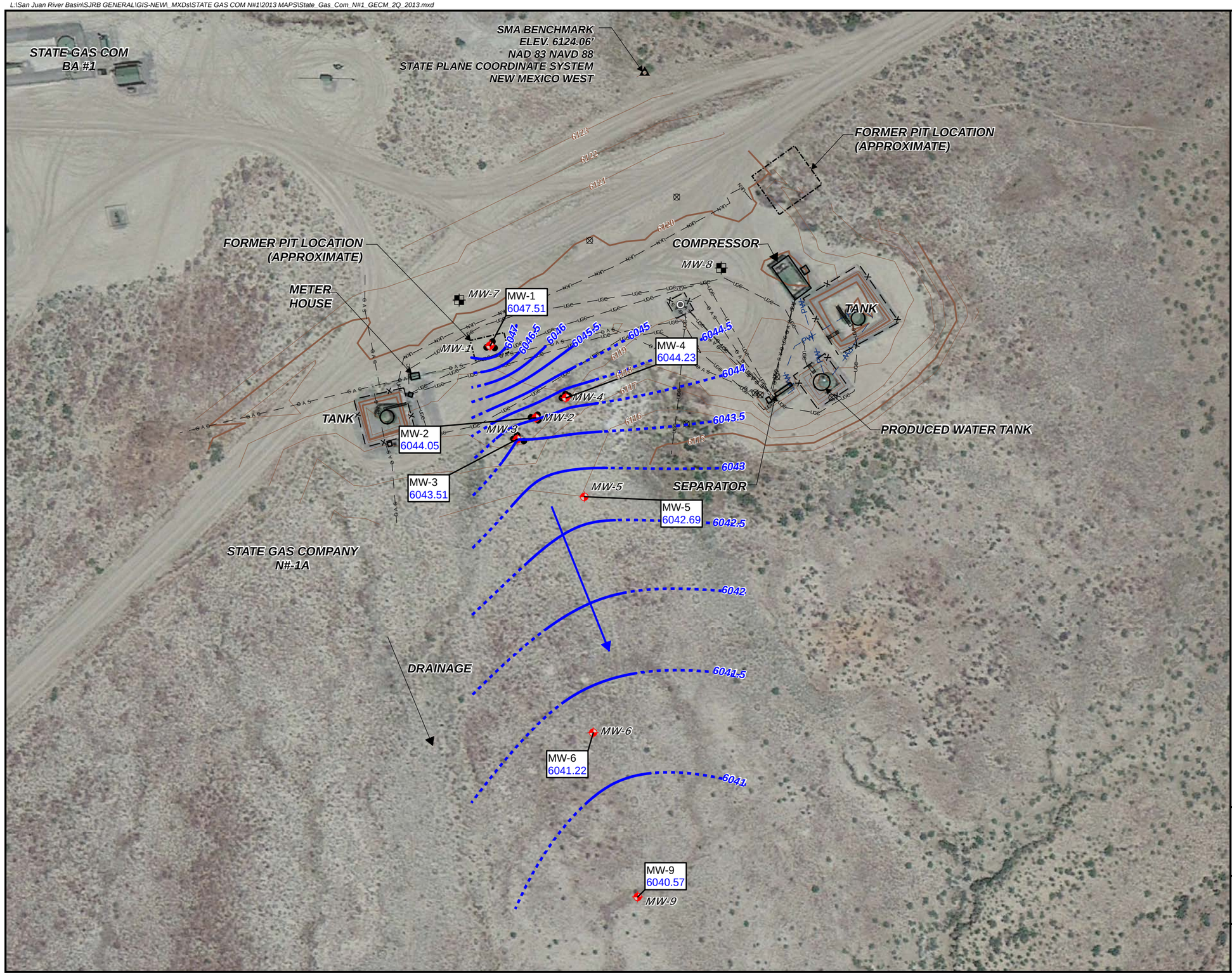
TITLE:
STATE GAS COM N#1
GROUNDWATER ANALYTICAL RESULTS
SAMPLED JUNE 7, 2013

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

MWH

Figure No.: 1

L:\San Juan River Basin\SJRB GENERAL\GIS-NEW_MXDs\STATE GAS COM N#1\2013 MAPS\State_Gas_Com_N#1_GECM_2Q_2013.mxd



LEGEND:

- 6120 — APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- FENCE
- NATURAL GAS LINE
- PRODUCED WATER LINE
- UNKNOWN LINE
- UNDERGROUND CABLE
- MONITORING WELL
- DAMAGED MONITORING WELL
- RIG ANCHOR
- SMA BENCHMARK

NOTES:

6044 — GROUNDWATER ELEVATION CORRECTED FOR PRODUCT THICKNESS. FEET ABOVE MEAN SEA LEVEL

6044 — CORRECTED WATER LEVEL ELEVATION CONTOUR DASHED WHERE INFERRED (FEET ABOVE MEAN SEA LEVEL, 0.5 FOOT CONTOUR INTERVAL)

DIRECTION OF GROUNDWATER FLOW

N

SCALE IN FEET

0 70 140

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	10/25/2013	CCL	CCL	DAW

TITLE:

STATE GAS COM N#1
GROUNDWATER ELEVATION MAP
GAUGED JUNE 7, 2013

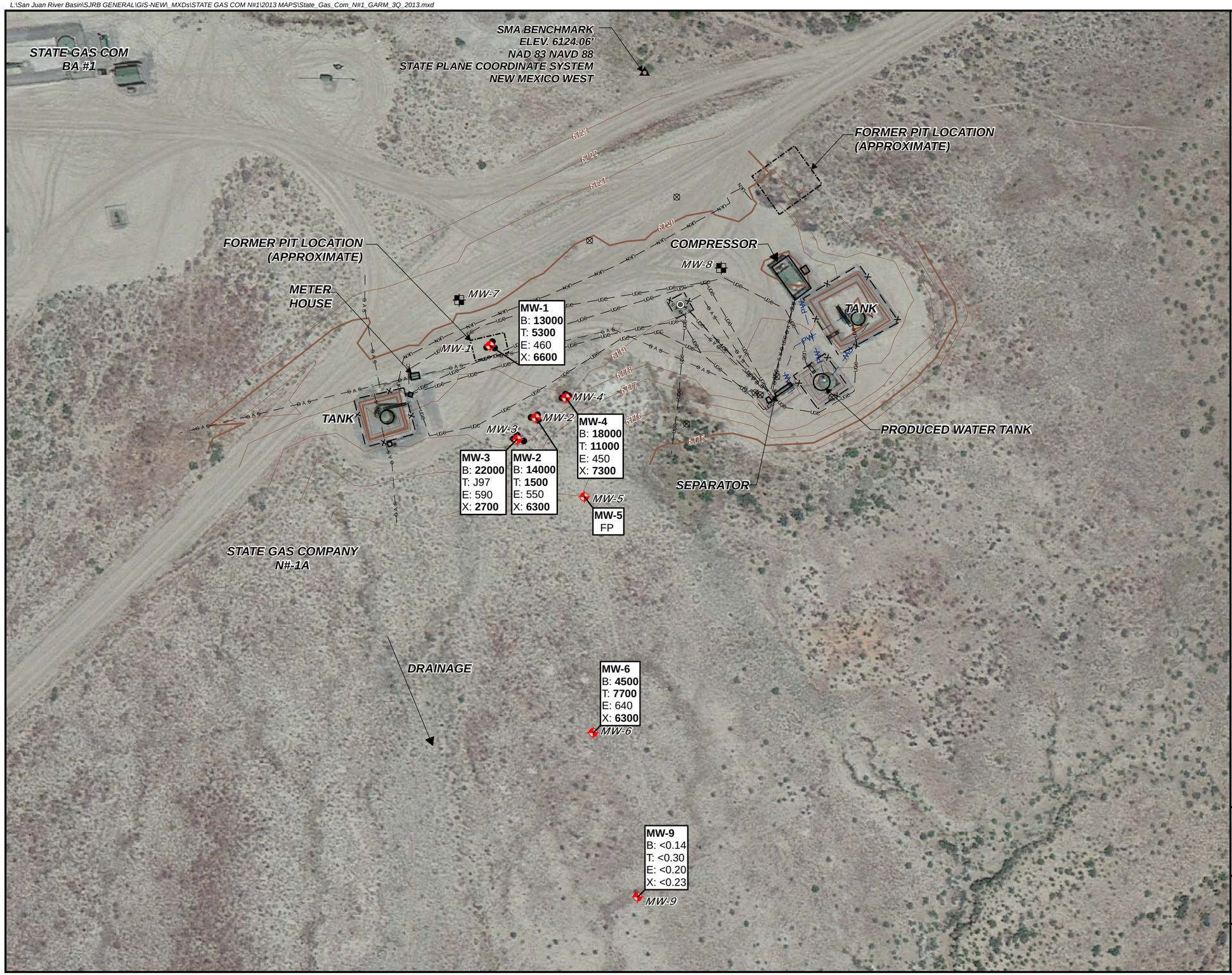
PROJECT:

SAN JUAN RIVER BASIN
MONITORING AND REMEDIATION
SAN JUAN COUNTY, NEW MEXICO

MWH

Figure No.: 2

L:\San Juan River Basin\SJRB GENERAL\GIS-NEW_MXDs\STATE GAS COM N#1\2013 MAPS\State_Gas_Com_N#1_GARM_3Q_2013.mxd



LEGEND:

- 6120 — APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- FENCE
- NATURAL GAS LINE
- PRODUCED WATER LINE
- UNKNOWN LINE
- UNDERGROUND CABLE
- MONITORING WELL
- DAMAGED MONITORING WELL
- RIG ANCHOR
- 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

N

SCALE IN FEET
0 70 140

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	10/24/2013	CCL	CCL	DAW

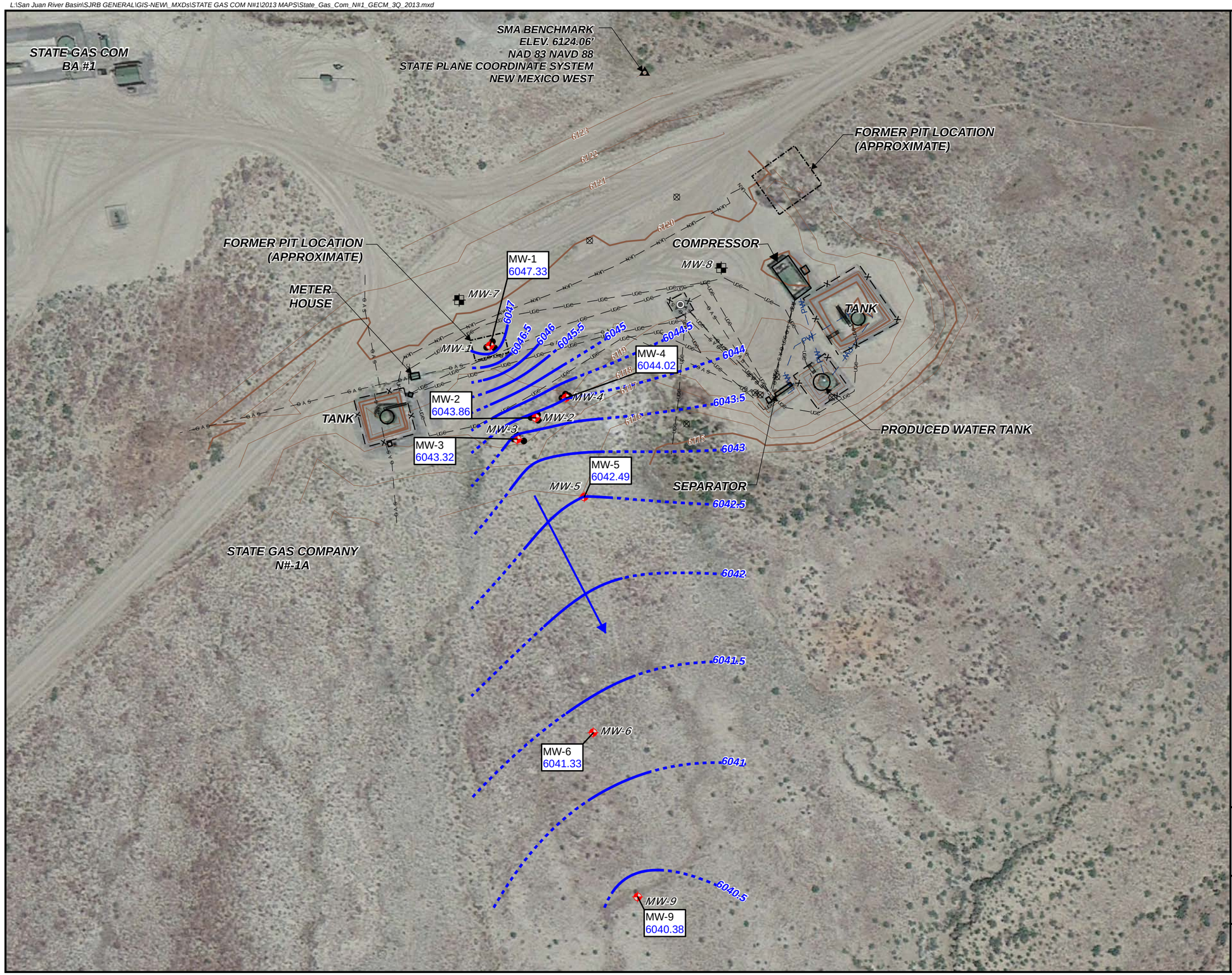
TITLE:
STATE GAS COM N#1
GROUNDWATER ANALYTICAL RESULTS
SAMPLED SEPTEMBER 12, 2013

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

MWH

Figure No.: 3

L:\San Juan River Basin\SJRB GENERAL\GIS-NEW_MXDs\STATE GAS COM N#1\2013 MAPS\State_Gas_Com_N#1_GECM_3Q_2013.mxd



LEGEND:

- 6120 — APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- FENCE
- NATURAL GAS LINE
- PRODUCED WATER LINE
- UNKNOWN LINE
- UNDERGROUND CABLE
- MONITORING WELL
- DAMAGED MONITORING WELL
- RIG ANCHOR
- SMA BENCHMARK

NOTES:

6044 — GROUNDWATER ELEVATION CORRECTED FOR PRODUCT THICKNESS. FEET ABOVE MEAN SEA LEVEL

—6044— CORRECTED WATER LEVEL ELEVATION CONTOUR DASHED WHERE INFERRED (FEET ABOVE MEAN SEA LEVEL, 0.5 FOOT CONTOUR INTERVAL)

DIRECTION OF GROUNDWATER FLOW

N

SCALE IN FEET

0 70 140

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	10/25/2013	CCL	CCL	DAW

TITLE:

STATE GAS COM N#1
GROUNDWATER ELEVATION MAP
GAUGED SEPTEMBER 12, 2013

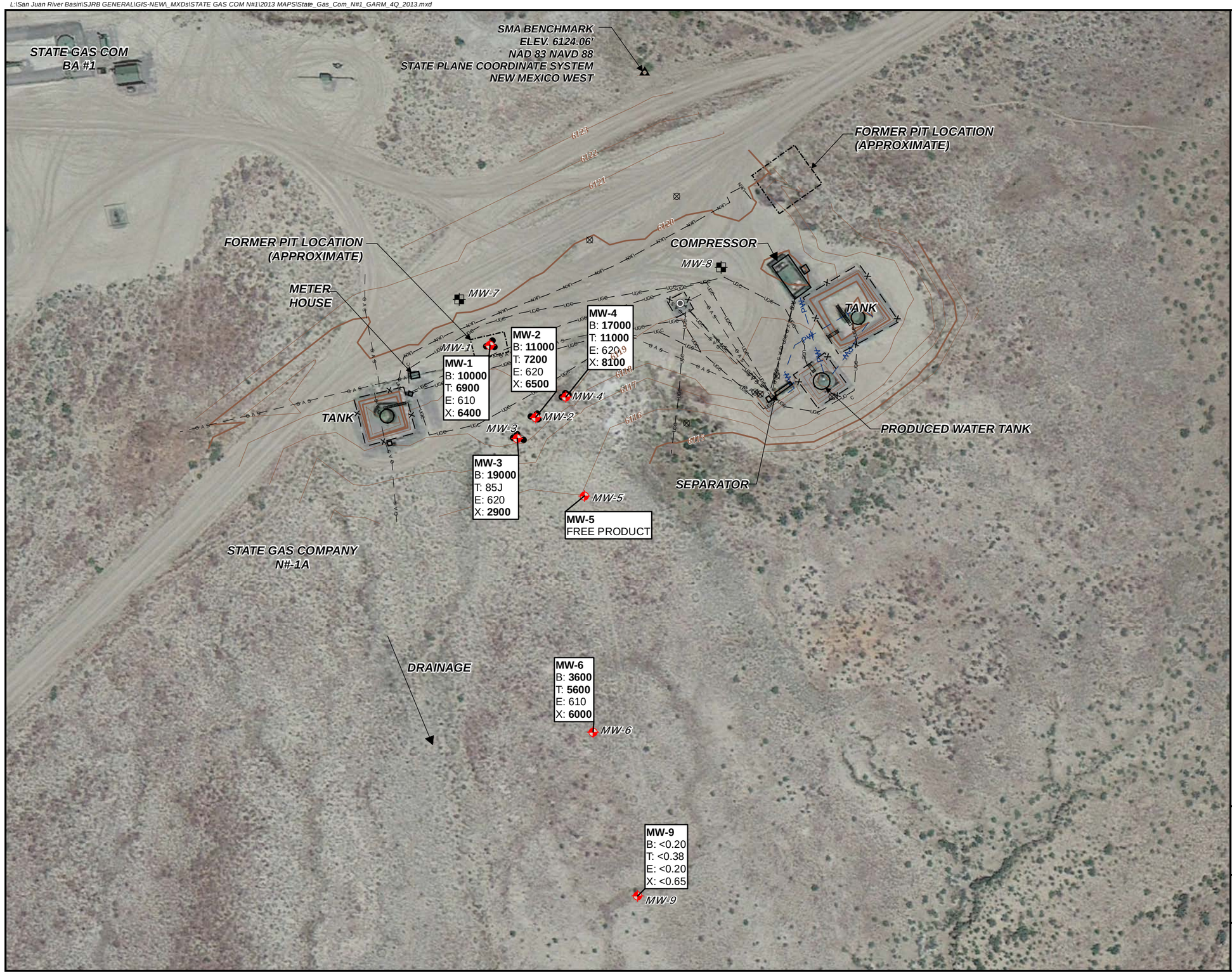
PROJECT:

SAN JUAN RIVER BASIN
MONITORING AND REMEDIATION
SAN JUAN COUNTY, NEW MEXICO

MWH

Figure No.: 4

L:\San Juan River Basin\SJRB GENERAL\GIS-NEW_MXDs\STATE GAS COM N#1\2013 MAPS\State_Gas_Com_N#1_GARM_4Q_2013.mxd



LEGEND:

- 6120 — APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- FENCE
- NATURAL GAS LINE
- PRODUCED WATER LINE
- UNKNOWN LINE
- UNDERGROUND CABLE
- MONITORING WELL
- DAMAGED MONITORING WELL
- RIG ANCHOR
- 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

N

SCALE IN FEET
0 70 140

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	1/13/2014	CCL	CCL	DAW

TITLE:
STATE GAS COM N#1
GROUNDWATER ANALYTICAL RESULTS
SAMPLED DECEMBER 13, 2013

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

MWH

Figure No.: 5

L:\San Juan River Basin\SJRB GENERAL\GIS-NEW_MXDs\STATE GAS COM N#1\2013 MAPS\State_Gas_Com_N#1_GECM_4Q_2013.mxd

STATE GAS COM BA #1

SMA BENCHMARK
ELEV. 6124.06'
NAD 83 NAVD 88
STATE PLANE COORDINATE SYSTEM
NEW MEXICO WEST

FORMER PIT LOCATION (APPROXIMATE)

FORMER PIT LOCATION (APPROXIMATE)

METER HOUSE

COMPRESSOR

TANK

TANK

PRODUCED WATER TANK

SEPARATOR

STATE GAS COMPANY N#-1A

MW-1 6047.38
MW-2 6043.85
MW-3 6043.33
MW-4 6043.99
MW-5 6042.52
MW-6 6041.10
MW-7
MW-8
MW-9 6040.52

6123
6122
6121
6120
6045.5
6046
6045
6044.5
6044
6043.5
6043
6042.5
6042
6041.5
6041

LEGEND:

- 6120 — APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- FENCE
- NATURAL GAS LINE
- PRODUCED WATER LINE
- UNKNOWN LINE
- UNDERGROUND CABLE
- MONITORING WELL
- DAMAGED MONITORING WELL
- RIG ANCHOR
- SMA BENCHMARK

NOTES:

6044 — GROUNDWATER ELEVATION CORRECTED FOR PRODUCT THICKNESS. FEET ABOVE MEAN SEA LEVEL

—6044— CORRECTED WATER LEVEL ELEVATION CONTOUR DASHED WHERE INFERRED (FEET ABOVE MEAN SEA LEVEL, 0.5 FOOT CONTOUR INTERVAL)

DIRECTION OF GROUNDWATER FLOW

N

SCALE IN FEET
0 70 140

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	1/15/2014	CCL	CCL	DAW

TITLE:
STATE GAS COM N#1
GROUNDWATER ELEVATION MAP
GAUGED DECEMBER 13, 2013

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

MWH

Figure No.:
6

APPENDICES

JUNE 7, 2013 GROUNDWATER SAMPLING ANALYTICAL REPORT
SEPTEMBER 12, 2013 GROUNDWATER SAMPLING ANALYTICAL REPORT
DECEMBER 13, 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: 560-40543-1
TestAmerica Sample Delivery Group: June 2013
Client Project/Site: State Gas Com N #1

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

Attn: Mr. Daniel Wade

Authorized for release by:
6/19/2013 9:10:21 AM

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

Qualifiers

GC/MS 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

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: State Gas Com N #1

TestAmerica Job ID: 560-40543-1
SDG: June 2013

Job ID: 560-40543-1

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 2.5º C. No analytical or quality issues were noted.

Detection Summary

Client: MWH Americas Inc
Project/Site: State Gas Com N #1

TestAmerica Job ID: 560-40543-1
SDG: June 2013

Client Sample ID: MW-1 — Lab Sample ID: 560-40543-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	13		0.10	0.014	mg/L	100		8260B	Total/NA
Ethylbenzene	0.58		0.10	0.020	mg/L	100		8260B	Total/NA
Toluene	7.2		0.10	0.030	mg/L	100		8260B	Total/NA
Xylenes, Total	6.7		0.30	0.023	mg/L	100		8260B	Total/NA

Client Sample ID: MW-2 — Lab Sample ID: 560-40543-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	15		0.20	0.028	mg/L	200		8260B	Total/NA
Ethylbenzene	0.63		0.20	0.040	mg/L	200		8260B	Total/NA
Toluene	1.6		0.20	0.060	mg/L	200		8260B	Total/NA
Xylenes, Total	7.0		0.60	0.045	mg/L	200		8260B	Total/NA

Client Sample ID: MW-3 — Lab Sample ID: 560-40543-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	24		0.30	0.042	mg/L	300		8260B	Total/NA
Ethylbenzene	0.54		0.30	0.060	mg/L	300		8260B	Total/NA
Toluene	0.10	J	0.30	0.090	mg/L	300		8260B	Total/NA
Xylenes, Total	2.7		0.90	0.068	mg/L	300		8260B	Total/NA

Client Sample ID: MW-4 — Lab Sample ID: 560-40543-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	21		0.30	0.042	mg/L	300		8260B	Total/NA
Ethylbenzene	0.29	J	0.30	0.060	mg/L	300		8260B	Total/NA
Toluene	13		0.30	0.090	mg/L	300		8260B	Total/NA
Xylenes, Total	8.4		0.90	0.068	mg/L	300		8260B	Total/NA

Client Sample ID: MW-5 — Lab Sample ID: 560-40543-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	16		0.20	0.028	mg/L	200		8260B	Total/NA
Ethylbenzene	1.0		0.20	0.040	mg/L	200		8260B	Total/NA
Xylenes, Total	5.4		0.60	0.045	mg/L	200		8260B	Total/NA

Client Sample ID: MW-6 — Lab Sample ID: 560-40543-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	3.4		0.050	0.0070	mg/L	50		8260B	Total/NA
Ethylbenzene	0.37		0.050	0.010	mg/L	50		8260B	Total/NA
Toluene	4.7		0.050	0.015	mg/L	50		8260B	Total/NA
Xylenes, Total	4.9		0.15	0.011	mg/L	50		8260B	Total/NA

Client Sample ID: MW-9 — Lab Sample ID: 560-40543-7

No Detections.

Client Sample ID: Trip Blank — Lab Sample ID: 560-40543-8

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

Client Sample ID: MW-1

Lab Sample ID: 560-40543-1

Date Collected: 06/10/13 12:00
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	13		0.10	0.014	mg/L			06/15/13 18:50	100
Ethylbenzene	0.58		0.10	0.020	mg/L			06/15/13 18:50	100
Toluene	7.2		0.10	0.030	mg/L			06/15/13 18:50	100
Xylenes, Total	6.7		0.30	0.023	mg/L			06/15/13 18:50	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*70 - 130*		*06/15/13 18:50*	*100*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*		*06/15/13 18:50*	*100*
Dibromofluoromethane (Surr)	*93*		*70 - 130*		*06/15/13 18:50*	*100*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*		*06/15/13 18:50*	*100*

Client Sample ID: MW-2

Lab Sample ID: 560-40543-2

Date Collected: 06/10/13 11:40
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	15		0.20	0.028	mg/L			06/15/13 19:15	200
Ethylbenzene	0.63		0.20	0.040	mg/L			06/15/13 19:15	200
Toluene	1.6		0.20	0.060	mg/L			06/15/13 19:15	200
Xylenes, Total	7.0		0.60	0.045	mg/L			06/15/13 19:15	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*70 - 130*		*06/15/13 19:15*	*200*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*		*06/15/13 19:15*	*200*
Dibromofluoromethane (Surr)	*97*		*70 - 130*		*06/15/13 19:15*	*200*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*		*06/15/13 19:15*	*200*

Client Sample ID: MW-3

Lab Sample ID: 560-40543-3

Date Collected: 06/10/13 11:50
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	24		0.30	0.042	mg/L			06/15/13 19:40	300
Ethylbenzene	0.54		0.30	0.060	mg/L			06/15/13 19:40	300
Toluene	0.10	J	0.30	0.090	mg/L			06/15/13 19:40	300
Xylenes, Total	2.7		0.90	0.068	mg/L			06/15/13 19:40	300

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*70 - 130*		*06/15/13 19:40*	*300*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*		*06/15/13 19:40*	*300*
Dibromofluoromethane (Surr)	*98*		*70 - 130*		*06/15/13 19:40*	*300*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 130*		*06/15/13 19:40*	*300*

Client Sample ID: MW-4

Lab Sample ID: 560-40543-4

Date Collected: 06/10/13 11:30

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	21		0.30	0.042	mg/L			06/15/13 20:05	300
Ethylbenzene	0.29	J	0.30	0.060	mg/L			06/15/13 20:05	300
Toluene	13		0.30	0.090	mg/L			06/15/13 20:05	300
Xylenes, Total	8.4		0.90	0.068	mg/L			06/15/13 20:05	300

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*70 - 130*		*06/15/13 20:05*	*300*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*		*06/15/13 20:05*	*300*
Dibromofluoromethane (Surr)	*96*		*70 - 130*		*06/15/13 20:05*	*300*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 130*		*06/15/13 20:05*	*300*

Client Sample ID: MW-5

Lab Sample ID: 560-40543-5

Date Collected: 06/10/13 12:15

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	16		0.20	0.028	mg/L			06/16/13 10:30	200
Ethylbenzene	1.0		0.20	0.040	mg/L			06/16/13 10:30	200
Toluene	<0.060		0.20	0.060	mg/L			06/16/13 10:30	200
Xylenes, Total	5.4		0.60	0.045	mg/L			06/16/13 10:30	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*70 - 130*		*06/16/13 10:30*	*200*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*		*06/16/13 10:30*	*200*
Dibromofluoromethane (Surr)	*97*		*70 - 130*		*06/16/13 10:30*	*200*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 130*		*06/16/13 10:30*	*200*

Client Sample ID: MW-6

Lab Sample ID: 560-40543-6

Date Collected: 06/10/13 11:15

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	3.4		0.050	0.0070	mg/L			06/16/13 10:39	50
Ethylbenzene	0.37		0.050	0.010	mg/L			06/16/13 10:39	50
Toluene	4.7		0.050	0.015	mg/L			06/16/13 10:39	50
Xylenes, Total	4.9		0.15	0.011	mg/L			06/16/13 10:39	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*106*		*70 - 130*		*06/16/13 10:39*	*50*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*		*06/16/13 10:39*	*50*
Dibromofluoromethane (Surr)	*99*		*70 - 130*		*06/16/13 10:39*	*50*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 130*		*06/16/13 10:39*	*50*

Client: MWH Americas Inc
Project/Site: State Gas Com N #1

TestAmerica Job ID: 560-40543-1
SDG: June 2013

Client Sample ID: MW-9

Lab Sample ID: 560-40543-7

Date Collected: 06/10/13 11:00
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	<0.00014		0.0010	0.00014	mg/L			06/16/13 10:14	1
Ethylbenzene	<0.00020		0.0010	0.00020	mg/L			06/16/13 10:14	1
Toluene	<0.00030		0.0010	0.00030	mg/L			06/16/13 10:14	1
Xylenes, Total	<0.00023		0.0030	0.00023	mg/L			06/16/13 10:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*70 - 130*		*06/16/13 10:14*	*1*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*		*06/16/13 10:14*	*1*

Client Sample ID: Trip Blank

Lab Sample ID: 560-40543-8

Date Collected: 06/10/13 00:00
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	<0.00014		0.0010	0.00014	mg/L			06/16/13 10:05	1
Ethylbenzene	<0.00020		0.0010	0.00020	mg/L			06/16/13 10:05	1
Toluene	<0.00030		0.0010	0.00030	mg/L			06/16/13 10:05	1
Xylenes, Total	<0.00023		0.0030	0.00023	mg/L			06/16/13 10:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*70 - 130*		*06/16/13 10:05*	*1*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*		*06/16/13 10:05*	*1*

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

Lab Sample ID: MB 560-89160/8
Matrix: Water
Analysis Batch: 89160

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			06/15/13 11:40	1
Ethylbenzene	<0.00020		0.0010	0.00020	mg/L			06/15/13 11:40	1
Toluene	<0.00030		0.0010	0.00030	mg/L			06/15/13 11:40	1
Xylenes, Total	<0.00023		0.0030	0.00023	mg/L			06/15/13 11:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*70 - 130*		*06/15/13 11:40*	*1*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*		*06/15/13 11:40*	*1*
Dibromofluoromethane (Surr)	*102*		*70 - 130*		*06/15/13 11:40*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*70 - 130*		*06/15/13 11:40*	*1*

Lab Sample ID: LCS 560-89160/3
Matrix: Water
Analysis Batch: 89160

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	0.0284		mg/L		114	70 - 130
Ethylbenzene	0.0250	0.0293		mg/L		117	70 - 130
Toluene	0.0250	0.0286		mg/L		114	70 - 130
Xylenes, Total	0.0750	0.0883		mg/L		118	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*96*		*70 - 130*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
Dibromofluoromethane (Surr)	*97*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*

Lab Sample ID: MB 560-89163/8
Matrix: Water
Analysis Batch: 89163

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			06/16/13 09:39	1
Ethylbenzene	<0.00020		0.0010	0.00020	mg/L			06/16/13 09:39	1
Toluene	<0.00030		0.0010	0.00030	mg/L			06/16/13 09:39	1
Xylenes, Total	<0.00023		0.0030	0.00023	mg/L			06/16/13 09:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*70 - 130*		*06/16/13 09:39*	*1*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*		*06/16/13 09:39*	*1*
Dibromofluoromethane (Surr)	*97*		*70 - 130*		*06/16/13 09:39*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*		*06/16/13 09:39*	*1*

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

Lab Sample ID: LCS 560-89163/3
Matrix: Water
Analysis Batch: 89163

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	0.0252		mg/L		101	70 - 130		
Ethylbenzene			0.0250	0.0259		mg/L		104	70 - 130		
Toluene			0.0250	0.0252		mg/L		101	70 - 130		
Xylenes, Total			0.0750	0.0768		mg/L		102	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*96*		*70 - 130*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*
Dibromofluoromethane (Surr)	*95*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*

Lab Sample ID: 560-40543-5 MS
Matrix: Water
Analysis Batch: 89163

Client Sample ID: MW-5
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	16		5.00	21.7		mg/L		112	70 - 130		
Ethylbenzene	1.0		5.00	6.58		mg/L		111	70 - 130		
Toluene	<0.060		5.00	5.02		mg/L		100	70 - 130		
Xylenes, Total	5.4		15.0	22.4		mg/L		114	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*96*		*70 - 130*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
Dibromofluoromethane (Surr)	*98*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*

Lab Sample ID: 560-40543-5 MSD
Matrix: Water
Analysis Batch: 89163

Client Sample ID: MW-5
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	16		5.00	21.0		mg/L		100	70 - 130	3	20
Ethylbenzene	1.0		5.00	6.33		mg/L		106	70 - 130	4	20
Toluene	<0.060		5.00	4.85		mg/L		97	70 - 130	4	20
Xylenes, Total	5.4		15.0	21.2		mg/L		106	70 - 130	5	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*98*		*70 - 130*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
Dibromofluoromethane (Surr)	*97*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*

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

Lab Sample ID: MB 560-89164/8
Matrix: Water
Analysis Batch: 89164

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			06/16/13 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

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

Lab Sample ID: LCS 560-89164/3
Matrix: Water
Analysis Batch: 89164

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	0.0281		mg/L		112	70 - 130
Ethylbenzene	0.0250	0.0246		mg/L		98	70 - 130
Toluene	0.0250	0.0277		mg/L		111	70 - 130
Xylenes, Total	0.0750	0.0741		mg/L		99	70 - 130

Surrogate	*LCS %Recovery*	*LCS 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*

Lab Sample ID: 560-40543-6 MS
Matrix: Water
Analysis Batch: 89164

Client Sample ID: MW-6
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	3.4		1.25	4.60		mg/L		100	70 - 130
Ethylbenzene	0.37		1.25	1.62		mg/L		100	70 - 130
Toluene	4.7		1.25	6.09		mg/L		109	70 - 130
Xylenes, Total	4.9		3.75	8.57		mg/L		97	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*107*		*70 - 130*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
Dibromofluoromethane (Surr)	*103*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*

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

Lab Sample ID: 560-40543-6 MSD
Matrix: Water
Analysis Batch: 89164

Client Sample ID: MW-6
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	3.4		1.25	4.63		mg/L		102	70 - 130	0	20
Ethylbenzene	0.37		1.25	1.63		mg/L		101	70 - 130	0	20
Toluene	4.7		1.25	6.01		mg/L		103	70 - 130	1	20
Xylenes, Total	4.9		3.75	8.59		mg/L		98	70 - 130	0	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*106*		*70 - 130*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
Dibromofluoromethane (Surr)	*102*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*

Lab Chronicle

Client: MWH Americas Inc
Project/Site: State Gas Com N #1

TestAmerica Job ID: 560-40543-1
SDG: June 2013

Client Sample ID: MW-1
Lab Sample ID: 560-40543-1
Date Collected: 06/10/13 12:00
Matrix: Water
Date Received: 06/12/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		100	89160	06/15/13 18:50	RT	TAL CC

Client Sample ID: MW-2
Lab Sample ID: 560-40543-2
Date Collected: 06/10/13 11:40
Matrix: Water
Date Received: 06/12/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		200	89160	06/15/13 19:15	RT	TAL CC

Client Sample ID: MW-3
Lab Sample ID: 560-40543-3
Date Collected: 06/10/13 11:50
Matrix: Water
Date Received: 06/12/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		300	89160	06/15/13 19:40	RT	TAL CC

Client Sample ID: MW-4
Lab Sample ID: 560-40543-4
Date Collected: 06/10/13 11:30
Matrix: Water
Date Received: 06/12/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		300	89160	06/15/13 20:05	RT	TAL CC

Client Sample ID: MW-5
Lab Sample ID: 560-40543-5
Date Collected: 06/10/13 12:15
Matrix: Water
Date Received: 06/12/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		200	89163	06/16/13 10:30	RT	TAL CC

Client Sample ID: MW-6
Lab Sample ID: 560-40543-6
Date Collected: 06/10/13 11:15
Matrix: Water
Date Received: 06/12/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		50	89164	06/16/13 10:39	RT	TAL CC

Lab Chronicle

Client: MWH Americas Inc
Project/Site: State Gas Com N #1

TestAmerica Job ID: 560-40543-1
SDG: June 2013

Client Sample ID: MW-9

Lab Sample ID: 560-40543-7

Date Collected: 06/10/13 11:00
Matrix: Water
Date Received: 06/12/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	89164	06/16/13 10:14	RT	TAL CC

Client Sample ID: Trip Blank

Lab Sample ID: 560-40543-8

Date Collected: 06/10/13 00:00
Matrix: Water
Date Received: 06/12/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	89163	06/16/13 10:05	RT	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: State Gas Com N #1

TestAmerica Job ID: 560-40543-1
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: State Gas Com N #1

TestAmerica Job ID: 560-40543-1
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: State Gas Com N #1

TestAmerica Job ID: 560-40543-1
SDG: June 2013

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-40543-1	MW-1	Water	06/10/13 12:00	06/12/13 10:00
560-40543-2	MW-2	Water	06/10/13 11:40	06/12/13 10:00
560-40543-3	MW-3	Water	06/10/13 11:50	06/12/13 10:00
560-40543-4	MW-4	Water	06/10/13 11:30	06/12/13 10:00
560-40543-5	MW-5	Water	06/10/13 12:15	06/12/13 10:00
560-40543-6	MW-6	Water	06/10/13 11:15	06/12/13 10:00
560-40543-7	MW-9	Water	06/10/13 11:00	06/12/13 10:00
560-40543-8	Trip Blank	Water	06/10/13 00:00	06/12/13 10:00

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

No. 40543

CHAIN OF CUSTODY RECORD

Loc: 560

40543

560-40543 Chain of Custody

CUSTOMER INFORMATION	PROJECT INFORMATION
COMPANY: MWH	PROJECT NAME/NUMBER: State gas com N#1
SEND REPORT TO: Daniel Wade	**BILLING INFORMATION**
ADDRESS: 1801 California St, Suite 2900 Denver, CO 80202	BILL TO: Kinder Morgan ADDRESS: Houston, Tx
PHONE: 303-291-2250	PHONE:
FAX:	FAX: PO NO:

ANALYSIS/METHOD REQUEST

SAMPLE NO.	SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	CONTAINER	PRESERV.	NUMBER OF	8260	REMARKS/PRECAUTIONS.
	mw-1	6/10/13	1200	GW	VOA	None	3	X	* Not Preserved *
	mw-2	6/10/13	1140	GW	VOA	None	3	X	
	mw-3	6/10/13	1150	GW	VOA	None	3	X	
	mw-4	6/10/13	1130	GW	VOA	None	3	X	
	mw-5	6/10/13	1215	GW	VOA	None	3	X	
	mw-6	6/10/13	1115	GW	VOA	None	3	X	
	mw-9	6/10/13	1100	GW	VOA	HCl	3	X	

AL INTACT YES
MP C 3.3C
CORR TEMP C 3.5C
IR GUN ID 4
INITIAL/DATE MW 06/12

SAMPLER: Daniel Wade

SHIPMENT METHOD: FedEx

AIRBILL NO.: 8022 4442 6456

REQUIRED TURNAROUND ☒ ROUTINE TAT (10 BUSINESS DAYS) ☐ RUSH TAT (MAY REQUIRE SURCHARGE)

1. RELINQUISHED BY:	DATE	2. RELINQUISHED BY:	DATE	3. RELINQUISHED BY:	DATE
SIGNATURE:	6/11	SIGNATURE:		SIGNATURE:	
PRINTED NAME/COMPANY: MWH	TIME 1000	PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY:	TIME
1. RECEIVED BY:	DATE	2. RECEIVED BY:	DATE	3. RECEIVED BY:	DATE
SIGNATURE:	06/12/13	SIGNATURE:		SIGNATURE:	
PRINTED NAME/COMPANY:	TIME 1000	PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY:	TIME

TAL-8222-560 (0412)

TestAmerica
1733 N. Padre Island Drive
Corpus Christi, TX 78408
Phone: 361.289.2673/Fax: 361.289.2471

6/19/2013

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 560-40543-1
SDG Number: June 2013

Login Number: 40543
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	

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: 560-42531-1
TestAmerica Sample Delivery Group: September 2013
Client Project/Site: State Gas Com 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 10:38:04 AM
Lindy Maingot, Project Manager I
lindy.maingot@testamericainc.com

Designee for

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

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
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
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)

Job ID: 560-42531-1

Laboratory: TestAmerica Corpus Christi

Narrative

Job Narrative
560-42531-1

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 2.0º C.

GC/MS VOA
Sample 560-42531-1 was analyzed for BTEX using Method 8260B. Percent recovery results for the MS/MSD pair associated with this sample were outside acceptable limits for Benzene. The LCS was within acceptable limits. Therefore, data are reported.

No other analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted.

Detection Summary

Client: MWH Americas Inc
Project/Site: State Gas Com Groundwater Analysis

TestAmerica Job ID: 560-42531-1
SDG: September 2013

Client Sample ID: MW-1 — Lab Sample ID: 560-42531-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	13		0.10	0.014	mg/L	100		8260B	Total/NA
Ethylbenzene	0.46		0.10	0.020	mg/L	100		8260B	Total/NA
Toluene	5.3		0.10	0.030	mg/L	100		8260B	Total/NA
Xylenes, Total	6.6		0.30	0.023	mg/L	100		8260B	Total/NA

Client Sample ID: MW-2 — Lab Sample ID: 560-42531-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	14		0.10	0.014	mg/L	100		8260B	Total/NA
Ethylbenzene	0.55		0.10	0.020	mg/L	100		8260B	Total/NA
Toluene	1.5		0.10	0.030	mg/L	100		8260B	Total/NA
Xylenes, Total	6.3		0.30	0.023	mg/L	100		8260B	Total/NA

Client Sample ID: MW-3 — Lab Sample ID: 560-42531-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	22		0.30	0.042	mg/L	300		8260B	Total/NA
Ethylbenzene	0.59		0.30	0.060	mg/L	300		8260B	Total/NA
Toluene	0.097	J	0.30	0.090	mg/L	300		8260B	Total/NA
Xylenes, Total	2.7		0.90	0.068	mg/L	300		8260B	Total/NA

Client Sample ID: MW-4 — Lab Sample ID: 560-42531-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	18		0.30	0.042	mg/L	300		8260B	Total/NA
Ethylbenzene	0.45		0.30	0.060	mg/L	300		8260B	Total/NA
Toluene	11		0.30	0.090	mg/L	300		8260B	Total/NA
Xylenes, Total	7.3		0.90	0.068	mg/L	300		8260B	Total/NA

Client Sample ID: MW-6 — Lab Sample ID: 560-42531-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	4.5		0.050	0.0070	mg/L	50		8260B	Total/NA
Ethylbenzene	0.64		0.050	0.010	mg/L	50		8260B	Total/NA
Toluene	7.7		0.050	0.015	mg/L	50		8260B	Total/NA
Xylenes, Total	6.3		0.15	0.011	mg/L	50		8260B	Total/NA

Client Sample ID: MW-9 — Lab Sample ID: 560-42531-6

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-1

Lab Sample ID: 560-42531-1

Date Collected: 09/12/13 10:30
Matrix: Water
Date Received: 09/14/13 10:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	13		0.10	0.014	mg/L			09/19/13 10:21	100
Ethylbenzene	0.46		0.10	0.020	mg/L			09/19/13 10:21	100
Toluene	5.3		0.10	0.030	mg/L			09/19/13 10:21	100
Xylenes, Total	6.6		0.30	0.023	mg/L			09/19/13 10:21	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*91*		*70 - 130*		*09/19/13 10:21*	*100*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*		*09/19/13 10:21*	*100*
Dibromofluoromethane (Surr)	*94*		*70 - 130*		*09/19/13 10:21*	*100*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 140*		*09/19/13 10:21*	*100*

Client Sample ID: MW-2

Lab Sample ID: 560-42531-2

Date Collected: 09/12/13 10:20
Matrix: Water
Date Received: 09/14/13 10:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	14		0.10	0.014	mg/L			09/19/13 10:46	100
Ethylbenzene	0.55		0.10	0.020	mg/L			09/19/13 10:46	100
Toluene	1.5		0.10	0.030	mg/L			09/19/13 10:46	100
Xylenes, Total	6.3		0.30	0.023	mg/L			09/19/13 10:46	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*93*		*70 - 130*		*09/19/13 10:46*	*100*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*		*09/19/13 10:46*	*100*
Dibromofluoromethane (Surr)	*95*		*70 - 130*		*09/19/13 10:46*	*100*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 140*		*09/19/13 10:46*	*100*

Client Sample ID: MW-3

Lab Sample ID: 560-42531-3

Date Collected: 09/12/13 10:25
Matrix: Water
Date Received: 09/14/13 10:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	22		0.30	0.042	mg/L			09/19/13 11:12	300
Ethylbenzene	0.59		0.30	0.060	mg/L			09/19/13 11:12	300
Toluene	0.097	J	0.30	0.090	mg/L			09/19/13 11:12	300
Xylenes, Total	2.7		0.90	0.068	mg/L			09/19/13 11:12	300

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*70 - 130*		*09/19/13 11:12*	*300*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*		*09/19/13 11:12*	*300*
Dibromofluoromethane (Surr)	*97*		*70 - 130*		*09/19/13 11:12*	*300*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 140*		*09/19/13 11:12*	*300*

Client Sample ID: MW-4

Lab Sample ID: 560-42531-4

Date Collected: 09/12/13 10:15
Matrix: Water
Date Received: 09/14/13 10:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	18		0.30	0.042	mg/L			09/19/13 11:37	300
Ethylbenzene	0.45		0.30	0.060	mg/L			09/19/13 11:37	300
Toluene	11		0.30	0.090	mg/L			09/19/13 11:37	300
Xylenes, Total	7.3		0.90	0.068	mg/L			09/19/13 11:37	300

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*70 - 130*		*09/19/13 11:37*	*300*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*		*09/19/13 11:37*	*300*
Dibromofluoromethane (Surr)	*96*		*70 - 130*		*09/19/13 11:37*	*300*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 140*		*09/19/13 11:37*	*300*

Client Sample ID: MW-6

Lab Sample ID: 560-42531-5

Date Collected: 09/12/13 10:05
Matrix: Water
Date Received: 09/14/13 10:05

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	4.5		0.050	0.0070	mg/L			09/19/13 12:02	50
Ethylbenzene	0.64		0.050	0.010	mg/L			09/19/13 12:02	50
Toluene	7.7		0.050	0.015	mg/L			09/19/13 12:02	50
Xylenes, Total	6.3		0.15	0.011	mg/L			09/19/13 12:02	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*70 - 130*		*09/19/13 12:02*	*50*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*		*09/19/13 12:02*	*50*
Dibromofluoromethane (Surr)	*91*		*70 - 130*		*09/19/13 12:02*	*50*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 140*		*09/19/13 12:02*	*50*

Client Sample ID: MW-9

Lab Sample ID: 560-42531-6

Date Collected: 09/12/13 10:00
Matrix: Water
Date Received: 09/14/13 10:05

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			09/19/13 12:27	1
Ethylbenzene	<0.00020		0.0010	0.00020	mg/L			09/19/13 12:27	1
Toluene	<0.00030		0.0010	0.00030	mg/L			09/19/13 12:27	1
Xylenes, Total	<0.00023		0.0030	0.00023	mg/L			09/19/13 12:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*93*		*70 - 130*		*09/19/13 12:27*	*1*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*		*09/19/13 12:27*	*1*
Dibromofluoromethane (Surr)	*98*		*70 - 130*		*09/19/13 12:27*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 140*		*09/19/13 12:27*	*1*

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

Lab Sample ID: MB 560-92913/8
Matrix: Water
Analysis Batch: 92913

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			09/19/13 09:56	1
Ethylbenzene	<0.00020		0.0010	0.00020	mg/L			09/19/13 09:56	1
Toluene	<0.00030		0.0010	0.00030	mg/L			09/19/13 09:56	1
Xylenes, Total	<0.00023		0.0030	0.00023	mg/L			09/19/13 09:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*93*		*70 - 130*		*09/19/13 09:56*	*1*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*		*09/19/13 09:56*	*1*
Dibromofluoromethane (Surr)	*96*		*70 - 130*		*09/19/13 09:56*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 140*		*09/19/13 09:56*	*1*

Lab Sample ID: LCS 560-92913/3
Matrix: Water
Analysis Batch: 92913

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	0.0226		mg/L		91	70 - 130
Ethylbenzene	0.0250	0.0237		mg/L		95	70 - 130
Toluene	0.0250	0.0218		mg/L		87	70 - 130
Xylenes, Total	0.0750	0.0715		mg/L		95	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*94*		*70 - 130*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
Dibromofluoromethane (Surr)	*100*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 140*

Lab Sample ID: 560-42531-1 MS
Matrix: Water
Analysis Batch: 92913

Client Sample ID: MW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	13		2.50	14.6	4	mg/L		67	70 - 130
Ethylbenzene	0.46		2.50	2.65		mg/L		88	70 - 130
Toluene	5.3		2.50	7.06		mg/L		71	70 - 130
Xylenes, Total	6.6		7.50	13.4		mg/L		90	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*94*		*70 - 130*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
Dibromofluoromethane (Surr)	*99*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 140*

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

Lab Sample ID: 560-42531-1 MSD
Matrix: Water
Analysis Batch: 92913

Client Sample ID: MW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	13		2.50	14.5	4	mg/L		66	70 - 130	0	20
Ethylbenzene	0.46		2.50	2.64		mg/L		87	70 - 130	0	20
Toluene	5.3		2.50	7.15		mg/L		74	70 - 130	1	20
Xylenes, Total	6.6		7.50	13.4		mg/L		90	70 - 130	0	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*93*		*70 - 130*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
Dibromofluoromethane (Surr)	*95*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 140*

Certification Summary

Client: MWH Americas Inc
Project/Site: State Gas Com Groundwater Analysis

TestAmerica Job ID: 560-42531-1
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: State Gas Com Groundwater Analysis

TestAmerica Job ID: 560-42531-1
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: State Gas Com Groundwater Analysis

TestAmerica Job ID: 560-42531-1
SDG: September 2013

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-42531-1	MW-1	Water	09/12/13 10:30	09/14/13 10:05
560-42531-2	MW-2	Water	09/12/13 10:20	09/14/13 10:05
560-42531-3	MW-3	Water	09/12/13 10:25	09/14/13 10:05
560-42531-4	MW-4	Water	09/12/13 10:15	09/14/13 10:05
560-42531-5	MW-6	Water	09/12/13 10:05	09/14/13 10:05
560-42531-6	MW-9	Water	09/12/13 10:00	09/14/13 10:05

Obs. 9C
Corr 2.0C
IR4 Seal

TestAmerica Corpus Christi
1733 North Padre Island Drive

Corpus Christi, TX 78408
phone 361.289.2673 fax 361.289.2471

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other:

Client Contact	Project Manager: Daniel Wade	Site Contact: Daniel Wade	Date: 9/17/13	COC No:
MWH Americas, Inc.	Tel/Fax: 303-291-2250	Lab Contact: Tim Kellogg	Carrier: FedEx	Loc: 560 42531
1801 California Street, Suite 2900	Analysis Turnaround Time			For Lab U...
Denver, Colorado 80202	Calendar (C) or Work Days (W)			Walk-in Cli...
(303) 291-2222 Phone	TAT if different from Below			Lab Sampl...
(303) 291-2221 FAX	☑ 2 weeks			
Project Name: SanJuan River Basin	☐ 1 week			Job / SDG N...
Site: State GAS Com	☐ 2 days			
P O # 56000058	☐ 1 day			Sampler:

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample (Y / N)	Composite = C / Grab = G	8260 - BTEX	Sample Specific Notes:
MW-1	9/12/13	1030	G	W	3			X	NOT Preserved
MW-2	9/12/13	1020	G	W	3			X	NOT Preserved
MW-3	9/12/13	1025	G	W	3			X	NOT Preserved
MW-4	9/12/13	1015	G	W	3 DUP			X	NOT Preserved
MW-6	9/12/13	1005	G	W	3			X	
MW-9	9/12/13	1000	G	W	3			X	
								2	

560-42531 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

FedEx Sat 8031514236911

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	MWH	9/13/13 1200		TACC	09/14/13 1005
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4, dated 10/25/2012

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 560-42531-1
SDG Number: September 2013

Login Number: 42531
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.	N/A	
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	

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: 560-44356-1
TestAmerica Sample Delivery Group: December 2013
Client Project/Site: State Gas Com Groundwater Analysis

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

Attn: Cary Rubel

Authorized for release by:
12/20/2013 8:05:52 AM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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

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)

Job ID: 560-44356-1

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 2.1° C. No analytical or quality issues were noted.

Client Sample ID: MW-1

Lab Sample ID: 560-44356-1

Date Collected: 12/13/13 09:55
Matrix: Water
Date Received: 12/17/13 10:40

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	10		0.20	0.020	mg/L			12/18/13 13:02	100
Toluene	6.9		0.20	0.038	mg/L			12/18/13 13:02	100
Ethylbenzene	0.61		0.20	0.020	mg/L			12/18/13 13:02	100
Xylenes, Total	6.4		0.20	0.065	mg/L			12/18/13 13:02	100
Methyl tert-butyl ether	<0.044		1.0	0.044	mg/L			12/18/13 13:02	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*58 - 129*		*12/18/13 13:02*	*100*
Trifluorotoluene (Surr)	*90*		*54 - 130*		*12/18/13 13:02*	*100*

Client Sample ID: MW-2

Lab Sample ID: 560-44356-2

Date Collected: 12/13/13 10:05
Matrix: Water
Date Received: 12/17/13 10:40

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	11		0.20	0.020	mg/L			12/18/13 12:34	100
Toluene	7.2		0.20	0.038	mg/L			12/18/13 12:34	100
Ethylbenzene	0.62		0.20	0.020	mg/L			12/18/13 12:34	100
Xylenes, Total	6.5		0.20	0.065	mg/L			12/18/13 12:34	100
Methyl tert-butyl ether	<0.044		1.0	0.044	mg/L			12/18/13 12:34	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*58 - 129*		*12/18/13 12:34*	*100*
Trifluorotoluene (Surr)	*89*		*54 - 130*		*12/18/13 12:34*	*100*

Client Sample ID: MW-3

Lab Sample ID: 560-44356-3

Date Collected: 12/13/13 10:10
Matrix: Water
Date Received: 12/17/13 10:40

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	19		0.20	0.020	mg/L			12/18/13 13:31	100
Toluene	0.085	J	0.20	0.038	mg/L			12/18/13 13:31	100
Ethylbenzene	0.62		0.20	0.020	mg/L			12/18/13 13:31	100
Xylenes, Total	2.9		0.20	0.065	mg/L			12/18/13 13:31	100
Methyl tert-butyl ether	<0.044		1.0	0.044	mg/L			12/18/13 13:31	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*58 - 129*		*12/18/13 13:31*	*100*
Trifluorotoluene (Surr)	*90*		*54 - 130*		*12/18/13 13:31*	*100*

Client Sample ID: MW-4

Lab Sample ID: 560-44356-4

Date Collected: 12/13/13 10:00
Matrix: Water
Date Received: 12/17/13 10:40

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	17		0.20	0.020	mg/L			12/18/13 13:59	100
Toluene	11		0.20	0.038	mg/L			12/18/13 13:59	100
Ethylbenzene	0.62		0.20	0.020	mg/L			12/18/13 13:59	100

Client Sample ID: MW-4

Lab Sample ID: 560-44356-4

Date Collected: 12/13/13 10:00
Matrix: Water
Date Received: 12/17/13 10:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	**8.1**		0.20	0.065	mg/L			12/18/13 13:59	100
Methyl tert-butyl ether	<0.044		1.0	0.044	mg/L			12/18/13 13:59	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*58 - 129*		*12/18/13 13:59*	*100*
Trifluorotoluene (Surr)	*90*		*54 - 130*		*12/18/13 13:59*	*100*

Client Sample ID: MW-6

Lab Sample ID: 560-44356-5

Date Collected: 12/13/13 09:45
Matrix: Water
Date Received: 12/17/13 10:40

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**3.6**		0.10	0.010	mg/L			12/18/13 14:27	50
Toluene	**5.6**		0.10	0.019	mg/L			12/18/13 14:27	50
Ethylbenzene	**0.61**		0.10	0.010	mg/L			12/18/13 14:27	50
Xylenes, Total	**6.0**		0.10	0.032	mg/L			12/18/13 14:27	50
Methyl tert-butyl ether	<0.022		0.50	0.022	mg/L			12/18/13 14:27	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*58 - 129*		*12/18/13 14:27*	*50*
Trifluorotoluene (Surr)	*95*		*54 - 130*		*12/18/13 14:27*	*50*

Client Sample ID: MW-9

Lab Sample ID: 560-44356-6

Date Collected: 12/13/13 09:40
Matrix: Water
Date Received: 12/17/13 10:40

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			12/18/13 14:55	1
Toluene	<0.00038		0.0020	0.00038	mg/L			12/18/13 14:55	1
Ethylbenzene	<0.00020		0.0020	0.00020	mg/L			12/18/13 14:55	1
Xylenes, Total	<0.00065		0.0020	0.00065	mg/L			12/18/13 14:55	1
Methyl tert-butyl ether	<0.00044		0.010	0.00044	mg/L			12/18/13 14:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*58 - 129*		*12/18/13 14:55*	*1*
Trifluorotoluene (Surr)	*87*		*54 - 130*		*12/18/13 14:55*	*1*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 560-96323/5
Matrix: Water
Analysis Batch: 96323

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			12/18/13 11:29	1
Toluene	<0.00038		0.0020	0.00038	mg/L			12/18/13 11:29	1
Ethylbenzene	<0.00020		0.0020	0.00020	mg/L			12/18/13 11:29	1
Xylenes, Total	<0.00065		0.0020	0.00065	mg/L			12/18/13 11:29	1
Methyl tert-butyl ether	<0.00044		0.010	0.00044	mg/L			12/18/13 11:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*58 - 129*		*12/18/13 11:29*	*1*
Trifluorotoluene (Surr)	*88*		*54 - 130*		*12/18/13 11:29*	*1*

Lab Sample ID: LCS 560-96323/4
Matrix: Water
Analysis Batch: 96323

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	0.0359		mg/L		90	70 - 130
Toluene	0.0400	0.0363		mg/L		91	70 - 130
Ethylbenzene	0.0400	0.0363		mg/L		91	70 - 130
Xylenes, Total	0.120	0.108		mg/L		90	70 - 130
Methyl tert-butyl ether	0.0400	0.0454		mg/L		114	70 - 130

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

Lab Sample ID: 560-44356-5 MS
Matrix: Water
Analysis Batch: 96323

Client Sample ID: MW-6
Prep Type: Total/NA

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*58 - 129*
Trifluorotoluene (Surr)	*95*		*54 - 130*

Lab Sample ID: 560-44356-5 MSD
Matrix: Water
Analysis Batch: 96323

Client Sample ID: MW-6
Prep Type: Total/NA

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*58 - 129*
Trifluorotoluene (Surr)	*97*		*54 - 130*

QC Association Summary

Client: MWH Americas Inc
Project/Site: State Gas Com Groundwater Analysis

TestAmerica Job ID: 560-44356-1
SDG: December 2013

GC VOA

Analysis Batch: 96323

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
560-44356-1	MW-1	Total/NA	Water	8021B	
560-44356-2	MW-2	Total/NA	Water	8021B	
560-44356-3	MW-3	Total/NA	Water	8021B	
560-44356-4	MW-4	Total/NA	Water	8021B	
560-44356-5	MW-6	Total/NA	Water	8021B	
560-44356-5 MS	MW-6	Total/NA	Water	8021B	
560-44356-5 MSD	MW-6	Total/NA	Water	8021B	
560-44356-6	MW-9	Total/NA	Water	8021B	
LCS 560-96323/4	Lab Control Sample	Total/NA	Water	8021B	
MB 560-96323/5	Method Blank	Total/NA	Water	8021B	

Lab Chronicle

Client: MWH Americas Inc
Project/Site: State Gas Com Groundwater Analysis

TestAmerica Job ID: 560-44356-1
SDG: December 2013

Client Sample ID: MW-1
Lab Sample ID: 560-44356-1
Date Collected: 12/13/13 09:55
Matrix: Water
Date Received: 12/17/13 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		100	96323	12/18/13 13:02	RQH	TAL CC

Client Sample ID: MW-2
Lab Sample ID: 560-44356-2
Date Collected: 12/13/13 10:05
Matrix: Water
Date Received: 12/17/13 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		100	96323	12/18/13 12:34	RQH	TAL CC

Client Sample ID: MW-3
Lab Sample ID: 560-44356-3
Date Collected: 12/13/13 10:10
Matrix: Water
Date Received: 12/17/13 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		100	96323	12/18/13 13:31	RQH	TAL CC

Client Sample ID: MW-4
Lab Sample ID: 560-44356-4
Date Collected: 12/13/13 10:00
Matrix: Water
Date Received: 12/17/13 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		100	96323	12/18/13 13:59	RQH	TAL CC

Client Sample ID: MW-6
Lab Sample ID: 560-44356-5
Date Collected: 12/13/13 09:45
Matrix: Water
Date Received: 12/17/13 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		50	96323	12/18/13 14:27	RQH	TAL CC

Client Sample ID: MW-9
Lab Sample ID: 560-44356-6
Date Collected: 12/13/13 09:40
Matrix: Water
Date Received: 12/17/13 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	96323	12/18/13 14:55	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: State Gas Com Groundwater Analysis

TestAmerica Job ID: 560-44356-1
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: State Gas Com Groundwater Analysis

TestAmerica Job ID: 560-44356-1
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: State Gas Com Groundwater Analysis

TestAmerica Job ID: 560-44356-1
SDG: December 2013

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-44356-1	MW-1	Water	12/13/13 09:55	12/17/13 10:40
560-44356-2	MW-2	Water	12/13/13 10:05	12/17/13 10:40
560-44356-3	MW-3	Water	12/13/13 10:10	12/17/13 10:40
560-44356-4	MW-4	Water	12/13/13 10:00	12/17/13 10:40
560-44356-5	MW-6	Water	12/13/13 09:45	12/17/13 10:40
560-44356-6	MW-9	Water	12/13/13 09:40	12/17/13 10:40

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information

Client Contact: ~~Mr. Daniel Wade~~ Christopher Lee
Company: MWH Americas Inc
Address: 1801 California Street Suite 2900
City: Denver
State, Zip: CO, 80202
Phone: 713-420-3414(Tel)
Email: ~~Daniel.A.Wade@us.mwhglobal.com~~ christopher.c.lee@mwhglobal.com
Project Name: San Juan River Basin Pit Sites
Site: State Gas Com

Sampler: CCL
Phone: 303 291 2242
Due Date Requested:
TAT Requested (days): STANDARD
PO #: Purchase Order not required
WO #: TWO # C-STLI-
Project #: 56000058
SSOW#:

Lab PM: Kellogg, Timothy L.
E-Mail: tim.kellogg@testamericainc.com
Carrier Tracking No(s):

COC No: 560-11604-1157.1
Page: Page
Job #: Loc: 560 44356

Analysis Requested

Pres
A - H
B - N
C - Z
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
P - Na2O4S
Q - Na2SO3
R - Na2S2SO3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - ph 4-5
Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B - BTEX	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A		
MW-1	12/13/13	955	G	Water			X		NOT PRESERVED
MW-2	12/13/13	1005	G	Water			X		NOT PRESERVED
MW-3	12/13/13	1010	G	Water			X		NOT PRESERVED
MW-4	12/13/13	1000	G	Water			X		NOT PRESERVED
MW-6	12/13/13	945	G	Water			X		
MW-9	12/13/13	940	G	Water			X		
				Water					
Trip Blank				Water					

560-44356 Chain of Custody

Page 12/20/13

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 12/16/2013 900	Company	Received by:	Date/Time: 12/17/13 10:40	Company TACC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 1.0/2.1 IR Gun Seal

12/20/2013

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 560-44356-1
SDG Number: December 2013

Login Number: 44356
List Number: 1
Creator: Rood, Vivian R

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	