

2014 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 being 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, LLC's (EPCGP's) program methods. Currently, the Site is operated by XTO Energy and is active. Additionally, pipelines owned by Enterprise Products, Inc. are located near the Site, and an above ground condensate tank owned by Enterprise Products, Inc. is located approximately 70 or 80 feet southwest of well MW-1.

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), 2006 (MW-7 through MW-9), and 2014 (SB-1 and MW-10 through MW-19). 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 2014.

SUMMARY OF 2014 ACTIVITIES

In October 2014, new monitoring well locations were staked and surveyed for permitting and utility locating purposes.

Ten new wells (MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-16, MW-17, MW-18, and MW-19) and one soil boring (SB-1) were drilled in November 2014, to further assess the extent of the dissolved-phase hydrocarbons and to define the groundwater gradient at the Site. Ground surface and casing elevations of the new monitoring wells were surveyed in November 2014, by a licensed surveyor using state plane coordinates.

Monitoring wells were constructed of 2-inch-diameter, schedule 40 PVC, with 0.010-inch, continuous, factory-slotted PVC screen. The well screen was installed from 85 feet below ground surface (bgs) to 65 feet bgs and bisects the observed water table located at depths ranging from 72-77 feet below the top of the monitoring well casings during 2014 gauging events. A 3-foot seal of bentonite chips was placed above the sandpack and hydrated, and the remaining annular space filled with bentonite grout. The wells were completed as stick-up wells with locking protective casings and a concrete surface completion. Four

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protective bollards were installed around each new monitoring well. Borehole logs and well construction diagrams are provided in Appendix A. Monitoring well MW-10 was installed upgradient of the former pit location. Well MW-11 was installed near the current operator's tank structure. Wells MW-12 through MW-14 were installed to the west of suspected dissolved hydrocarbons. Wells MW-15 through MW-18 were installed to the east of suspected dissolved hydrocarbons. Well MW-19 was installed down the axis of the groundwater plume in order to better delineate groundwater impacts from the former pit. Pertinent site features and soil boring/monitoring well locations are shown on maps in Figures 1 through 4.

During the drilling of the Site soil borings completed in November 2014, the soil sample interval exhibiting the highest photoionization detector (PID) reading was collected and placed in a 4-ounce jar for laboratory analysis. Soil samples were analyzed for the presence of benzene, toluene, ethylbenzene, and total xylenes (BTEX) according to United States Environmental Protection Agency (EPA) Method SW846 8260B, total petroleum hydrocarbons using EPA Method 8015B-GRO, DRO, and MRO, and chlorides according to EPA Method 300. Sample jars were stored in an ice-filled cooler and shipped under standard chain of custody to TestAmerica Laboratories, Inc. in Corpus Christi, Texas. The soil sample analytical report is provided in Appendix B.

Monitoring well development was performed using a well swab and stainless steel bailer until all sediment was removed and visibly clear groundwater was observed. Approximately 50 gallons of potable water was placed in monitoring wells MW-12, MW-13, and MW-17 for development due to the wells containing little to no water. Monitoring wells were then purged and developed until dry. Purged groundwater was containerized and transported to Basin Disposal, Inc. for disposal. In addition to monitoring well installation, monitoring wells MW-7 and MW-8 were plugged and abandoned in accordance with New Mexico Environment Department (NMED), Ground Water Quality Bureau, Monitoring Well Construction and Abandonment Guidelines, dated March 2011. Soil drums were staged on site for later disposal at Envirotech, Inc. (Envirotech). On November 28, 2014, Sierra Oilfield Services, Inc. removed 82 drums of soil cuttings from the Site and delivered them to Envirotech.

On April 4 and October 21, 2014 water levels were gauged at MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, and MW-9. On April 4 and October 21, 2014, 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 April and October 2014. The HydraSleeves were set during the previous sampling event approximately 0.5 foot above termination depth of the monitoring wells using a suspension tether and stainless steel weights to collect a sample from the screened interval. Monitoring wells MW-10 through MW-19 were not sampled in 2014. The October 2014 semi-annual sampling event occurred prior to well installation. Groundwater samples were placed into laboratory-supplied sample containers, packed on ice, and shipped under standard chain-of-custody protocols to TestAmerica Laboratories, Inc. in Corpus Christi, Texas where they were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX). Additional field parameters

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were collected including dissolved oxygen, temperature, conductivity, pH, and oxidation-reduction potential (ORP) using a YSI multi-parameter instrument, if free product was not present. The water remaining in the HydraSleeves was combined in a waste container and taken to Basin Disposal, Inc. for disposal.

SUMMARY TABLES

The soil sampling results are summarized in Table 1, and the historic analytical and water level data are summarized in Table 2.

SITE MAPS

Groundwater analytical results and groundwater elevation contour maps from the 2014 sampling events are included as Figures 1 through 4.

ANALYTICAL LAB REPORTS

The soil and groundwater analytical lab reports are included as Appendices B and C, respectively.

RESULTS

- Based on 2013 quarterly water level gauging events, the groundwater flow direction is generally to the south-southeast at the Site (see Figures 2 and 4).
- Concentrations of benzene, toluene, and total xylenes in groundwater collected from MW-1 remained above the New Mexico Water Quality Control Commission (NMWQCC) standards for both 2014 sampling events. Concentrations of ethylbenzene were below the NMWQCC standard for both 2014 sampling events.
- Concentrations of benzene in groundwater collected from MW-2 remained above the NMWQCC standards for both 2014 sampling events. Concentrations of toluene were below the NMWQCC standard for the April 2014 sampling event and above the standard for the October 2014 sampling event. Concentrations of ethylbenzene were below the quantitation limit (J-flagged values) during the April 2014 sampling event and below the NMWQCC standards during the October 2014 sampling event. Total xylene concentrations were below NMWQCC standards in April and increased to above the standard in October 2014.
- Concentrations of benzene, and total xylenes in groundwater collected from MW-3 remained above the NMWQCC standards for both 2014 sampling events. Concentrations of toluene were not detected in April and below the quantitation limit (J-flagged values) during the October 2014 sampling event. Ethylbenzene concentrations were below the quantitation limit (J-flagged values) during the April 2014 sampling event and exceed the NMWQCC standard for the October 2014 sampling event.

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- Concentrations of benzene and total xylenes in groundwater collected from MW-4 remained above the NMWQCC standards for both 2014 sampling events. Concentrations of toluene were below the quantitation limit (J-flagged values) during the April 2014 sampling event and above the NMWQCC standards for the October 2014 sampling event. Ethylbenzene concentrations were below the NMWQCC standard for both 2014 sampling events.
- Approximately 0.26 foot of free product was measured in MW-5 during the April 2014 sampling event, and the well was not sampled. No free product was measured during the October 2014 sampling event and a HydraSleeve was installed. A sample was not collected.
- Concentrations of benzene, toluene, and total xylenes in groundwater collected from MW-6 remained above the NMWQCC standards for both 2014 sampling events. Concentrations of ethylbenzene were below the NMWQCC standard for both 2014 sampling events.
- Concentrations of benzene exceeded the NMWQCC standards in groundwater collected for MW-9 during the April 2014 sampling event. Concentrations of toluene, ethylbenzene, and total xylenes were below their respective standards. BTEX constituents were not detected in the groundwater collected during the October 2014 sampling event.
- Soil samples were collected from the borings for monitoring wells MW-10 through MW-19 and soil boring SB-1. Sample locations were based on elevated soil screening results. For benzene, all sample results were either non-detect or below the reporting limit (J-flagged) with exception of MW-19 (5.39 milligrams per kilogram [mg/kg] of soil) and SB-1 (37.4 mg/kg). Toluene results ranged from non-detect (MW-15) to a high of 316 mg/kg at SB-1. Ethylbenzene results ranged from non-detect (MW-11) to 65.9 mg/kg at SB-1. Total xylene concentrations ranged from non-detect (MW-11) to 573 mg/kg at SB-1. Total petroleum hydrocarbons ranged from non-detect/J-flagged values (MW-11, MW-12, MW-14, and MW-15) to 14,757 mg/kg (SB-1). Chloride ranged from 8.85 mg/kg (MW-10) to 246 mg/kg (SB-1).

PLANNED FUTURE ACTIVITIES

Monitoring wells MW-1 through MW-6 and MW-9 through MW-19 will be gauged and sampled on a semi-annual basis in 2015. Groundwater elevation and analytical data collected during 2015 will be evaluated and presented in the 2015 Annual Groundwater Report issued in early 2016.

TABLES

TABLE 1 – SOIL SAMPLING ANALYTICAL RESULTS

TABLE 2 – GROUNDWATER ANALYTICAL AND WATER LEVEL RESULTS

TABLE 1 - SOIL ANALYTICAL RESULTS

Standard Oil Com #1															
Location	Date	Benzene (mg/Kg)	Toluene (mg/kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	BTEX Total (mg/Kg)	GRO (Mg/Kg)		DRO (Mg/Kg)		MRO (Mg/Kg)		GRO +DRO (Mg/Kg)	TPH* (mg/Kg)	Chloride (mg/Kg)
NMWQCC Standards ¹ :		10	NA	NA	NA	50	NA		NA		NA		1,000	10,000	10,000
SGC MW-10-82'	10/25/14	<0.0788	5.13	2.39	28.1	35.6	936		777		<24.9		1,713	1,725	8.85
SGC MW-11-84'	10/26/14	0.000829 J	<0.00138	<0.00102	<0.00113	0.001	0.43	J	1.70	J	4.98	J	2.13	7.111	32
SGC MW-12-78'	11/01/14	0.00247 J	0.00266 J	<0.00102	0.00495 J	0.010	0.40	J	<1.70		<4.98		0.40	<6	12.5
SGC MW-13-71.5'	10/31/14	<0.00630	0.0276 J	0.0147 J	0.691	0.733	8.37		11.2		<4.99		19.57	23	26
SGC MW-14-69'	10/30/14	<0.000630	0.00138	0.00102	0.00113	0.004	0.39	J	<1.71		<5.00		0.39	<6	67.4
SGC MW-15-72.5'	10/29/14	0.000883 J B	<0.00102	<0.00138	0.00695	0.008	0.528	J	<1.70		<4.98		0.53	4	75.6
SGC MW-16-69'	10/28/14	<0.0788	0.391 J	1.47	25.5	27.4	874		40.4		<5.00		914	917	68.2
SGC MW-17-72'	10/27/14	<0.0788	0.632	0.397 J	4.29	5.3	39		6.07	J	<4.99		45	48	19.8
SGC MW-18-68'	10/26/14	0.00145 J	0.00473 J	<0.00102	0.0154	0.022	1.34		<1.71		<4.99		1.34	4.34	56.5
SGC MW-19-70-72'	11/07/14	5.39	0.192 J	12.3	94.4	112.3	1,700		159		<4.95		1,859	1,859	123
SGC SB-1-22-24'	11/08/14	14.9	53.2	6.13	107	181.2	2,130		246		144		2,376	2,520	36.7
SGC SB-1-25-27'	11/08/14	9.88	40.3	6.76	148	201.9	4,200		391		205		4,591	4,796	62.1
SGC SB-1-32-34'	11/08/14	5.22	22.8	11.3	214	253.3	7,150		450		59		7,600	7,659	77.8
SGC SB-1-43-44.8	11/08/14	31.9	316	65.9	573	986.8	12,200		750		126		12,950	13,076	66.5
SGC SB-1-46.5-48.5'	11/08/14	8.93	109	21.6	247	386.5	9,270		244		58.5		9,514	9,573	44.3
SGC SB-1-57-58.9'	11/08/14	16.1	77.5	22.2	257	372.8	9,220		2.91		8.98		9,223	9,520	200
SGC SB-1-67-68.8'	11/08/14	37.4	65	57	487	646.4	14,100		645		<24.9		14,745	14,757	246
SGC SB-1-71-73'	11/08/14	35.8	47.8	36.6	304	424.2	12,100		528		<14.9		12,628	12,635	136

Notes:
"J" = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
"H" = Sample was prepped or analyzed beyond the specified holding time.
"<" = analyte was not detected at the indicated reporting limit (some historic data were reported at the detection limit)
*" = TPH concentration is calculated by adding GRO, DRO, and MRO and rounded to the nearest mg/Kg.
¹ = 2013 Pit Rule Table I standards for soils beneath pits - Groundwater 51-100 feet BGS

TABLE 2 - 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	-	-

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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-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	-	-
MW-1	04/05/14	10000	5300	360	2000	74.99	-	-
MW-1	10/21/14	14000	4900	520	6400	74.77	-	-

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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 2 - 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	-	-
MW-2	04/05/14	680	440	37 J	400	77.08	-	-
MW-2	10/21/14	15000	1500	620	6700	77.18	-	-

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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 2 - 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	-	-
MW-3	04/05/14	24000	<380	570 J	2400	77.07	-	-
MW-3	10/21/14	27000	98 J	770	2900	77.24	-	-

TABLE 2 - 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	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 2 - 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	-	-
MW-4	04/05/14	12000	57 J	350	1600	77.06	-	-
MW-4	10/21/14	21000	13000	520	8400	77.20	-	-

TABLE 2 - 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
MW-5	04/05/14					75.54	75.28	0.26
MW-5	10/21/14					75.44	75.44	0.00

TABLE 2 - 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 2 - 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	-	-
MW-6	04/05/14	19000	13000	720	9100	72.64	-	-
MW-6	10/21/14	2900	3300	380	5400	72.86	-	-

TABLE 2 - 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					DSTRY		

TABLE 2 - 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	-	-
MW-9	04/05/14	51	89	8	67	69.02	-	-
MW-9	10/21/14	<0.38	<0.70	<0.50	<1.6	69.30	-	-

Notes:

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

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

"<" = analyte was not detected at the indicated reporting limit (some historic data were reported at the detection limit).

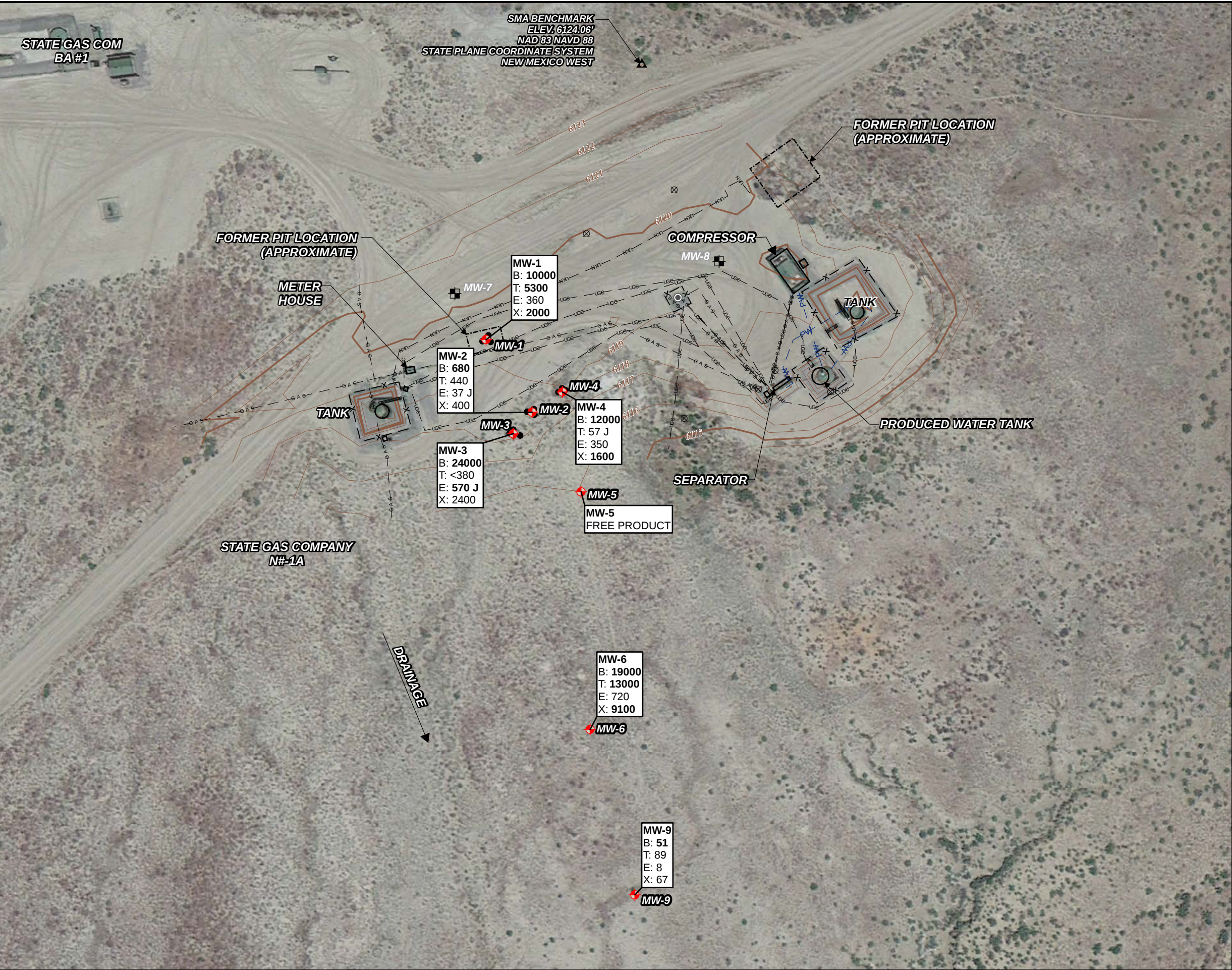
FIGURES

FIGURE 1: APRIL 5, 2014 GROUNDWATER ANALYTICAL RESULTS MAP

FIGURE 2: APRIL 5, 2014 GROUNDWATER ELEVATION MAP

FIGURE 3: OCTOBER 21, 2014 GROUNDWATER ANALYTICAL RESULTS MAP

FIGURE 4: OCTOBER 21, 2014 GROUNDWATER ELEVATION MAP

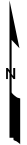


LEGEND:

- 6120 APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- X- FENCE
- GAS- NATURAL GAS LINE
- PW- PRODUCED WATER LINE
- UKN- UNKNOWN LINE
- UG- 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
J = RESULT IS LESS THAN THE RL, BUT GREATER THAN OR EQUAL TO THE MDL AND THE CONCENTRATION IS AN APPROXIMATE VALUE.
MDL = METHOD DETECTION LIMIT
RL = REPORTING LIMIT OR REQUESTED LIMIT (RADIOCHEMISTRY)

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



REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	10/15/2014	CCL	CCL	DAW

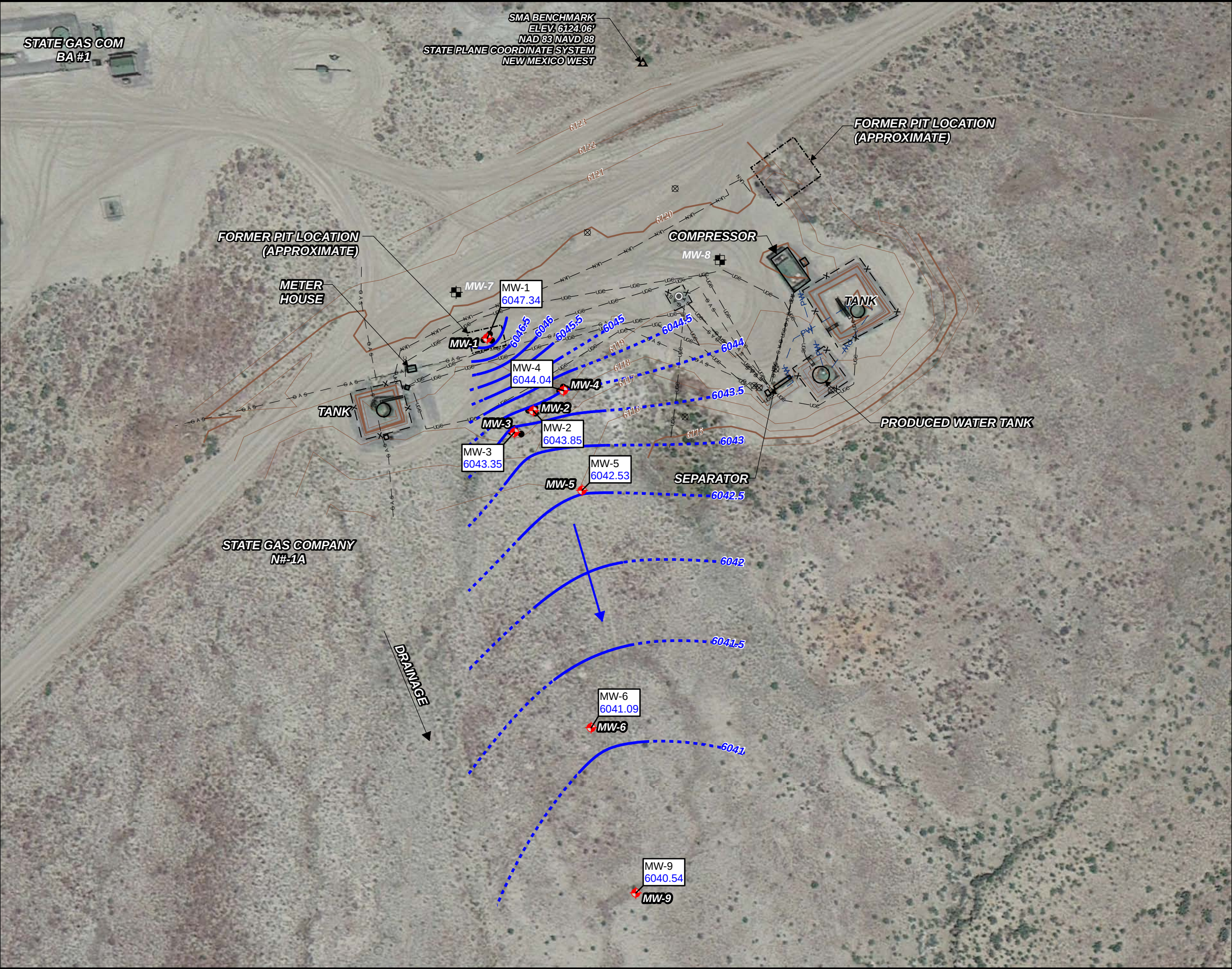
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GROUNDWATER ANALYTICAL RESULTS
SAMPLED APRIL 5, 2014

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

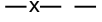
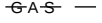
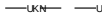
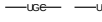


Figure No.:

1

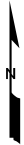


LEGEND:

-  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:

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



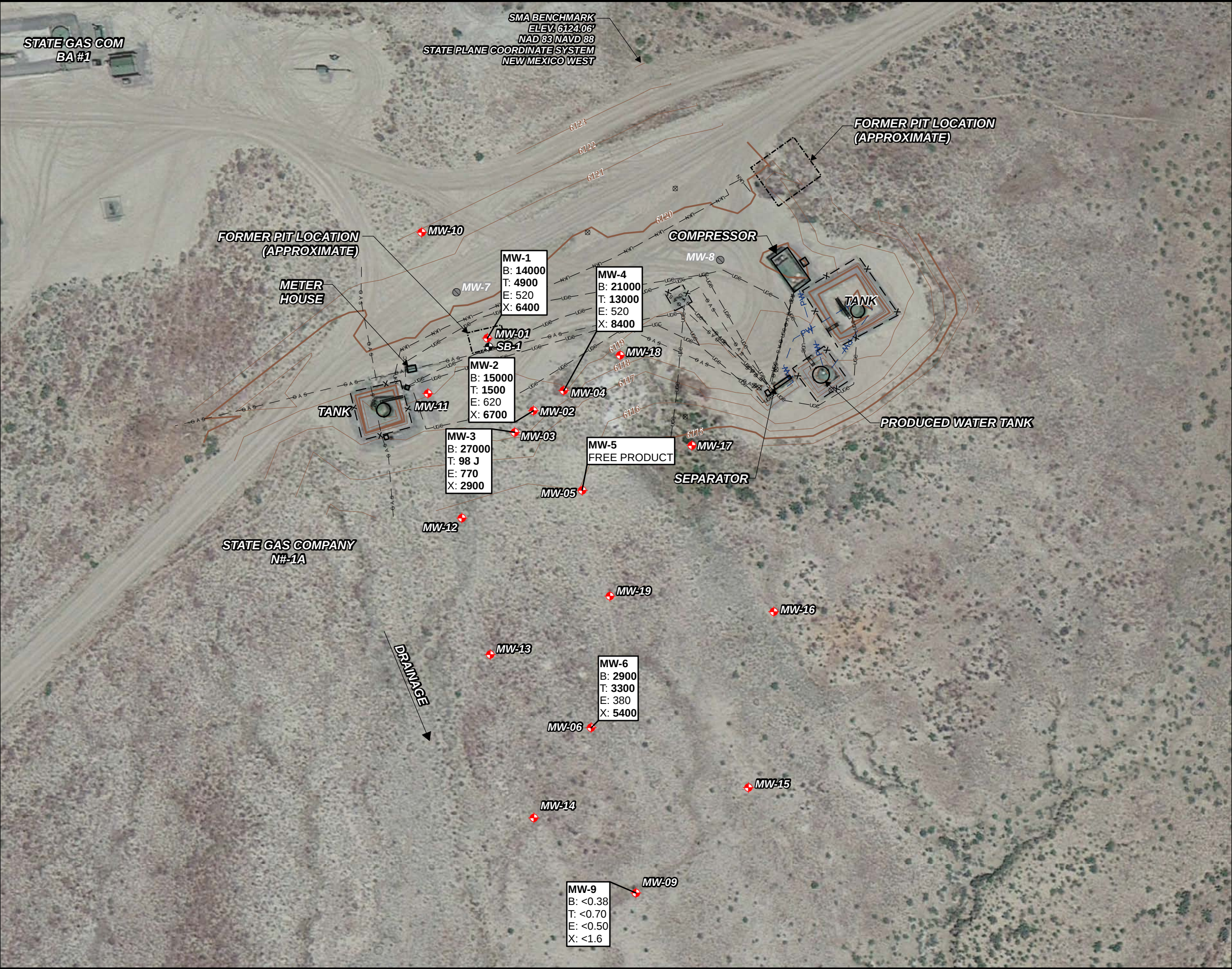
REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	10/15/2014	CCL	CCL	DAW

TITLE: **STATE GAS COM N#1
GROUNDWATER ELEVATION MAP
GAUGED APRIL 5, 2014**

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



Figure No.:

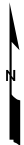


LEGEND:

- 6120** APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- X— FENCE
- GAS— NATURAL GAS LINE
- PW— PRODUCED WATER LINE
- UKN— UNKNOWN LINE
- UGC— UNDERGROUND CABLE
- ABANDONED MONITORING WELL
- ⬮ MONITORING WELL
- ⊠ RIG ANCHOR
- ⊕ SOIL BORING
- ▲ 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
J = RESULT IS LESS THAN THE RL, BUT GREATER THAN OR EQUAL TO THE MDL AND THE CONCENTRATION IS AN APPROXIMATE VALUE.
MDL = METHOD DETECTION LIMIT
RL = REPORTING LIMIT OR REQUESTED LIMIT (RADIOCHEMISTRY)

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



REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	12/15/2014	CCL	CCL	DAW

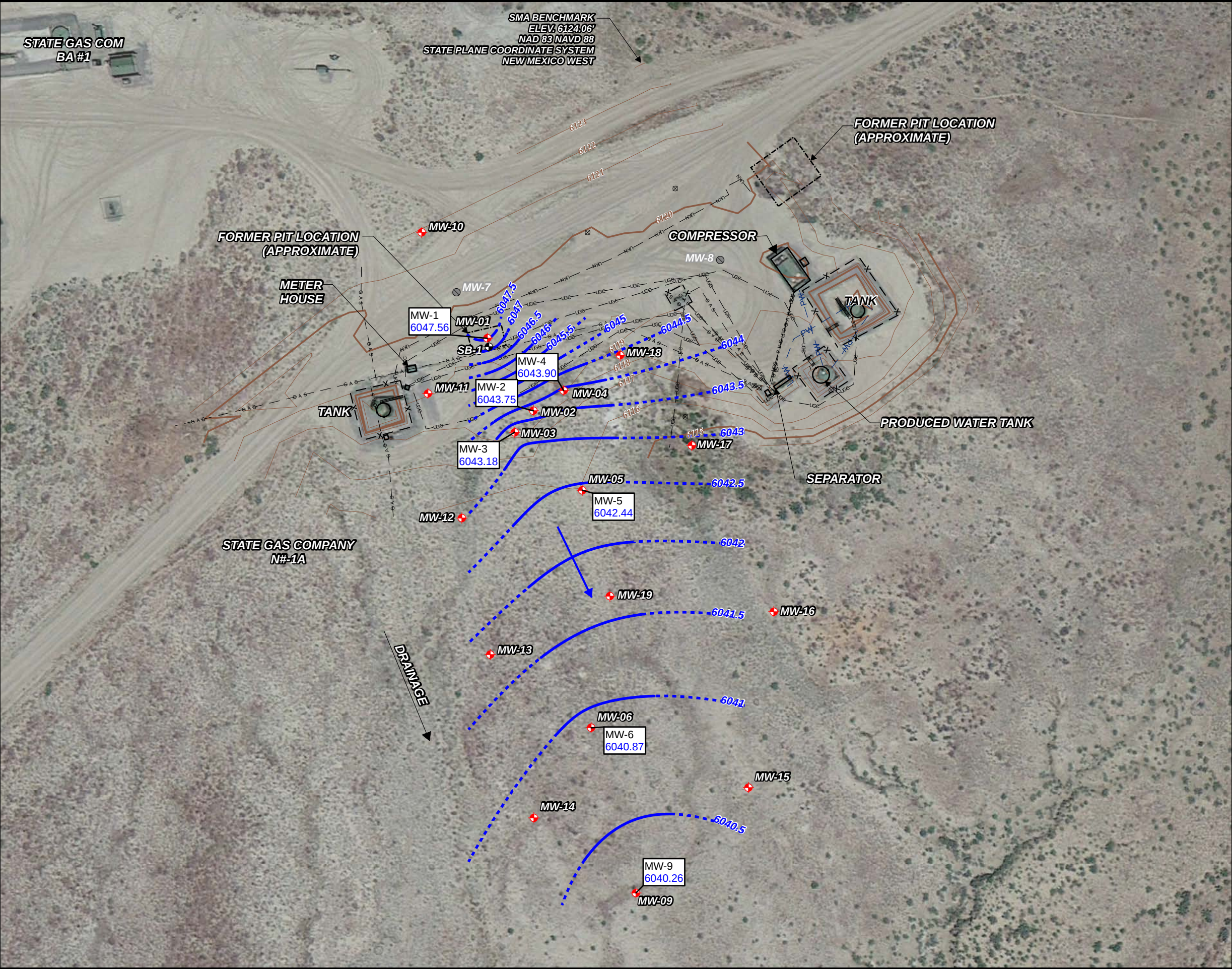
TITLE: **STATE GAS COM N#1**
GROUNDWATER ANALYTICAL RESULTS
SAMPLED OCTOBER 21, 2014

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



Figure No.:

3

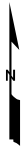


LEGEND:

- 6120 APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- X- FENCE
- GAS- NATURAL GAS LINE
- PW- PRODUCED WATER LINE
- UKN- UNKNOWN LINE
- UG- UNDERGROUND CABLE
- ABANDONED MONITORING WELL
- ⬮ MONITORING WELL
- ⊠ RIG ANCHOR
- ⊕ SOIL BORING
- ▲ 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



REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	12/15/2014	CCL	CCL	CO

TITLE: STATE GAS COM N#1
GROUNDWATER ELEVATION MAP
GAUGED OCTOBER 21, 2014

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



Figure No.:

4

APPENDICES

APPENDIX A – BOREHOLE AND WELL CONSTRUCTION LOGS

APPENDIX B – SOIL SAMPLING ANALYTICAL REPORTS

APPENDIX C – APRIL 5, 2014 GROUNDWATER SAMPLING ANALYTICAL REPORT
OCTOBER 21, 2014 GROUNDWATER SAMPLING ANALYTICAL REPORT

APPENDIX A



MWH

Drilling Log

Monitoring Well

MW-10 DRAFT

Page: 1 of 2

Project State Gas Com N#1 Owner EPCGPC

Location San Juan County, New Mexico Project Number 10505884.010101

Surface Elev. 6121.77 ft North 2147501.858 East 2646116.115

Top of Casing 6123.78 ft Water Level Initial 6039.77 10/25/14 11:30 Static ▼

Hole Depth 85.0ft Screen: Diameter 2 in Length 24.5 ft Type/Size PVC/0.01 in

Hole Diameter 8.0 in Casing: Diameter 2 in Length 60.0 ft Type PVC

Drill Co. National EWP Drilling Method Hollow Stem Auger Sand Pack 10-20 silica

Driller I. Gutierrez/B. Nydoske Driller Reg. # WD-1210 Log By Doug Burr

Start Date 10/25/2014 Completion Date 10/25/2014 Checked By Chris Hiatt

COMMENTS

Bentonite Grout Bentonite Granules Grout Portland Cement Sand Pack Sand Pack

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well Completion
0						Hydraulically excavated to 10' bgs	
5							
10	0.0 1.4				SM		
15	0.5						
20	0.1						
25	6.2 1.1				ML SM		
30	1.8				SM		
35	2.4				ML SM		
40	1.0						

Continued Next Page

Drilling Log STATE GAS COM N#1.GPJ MWH I.A.GDT 12/17/14



MWH

Drilling Log

Monitoring Well

MW-10 DRAFT

Page: 2 of 2

Project State Gas Com N#1Owner EPCGPCLocation San Juan County, New MexicoProject Number 10505884.010101

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well Completion
40						<i>Continued</i>	
45	8.0				ML SM	Sand, silty, light brownish-gray (10YR 6/2), dry, weak cementation becoming stronger at 47', reddish (2.5YR 4/4) 1"-thick iron oxide stained lens at 48.5'	
50	25.0				SM		
55	35.0				ML SM	Sand, silty, yellowish-brown (10YR 5/4), dry, moderate cementation, non-plastic	
60	12.2 2.8				SM	Sand, silty, light brownish-gray (10YR 6/2), loose, dry, weak cementation becoming moderate at 57.5' and then weak again, some gypsum veins	
65	3.0				SP SM	Sand, slightly silty, pale brown (10YR 6/3), weak cementation, medium dense, dry	
70	1.2				SP	Sand, pale brown (10YR 6/3), moist, loose, no cementation	
75	35.0 372				CL ML	Silt, clayey, brown (10YR 4/3), medium stiff, moist, medium plasticity	
80	546				ML	Silt, sandy, dark gray (10YR 4/1) changing to light yellowish-brown (2.5Y 6/3) at 79.5', dry, 1" wet layer at 72.5', slightly moist at 77.5', very hard at 81', strong cementation, minor interbedded sand lens at 74' (4"-thick), lens is dry to moist;	
85	1944				ML	saturated from 82-83', dry from 83-85'	
90						End of boring = 85'	

Drilling Log STATE GAS COM N#1.GPJ MWH I.A.GDT 12/17/14



MWH

Drilling Log

Monitoring Well

MW-11**DRAFT**

Page: 1 of 2

Project State Gas Com N#1 Owner EPCGPC
 Location San Juan County, New Mexico Project Number 10505884.010101
 Surface Elev. 6119.10 ft North 2147385.03 East 2646120.698
 Top of Casing 6121.55 ft Water Level Initial ▼ Static ▼
 Hole Depth 85.0ft Screen: Diameter 2 in Length 24.5 ft Type/Size PVC/0.01 in
 Hole Diameter 8.0 in Casing: Diameter 2 in Length 60.0 ft Type PVC
 Drill Co. National EWP Drilling Method Hollow Stem Auger Sand Pack 10-20 silica
 Driller I. Gutierrez/B. Nydoske Driller Reg. # WD-1210 Log By Doug Burr
 Start Date 10/25/2014 Completion Date 10/26/2014 Checked By Chris Hiatt

COMMENTS

Bentonite Grout Bentonite Granules Grout Portland Cement Sand Pack Sand Pack

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well Completion
0						Hydraulically excavated to 10' bgs	
5							
10	2.0				SM	Sand, silty, light grayish-brown (10YR 6/2), loose to medium dense, dry, non-plastic	
15	8.7				ML SM	Silt with very fine-grained sand, brown (10YR 4/3), soft, dry, non-plastic, some gypsum veins	
20	14.2				SM	Sand, silty, slightly increasing in grain size with depth, rounded to subrounded grains	
25	54						
	127						
30	46					Sand, increasing fine-grained sand content with depth, slightly silty, yellowish-brown (10YR 5/4) changing to brown (10YR 5/3) at 39', dry, loose, moderately cemented at 34.5', predominantly quartz, sub-angular to angular, abundant gypsum veins at 36.5'	
	238				SP SM		
	32						
35	169						
	8.6						
	37.2						
40							

Continued Next Page

Drilling Log STATE GAS COM N#1.GPJ MWH I.A.GDT 12/17/14



MWH

Drilling Log

Monitoring Well

MW-11

DRAFT

Page: 2 of 2

Project State Gas Com N#1Owner EPCGPCLocation San Juan County, New MexicoProject Number 10505884.010101

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well Completion
40	53.4 8.4				SP SM	<i>Continued</i>	
45	19.4 18.9				SM	Sand, silty, brown (10YR 5/3), dry, very stiff, strong to medium cementation, non-plastic, abundant gypsum, black (10YR 2/1) 1"-diameter silt nodules at 47', 1.5" concretions from 49-50',	
50	128 26				SM		
55	144 151 23.2				SM	at 52' color changes to dark yellowish-brown (10YR 4/4), stiff, low plasticity, gypsum veins, at 55.5' color changes to light brownish-gray (2.5Y 6/2)	
60	44.8 38.0 6.2				SM	Sand, very silty, dark grayish-brown (10YR 4/2), dry, stiff, moderate cementation, light red (2.5YR 6/6) iron oxide veins from 63-65', low to medium plasticity	
65	7.4 8.3 12.8				SM		
70	78 55 0.0 12.6				ML	Silt, sandy, dark gray (10YR 4/1), dry, very stiff to hard, moderate to strong cementation, low plasticity	
75	22.5 8.1 22.4				ML		
80	5 32.2 33.6				SM	Sand, very silty, gray (10YR 5/1), dry, very stiff to hard, moderate cementation, medium plasticity	
85	47.8	MW-11-84'					
90						End of boring = 85'	

Drilling Log STATE GAS COM N#1.GPJ MWH I.A.GDT 12/17/14



MWH

Drilling Log

Monitoring Well

MW-12

DRAFT

Page: 1 of 2

Project State Gas Com N#1 Owner EPCGPC

Location San Juan County, New Mexico Project Number 10505884.010101

Surface Elev. 6115.78 ft North 2147295.211 East 2646145.195

Top of Casing 6118.17 ft Water Level Initial ▽ Static ▽ 6030.65 11/11/14
00:00

Hole Depth 85.0ft Screen: Diameter 2 in Length 24.5 ft Type/Size PVC/0.01 in

Hole Diameter 8.0 in Casing: Diameter 2 in Length 60.0 ft Type PVC

Drill Co. National EWP Drilling Method Hollow Stem Auger Sand Pack 10-20 silica

Driller I. Gutierrez/B. Nydoske Driller Reg. # WD-1210 Log By Doug Burr

Start Date 11/1/2014 Completion Date 11/1/2014 Checked By Chris Hiatt

COMMENTS

Bentonite Grout Bentonite Granules Grout Portland Cement Sand Pack Sand Pack

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well Completion
0						Hand augered to to 5' bgs	
5	0.0					Sand, silty, brown (10YR 5/3), dry, medium dense, low plasticity, moderate cementation, at 9.5' loose with weak cementation, gypsum veins at 19', medium dense at 19' and from 24.5-25',	
10	0.0						
15	0.0				SM		
20	0.0						
25	0.0						
30	0.0					minor iron oxide staining at 28.5', at 33.5' color changes to brown (10YR 4/3), medium dense at 34.5', loose at 38', medium dense again at 39.5'	
35	0.0				SM		
40	0.0						

Continued Next Page

Drilling Log STATE GAS COM N#1.GPJ MWH I.A.GDT 12/17/14



MWH

Drilling Log

Monitoring Well

MW-12 DRAFT

Page: 2 of 2

Project State Gas Com N#1Owner EPCGPCLocation San Juan County, New MexicoProject Number 10505884.010101

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well Completion
40	0.0				SM	<i>Continued</i>	
	0.0					Sand, very silty, dark grayish-brown (10YR 4/2), dry, very stiff to hard, medium plasticity, some gypsum veins, at 52' color changes to grayish-brown (10YR 5/2), abundant gypsum veins with visible crystals up to 2 mm	
45	0.0						
	0.0						
	0.0				SM		
50	0.6						
	0.0						
	0.2						
55	0.0					Silt, sandy, dark gray (10YR 4/1), dry, hard/hard drilling, moderate cementation, medium plasticity	
	0.0				ML		
60	0.0					Sand, very silty, grayish-brown (10YR 5/2), dry, dense, weak to moderate cementation, low plasticity	
	0.0				SM		
65	0.1						
	0.0					Silt, sandy, dark gray (10YR 4/1), dry, hard, medium plasticity, blocky structure when broken, moist at 71', hard drilling at 73.5'	
70	0.0				ML		
	0.0						
75	0.0					Sand, medium-grained sand content increases with depth, very silty, olive-brown (2.5Y 4/3), dry to moist, hard, moderate cementation, shale; at 77' color changes to dark gray gley 4/N, dry	
	11.5						
	15.9				SM		
80	3.7						
	0.0						
	4.6						
85	0.0					End of boring = 85'	
90							

Drilling Log STATE GAS COM N#1.GPJ MWH I.A.GDT 12/17/14

MW-12-78'



MWH

Drilling Log

Monitoring Well

MW-13

DRAFT

Page: 1 of 2

Project State Gas Com N#1 Owner EPCGPC

Location San Juan County, New Mexico Project Number 10505884.010101

Surface Elev. 6112.97 ft North 2147196.145 East 2646165.788

Top of Casing 6115.52 ft Water Level Initial ▽ Static ▽ 6028.05 11/11/14
00:00

Hole Depth 85.0ft Screen: Diameter 2 in Length 24.5 ft Type/Size PVC/0.01 in

Hole Diameter 8.0 in Casing: Diameter 2 in Length 60.0 ft Type PVC

Drill Co. National EWP Drilling Method Hollow Stem Auger Sand Pack 10-20 silica

Driller I. Gutierrez/B. Nydoske Driller Reg. # WD-1210 Log By Doug Burr

Start Date 10/31/2014 Completion Date 10/31/2014 Checked By Chris Hiatt

COMMENTS

Bentonite Grout Bentonite Granules Grout Portland Cement Sand Pack Sand Pack

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well Completion
0						Hand augered to to 5' bgs	
5	0.0				SM	Sand, very silty, light olive-brown (2.5Y 5/4), loose, dry, low plasticity, minor gypsum present	
10	0.0				SM	Sand, silty, light olive-brown (2.5Y 5/4), dry, low plasticity	
15	0.0				SM	Sand, trace medium-grained sand, very silty, light olive-brown (2.5Y 5/4), loose, dry, low plasticity, minor gypsum present	
20	0.0				SM	Sand, silty, light olive-brown (2.5Y 5/4), dry, low plasticity, some gypsum nodules present	
25	0.0				SM	Sand, trace medium-grained sand, very silty, light olive-brown (2.5Y 5/4), loose, dry, low plasticity, some gypsum present	
30	0.0				SM	Sand, silty, light olive-brown (2.5Y 5/4), dry, non-cemented, loose becoming medium dense at 34', non-plastic, medium-grained sand is predominantly quartz	
35	0.0				SM		
40	0.0				SM		

Continued Next Page

Drilling Log STATE GAS COM N#1.GPJ MWH I.A.GDT 12/17/14



MWH

Drilling Log

Monitoring Well

MW-13 DRAFT

Page: 2 of 2

Project State Gas Com N#1Owner EPCGPCLocation San Juan County, New MexicoProject Number 10505884.010101

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well Completion
40	0.0					<i>Continued</i>	
	0.0				SM		
	0.0				ML	Silt, sandy, brown (10YR 4/3), stiff, dry to moist, medium plasticity, some gypsum veins	
45	0.0				SM	Sand, silty, yellowish-brown (10YR 5/4), dry, loose, non-plastic, non-cemented, predominantly quartz, angular to sub-rounded	
	0.0				SM	Sand, very silty, yellowish-brown (10YR 5/4), loose, dry, low plasticity	
50	0.0					No recovery (large cobble caught in shoe of sampler)	
55							
60							
65							
70	1409					Silt, sandy, pale olive (5Y 6/3), color changes at 73' to light greenish-gray gley 7/10Y, dry to moist, very hard/hard drilling at 75.5', strong cementation, shale	
	1610				ML		
75	344						
	574						
	614						
80	105					Interbedded silty and poorly-graded sands, light gray (2.5Y 7/2), dry, very dense, low to non-plastic, predominantly quartz, trace nodules, moderate cementation, hard drilling	
	410				SP		
	210						
	43						
85	27				ML	Silt, sandy, grayish-brown (2.5Y 5/2), dry, hard, medium plasticity	
	0.0					End of boring = 85'	
90							

Drilling Log STATE GAS COM N#1.GPJ MWH I.A.GDT 12/17/14



MWH

Drilling Log

Monitoring Well

MW-14**DRAFT**

Page: 1 of 2

Project State Gas Com N#1 Owner EPCGPC

Location San Juan County, New Mexico Project Number 10505884.010101

Surface Elev. 6109.22 ft North 2147078.248 East 2646197.348

Top of Casing 6111.92 ft Water Level Initial ▼ Static ▼ 6037.32 11/11/14 00:00

Hole Depth 85.0ft Screen: Diameter 2 in Length 24.5 ft Type/Size PVC/0.01 in

Hole Diameter 8.0 in Casing: Diameter 2 in Length 60.0 ft Type PVC

Drill Co. National EWP Drilling Method Hollow Stem Auger Sand Pack 10-20 silica

Driller I. Gutierrez/B. Nydoske Driller Reg. # WD-1210 Log By Doug Burr

Start Date 10/30/2014 Completion Date 10/30/2014 Checked By Chris Hiatt

COMMENTS

Bentonite Grout Bentonite Granules Grout Portland Cement Sand Pack Sand Pack

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well Completion
0						Hand augered to to 5' bgs	
5						Silt, sandy, brown (10YR 5/3), medium stiff, low plasticity, weak cementation	
10	0.0				ML SM		
15	0.0						
20	0.0				SM	Sand, very silty, brown (10YR 4/3), medium dense, dry, low plasticity	
25	0.0				ML SM	Silt, sandy, stiff, low plasticity, gypsum veins, minor iron oxide, some roots	
30	0.0						
35	0.0				SM	Sand, very silty, brown (10YR 5/3), dry, loose, low to non-plastic, decrease in medium-grained sand, trace gypsum nodules	
40	0.0						
	0.0				SP SM	Sand, slightly silty, pale brown (10YR 6/3), dry, loose, coarse and medium sand is subangular to rounded, predominantly quartz	
	0.0						

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Drilling Log STATE GAS COM N#1.GPJ MWH I.A.GDT 12/17/14



MWH

Drilling Log

Monitoring Well

MW-14 DRAFT

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Project State Gas Com N#1Owner EPCGPCLocation San Juan County, New MexicoProject Number 10505884.010101

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well Completion
40	0.0					<i>Continued</i>	
	0.0				SP SM	Sand, silty, brown (10YR 5/3), dry, loose, low to non-plastic, decrease in medium-grained sand, trace gypsum nodules	
45	0.0				SM	Sand lens, silty	
	0.0				SP SM	Sand, silty, brown (10YR 5/3), dry, loose, low to non-plastic, decrease in medium-grained sand, trace gypsum nodules	
	0.0						
50	0.0					Silt, very sandy, dry, medium stiff, weak cementation, gypsum nodules present, moist at 52'	
	0.0				ML SM		
55	0.0						
	0.0						
60	0.0				SM	Sand, very silty, yellowish-brown (10YR 3/4), moist, medium stiff, low plasticity, minor gypsum nodules; very hard drilling at 61' - quartzite cobble retrieved from sampler	
	0.0						
65	0.0					Sand, silty, olive, moist to dry, very hard, medium stiff to stiff from 68-69.5', moderate to weak cementation	
	0.0				SM		
70	0.1						
	0.0				SP SM	Sand, slightly silty, pale olive, loose, moist, non-plastic, no cementation, predominantly quartz sand grains, angular to subrounded	
75	0.0				SM	Sand, silty, olive (5Y 5/3), moist, stiff, moderate cementation	
	0.0				SM	Sand, very silty, brown (10YR 5/3), mottled brownish-yellow iron oxide (10YR 6/8), dry to moist, medium plasticity	
80	0.0				ML	Silt, sandy, very dark gray (10YR 3/1), dry to moist, hard, medium to high plasticity	
	0.0						
85	0.0						
						End of boring = 85'	
90							

Drilling Log STATE GAS COM N#1.GPJ MWH I.A.GDT 12/17/14



MWH

Drilling Log

Monitoring Well

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DRAFT

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Project State Gas Com N#1 Owner EPCGPC
 Location San Juan County, New Mexico Project Number 10505884.010101
 Surface Elev. 6108.38 ft North 2147099.874 East 2646352.677
 Top of Casing 6110.93 ft Water Level Initial ▽ Static ▽ 6033.09 11/11/14 00:00
 Hole Depth 85.0ft Screen: Diameter 2 in Length 24.5 ft Type/Size PVC/0.01 in
 Hole Diameter 8.0 in Casing: Diameter 2 in Length 60.0 ft Type PVC
 Drill Co. National EWP Drilling Method Hollow Stem Auger Sand Pack 10-20 silica
 Driller I. Gutierrez/B. Nydoske Driller Reg. # WD-1210 Log By Doug Burr
 Start Date 10/29/2014 Completion Date 10/29/2014 Checked By Chris Hiatt

COMMENTS

Bentonite Grout Bentonite Granules Grout Portland Cement Sand Pack Sand Pack

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well Completion
0						Hand augered to to 5' bgs	
5	0.0					Sand, very silty, pale brown (10YR 4/3), yellowish-brown (10YR 5/4) at 15', brown (10YR 5/3) at 22', light yellowish-brown (10YR 6/4) at 22.5', medium stiff to stiff, dry, low plasticity, abundant gypsum veins at 15 and 26'	
10	0.0						
15	0.0						
20	0.0				SM		
25	0.0						
30	0.0						
35	0.0				ML	Silt, very sandy, light yellowish-brown (10YR 6/4), dry, medium stiff, low plasticity	
	0.0				SM	Sand, very silty, light yellowish-brown (10YR 6/4), dry, stiff, low plasticity, some gypsum veins present	
40	0.0				SM	Sand, silty, light yellowish brown (10YR 6/4), dry, loose, low plasticity to medium plasticity at 46', sand is predominantly quartz, subangular to subrounded	

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Drilling Log STATE GAS COM N#1.GPJ MWH I.A.GDT 12/17/14



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Monitoring Well

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Project State Gas Com N#1Owner EPCGPCLocation San Juan County, New MexicoProject Number 10505884.010101

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well Completion
40	0.0					<i>Continued</i>	
45	0.0				SM		
50	0.0						
55	0.0				ML	Silt, sandy, light yellowish-brown (10YR 6/3) to grayish-brown (10YR 5/2), dry, medium stiff, medium plasticity, gypsum veins	
60	0.0				SM	Sand, silty, yellowish-brown (10YR 5/4), loose, moist, non-plastic Silt, sandy, brown (10YR 5/3), moist, soft, medium plasticity, non-cemented, some gypsum veins	
65	0.0				ML		
70	0.0						
75	0.0				SM	Sand, silty, brown (10YR 5/3), loose, saturated, medium-grained sand, predominantly quartz	
	0.0				ML	Silt, sandy, brown (10YR 4/3), moist, soft, medium plasticity	
80	0.0				SM	Sand with trace gravel, silty, brown (10YR 5/3), saturated, non-cemented, loose, some iron oxide staining, gravel is subrounded up to 1" in diameter	
	0.0				ML	Silt, sandy, brown (10YR 4/3), moist, saturated from 82.5 to 83', soft, medium plasticity, gypsum veins present	
85	0.0					End of boring = 85'	
90							

Drilling Log STATE GAS COM N#1.GPJ MWH I.A.GDT 12/17/14



MWH

Drilling Log

Monitoring Well

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Project State Gas Com N#1 Owner EPCGPC

Location San Juan County, New Mexico Project Number 10505884.010101

Surface Elev. 6111.45 ft North 2147227.163 East 2646370.938

Top of Casing 6113.78 ft Water Level Initial ▼ Static ▼ 6037.11 11/11/14
00:00

Hole Depth 85.0ft Screen: Diameter 2 in Length 24.5 ft Type/Size PVC/0.01 in

Hole Diameter 8.0 in Casing: Diameter 2 in Length 60.0 ft Type PVC

Drill Co. National EWP Drilling Method Hollow Stem Auger Sand Pack 10-20 silica

Driller I. Gutierrez/B. Nydoske Driller Reg. # WD-1210 Log By Doug Burr

Start Date 10/28/2014 Completion Date 10/28/2014 Checked By Chris Hiatt

COMMENTS

Bentonite Grout
 Bentonite Granules
 Grout
 Portland Cement
 Sand Pack
 Sand Pack

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well Completion
0						Hand augered to to 5' bgs	
5	0.0				SM	Sand, very silty, pale brown (10YR 6/3), medium stiff, dry, some roots, gypsum veins, low plasticity	
10	0.0				SM	Sand, silty, brown (10YR 5/3), dry, loose, non-cemented, non-plastic, medium-grained sand is subangular to subrounded, predominantly quartz	
15	0.0				SM	Sand, very silty, pale brown (10YR 6/3), medium stiff, dry, some roots, gypsum veins, low plasticity	
	0.0				SP	Sand, slightly silty, light yellowish-brown (2.5Y 6/3), dry, loose	
20	0.0					Sand, very silty, pale brown (10YR 6/3), medium stiff to loose at 27', dry, some roots, gypsum veins, low plasticity, medium sand content increases	
25	0.0				SM		
30	0.0						
35	0.0				SM	Sand, silty to very silty in alternating layers to 35', medium sand is subangular to subrounded and predominantly quartz	
40	0.0				SM	Sand, silty, light olive-brown (10YR 5/3), dry, loose, non-cemented, non-plastic, subangular to subrounded, predominantly quartz sand	

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Drilling Log STATE GAS COM N#1.GPJ MWH I.A.GDT 12/17/14



MWH

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Project State Gas Com N#1Owner EPCGPCLocation San Juan County, New MexicoProject Number 10505884.010101

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well Completion
40	0.0					<i>Continued</i>	
40	0.0				SM		
45	0.0				SM	Sand, very silty, light olive-brown (2.5Y 5/3); interlayered with sand, silty, light olive-brown (10YR 5/3), some gypsum present	
45	0.0				SM	Sand, silty, light olive-brown (10YR 5/3), dry, loose, non-cemented, non-plastic, subangular to subrounded, predominantly quartz sand	
50	0.0				SM	Sand, very silty, grayish-brown (10YR 5/2) changing to dark grayish-brown (10YR 4/2) at 51', medium stiff, dry, moderate cementation, some gypsum, medium plasticity, hard drilling at 51', very stiff, strong cementation	
55	0.0				ML	Silt with sand, dark grayish-brown (10YR 4/2), dry to moist, very stiff to hard, moderate cementation, medium plasticity, some gypsum veins, blocky structure when broken	
60	0.0				SM	Sand, silty, brown (10YR 5/3), loose, dry, non-plastic, non-cemented	
60	0.0				ML	Silt, sandy, yellowish-brown (10YR 5/4), medium plasticity, some gypsum veins	
65	6.2				SM	Sand, silty, pale brown (10YR 6/3), moist, loose, non-cemented, non-plastic, medium-grained sand, predominantly quartz, subangular to subrounded	
65	5.6				ML	Silt, sandy, yellowish-brown (10YR 5/4), medium plasticity, some gypsum veins, becoming coarser grained with depth	
70	1285				ML	Sand, very silty, light olive-brown (2.5Y 5/3) mottled with gley 4/5 GY dark greenish-gray, low to medium plasticity, moist, soft, strong petroleum odor	
70	146.9				SM	Silt, sandy, olive (5Y 4/3), dry to moist, stiff, low plasticity, consistency hardens with depth	
75	66.6				ML		
75	70.2						
80	96.1				SM	3" silty sand lens at 77.75', light yellowish-brown (2.5Y 6/3), loose, moist, predominantly quartz, micaceous, grades to silt at 83'	
80	356						
80	25.1						
85	5.5				ML	Silt, with very fine sand, dark grayish-brown (10YR 4/x), hard, dry to moist, medium plasticity, blocky texture when broken, trace iron oxide veins	
85	5.5						
85	3.9						
90						End of boring = 85'	

Drilling Log STATE GAS COM N#1.GPJ MWH I.A.GDT 12/17/14



MWH

Drilling Log

Monitoring Well

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Project State Gas Com N#1 Owner EPCGPC

Location San Juan County, New Mexico Project Number 10505884.010101

Surface Elev. 6114.56 ft North 2147347.754 East 2646311.643

Top of Casing 6117.30 ft Water Level Initial ▽ Static ▽ 6029.71 11/11/14 00:00

Hole Depth 85.0ft Screen: Diameter 2 in Length 24.5 ft Type/Size PVC/0.01 in

Hole Diameter 8.0 in Casing: Diameter 2 in Length 60.0 ft Type PVC

Drill Co. National EWP Drilling Method Hollow Stem Auger Sand Pack 10-20 silica

Driller I. Gutierrez/B. Nydoske Driller Reg. # WD-1210 Log By Doug Burr

Start Date 10/27/2014 Completion Date 10/27/2014 Checked By Chris Hiatt

Bentonite Grout Bentonite Granules Grout Portland Cement Sand Pack Sand Pack

COMMENTS

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well Completion
0						Hydraulically excavated to 10' bgs	
5							
10	0.0					Sand, very silty and increasing with depth, brown (10YR 5/3), dry, loose, non-cemented, low plasticity	
15	1.1				ML SM		
	3.8						
	17.4						
20	1.0						
	0.1						
	0.8					Sand, silty, brown (10YR 5/3), dry, loose, non-cemented, medium-grained sand is predominantly quartz, angular to subrounded, trace gypsum veins at 37', trace 1" diameter gravel at 39.5'	
25	1.8						
	1.8						
	25.2						
30	17.9				SM		
	29						
	6.5						
35	4.6						
	3.9						
	17.2						
40							

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Drilling Log STATE GAS COM N#1.GPJ MWH I.A.GDT 12/17/14



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Drilling Log

Monitoring Well

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Project State Gas Com N#1Owner EPCGPCLocation San Juan County, New MexicoProject Number 10505884.010101

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well Completion
40	21.1 27.2				SM	<i>Continued</i>	
	2.2				ML	Silt, sandy, brown (10YR 4/3), dry to moist, stiff, medium plasticity, gypsum veins present	
45	1.0 0.1				SM	Sand, silty, brown (10YR 5/3), dry, loose, non-cemented, medium-grained sand is predominantly quartz, angular to subrounded	
	49						
50	7.4 1.1 0.9				ML	Silt, sandy, brown (10YR 4/3), dry to moist, stiff, medium plasticity, gypsum veins present, minor iron oxide veins, low plasticity	
	0.7						
55	5.2 0.1				SM	Sand, silty, brown (10YR 5/3), dry, medium dense, non-plastic, medium-grained sand is subrounded, some gypsum veins	
	47.5						
60	2.0 0.1				ML	Silt, sandy, grayish-brown (10YR 5/2) changing to pale brown (10YR 6/3) at 60' changing to olive-gray (5Y 5/2) from 62.5 to 63' changing to pale yellow (2.5Y 7/4) at 64', dry, very stiff, moderate cementation, medium plasticity	
	0.8						
65	4.4 0.9 0.1						
	0.1						
70	0.1				ML	Silt with very fine sand, very dark grayish-brown (10YR 3/2), dry, very stiff to hard, medium plasticity, some iron oxide veins, strong odor starting at 71.5'	
	524 2441	MW-17-72'					
75	97 5.6				ML SM	Sand becoming slightly coarser with depth, very silty, olive (5Y 4/3) changing to gray (2.5Y 6/1) at 77', dry, very stiff/dense, medium to low plasticity, strong odor to 75'	
	3.7						
80	2.7 2.1						
	49.6						
85	33.1						
						End of boring = 85'	
90							

Drilling Log STATE GAS COM N#1.GPJ MWH I.A.GDT 12/17/14



MWH

Drilling Log

Monitoring Well

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Project State Gas Com N#1 Owner EPCGPC

Location San Juan County, New Mexico Project Number 10505884.010101

Surface Elev. 6118.81 ft North 2147412.744 East 2646259.8

Top of Casing 6121.16 ft Water Level Initial ▽ Static ▽ 6038.69 11/11/14
00:00

Hole Depth 85.0ft Screen: Diameter 2 in Length 24.5 ft Type/Size PVC/0.01 in

Hole Diameter 8.0 in Casing: Diameter 2 in Length 60.0 ft Type PVC

Drill Co. National EWP Drilling Method Hollow Stem Auger Sand Pack 10-20 silica

Driller I. Gutierrez/B. Nydoske Driller Reg. # WD-1210 Log By Doug Burr

Start Date 10/26/2014 Completion Date 10/27/2014 Checked By Chris Hiatt

COMMENTS

Bentonite Grout
 Bentonite Granules
 Grout
 Portland Cement
 Sand Pack
 Sand Pack

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well Completion
0						Hydraulically excavated to 8' bgs	
5							
10	0.0 0.0					Sand, medium-grained content increases with depth, silty, light olive-brown (2.5Y 5/3), loose, non-cemented, dry to moist, non-plastic, subangular to subrounded	
15	32.2 304 292 106				SM		
20	194						
25	66.7 103 94				SP SM	Sand, slightly silty but increasing content from 28-29', light olive-brown (10YR 5/3), dry, loose, non-cemented, non-plastic, angular to subrounded	
30	164 60.1						
35	316 70 319 182				SM	Sand, silty, brown (10YR 5/3), dry, very dense, strong cementation becoming weak at 35.5', gypsum veins present, trace 1/2" diameter subrounded gravel at 35.5'	
40	368						

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Drilling Log STATE GAS COM N#1.GPJ MWH I.A.GDT 12/17/14

**MWH****Drilling Log**

Monitoring Well

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Project State Gas Com N#1Owner EPCGPCLocation San Juan County, New MexicoProject Number 10505884.010101

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well Completion
40	313 68				SM	<i>Continued</i>	
45	117 68 283				ML	Silt, sandy, dark grayish-brown (10YR 4/2), dry to moist, very stiff to hard, moderate cementation, low plasticity, gypsum veins	
50	227 85 127				SM SP SM	Sand, silty, light olive-brown (2.5Y 5/3), dry to moist, loose to medium dense, weak cementation, non-plastic Sand, slightly silty, light olive-brown (2.5Y 5/3), dry to moist, loose, predominantly quartz	
55	2.4 27 44				SM	Sand, silty, light olive-brown (2.5Y 5/3) to gray (5Y 6/1) from 55.5 to 56.5', dry to moist, loose to medium dense, weak cementation, non-plastic	
60	134 21 34				ML	Silt, sandy, dark grayish-brown (10YR 4/2), very stiff, dry, low plasticity, very well defined underlying contact at 64.5'	
65	63 93 72				ML SM	Sand, very silty, light olive-brown (2.5Y 5/4), medium stiff, dry, low plasticity	
70	498 432 346				ML	Silt, sandy, dark grayish-brown (10YR 4/2), very stiff, dry, low plasticity, strong petroleum odor, some iron oxide veins present, blocky texture when broken	
75	114 59 37				ML SM	Sand, very silty, light olive-brown (2.5Y 5/4) to dark greenish-gray gley 4/10Y, dry, loose becoming hard at 75', medium plasticity	
80	49 22 45				SM	Sand, silty, light yellowish-brown (2.5Y 6/4), dry, very dense, moderate cementation, low plasticity	
85	62 34				ML SM	Sand, very silty, light brownish-gray (2.5Y 6/2), dry, hard, moderate plasticity	
90						End of boring = 85'	

Drilling Log STATE GAS COM N#1.GPJ MWH I.A.GDT 12/17/14



MWH

Drilling Log

Monitoring Well

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DRAFT

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Project State Gas Com N#1 Owner EPCGPC

Location San Juan County, New Mexico Project Number 10505884.010101

Surface Elev. 6113.11 ft North 2147238.452 East 2646252.363

Top of Casing 6115.44 ft Water Level Initial 6043.44 ^{11/07/14} 00:00 Static 6032.5 ^{11/11/14} 00:00

Hole Depth 86.0ft Screen: Diameter 2 in Length 25.0 ft Type/Size PVC/0.01 in

Hole Diameter 8.0 in Casing: Diameter 2 in Length 60.0 ft Type PVC

Drill Co. National EWP Drilling Method Hollow Stem Auger Sand Pack 10-20 silica

Driller I. Gutierrez/B. Nydoske Driller Reg. # WD-1210 Log By Brad Barton

Start Date 11/7/2014 Completion Date 11/10/2014 Checked By Chris Hiatt

COMMENTS

Bentonite Grout Bentonite Granules Grout Portland Cement Sand Pack Sand Pack

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well Completion
0						Hand-augered to 5' bgs	
5	0.0	56%			ML	Silt, sandy, dry, light olive-brown (2.5Y 5/4), stiff, minor cementation (caliche) at 7', no odor	
	0.0					No recovery	
10	0.0	28%			SW	Sand, well-graded, fine to medium-grained, light brown (7.5YR 6/3), loose, minor cementation, dry, subangular to subrounded, no odor	
						No recovery	
15	0.0	40%			SW	Sand, well-graded, brown (10YR 5/3)	
						No recovery	
20	0.0	36%			SW	Sand, well-graded, brown (10YR 5/3)	
						No recovery	
25	0.0	60%			SW	Sand, well-graded, becoming more coarse-grained, loose, weak cementation, no odor	
	0.0					No recovery	
30	0.0	54%			SW	Sand, well-graded	
	0.0					No recovery	
35	0.0	68%			SW	Sand, well-graded, increasing cementation with depth, caliche present at 38'	
	0.0					No recovery	
40							

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Drilling Log STATE GAS COM N#1.GPJ MWH I.A.GDT 12/17/14

**MWH****Drilling Log**

Monitoring Well

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Project State Gas Com N#1Owner EPCGPCLocation San Juan County, New MexicoProject Number 10505884.010101

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well Completion
Continued							
40	0.0	64%			SW	Sand, well-graded, weak to strong cementation, dry, hard to medium hard at 43'	
	0.0					No recovery	
45	0.0	100%			SW	Sand, well-graded, hard drilling at 45'	
	0.0					Silt, sandy, brown, dry to slightly moist, very hard, strong cementation, low plasticity, no odor	
	0.0						
50	0.0	100%			ML		
	0.0						
	0.9						
55	0.0	100%			SM	Sand, very fine-grained, silty, light olive-brown (2.5Y 5/4), dry but increasingly moist with depth, strong to weak cementation, caliche present, no odor; 2.5"-thick clay lens at ~63'	
	0.0						
	0.1						
60	0.2	92%			SM		
65	1.7	100%			SM	No recovery	
						Sand, very fine-grained, silty, light olive-brown (2.5Y 5/4) changing to very dark gray (2.5Y 3/1) at 68', below 72' color changes to light olive-brown (2.5Y 5/4), wet at 72', strong to weak cementation, caliche present, strong hydrocarbon odor at 68'	
	298						
70	1202	84%	MW-19-70-72'		SM		
	13.7						
75	8.2	60%			SM	No recovery	
	3.4					Sand, becoming coarser-grained with depth, silty, wet, less odor with depth, low plasticity	
						No recovery	
80	11.3	84%			CL	Interbedded clay lenses with silty sand, brown, wet, clay has high plasticity, slight odor, medium stiff	
	1.2						
85		100%				No recovery	
90						End of boring = 86'	

Drilling Log STATE GAS COM N#1.GPJ MWH I.A.GDT 12/17/14



MWH

Drilling Log

Soil Boring

SB-1**DRAFT**

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Project State Gas Com N#1 Owner EPCGPC

Location San Juan County, New Mexico Project Number 10505884.010101

Surface Elev. 6119.08 ft North 2147415.86 East 2646163.935

Top of Casing NA Water Level Initial 77.0ft ^{11/08/14} 00:00 Static ▼

Hole Depth 85.0ft Screen: Diameter NA Length NA Type/Size NA

Hole Diameter 8.0 in Casing: Diameter NA Length NA Type NA

Drill Co. National EWP Drilling Method Hollow Stem Auger Sand Pack NA

Driller I. Gutierrez/B. Nydoske Driller Reg. # WD-1210 Log By Brad Barton

Start Date 11/8/2014 Completion Date 11/8/2014 Checked By Chris Hiatt

Bentonite Grout Bentonite Granules Grout Portland Cement Sand Pack Sand Pack

COMMENTS

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.
0						Hydraulically excavated to 8' bgs
5						
10	266.5	0%			SM	No recovery Sand, silty, olive-brown (2.5Y 4/4), dry to moist, loose, strong hydrocarbon odor, low plasticity
15	336	36%			SM	No recovery Sand, silty, black (gley 2.5/0), dry to slightly moist, loose, strong hydrocarbon odor
20	1155	42%			SM	No recovery Sand, becoming more coarse with depth, silty, black, strong hydrocarbon odor
25	1599	88% SB-1 (22- 24')			SM	No recovery Sand, silty
30	1711	60%			SM	No recovery
35	1597				SM	Sand, silty, grades from black to very dark gray (gley 3/0)
40	830.3				SM	No recovery Sand, silty, as above
	1706	88% SB-1 (32- 34')			SM	No recovery
	1560				SM	No recovery
	1263	52%				No recovery

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Drilling Log STATE GAS COM N#1.GPJ MWH I.A.GDT 12/17/14

**MWH****Drilling Log**

Soil Boring

SB-1**DRAFT**

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Project State Gas Com N#1Owner EPCGPCLocation San Juan County, New MexicoProject Number 10505884.010101

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.
<i>Continued</i>						
40	2412	96% SB-1 (43- 44.8')			SM	Sand, silty, increasing fines content with depth, moist, low plasticity, strong hydrocarbon odor
45	2489					No recovery
	2265	72% SB-1 (46.5- 48.5')			SM	Sand, silty
	2492					No recovery
50	1576	76%			SM	Sand, silty, fines content increasing with depth, becoming more dense/stiff with depth
	1573					No recovery
55	800	78% SB-1 (57- 58.9')			SM	Sand, silty, color changes to dark grayish-brown (10YR 5/2), minor cementation, strong hydrocarbon odor from 57-58.9'
	2021					No recovery
60	1191	88%			SM	Sand, silty, black to very dark gray, dry to moist, strong hydrocarbon odor
	668.1					No recovery
65	1173	76% SB-1 (67- 68.8')			SM	Sand, well-graded, silty, loose, minor cementation, strong hydrocarbon odor
	2243					No recovery
70	1714	SB-1 (71- 73')			SM	Sand, silty, moist to wet, trace gypsum nodules, strong hydrocarbon odor
	2275					No recovery
75	1736	60%			SM	Sand, silty, wet at 77'
	965.6					No recovery
80	28.1	62%			SM	Sand, silty, wet to moist, decreasing hydrocarbon odor
	5.5					No recovery
85						End of boring = 85'
90						

Drilling Log STATE GAS COM N#1.GPJ MWH I.A.GDT 12/17/14

APPENDIX B

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Houston

6310 Rothway Street

Houston, TX 77040

Tel: (713)690-4444

TestAmerica Job ID: 600-101353-1

Client Project/Site: Kinder-Morgan State Gas Com N #1

For:

MWH Americas Inc

11153 Aurora Avenue

Des Moines, Iowa 50322-7904

Attn: Mr. Mike Alowitz



Authorized for release by:

11/21/2014 9:14:35 AM

Neal Salcher, Senior Project Manager

(713)690-4444

neal.salcher@testamericainc.com

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

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

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

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Case Narrative

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

TestAmerica Job ID: 600-101353-1

Job ID: 600-101353-1

Laboratory: TestAmerica Houston

Narrative

CASE NARRATIVE

Client: MWH Americas Inc

Project: Kinder-Morgan State Gas Com N #1

Report Number: 600-101353-1

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) as a result of a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes or interferences which exceed the calibration range of the instrument.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

Note: All samples that require thermal preservation are considered acceptable if the arrival temperature is within 2°C of the required temperature or method specified range. For samples with a specified temperature of 4°C, samples with a temperature ranging from just above freezing temperature of water to 6°C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

The samples were received on 10/30/2014; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.1 C.

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples SGC # 1-MW-10-82 (600-101353-1), SGC # 1-MW-11-84 (600-101353-2), SGC # 1-MW-18-68 (600-101353-3), SGC # 1-MW-17-72 (600-101353-4), SGC # 1-MW-16-69 (600-101353-5) and SGC # 1-MW-15-72.5 (600-101353-6) were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 11/05/2014 and 11/06/2014.

Benzene was detected in method blank MB 600-148695/6 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

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

GASOLINE RANGE ORGANICS (GRO)

Samples SGC # 1-MW-10-82 (600-101353-1), SGC # 1-MW-11-84 (600-101353-2), SGC # 1-MW-18-68 (600-101353-3), SGC # 1-MW-17-72 (600-101353-4), SGC # 1-MW-16-69 (600-101353-5) and SGC # 1-MW-15-72.5 (600-101353-6) were analyzed for gasoline range organics (GRO) in accordance with EPA SW-846 Method 8015B - GRO. The samples were analyzed on 11/06/2014.

a,a,a-Trifluorotoluene failed the surrogate recovery criteria low for SGC # 1-MW-10-82 (600-101353-1). a,a,a-Trifluorotoluene failed the surrogate recovery criteria low for SGC # 1-MW-16-69 (600-101353-5). Refer to the QC report for details.

Case Narrative

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

TestAmerica Job ID: 600-101353-1

Job ID: 600-101353-1 (Continued)

Laboratory: TestAmerica Houston (Continued)

Gasoline Range Organics (GRO)-C6-C10 failed the recovery criteria low for the MS of sample SGC # 1-MW-17-72MS (600-101353-4) in batch 280-251478.

Gasoline Range Organics (GRO)-C6-C10 failed the recovery criteria low for the MSD of sample SGC # 1-MW-17-72MSD (600-101353-4) in batch 280-251478.

Refer to the QC report for details.

The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Refer to the QC report for details.

Samples SGC # 1-MW-10-82 (600-101353-1)[20X] and SGC # 1-MW-16-69 (600-101353-5)[20X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

DIESEL RANGE ORGANICS (DRO & ORO)

Samples SGC # 1-MW-10-82 (600-101353-1), SGC # 1-MW-11-84 (600-101353-2), SGC # 1-MW-18-68 (600-101353-3), SGC # 1-MW-17-72 (600-101353-4), SGC # 1-MW-16-69 (600-101353-5) and SGC # 1-MW-15-72.5 (600-101353-6) were analyzed for diesel range organics (DRO & ORO) in accordance with EPA SW-846 Method 8015B - DRO. The samples were prepared on 11/05/2014 and analyzed on 11/05/2014 and 11/06/2014.

Diesel Range Organics [C10-C28] failed the recovery criteria low for the MS of sample SGC # 1-MW-10-82MS (600-101353-1) in batch 600-148645.

Diesel Range Organics [C10-C28] failed the recovery criteria low for the MSD of sample SGC # 1-MW-10-82MSD (600-101353-1) in batch 600-148645.

Refer to the QC report for details.

Sample SGC # 1-MW-10-82 (600-101353-1)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

DI LEACH

Samples SGC # 1-MW-10-82 (600-101353-1), SGC # 1-MW-11-84 (600-101353-2), SGC # 1-MW-18-68 (600-101353-3), SGC # 1-MW-17-72 (600-101353-4), SGC # 1-MW-16-69 (600-101353-5) and SGC # 1-MW-15-72.5 (600-101353-6) were analyzed for DI Leach in accordance with ATSM Method D3987-85/EPA Method 300. The samples were leached on 11/03/2014 and analyzed on 11/03/2014.

Chloride was detected in method blank MB 600-147822/1-A at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Samples SGC # 1-MW-10-82 (600-101353-1)[10X], SGC # 1-MW-11-84 (600-101353-2)[10X], SGC # 1-MW-18-68 (600-101353-3)[10X], SGC # 1-MW-17-72 (600-101353-4)[10X], SGC # 1-MW-16-69 (600-101353-5)[10X] and SGC # 1-MW-15-72.5 (600-101353-6)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

Method Summary

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

TestAmerica Job ID: 600-101353-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL HOU
8015B	Gasoline Range Organics - (GC)	SW846	TAL DEN
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL HOU
300.0	Anions, Ion Chromatography	MCAWW	TAL HOU

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Sample Summary

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

TestAmerica Job ID: 600-101353-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-101353-1	SGC # 1-MW-10-82	Solid	10/25/14 11:20	10/30/14 10:25
600-101353-2	SGC # 1-MW-11-84	Solid	10/26/14 10:00	10/30/14 10:25
600-101353-3	SGC # 1-MW-18-68	Solid	10/26/14 16:00	10/30/14 10:25
600-101353-4	SGC # 1-MW-17-72	Solid	10/27/14 15:10	10/30/14 10:25
600-101353-5	SGC # 1-MW-16-69	Solid	10/28/14 12:10	10/30/14 10:25
600-101353-6	SGC # 1-MW-15-72.5	Solid	10/29/14 10:40	10/30/14 10:25

Client Sample Results

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

TestAmerica Job ID: 600-101353-1

Client Sample ID: SGC # 1-MW-10-82

Lab Sample ID: 600-101353-1

Date Collected: 10/25/14 11:20

Matrix: Solid

Date Received: 10/30/14 10:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.0788	U	0.625	0.0788	mg/Kg		11/06/14 10:00	11/06/14 21:28	1
Toluene	5.13		0.625	0.173	mg/Kg		11/06/14 10:00	11/06/14 21:28	1
Ethylbenzene	2.39		0.625	0.128	mg/Kg		11/06/14 10:00	11/06/14 21:28	1
Xylenes, Total	28.1		0.625	0.141	mg/Kg		11/06/14 10:00	11/06/14 21:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		61 - 130	11/06/14 10:00	11/06/14 21:28	1
Dibromofluoromethane	90		68 - 140	11/06/14 10:00	11/06/14 21:28	1
Toluene-d8 (Surr)	88		50 - 130	11/06/14 10:00	11/06/14 21:28	1
4-Bromofluorobenzene	80		57 - 140	11/06/14 10:00	11/06/14 21:28	1

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	936		23.6	6.40	mg/Kg		11/05/14 11:06	11/06/14 22:09	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	0	X D	77 - 123	11/05/14 11:06	11/06/14 22:09	20

Method: 8015B - Diesel Range Organics (DRO) (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	777		41.3	8.51	mg/Kg		11/05/14 06:42	11/06/14 10:03	5
Oil Range Organics (C28-C35)	24.9	U	41.3	24.9	mg/Kg		11/05/14 06:42	11/06/14 10:03	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	111		60 - 140	11/05/14 06:42	11/06/14 10:03	5

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.85		4.01	0.0671	mg/Kg			11/17/14 15:57	1

Client Sample ID: SGC # 1-MW-11-84

Lab Sample ID: 600-101353-2

Date Collected: 10/26/14 10:00

Matrix: Solid

Date Received: 10/30/14 10:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.000829	J	0.00500	0.000630	mg/Kg			11/05/14 19:48	1
Ethylbenzene	0.00102	U	0.00500	0.00102	mg/Kg			11/05/14 19:48	1
Toluene	0.00138	U	0.00500	0.00138	mg/Kg			11/05/14 19:48	1
Xylenes, Total	0.00113	U	0.00500	0.00113	mg/Kg			11/05/14 19:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	77		61 - 130		11/05/14 19:48	1
Dibromofluoromethane	70		68 - 140		11/05/14 19:48	1
Toluene-d8 (Surr)	66		50 - 130		11/05/14 19:48	1
4-Bromofluorobenzene	88		57 - 140		11/05/14 19:48	1

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	0.431	J	1.19	0.321	mg/Kg		11/05/14 11:06	11/06/14 02:11	1

TestAmerica Houston

Client Sample Results

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

TestAmerica Job ID: 600-101353-1

Client Sample ID: SGC # 1-MW-11-84

Lab Sample ID: 600-101353-2

Date Collected: 10/26/14 10:00

Matrix: Solid

Date Received: 10/30/14 10:25

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	98		77 - 123				11/05/14 11:06	11/06/14 02:11	1
Method: 8015B - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	1.70	U	8.27	1.70	mg/Kg	-	11/05/14 06:42	11/05/14 22:18	1
Oil Range Organics (C28-C35)	4.98	U	8.27	4.98	mg/Kg	-	11/05/14 06:42	11/05/14 22:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	75		60 - 140				11/05/14 06:42	11/05/14 22:18	1
Method: 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	32.0		3.96	0.0663	mg/Kg	-		11/17/14 16:57	1

Client Sample ID: SGC # 1-MW-18-68

Lab Sample ID: 600-101353-3

Date Collected: 10/26/14 16:00

Matrix: Solid

Date Received: 10/30/14 10:25

Method: 8260B - Volatile Organic Compounds (GC/MS)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00145	J	0.00500	0.000630	mg/Kg			11/05/14 20:16	1
Ethylbenzene	0.00102	U	0.00500	0.00102	mg/Kg			11/05/14 20:16	1
Toluene	0.00473	J	0.00500	0.00138	mg/Kg			11/05/14 20:16	1
Xylenes, Total	0.0154		0.00500	0.00113	mg/Kg			11/05/14 20:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		61 - 130					11/05/14 20:16	1
Dibromofluoromethane	81		68 - 140					11/05/14 20:16	1
Toluene-d8 (Surr)	72		50 - 130					11/05/14 20:16	1
4-Bromofluorobenzene	100		57 - 140					11/05/14 20:16	1
Method: 8015B - Gasoline Range Organics - (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)	1.34		1.16	0.315	mg/Kg		11/05/14 11:06	11/06/14 02:36	1
-C6-C10									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	99		77 - 123				11/05/14 11:06	11/06/14 02:36	1
Method: 8015B - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	1.71	U	8.28	1.71	mg/Kg		11/05/14 06:42	11/05/14 22:50	1
Oil Range Organics (C28-C35)	4.99	U	8.28	4.99	mg/Kg		11/05/14 06:42	11/05/14 22:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	76		60 - 140				11/05/14 06:42	11/05/14 22:50	1
Method: 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	56.5		3.95	0.0662	mg/Kg			11/17/14 17:17	

TestAmerica Houston

Client Sample Results

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

TestAmerica Job ID: 600-101353-1

Client Sample ID: SGC # 1-MW-17-72

Lab Sample ID: 600-101353-4

Date Collected: 10/27/14 15:10

Matrix: Solid

Date Received: 10/30/14 10:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.0788	U	0.625	0.0788	mg/Kg	-	11/06/14 10:00	11/06/14 21:52	1
Toluene	0.632		0.625	0.173	mg/Kg	-	11/06/14 10:00	11/06/14 21:52	1
Ethylbenzene	0.397	J	0.625	0.128	mg/Kg	-	11/06/14 10:00	11/06/14 21:52	1
Xylenes, Total	4.29		0.625	0.141	mg/Kg	-	11/06/14 10:00	11/06/14 21:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		61 - 130	11/06/14 10:00	11/06/14 21:52	1
Dibromofluoromethane	78		68 - 140	11/06/14 10:00	11/06/14 21:52	1
Toluene-d8 (Surr)	95		50 - 130	11/06/14 10:00	11/06/14 21:52	1
4-Bromofluorobenzene	97		57 - 140	11/06/14 10:00	11/06/14 21:52	1

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	39.0		1.20	0.326	mg/Kg	-	11/05/14 11:06	11/06/14 03:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	113		77 - 123	11/05/14 11:06	11/06/14 03:00	1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	6.07	J	8.28	1.71	mg/Kg	-	11/05/14 06:42	11/05/14 23:23	1
Oil Range Organics (C28-C35)	4.99	U	8.28	4.99	mg/Kg	-	11/05/14 06:42	11/05/14 23:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	77		60 - 140	11/05/14 06:42	11/05/14 23:23	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	19.8		3.99	0.0669	mg/Kg	-		11/17/14 17:37	1

Client Sample ID: SGC # 1-MW-16-69

Lab Sample ID: 600-101353-5

Date Collected: 10/28/14 12:10

Matrix: Solid

Date Received: 10/30/14 10:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.0788	U	0.625	0.0788	mg/Kg	-	11/06/14 10:00	11/06/14 22:16	1
Toluene	0.391	J	0.625	0.173	mg/Kg	-	11/06/14 10:00	11/06/14 22:16	1
Ethylbenzene	1.47		0.625	0.128	mg/Kg	-	11/06/14 10:00	11/06/14 22:16	1
Xylenes, Total	25.5		0.625	0.141	mg/Kg	-	11/06/14 10:00	11/06/14 22:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		61 - 130	11/06/14 10:00	11/06/14 22:16	1
Dibromofluoromethane	90		68 - 140	11/06/14 10:00	11/06/14 22:16	1
Toluene-d8 (Surr)	81		50 - 130	11/06/14 10:00	11/06/14 22:16	1
4-Bromofluorobenzene	85		57 - 140	11/06/14 10:00	11/06/14 22:16	1

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	874		23.2	6.29	mg/Kg	-	11/05/14 11:06	11/06/14 22:34	20

TestAmerica Houston

Client Sample Results

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

TestAmerica Job ID: 600-101353-1

Client Sample ID: SGC # 1-MW-16-69

Lab Sample ID: 600-101353-5

Date Collected: 10/28/14 12:10

Matrix: Solid

Date Received: 10/30/14 10:25

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	0	X D	77 - 123	11/05/14 11:06	11/06/14 22:34	20

Method: 8015B - Diesel Range Organics (DRO) (GC)							Prepared	Analyzed	Dil Fac
Analyte	Result	Qualifier	RL	MDL	Unit	D			
Diesel Range Organics [C10-C28]	40.4		8.30	1.71	mg/Kg	-	11/05/14 06:42	11/05/14 23:56	1
Oil Range Organics (C28-C35)	5.00	U	8.30	5.00	mg/Kg		11/05/14 06:42	11/05/14 23:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	73		60 - 140	11/05/14 06:42	11/05/14 23:56	1

Method: 300.0 - Anions, Ion Chromatography - Soluble							Prepared	Analyzed	Dil Fac
Analyte	Result	Qualifier	RL	MDL	Unit	D			
Chloride	68.2		20.1	0.337	mg/Kg	-		11/17/14 17:57	5

Client Sample ID: SGC # 1-MW-15-72.5

Lab Sample ID: 600-101353-6

Date Collected: 10/29/14 10:40

Matrix: Solid

Date Received: 10/30/14 10:25

Method: 8260B - Volatile Organic Compounds (GC/MS)							Prepared	Analyzed	Dil Fac
Analyte	Result	Qualifier	RL	MDL	Unit	D			
Benzene	0.000883	J B	0.00500	0.000630	mg/Kg	-		11/06/14 20:10	1
Ethylbenzene	0.00102	U	0.00500	0.00102	mg/Kg			11/06/14 20:10	1
Toluene	0.00138	U	0.00500	0.00138	mg/Kg			11/06/14 20:10	1
Xylenes, Total	0.00695		0.00500	0.00113	mg/Kg			11/06/14 20:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		61 - 130		11/06/14 20:10	1
Dibromofluoromethane	77		68 - 140		11/06/14 20:10	1
Toluene-d8 (Surr)	72		50 - 130		11/06/14 20:10	1
4-Bromofluorobenzene	89		57 - 140		11/06/14 20:10	1

Method: 8015B - Gasoline Range Organics - (GC)							Prepared	Analyzed	Dil Fac
Analyte	Result	Qualifier	RL	MDL	Unit	D			
Gasoline Range Organics (GRO) -C6-C10	0.528	J	1.15	0.312	mg/Kg	-	11/05/14 11:06	11/06/14 04:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	92		77 - 123	11/05/14 11:06	11/06/14 04:40	1

Method: 8015B - Diesel Range Organics (DRO) (GC)							Prepared	Analyzed	Dil Fac
Analyte	Result	Qualifier	RL	MDL	Unit	D			
Diesel Range Organics [C10-C28]	1.70	U	8.27	1.70	mg/Kg	-	11/05/14 06:42	11/06/14 01:01	1
Oil Range Organics (C28-C35)	4.98	U	8.27	4.98	mg/Kg		11/05/14 06:42	11/06/14 01:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	74		60 - 140	11/05/14 06:42	11/06/14 01:01	1

Method: 300.0 - Anions, Ion Chromatography - Soluble							Prepared	Analyzed	Dil Fac
Analyte	Result	Qualifier	RL	MDL	Unit	D			
Chloride	75.6		19.7	0.330	mg/Kg	-		11/17/14 18:17	5

TestAmerica Houston

Definitions/Glossary

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

TestAmerica Job ID: 600-101353-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

GC VOA

Qualifier	Qualifier Description
D	Sample results are obtained from a dilution; the surrogate or matrix spike recoveries reported are calculated from diluted samples.
X	Surrogate is outside control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
4	MS, MSD: The analyte present in the original sample is greater than 4 times 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.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

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

Surrogate Summary

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

TestAmerica Job ID: 600-101353-1

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

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (61-130)	DBFM (68-140)	TOL (50-130)	BFB (57-140)
600-101353-1	SGC # 1-MW-10-82	96	90	88	80
600-101353-2	SGC # 1-MW-11-84	77	70	66	88
600-101353-3	SGC # 1-MW-18-68	88	81	72	100
600-101353-4	SGC # 1-MW-17-72	98	78	95	97
600-101353-5	SGC # 1-MW-16-69	91	90	81	85
600-101353-6	SGC # 1-MW-15-72.5	85	77	72	89
LCS 600-148588/4	Lab Control Sample	71	77	72	91
LCS 600-148695/4	Lab Control Sample	79	73	70	87
LCS 600-148712/1-A	Lab Control Sample	88	99	102	98
LCSD 600-148588/5	Lab Control Sample Dup	73	79	69	89
LCSD 600-148695/5	Lab Control Sample Dup	89	74	69	94
LCSD 600-148712/2-A	Lab Control Sample Dup	92	99	94	100
MB 600-148588/7	Method Blank	78	82	72	86
MB 600-148695/6	Method Blank	73	72	70	93
MB 600-148712/3-A	Method Blank	92	86	106	89

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene

Method: 8015B - Gasoline Range Organics - (GC)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		TFT1 (77-123)			
600-101353-1	SGC # 1-MW-10-82	0 X D			
600-101353-2	SGC # 1-MW-11-84	98			
600-101353-3	SGC # 1-MW-18-68	99			
600-101353-4	SGC # 1-MW-17-72	113			
600-101353-4 MS	SGC # 1-MW-17-72	100			
600-101353-4 MSD	SGC # 1-MW-17-72	99			
600-101353-5	SGC # 1-MW-16-69	0 X D			
600-101353-6	SGC # 1-MW-15-72.5	92			
LCS 280-251442/2-A	Lab Control Sample	100			
LCSD 280-251442/3-A	Lab Control Sample Dup	102			
MB 280-251442/1-A	Method Blank	95			

Surrogate Legend

TFT = a,a,a-Trifluorotoluene

Method: 8015B - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		OTPH1 (60-140)			
600-101353-1 - DL	SGC # 1-MW-10-82	111			

TestAmerica Houston

Surrogate Summary

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

TestAmerica Job ID: 600-101353-1

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	OTPH1 (60-140)
600-101353-1 MS - DL	SGC # 1-MW-10-82	115
600-101353-1 MSD - DL	SGC # 1-MW-10-82	122
600-101353-2	SGC # 1-MW-11-84	75
600-101353-3	SGC # 1-MW-18-68	76
600-101353-4	SGC # 1-MW-17-72	77
600-101353-5	SGC # 1-MW-16-69	73
600-101353-6	SGC # 1-MW-15-72.5	74
LCS 600-148551/2-A	Lab Control Sample	133
MB 600-148551/1-A	Method Blank	78

Surrogate Legend

OTPH = o-Terphenyl

QC Sample Results

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

TestAmerica Job ID: 600-101353-1

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

Lab Sample ID: MB 600-148588/7

Matrix: Solid

Analysis Batch: 148588

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.000630	U	0.00500	0.000630	mg/Kg			11/05/14 13:11	1
Ethylbenzene	0.00102	U	0.00500	0.00102	mg/Kg			11/05/14 13:11	1
Toluene	0.00138	U	0.00500	0.00138	mg/Kg			11/05/14 13:11	1
Xylenes, Total	0.00113	U	0.00500	0.00113	mg/Kg			11/05/14 13:11	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	78		61 - 130		11/05/14 13:11	1
Dibromofluoromethane	82		68 - 140		11/05/14 13:11	1
Toluene-d8 (Surr)	72		50 - 130		11/05/14 13:11	1
4-Bromofluorobenzene	86		57 - 140		11/05/14 13:11	1

Lab Sample ID: LCS 600-148588/4

Matrix: Solid

Analysis Batch: 148588

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.05248		mg/Kg		105	70 - 131
Ethylbenzene	0.0500	0.04235		mg/Kg		85	66 - 130
Toluene	0.0500	0.04514		mg/Kg		90	67 - 130
Xylenes, Total	0.100	0.09014		mg/Kg		90	63 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	71		61 - 130
Dibromofluoromethane	77		68 - 140
Toluene-d8 (Surr)	72		50 - 130
4-Bromofluorobenzene	91		57 - 140

Lab Sample ID: LCSD 600-148588/5

Matrix: Solid

Analysis Batch: 148588

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.0500	0.04943		mg/Kg		99	70 - 131	6	30
Ethylbenzene	0.0500	0.04141		mg/Kg		83	66 - 130	2	30
Toluene	0.0500	0.04288		mg/Kg		86	67 - 130	5	30
Xylenes, Total	0.100	0.08330		mg/Kg		83	63 - 130	8	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	73		61 - 130
Dibromofluoromethane	79		68 - 140
Toluene-d8 (Surr)	69		50 - 130
4-Bromofluorobenzene	89		57 - 140

TestAmerica Houston

QC Sample Results

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

TestAmerica Job ID: 600-101353-1

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

Lab Sample ID: MB 600-148695/6

Matrix: Solid

Analysis Batch: 148695

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.001213	J	0.00500	0.000630	mg/Kg			11/06/14 13:39	1
Ethylbenzene	0.00102	U	0.00500	0.00102	mg/Kg			11/06/14 13:39	1
Toluene	0.00138	U	0.00500	0.00138	mg/Kg			11/06/14 13:39	1
Xylenes, Total	0.00113	U	0.00500	0.00113	mg/Kg			11/06/14 13:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	73		61 - 130		11/06/14 13:39	1
Dibromofluoromethane	72		68 - 140		11/06/14 13:39	1
Toluene-d8 (Surr)	70		50 - 130		11/06/14 13:39	1
4-Bromofluorobenzene	93		57 - 140		11/06/14 13:39	1

Lab Sample ID: LCS 600-148695/4

Matrix: Solid

Analysis Batch: 148695

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.04161		mg/Kg		83	70 - 131
Ethylbenzene	0.0500	0.03587		mg/Kg		72	66 - 130
Toluene	0.0500	0.03642		mg/Kg		73	67 - 130
Xylenes, Total	0.100	0.07273		mg/Kg		73	63 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	79		61 - 130
Dibromofluoromethane	73		68 - 140
Toluene-d8 (Surr)	70		50 - 130
4-Bromofluorobenzene	87		57 - 140

Lab Sample ID: LCSD 600-148695/5

Matrix: Solid

Analysis Batch: 148695

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.0500	0.05237		mg/Kg		105	70 - 131	23	30
Ethylbenzene	0.0500	0.03837		mg/Kg		77	66 - 130	7	30
Toluene	0.0500	0.03839		mg/Kg		77	67 - 130	5	30
Xylenes, Total	0.100	0.07952		mg/Kg		80	63 - 130	9	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	89		61 - 130
Dibromofluoromethane	74		68 - 140
Toluene-d8 (Surr)	69		50 - 130
4-Bromofluorobenzene	94		57 - 140

TestAmerica Houston

QC Sample Results

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

TestAmerica Job ID: 600-101353-1

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

Lab Sample ID: MB 600-148712/3-A

Matrix: Solid

Analysis Batch: 148681

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 148712

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.0788	U	0.625	0.0788	mg/Kg		11/06/14 10:00	11/06/14 15:28	1
Ethylbenzene	0.128	U	0.625	0.128	mg/Kg		11/06/14 10:00	11/06/14 15:28	1
Toluene	0.173	U	0.625	0.173	mg/Kg		11/06/14 10:00	11/06/14 15:28	1
Xylenes, Total	0.141	U	0.625	0.141	mg/Kg		11/06/14 10:00	11/06/14 15:28	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		61 - 130	11/06/14 10:00	11/06/14 15:28	1
Dibromofluoromethane	86		68 - 140	11/06/14 10:00	11/06/14 15:28	1
Toluene-d8 (Surr)	106		50 - 130	11/06/14 10:00	11/06/14 15:28	1
4-Bromofluorobenzene	89		57 - 140	11/06/14 10:00	11/06/14 15:28	1

Lab Sample ID: LCS 600-148712/1-A

Matrix: Solid

Analysis Batch: 148681

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 148712

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	6.25	5.535		mg/Kg		89	70 - 131
Ethylbenzene	6.25	5.652		mg/Kg		90	66 - 130
Toluene	6.25	5.593		mg/Kg		89	67 - 130
Xylenes, Total	12.5	11.74		mg/Kg		94	63 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	88		61 - 130
Dibromofluoromethane	99		68 - 140
Toluene-d8 (Surr)	102		50 - 130
4-Bromofluorobenzene	98		57 - 140

Lab Sample ID: LCSD 600-148712/2-A

Matrix: Solid

Analysis Batch: 148681

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 148712

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	6.25	4.974		mg/Kg		80	70 - 131	11	30
Ethylbenzene	6.25	4.983		mg/Kg		80	66 - 130	13	30
Toluene	6.25	4.710		mg/Kg		75	67 - 130	17	30
Xylenes, Total	12.5	10.61		mg/Kg		85	63 - 130	10	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	92		61 - 130
Dibromofluoromethane	99		68 - 140
Toluene-d8 (Surr)	94		50 - 130
4-Bromofluorobenzene	100		57 - 140

TestAmerica Houston

QC Sample Results

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

TestAmerica Job ID: 600-101353-1

Method: 8015B - Gasoline Range Organics - (GC)

Lab Sample ID: MB 280-251442/1-A

Matrix: Solid

Analysis Batch: 251478

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 251442

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)	0.324	U	1.20	0.324	mg/Kg	-	11/05/14 11:06	11/06/14 00:31	1
-C6-C10									
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	95		77 - 123				11/05/14 11:06	11/06/14 00:31	1

Lab Sample ID: LCS 280-251442/2-A

Matrix: Solid

Analysis Batch: 251478

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 251442

Analyte		Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Gasoline Range Organics (GRO)		5.36	7.120		mg/Kg	-	133	85 - 153	
-C6-C10									
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
a,a,a-Trifluorotoluene	100		77 - 123						

Lab Sample ID: LCSD 280-251442/3-A

Matrix: Solid

Analysis Batch: 251478

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 251442

Analyte		Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)		5.43	7.733		mg/Kg	-	142	85 - 153	8	30
-C6-C10										
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits							
a,a,a-Trifluorotoluene	102		77 - 123							

Lab Sample ID: 600-101353-4 MS

Matrix: Solid

Analysis Batch: 251478

Client Sample ID: SGC # 1-MW-17-72

Prep Type: Total/NA

Prep Batch: 251442

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	
Gasoline Range Organics (GRO)	39.0		5.51	31.12	4	mg/Kg	-	-143	85 - 153	
-C6-C10										
Surrogate	MS %Recovery	MS Qualifier	Limits							
a,a,a-Trifluorotoluene	100		77 - 123							

Lab Sample ID: 600-101353-4 MSD

Matrix: Solid

Analysis Batch: 251478

Client Sample ID: SGC # 1-MW-17-72

Prep Type: Total/NA

Prep Batch: 251442

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)	39.0		5.41	29.99	4	mg/Kg	-	-167	85 - 153	4	30
-C6-C10											

TestAmerica Houston

QC Sample Results

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

TestAmerica Job ID: 600-101353-1

Method: 8015B - Gasoline Range Organics - (GC) (Continued)

Lab Sample ID: 600-101353-4 MSD

Matrix: Solid

Analysis Batch: 251478

Client Sample ID: SGC # 1-MW-17-72

Prep Type: Total/NA

Prep Batch: 251442

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
a,a,a-Trifluorotoluene	99		77 - 123

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 600-148551/1-A

Matrix: Solid

Analysis Batch: 148645

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 148551

	MB	MB								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil	Fac
Diesel Range Organics [C10-C28]	1.71	U	8.30	1.71	mg/Kg		11/05/14 06:42	11/05/14 19:02	1	
Oil Range Organics (C28-C35)	5.00	U	8.30	5.00	mg/Kg		11/05/14 06:42	11/05/14 19:02	1	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil	Fac
o-Terphenyl	78		60 - 140				11/05/14 06:42	11/05/14 19:02	1	

Lab Sample ID: LCS 600-148551/2-A

Matrix: Solid

Analysis Batch: 148645

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 148551

		Spike	LCS	LCS					%Rec.	
Analyte		Added	Result	Qualifier	Unit	D	%Rec	Limits		
Diesel Range Organics [C10-C28]		66.7	56.88		mg/Kg		85	66 - 134		
Surrogate	LCS	LCS								
o-Terphenyl	%Recovery	Qualifier	Limits							
	133		60 - 140							

Method: 8015B - Diesel Range Organics (DRO) (GC) - DL

Lab Sample ID: 600-101353-1 MS

Matrix: Solid

Analysis Batch: 148645

Client Sample ID: SGC # 1-MW-10-82

Prep Type: Total/NA

Prep Batch: 148551

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Diesel Range Organics [C10-C28] - DL	777		66.6	650.5	4	mg/Kg		-191	66 - 134	
Surrogate	MS	MS								
o-Terphenyl - DL	%Recovery	Qualifier	Limits							
	115		60 - 140							

Lab Sample ID: 600-101353-1 MSD

Matrix: Solid

Analysis Batch: 148645

Client Sample ID: SGC # 1-MW-10-82

Prep Type: Total/NA

Prep Batch: 148551

	Sample	Sample	Spike	MSD	MSD				%Rec.	RPD	RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Diesel Range Organics [C10-C28] - DL	777		66.5	803.8	4	mg/Kg		40	66 - 134	21	30

TestAmerica Houston

QC Sample Results

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

TestAmerica Job ID: 600-101353-1

Method: 8015B - Diesel Range Organics (DRO) (GC) - DL (Continued)

Lab Sample ID: 600-101353-1 MSD

Matrix: Solid

Analysis Batch: 148645

Client Sample ID: SGC # 1-MW-10-82

Prep Type: Total/NA

Prep Batch: 148551

Surrogate	MSD %Recovery	MSD Qualifier	Limits
<i>o</i> -Terphenyl - DL	122		60 - 140

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 600-149576/1-A

Matrix: Solid

Analysis Batch: 149574

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.0670	U	4.00	0.0670	mg/Kg			11/17/14 15:08	1

Lab Sample ID: LCS 600-149576/2-A

Matrix: Solid

Analysis Batch: 149574

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	200	188.6		mg/Kg		94	90 - 110

Lab Sample ID: 600-101353-1 MS

Matrix: Solid

Analysis Batch: 149574

Client Sample ID: SGC # 1-MW-10-82

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	8.85		100	89.49		mg/Kg		80	80 - 120

Lab Sample ID: 600-101353-1 MSD

Matrix: Solid

Analysis Batch: 149574

Client Sample ID: SGC # 1-MW-10-82

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	8.85		100	89.97		mg/Kg		81	80 - 120	1	20

QC Association Summary

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

TestAmerica Job ID: 600-101353-1

GC/MS VOA

Analysis Batch: 148588

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-101353-2	SGC # 1-MW-11-84	Total/NA	Solid	8260B	
600-101353-3	SGC # 1-MW-18-68	Total/NA	Solid	8260B	
LCS 600-148588/4	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 600-148588/5	Lab Control Sample Dup	Total/NA	Solid	8260B	
MB 600-148588/7	Method Blank	Total/NA	Solid	8260B	

Analysis Batch: 148681

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-101353-1	SGC # 1-MW-10-82	Total/NA	Solid	8260B	148712
600-101353-4	SGC # 1-MW-17-72	Total/NA	Solid	8260B	148712
600-101353-5	SGC # 1-MW-16-69	Total/NA	Solid	8260B	148712
LCS 600-148712/1-A	Lab Control Sample	Total/NA	Solid	8260B	148712
LCSD 600-148712/2-A	Lab Control Sample Dup	Total/NA	Solid	8260B	148712
MB 600-148712/3-A	Method Blank	Total/NA	Solid	8260B	148712

Analysis Batch: 148695

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-101353-6	SGC # 1-MW-15-72.5	Total/NA	Solid	8260B	
LCS 600-148695/4	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 600-148695/5	Lab Control Sample Dup	Total/NA	Solid	8260B	
MB 600-148695/6	Method Blank	Total/NA	Solid	8260B	

Prep Batch: 148712

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-101353-1	SGC # 1-MW-10-82	Total/NA	Solid	5030B	
600-101353-4	SGC # 1-MW-17-72	Total/NA	Solid	5030B	
600-101353-5	SGC # 1-MW-16-69	Total/NA	Solid	5030B	
LCS 600-148712/1-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 600-148712/2-A	Lab Control Sample Dup	Total/NA	Solid	5030B	
MB 600-148712/3-A	Method Blank	Total/NA	Solid	5030B	

GC VOA

Prep Batch: 251442

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-101353-1	SGC # 1-MW-10-82	Total/NA	Solid	5030B	
600-101353-2	SGC # 1-MW-11-84	Total/NA	Solid	5030B	
600-101353-3	SGC # 1-MW-18-68	Total/NA	Solid	5030B	
600-101353-4	SGC # 1-MW-17-72	Total/NA	Solid	5030B	
600-101353-4 MS	SGC # 1-MW-17-72	Total/NA	Solid	5030B	
600-101353-4 MSD	SGC # 1-MW-17-72	Total/NA	Solid	5030B	
600-101353-5	SGC # 1-MW-16-69	Total/NA	Solid	5030B	
600-101353-6	SGC # 1-MW-15-72.5	Total/NA	Solid	5030B	
LCS 280-251442/2-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 280-251442/3-A	Lab Control Sample Dup	Total/NA	Solid	5030B	
MB 280-251442/1-A	Method Blank	Total/NA	Solid	5030B	

Analysis Batch: 251478

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-101353-2	SGC # 1-MW-11-84	Total/NA	Solid	8015B	251442

TestAmerica Houston

QC Association Summary

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

TestAmerica Job ID: 600-101353-1

GC VOA (Continued)

Analysis Batch: 251478 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-101353-3	SGC # 1-MW-18-68	Total/NA	Solid	8015B	251442
600-101353-4	SGC # 1-MW-17-72	Total/NA	Solid	8015B	251442
600-101353-4 MS	SGC # 1-MW-17-72	Total/NA	Solid	8015B	251442
600-101353-4 MSD	SGC # 1-MW-17-72	Total/NA	Solid	8015B	251442
600-101353-6	SGC # 1-MW-15-72.5	Total/NA	Solid	8015B	251442
LCS 280-251442/2-A	Lab Control Sample	Total/NA	Solid	8015B	251442
LCSD 280-251442/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B	251442
MB 280-251442/1-A	Method Blank	Total/NA	Solid	8015B	251442

Analysis Batch: 251737

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-101353-1	SGC # 1-MW-10-82	Total/NA	Solid	8015B	251442
600-101353-5	SGC # 1-MW-16-69	Total/NA	Solid	8015B	251442

GC Semi VOA

Prep Batch: 148551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-101353-1 - DL	SGC # 1-MW-10-82	Total/NA	Solid	3546	
600-101353-1 MS - DL	SGC # 1-MW-10-82	Total/NA	Solid	3546	
600-101353-1 MSD - DL	SGC # 1-MW-10-82	Total/NA	Solid	3546	
600-101353-2	SGC # 1-MW-11-84	Total/NA	Solid	3546	
600-101353-3	SGC # 1-MW-18-68	Total/NA	Solid	3546	
600-101353-4	SGC # 1-MW-17-72	Total/NA	Solid	3546	
600-101353-5	SGC # 1-MW-16-69	Total/NA	Solid	3546	
600-101353-6	SGC # 1-MW-15-72.5	Total/NA	Solid	3546	
LCS 600-148551/2-A	Lab Control Sample	Total/NA	Solid	3546	
MB 600-148551/1-A	Method Blank	Total/NA	Solid	3546	

Analysis Batch: 148645

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-101353-1 - DL	SGC # 1-MW-10-82	Total/NA	Solid	8015B	148551
600-101353-1 MS - DL	SGC # 1-MW-10-82	Total/NA	Solid	8015B	148551
600-101353-1 MSD - DL	SGC # 1-MW-10-82	Total/NA	Solid	8015B	148551
600-101353-2	SGC # 1-MW-11-84	Total/NA	Solid	8015B	148551
600-101353-3	SGC # 1-MW-18-68	Total/NA	Solid	8015B	148551
600-101353-4	SGC # 1-MW-17-72	Total/NA	Solid	8015B	148551
600-101353-5	SGC # 1-MW-16-69	Total/NA	Solid	8015B	148551
600-101353-6	SGC # 1-MW-15-72.5	Total/NA	Solid	8015B	148551
LCS 600-148551/2-A	Lab Control Sample	Total/NA	Solid	8015B	148551
MB 600-148551/1-A	Method Blank	Total/NA	Solid	8015B	148551

HPLC/IC

Analysis Batch: 149574

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-101353-1	SGC # 1-MW-10-82	Soluble	Solid	300.0	149576
600-101353-1 MS	SGC # 1-MW-10-82	Soluble	Solid	300.0	149576
600-101353-1 MSD	SGC # 1-MW-10-82	Soluble	Solid	300.0	149576
600-101353-2	SGC # 1-MW-11-84	Soluble	Solid	300.0	149576

TestAmerica Houston

QC Association Summary

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

TestAmerica Job ID: 600-101353-1

HPLC/IC (Continued)

Analysis Batch: 149574 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-101353-3	SGC # 1-MW-18-68	Soluble	Solid	300.0	149576
600-101353-4	SGC # 1-MW-17-72	Soluble	Solid	300.0	149576
600-101353-5	SGC # 1-MW-16-69	Soluble	Solid	300.0	149576
600-101353-6	SGC # 1-MW-15-72.5	Soluble	Solid	300.0	149576
LCS 600-149576/2-A	Lab Control Sample	Soluble	Solid	300.0	149576
MB 600-149576/1-A	Method Blank	Soluble	Solid	300.0	149576

Leach Batch: 149576

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-101353-1	SGC # 1-MW-10-82	Soluble	Solid	DI Leach	
600-101353-1 MS	SGC # 1-MW-10-82	Soluble	Solid	DI Leach	
600-101353-1 MSD	SGC # 1-MW-10-82	Soluble	Solid	DI Leach	
600-101353-2	SGC # 1-MW-11-84	Soluble	Solid	DI Leach	
600-101353-3	SGC # 1-MW-18-68	Soluble	Solid	DI Leach	
600-101353-4	SGC # 1-MW-17-72	Soluble	Solid	DI Leach	
600-101353-5	SGC # 1-MW-16-69	Soluble	Solid	DI Leach	
600-101353-6	SGC # 1-MW-15-72.5	Soluble	Solid	DI Leach	
LCS 600-149576/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
MB 600-149576/1-A	Method Blank	Soluble	Solid	DI Leach	

Lab Chronicle

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

TestAmerica Job ID: 600-101353-1

Client Sample ID: SGC # 1-MW-10-82

Date Collected: 10/25/14 11:20

Date Received: 10/30/14 10:25

Lab Sample ID: 600-101353-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4 g	10 mL	148712	11/06/14 10:00	KLV	TAL HOU
Total/NA	Analysis	8260B		1	4 g	10 mL	148681	11/06/14 21:28	KLV	TAL HOU
Total/NA	Prep	5030B			10.15 g	10 mL	251442	11/05/14 11:06	EER	TAL DEN
Total/NA	Analysis	8015B		20	10.15 g	10 mL	251737	11/06/14 22:09	EER	TAL DEN
Total/NA	Prep	3546	DL		15.07 g	1.0 mL	148551	11/05/14 06:42	RLK	TAL HOU
Total/NA	Analysis	8015B	DL	5	15.07 g	1.0 mL	148645	11/06/14 10:03	RJV	TAL HOU
Soluble	Leach	DI Leach			4.99 g	50 mL	149576	11/17/14 13:51	DAW	TAL HOU
Soluble	Analysis	300.0		1	5 mL		149574	11/17/14 15:57	DAW	TAL HOU

Client Sample ID: SGC # 1-MW-11-84

Date Collected: 10/26/14 10:00

Date Received: 10/30/14 10:25

Lab Sample ID: 600-101353-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 g	5 g	148588	11/05/14 19:48	KLV	TAL HOU
Total/NA	Prep	5030B			10.11 g	10 mL	251442	11/05/14 11:06	EER	TAL DEN
Total/NA	Analysis	8015B		1	10.11 g	10 mL	251478	11/06/14 02:11	EER	TAL DEN
Total/NA	Prep	3546			15.06 g	1.0 mL	148551	11/05/14 06:42	RLK	TAL HOU
Total/NA	Analysis	8015B		1	15.06 g	1.0 mL	148645	11/05/14 22:18	RJV	TAL HOU
Soluble	Leach	DI Leach			5.05 g	50 mL	149576	11/17/14 13:51	DAW	TAL HOU
Soluble	Analysis	300.0		1	5 mL		149574	11/17/14 16:57	DAW	TAL HOU

Client Sample ID: SGC # 1-MW-18-68

Date Collected: 10/26/14 16:00

Date Received: 10/30/14 10:25

Lab Sample ID: 600-101353-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 g	5 g	148588	11/05/14 20:16	KLV	TAL HOU
Total/NA	Prep	5030B			10.32 g	10 mL	251442	11/05/14 11:06	EER	TAL DEN
Total/NA	Analysis	8015B		1	10.32 g	10 mL	251478	11/06/14 02:36	EER	TAL DEN
Total/NA	Prep	3546			15.04 g	1.0 mL	148551	11/05/14 06:42	RLK	TAL HOU
Total/NA	Analysis	8015B		1	15.04 g	1.0 mL	148645	11/05/14 22:50	RJV	TAL HOU
Soluble	Leach	DI Leach			5.06 g	50 mL	149576	11/17/14 13:51	DAW	TAL HOU
Soluble	Analysis	300.0		1	5 mL		149574	11/17/14 17:17	DAW	TAL HOU

Client Sample ID: SGC # 1-MW-17-72

Date Collected: 10/27/14 15:10

Date Received: 10/30/14 10:25

Lab Sample ID: 600-101353-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4 g	10 mL	148712	11/06/14 10:00	KLV	TAL HOU
Total/NA	Analysis	8260B		1	4 g	10 mL	148681	11/06/14 21:52	KLV	TAL HOU
Total/NA	Prep	5030B			9.98 g	10 mL	251442	11/05/14 11:06	EER	TAL DEN

TestAmerica Houston

Lab Chronicle

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

TestAmerica Job ID: 600-101353-1

Client Sample ID: SGC # 1-MW-17-72

Lab Sample ID: 600-101353-4

Date Collected: 10/27/14 15:10

Matrix: Solid

Date Received: 10/30/14 10:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015B		1	9.98 g	10 mL	251478	11/06/14 03:00	EER	TAL DEN
Total/NA	Prep	3546			15.03 g	1.0 mL	148551	11/05/14 06:42	RLK	TAL HOU
Total/NA	Analysis	8015B		1	15.03 g	1.0 mL	148645	11/05/14 23:23	RJV	TAL HOU
Soluble	Leach	DI Leach			5.01 g	50 mL	149576	11/17/14 13:51	DAW	TAL HOU
Soluble	Analysis	300.0		1	5 mL		149574	11/17/14 17:37	DAW	TAL HOU

Client Sample ID: SGC # 1-MW-16-69

Lab Sample ID: 600-101353-5

Date Collected: 10/28/14 12:10

Matrix: Solid

Date Received: 10/30/14 10:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4 g	10 mL	148712	11/06/14 10:00	KLV	TAL HOU
Total/NA	Analysis	8260B		1	4 g	10 mL	148681	11/06/14 22:16	KLV	TAL HOU
Total/NA	Prep	5030B			10.34 g	10 mL	251442	11/05/14 11:06	EER	TAL DEN
Total/NA	Analysis	8015B		20	10.34 g	10 mL	251737	11/06/14 22:34	EER	TAL DEN
Total/NA	Prep	3546			15.00 g	1.0 mL	148551	11/05/14 06:42	RLK	TAL HOU
Total/NA	Analysis	8015B		1	15.00 g	1.0 mL	148645	11/05/14 23:56	RJV	TAL HOU
Soluble	Leach	DI Leach			4.97 g	50 mL	149576	11/17/14 13:51	DAW	TAL HOU
Soluble	Analysis	300.0		5	5 mL		149574	11/17/14 17:57	DAW	TAL HOU

Client Sample ID: SGC # 1-MW-15-72.5

Lab Sample ID: 600-101353-6

Date Collected: 10/29/14 10:40

Matrix: Solid

Date Received: 10/30/14 10:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 g	5 g	148695	11/06/14 20:10	KLV	TAL HOU
Total/NA	Prep	5030B			10.42 g	10 mL	251442	11/05/14 11:06	EER	TAL DEN
Total/NA	Analysis	8015B		1	10.42 g	10 mL	251478	11/06/14 04:40	EER	TAL DEN
Total/NA	Prep	3546			15.06 g	1.0 mL	148551	11/05/14 06:42	RLK	TAL HOU
Total/NA	Analysis	8015B		1	15.06 g	1.0 mL	148645	11/06/14 01:01	RJV	TAL HOU
Soluble	Leach	DI Leach			5.07 g	50 mL	149576	11/17/14 13:51	DAW	TAL HOU
Soluble	Analysis	300.0		5	5 mL		149574	11/17/14 18:17	DAW	TAL HOU

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

TestAmerica Houston

Certification Summary

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

TestAmerica Job ID: 600-101353-1

Laboratory: TestAmerica Houston

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0759	08-04-15
Louisiana	NELAP	6	30643	06-30-15
Oklahoma	State Program	6	1309	08-31-15
Texas	NELAP	6	T104704223	10-31-15
USDA	Federal		P330-14-00192	06-06-17
Utah	NELAP	8	TX00083	10-31-14 *

Laboratory: TestAmerica Denver

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

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2907.01	10-31-15
A2LA	ISO/IEC 17025		2907.01	10-31-15
Alabama	State Program	4	40730	09-30-12 *
Alaska (UST)	State Program	10	UST-30	04-05-15
Arizona	State Program	9	AZ0713	12-19-14
Arkansas DEQ	State Program	6	88-0687	06-01-15
California	State Program	9	2513	08-31-16
Connecticut	State Program	1	PH-0686	09-30-16
Florida	NELAP	4	E87667	06-30-15
Georgia	State Program	4	N/A	01-09-15
Illinois	NELAP	5	200017	04-30-15
Iowa	State Program	7	370	12-01-14 *
Kansas	NELAP	7	E-10166	04-30-15
Louisiana	NELAP	6	02096	06-30-15
Maine	State Program	1	CO0002	03-03-15
Minnesota	NELAP	5	8-999-405	12-31-14
Nevada	State Program	9	CO0026	07-31-15
New Hampshire	NELAP	1	205310	04-28-15
New Jersey	NELAP	2	CO004	06-30-15
New Mexico	State Program	6	CO00026	01-09-15
New York	NELAP	2	11964	03-31-15
North Carolina (VW/SW)	State Program	4	358	12-31-14
North Dakota	State Program	8	R-034	06-30-14 *
Oklahoma	State Program	6	8614	08-31-15
Oregon	NELAP	10	4025	01-09-15
Pennsylvania	NELAP	3	68-00664	07-30-15
South Carolina	State Program	4	72002001	06-30-15
Texas	NELAP	6	T104704183-13-8	09-30-15
USDA	Federal		P330-13-00202	07-02-16
Utah	NELAP	8	CO00026	07-31-15
Virginia	NELAP	3	460232	06-14-15
Washington	State Program	10	C583	08-03-15
West Virginia DEP	State Program	3	354	11-30-15
Wisconsin	State Program	5	999615430	08-31-15
Wyoming (UST)	A2LA	8	2907.01	10-31-15

* Certification renewal pending - certification considered valid.

TestAmerica Houston

6310 Rothway Street
Houston, TX 77040
Phone (713) 690-4444 Fax (713) 690-5646

Chain of Custody Record



600-101353 Chain of Custody

12 K E C S E R N E A V E N U E S T A T I O N

CIN

600-31431-10602.1

Page 1 of 1

Job #:

Analysis Requested

Preservation Codes:

- A - HCl
- B - NaOH
- C - Zn Acetate
- D - Nitric Acid
- E - NaHSO4
- F - MeOH
- G - Amalior
- H - Ascorbic Acid
- I - Ice
- J - DI Water
- K - EDTA
- L - EDA
- M - Hexane
- N - None
- O - AsNaO2
- P - Na2O4S
- Q - Na2SO3
- R - Na2S2O3
- S - H2SO4
- T - TSP Dodecylhydrate
- U - Acetone
- V - MCAA
- W - pH 4-5
- Z - other (specify)

Special Instructions/Note:

Total Number of containers

Field Filtered Sample (Yes or No)

Perform MMSD (Yes or No)

SUBCONTRACT - EPA 418.1 TPH

8015B_DRO - Local Method

8000-ORGF-200 - Chloride

8015B_GRO - 8000

8015B_MRO

BTEX 8021B

Field Filtered Sample (Yes or No)

Perform MMSD (Yes or No)

SUBCONTRACT - EPA 418.1 TPH

8015B_DRO - Local Method

8000-ORGF-200 - Chloride

8015B_GRO - 8000

8015B_MRO

BTEX 8021B

Field Filtered Sample (Yes or No)

Perform MMSD (Yes or No)

SUBCONTRACT - EPA 418.1 TPH

8015B_DRO - Local Method

8000-ORGF-200 - Chloride

8015B_GRO - 8000

8015B_MRO

BTEX 8021B

Field Filtered Sample (Yes or No)

Perform MMSD (Yes or No)

SUBCONTRACT - EPA 418.1 TPH

8015B_DRO - Local Method

8000-ORGF-200 - Chloride

8015B_GRO - 8000

8015B_MRO

BTEX 8021B

Field Filtered Sample (Yes or No)

Perform MMSD (Yes or No)

SUBCONTRACT - EPA 418.1 TPH

8015B_DRO - Local Method

8000-ORGF-200 - Chloride

8015B_GRO - 8000

8015B_MRO

BTEX 8021B

Field Filtered Sample (Yes or No)

Perform MMSD (Yes or No)

SUBCONTRACT - EPA 418.1 TPH

8015B_DRO - Local Method

8000-ORGF-200 - Chloride

8015B_GRO - 8000

8015B_MRO

BTEX 8021B

Field Filtered Sample (Yes or No)

Perform MMSD (Yes or No)

SUBCONTRACT - EPA 418.1 TPH

8015B_DRO - Local Method

8000-ORGF-200 - Chloride

8015B_GRO - 8000

8015B_MRO

BTEX 8021B

Field Filtered Sample (Yes or No)

Perform MMSD (Yes or No)

SUBCONTRACT - EPA 418.1 TPH

8015B_DRO - Local Method

8000-ORGF-200 - Chloride

8015B_GRO - 8000

8015B_MRO

BTEX 8021B

Field Filtered Sample (Yes or No)

Perform MMSD (Yes or No)

SUBCONTRACT - EPA 418.1 TPH

8015B_DRO - Local Method

8000-ORGF-200 - Chloride

8015B_GRO - 8000

8015B_MRO

BTEX 8021B

Field Filtered Sample (Yes or No)

Perform MMSD (Yes or No)

SUBCONTRACT - EPA 418.1 TPH

8015B_DRO - Local Method

8000-ORGF-

Sa Loc: 600 pt Checklist
101353

Date/Time Received: _____

JOB NUMBER: _____

CLIENT: MWHUNPACKED BY: NSCARRIER/DRIVER: MWFE

11 OCT 30 10:25

Custody Seal Present:

☒ YES☐ NONumber of Coolers Received: 1

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Therm CF	Corrected Temp (°C)
<u>PM</u>	Y / N	Y / N	<u>1.6</u>	<u>606</u>	<u>0.5</u>	<u>2.1</u>
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				

CF = correction factor

Samples received on ice? ☐ YES☒ NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED:

☐ NO☐ YES

Base samples are >pH 12:

☐ YES☐ NO

Acid preserved are <pH 2:

☐ YES☐ NO

pH paper Lot # _____

VOA headspace acceptable (5-6mm):

☐ YES☐ NO☐ NA

YES NO

Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?

COMMENTS:

(Large handwritten scribble covering the comments section)

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 600-101353-1

Login Number: 101353

List Source: TestAmerica Houston

List Number: 1

Creator: Joiner, Ninatchka M

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
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	2.1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 600-101353-1

Login Number: 101353

List Source: TestAmerica Denver

List Number: 2

List Creation: 11/04/14 01:44 PM

Creator: Conquest, Tyler W

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

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Houston

6310 Rothway Street

Houston, TX 77040

Tel: (713)690-4444

TestAmerica Job ID: 600-101598-1

Client Project/Site: Kinder-Morgan State Gas Com N #1

For:

MWH Americas Inc

11153 Aurora Avenue

Des Moines, Iowa 50322-7904

Attn: Mr. Mike Alowitz



Authorized for release by:

11/20/2014 11:47:39 AM

Neal Salcher, Senior Project Manager

(713)690-4444

neal.salcher@testamericainc.com

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

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

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

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Case Narrative

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

TestAmerica Job ID: 600-101598-1

Job ID: 600-101598-1

Laboratory: TestAmerica Houston

Narrative

CASE NARRATIVE

Client: MWH Americas Inc

Project: Kinder-Morgan State Gas Com N #1

Report Number: 600-101598-1

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) as a result of a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes or interferences which exceed the calibration range of the instrument.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

Note: All samples that require thermal preservation are considered acceptable if the arrival temperature is within 2°C of the required temperature or method specified range. For samples with a specified temperature of 4°C, samples with a temperature ranging from just above freezing temperature of water to 6°C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

The samples were received on 11/04/2014; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 4.9 C.

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples SGC # 1-MW-14-69 (600-101598-1), SGC # 1-MW-13-71.5 (600-101598-2) and SGC # 1-MW-12-78 (600-101598-3) were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 11/08/2014 and 11/12/2014.

Sample SGC # 1-MW-13-71.5 (600-101598-2)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

GASOLINE RANGE ORGANICS (GRO)

Samples SGC # 1-MW-14-69 (600-101598-1), SGC # 1-MW-13-71.5 (600-101598-2) and SGC # 1-MW-12-78 (600-101598-3) were analyzed for gasoline range organics (GRO) in accordance with EPA SW-846 Method 8015B - GRO. The samples were analyzed on 11/13/2014 and 11/14/2014.

Gasoline Range Organics (GRO)-C6-C10 failed the recovery criteria low for the MSD of sample 280-62205-1 in batch 280-253164.

Refer to the QC report for details.

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

Case Narrative

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

TestAmerica Job ID: 600-101598-1

Job ID: 600-101598-1 (Continued)

Laboratory: TestAmerica Houston (Continued)

DIESEL RANGE ORGANICS (DRO)

Samples SGC # 1-MW-14-69 (600-101598-1), SGC # 1-MW-13-71.5 (600-101598-2) and SGC # 1-MW-12-78 (600-101598-3) were analyzed for diesel range organics (DRO) in accordance with EPA SW-846 Method 8015B - DRO. The samples were prepared on 11/05/2014 and analyzed on 11/06/2014.

Diesel Range Organics [C10-C28] failed the recovery criteria low for the MS of sample 600-101353-1 in batch 600-148645.

Diesel Range Organics [C10-C28] failed the recovery criteria low for the MSD of sample 600-101353-1 in batch 600-148645.

Refer to the QC report for details.

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

ANIONS

Samples SGC # 1-MW-14-69 (600-101598-1), SGC # 1-MW-13-71.5 (600-101598-2) and SGC # 1-MW-12-78 (600-101598-3) were analyzed for anions in accordance with approved methodology. The samples were leached on 11/17/2014 and analyzed on 11/17/2014.

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

DI LEACH

Samples SGC # 1-MW-14-69 (600-101598-1), SGC # 1-MW-13-71.5 (600-101598-2) and SGC # 1-MW-12-78 (600-101598-3) were analyzed for DI Leach in accordance with ATSM Method D3987-85/EPA SW-846 Method 9056A. The samples were leached on 11/13/2014 and analyzed on 11/14/2014.

Chloride failed the recovery criteria low for the MS of sample SGC # 1-MW-12-78MS (600-101598-3) in batch 600-149371.

Chloride failed the recovery criteria low for the MSD of sample SGC # 1-MW-12-78MSD (600-101598-3) in batch 600-149371.

The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Refer to the QC report for details.

Refer to the QC report for details.

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

Method Summary

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

TestAmerica Job ID: 600-101598-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL HOU
8015B	Gasoline Range Organics - (GC)	SW846	TAL DEN
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL HOU
300.0	Anions, Ion Chromatography	MCAWW	TAL HOU

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Sample Summary

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

TestAmerica Job ID: 600-101598-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-101598-1	SGC # 1-MW-14-69	Solid	10/30/14 11:50	11/04/14 10:38
600-101598-2	SGC # 1-MW-13-71.5	Solid	10/31/14 14:20	11/04/14 10:38
600-101598-3	SGC # 1-MW-12-78	Solid	11/01/14 12:20	11/04/14 10:38

Client Sample Results

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

TestAmerica Job ID: 600-101598-1

Client Sample ID: SGC # 1-MW-14-69

Lab Sample ID: 600-101598-1

Date Collected: 10/30/14 11:50

Matrix: Solid

Date Received: 11/04/14 10:38

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.000630	U	0.00500	0.000630	mg/Kg	-		11/08/14 21:41	1
Ethylbenzene	0.00102	U	0.00500	0.00102	mg/Kg	-		11/08/14 21:41	1
Toluene	0.00138	U	0.00500	0.00138	mg/Kg	-		11/08/14 21:41	1
Xylenes, Total	0.00113	U	0.00500	0.00113	mg/Kg	-		11/08/14 21:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		61 - 130		11/08/14 21:41	1
Dibromofluoromethane	93		68 - 140		11/08/14 21:41	1
Toluene-d8 (Surr)	75		50 - 130		11/08/14 21:41	1
4-Bromofluorobenzene	85		57 - 140		11/08/14 21:41	1

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	0.358	J	1.18	0.319	mg/Kg	-	11/11/14 09:27	11/13/14 05:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	103		77 - 123	11/11/14 09:27	11/13/14 05:08	1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	1.71	U	8.29	1.71	mg/Kg	-	11/05/14 06:42	11/06/14 01:34	1
Oil Range Organics (C28-C35)	5.00	U	8.29	5.00	mg/Kg	-	11/05/14 06:42	11/06/14 01:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	80		60 - 140	11/05/14 06:42	11/06/14 01:34	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	67.4		3.98	0.0667	mg/Kg	-		11/17/14 19:17	1

Client Sample ID: SGC # 1-MW-13-71.5

Lab Sample ID: 600-101598-2

Date Collected: 10/31/14 14:20

Matrix: Solid

Date Received: 11/04/14 10:38

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00630	U	0.0500	0.00630	mg/Kg	-		11/12/14 15:10	10
Ethylbenzene	0.0276	J	0.0500	0.0102	mg/Kg	-		11/12/14 15:10	10
Toluene	0.0147	J	0.0500	0.0138	mg/Kg	-		11/12/14 15:10	10
Xylenes, Total	0.691		0.0500	0.0113	mg/Kg	-		11/12/14 15:10	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	66		61 - 130		11/12/14 15:10	10
Dibromofluoromethane	72		68 - 140		11/12/14 15:10	10
Toluene-d8 (Surr)	63		50 - 130		11/12/14 15:10	10
4-Bromofluorobenzene	65		57 - 140		11/12/14 15:10	10

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	8.37		1.15	0.311	mg/Kg	-	11/14/14 09:37	11/14/14 23:34	1

TestAmerica Houston

Client Sample Results

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

TestAmerica Job ID: 600-101598-1

Client Sample ID: SGC # 1-MW-13-71.5

Lab Sample ID: 600-101598-2

Date Collected: 10/31/14 14:20

Matrix: Solid

Date Received: 11/04/14 10:38

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	117		77 - 123				11/14/14 09:37	11/14/14 23:34	1
Method: 8015B - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	11.2		8.28	1.71	mg/Kg	-	11/05/14 06:42	11/06/14 02:06	1
Oil Range Organics (C28-C35)	4.99	U	8.28	4.99	mg/Kg		11/05/14 06:42	11/06/14 02:06	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	79		60 - 140				11/05/14 06:42	11/06/14 02:06	1
Method: 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	26.0		4.04	0.0677	mg/Kg	-		11/17/14 19:37	1

Client Sample ID: SGC # 1-MW-12-78

Lab Sample ID: 600-101598-3

Date Collected: 11/01/14 12:20

Matrix: Solid

Date Received: 11/04/14 10:38

Method: 8260B - Volatile Organic Compounds (GC/MS)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00247	J	0.00500	0.000630	mg/Kg	-		11/08/14 22:09	1
Ethylbenzene	0.00102	U	0.00500	0.00102	mg/Kg			11/08/14 22:09	1
Toluene	0.00266	J	0.00500	0.00138	mg/Kg			11/08/14 22:09	1
Xylenes, Total	0.00495	J	0.00500	0.00113	mg/Kg			11/08/14 22:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		61 - 130					11/08/14 22:09	1
Dibromofluoromethane	80		68 - 140					11/08/14 22:09	1
Toluene-d8 (Surr)	72		50 - 130					11/08/14 22:09	1
4-Bromofluorobenzene	86		57 - 140					11/08/14 22:09	1
Method: 8015B - Gasoline Range Organics - (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	0.402	J	1.17	0.318	mg/Kg	-	11/14/14 09:37	11/14/14 23:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	114		77 - 123				11/14/14 09:37	11/14/14 23:59	1
Method: 8015B - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	1.70	U	8.27	1.70	mg/Kg	-	11/05/14 06:42	11/06/14 02:39	1
Oil Range Organics (C28-C35)	4.98	U	8.27	4.98	mg/Kg		11/05/14 06:42	11/06/14 02:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	84		60 - 140				11/05/14 06:42	11/06/14 02:39	1
Method: 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12.5		4.02	0.0673	mg/Kg	-		11/17/14 19:57	1

TestAmerica Houston

Definitions/Glossary

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

TestAmerica Job ID: 600-101598-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

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

Surrogate Summary

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

TestAmerica Job ID: 600-101598-1

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

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (61-130)	DBFM (68-140)	TOL (50-130)	BFB (57-140)
600-101598-1	SGC # 1-MW-14-69	98	93	75	85
600-101598-2	SGC # 1-MW-13-71.5	66	72	63	65
600-101598-3	SGC # 1-MW-12-78	86	80	72	86
LCS 600-148886/4	Lab Control Sample	76	74	69	82
LCS 600-149172/4	Lab Control Sample	72	77	68	66
LCSD 600-148886/5	Lab Control Sample Dup	84	79	71	90
LCSD 600-149172/5	Lab Control Sample Dup	71	80	74	71
MB 600-148886/6	Method Blank	80	79	70	94
MB 600-149172/7	Method Blank	65	70	67	63

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)

DBFM = Dibromofluoromethane

TOL = Toluene-d8 (Surr)

BFB = 4-Bromofluorobenzene

Method: 8015B - Gasoline Range Organics - (GC)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		TFT1 (77-123)			
600-101598-1	SGC # 1-MW-14-69	103			
600-101598-2	SGC # 1-MW-13-71.5	117			
600-101598-3	SGC # 1-MW-12-78	114			
LCS 280-252478/2-A	Lab Control Sample	110			
LCS 280-253086/2-A	Lab Control Sample	112			
LCSD 280-252478/3-A	Lab Control Sample Dup	109			
LCSD 280-253086/3-A	Lab Control Sample Dup	114			
MB 280-252478/1-A	Method Blank	107			
MB 280-253086/1-A	Method Blank	112			

Surrogate Legend

TFT = a,a,a-Trifluorotoluene

Method: 8015B - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		OTPH1 (60-140)			
600-101598-1	SGC # 1-MW-14-69	80			
600-101598-2	SGC # 1-MW-13-71.5	79			
600-101598-3	SGC # 1-MW-12-78	84			
LCS 600-148551/2-A	Lab Control Sample	133			
MB 600-148551/1-A	Method Blank	78			

Surrogate Legend

OTPH = o-Terphenyl

TestAmerica Houston

QC Sample Results

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

TestAmerica Job ID: 600-101598-1

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

Lab Sample ID: MB 600-148886/6

Matrix: Solid

Analysis Batch: 148886

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.000630	U	0.00500	0.000630	mg/Kg			11/08/14 12:38	1
Ethylbenzene	0.00102	U	0.00500	0.00102	mg/Kg			11/08/14 12:38	1
Toluene	0.00138	U	0.00500	0.00138	mg/Kg			11/08/14 12:38	1
Xylenes, Total	0.00113	U	0.00500	0.00113	mg/Kg			11/08/14 12:38	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	80		61 - 130		11/08/14 12:38	1
Dibromofluoromethane	79		68 - 140		11/08/14 12:38	1
Toluene-d8 (Surr)	70		50 - 130		11/08/14 12:38	1
4-Bromofluorobenzene	94		57 - 140		11/08/14 12:38	1

Lab Sample ID: LCS 600-148886/4

Matrix: Solid

Analysis Batch: 148886

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.05658		mg/Kg		113	70 - 131
Ethylbenzene	0.0500	0.04574		mg/Kg		91	66 - 130
Toluene	0.0500	0.04863		mg/Kg		97	67 - 130
Xylenes, Total	0.100	0.09608		mg/Kg		96	63 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	76		61 - 130
Dibromofluoromethane	74		68 - 140
Toluene-d8 (Surr)	69		50 - 130
4-Bromofluorobenzene	82		57 - 140

Lab Sample ID: LCSD 600-148886/5

Matrix: Solid

Analysis Batch: 148886

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.0500	0.05652		mg/Kg		113	70 - 131	0	30
Ethylbenzene	0.0500	0.04564		mg/Kg		91	66 - 130	0	30
Toluene	0.0500	0.04611		mg/Kg		92	67 - 130	5	30
Xylenes, Total	0.100	0.09076		mg/Kg		91	63 - 130	6	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	84		61 - 130
Dibromofluoromethane	79		68 - 140
Toluene-d8 (Surr)	71		50 - 130
4-Bromofluorobenzene	90		57 - 140

TestAmerica Houston

QC Sample Results

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

TestAmerica Job ID: 600-101598-1

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

Lab Sample ID: MB 600-149172/7

Matrix: Solid

Analysis Batch: 149172

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.000630	U	0.00500	0.000630	mg/Kg			11/12/14 13:41	1
Ethylbenzene	0.00102	U	0.00500	0.00102	mg/Kg			11/12/14 13:41	1
Toluene	0.00138	U	0.00500	0.00138	mg/Kg			11/12/14 13:41	1
Xylenes, Total	0.00113	U	0.00500	0.00113	mg/Kg			11/12/14 13:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	65		61 - 130		11/12/14 13:41	1
Dibromofluoromethane	70		68 - 140		11/12/14 13:41	1
Toluene-d8 (Surr)	67		50 - 130		11/12/14 13:41	1
4-Bromofluorobenzene	63		57 - 140		11/12/14 13:41	1

Lab Sample ID: LCS 600-149172/4

Matrix: Solid

Analysis Batch: 149172

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.05342		mg/Kg		107	70 - 131
Ethylbenzene	0.0500	0.04529		mg/Kg		91	66 - 130
Toluene	0.0500	0.04376		mg/Kg		88	67 - 130
Xylenes, Total	0.100	0.08621		mg/Kg		86	63 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	72		61 - 130
Dibromofluoromethane	77		68 - 140
Toluene-d8 (Surr)	68		50 - 130
4-Bromofluorobenzene	66		57 - 140

Lab Sample ID: LCSD 600-149172/5

Matrix: Solid

Analysis Batch: 149172

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.0500	0.04987		mg/Kg		100	70 - 131	7	30
Ethylbenzene	0.0500	0.04563		mg/Kg		91	66 - 130	1	30
Toluene	0.0500	0.04399		mg/Kg		88	67 - 130	1	30
Xylenes, Total	0.100	0.08878		mg/Kg		89	63 - 130	3	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	71		61 - 130
Dibromofluoromethane	80		68 - 140
Toluene-d8 (Surr)	74		50 - 130
4-Bromofluorobenzene	71		57 - 140

TestAmerica Houston

QC Sample Results

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

TestAmerica Job ID: 600-101598-1

Method: 8015B - Gasoline Range Organics - (GC)

Lab Sample ID: MB 280-252478/1-A

Matrix: Solid

Analysis Batch: 252706

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 252478

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)	0.315	U	1.16	0.315	mg/Kg		11/11/14 09:27	11/13/14 03:53	1
-C6-C10									
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	107		77 - 123				11/11/14 09:27	11/13/14 03:53	1

Lab Sample ID: LCS 280-252478/2-A

Matrix: Solid

Analysis Batch: 252706

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 252478

Analyte		Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Gasoline Range Organics (GRO)		5.42	6.976		mg/Kg		129	85 - 153	
-C6-C10									
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
a,a,a-Trifluorotoluene	110		77 - 123						

Lab Sample ID: LCSD 280-252478/3-A

Matrix: Solid

Analysis Batch: 252706

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 252478

Analyte		Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)		5.32	6.283		mg/Kg		118	85 - 153	10	30
-C6-C10										
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits							
a,a,a-Trifluorotoluene	109		77 - 123							

Lab Sample ID: MB 280-253086/1-A

Matrix: Solid

Analysis Batch: 253164

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 253086

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)	0.316	U	1.17	0.316	mg/Kg		11/14/14 09:37	11/14/14 22:19	1
-C6-C10									
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	112		77 - 123				11/14/14 09:37	11/14/14 22:19	1

Lab Sample ID: LCS 280-253086/2-A

Matrix: Solid

Analysis Batch: 253164

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 253086

Analyte		Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Gasoline Range Organics (GRO)		5.43	6.719		mg/Kg		124	85 - 153	
-C6-C10									

TestAmerica Houston

QC Sample Results

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

TestAmerica Job ID: 600-101598-1

Method: 8015B - Gasoline Range Organics - (GC) (Continued)

Lab Sample ID: LCS 280-253086/2-A

Matrix: Solid

Analysis Batch: 253164

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 253086

Surrogate	LCS %Recovery	LCS Qualifier	Limits
a,a,a-Trifluorotoluene	112		77 - 123

Lab Sample ID: LCSD 280-253086/3-A

Matrix: Solid

Analysis Batch: 253164

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 253086

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C6-C10	5.36	6.554		mg/Kg		122	85 - 153	2	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
a,a,a-Trifluorotoluene	114		77 - 123

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 600-148551/1-A

Matrix: Solid

Analysis Batch: 148645

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 148551

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	1.71	U	8.30	1.71	mg/Kg		11/05/14 06:42	11/05/14 19:02	1
Oil Range Organics (C28-C35)	5.00	U	8.30	5.00	mg/Kg		11/05/14 06:42	11/05/14 19:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	78		60 - 140	11/05/14 06:42	11/05/14 19:02	1

Lab Sample ID: LCS 600-148551/2-A

Matrix: Solid

Analysis Batch: 148645

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 148551

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]	66.7	56.88		mg/Kg		85	66 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl	133		60 - 140

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 600-149576/1-A

Matrix: Solid

Analysis Batch: 149574

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.0670	U	4.00	0.0670	mg/Kg			11/17/14 15:08	1

TestAmerica Houston

QC Sample Results

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

TestAmerica Job ID: 600-101598-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 600-149576/2-A

Matrix: Solid

Analysis Batch: 149574

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	200	188.6		mg/Kg		94	90 - 110

QC Association Summary

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

TestAmerica Job ID: 600-101598-1

GC/MS VOA

Analysis Batch: 148886

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-101598-1	SGC # 1-MW-14-69	Total/NA	Solid	8260B	
600-101598-3	SGC # 1-MW-12-78	Total/NA	Solid	8260B	
LCS 600-148886/4	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 600-148886/5	Lab Control Sample Dup	Total/NA	Solid	8260B	
MB 600-148886/6	Method Blank	Total/NA	Solid	8260B	

Analysis Batch: 149172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-101598-2	SGC # 1-MW-13-71.5	Total/NA	Solid	8260B	
LCS 600-149172/4	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 600-149172/5	Lab Control Sample Dup	Total/NA	Solid	8260B	
MB 600-149172/7	Method Blank	Total/NA	Solid	8260B	

GC VOA

Prep Batch: 252478

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-101598-1	SGC # 1-MW-14-69	Total/NA	Solid	5030B	
LCS 280-252478/2-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 280-252478/3-A	Lab Control Sample Dup	Total/NA	Solid	5030B	
MB 280-252478/1-A	Method Blank	Total/NA	Solid	5030B	

Analysis Batch: 252706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-101598-1	SGC # 1-MW-14-69	Total/NA	Solid	8015B	252478
LCS 280-252478/2-A	Lab Control Sample	Total/NA	Solid	8015B	252478
LCSD 280-252478/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B	252478
MB 280-252478/1-A	Method Blank	Total/NA	Solid	8015B	252478

Prep Batch: 253086

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-101598-2	SGC # 1-MW-13-71.5	Total/NA	Solid	5030B	
600-101598-3	SGC # 1-MW-12-78	Total/NA	Solid	5030B	
LCS 280-253086/2-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 280-253086/3-A	Lab Control Sample Dup	Total/NA	Solid	5030B	
MB 280-253086/1-A	Method Blank	Total/NA	Solid	5030B	

Analysis Batch: 253164

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-101598-2	SGC # 1-MW-13-71.5	Total/NA	Solid	8015B	253086
600-101598-3	SGC # 1-MW-12-78	Total/NA	Solid	8015B	253086
LCS 280-253086/2-A	Lab Control Sample	Total/NA	Solid	8015B	253086
LCSD 280-253086/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B	253086
MB 280-253086/1-A	Method Blank	Total/NA	Solid	8015B	253086

GC Semi VOA

Prep Batch: 148551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-101598-1	SGC # 1-MW-14-69	Total/NA	Solid	3546	

TestAmerica Houston

QC Association Summary

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

TestAmerica Job ID: 600-101598-1

GC Semi VOA (Continued)

Prep Batch: 148551 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-101598-2	SGC # 1-MW-13-71.5	Total/NA	Solid	3546	
600-101598-3	SGC # 1-MW-12-78	Total/NA	Solid	3546	
LCS 600-148551/2-A	Lab Control Sample	Total/NA	Solid	3546	
MB 600-148551/1-A	Method Blank	Total/NA	Solid	3546	

Analysis Batch: 148645

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-101598-1	SGC # 1-MW-14-69	Total/NA	Solid	8015B	148551
600-101598-2	SGC # 1-MW-13-71.5	Total/NA	Solid	8015B	148551
600-101598-3	SGC # 1-MW-12-78	Total/NA	Solid	8015B	148551
LCS 600-148551/2-A	Lab Control Sample	Total/NA	Solid	8015B	148551
MB 600-148551/1-A	Method Blank	Total/NA	Solid	8015B	148551

HPLC/IC

Analysis Batch: 149574

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-101598-1	SGC # 1-MW-14-69	Soluble	Solid	300.0	149576
600-101598-2	SGC # 1-MW-13-71.5	Soluble	Solid	300.0	149576
600-101598-3	SGC # 1-MW-12-78	Soluble	Solid	300.0	149576
LCS 600-149576/2-A	Lab Control Sample	Soluble	Solid	300.0	149576
MB 600-149576/1-A	Method Blank	Soluble	Solid	300.0	149576

Leach Batch: 149576

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-101598-1	SGC # 1-MW-14-69	Soluble	Solid	DI Leach	
600-101598-2	SGC # 1-MW-13-71.5	Soluble	Solid	DI Leach	
600-101598-3	SGC # 1-MW-12-78	Soluble	Solid	DI Leach	
LCS 600-149576/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
MB 600-149576/1-A	Method Blank	Soluble	Solid	DI Leach	

Lab Chronicle

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

TestAmerica Job ID: 600-101598-1

Client Sample ID: SGC # 1-MW-14-69

Date Collected: 10/30/14 11:50

Date Received: 11/04/14 10:38

Lab Sample ID: 600-101598-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 g	5 g	148886	11/08/14 21:41	WS1	TAL HOU
Total/NA	Prep	5030B			10.18 g	10 mL	252478	11/11/14 09:27	EER	TAL DEN
Total/NA	Analysis	8015B		1	10.18 g	10 mL	252706	11/13/14 05:08	EER	TAL DEN
Total/NA	Prep	3546			15.01 g	1.0 mL	148551	11/05/14 06:42	RLK	TAL HOU
Total/NA	Analysis	8015B		1	15.01 g	1.0 mL	148645	11/06/14 01:34	RJV	TAL HOU
Soluble	Leach	DI Leach			5.02 g	50 mL	149576	11/17/14 13:51	DAW	TAL HOU
Soluble	Analysis	300.0		1	5 mL		149574	11/17/14 19:17	DAW	TAL HOU

Client Sample ID: SGC # 1-MW-13-71.5

Date Collected: 10/31/14 14:20

Date Received: 11/04/14 10:38

Lab Sample ID: 600-101598-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	5 g	5 g	149172	11/12/14 15:10	KLK	TAL HOU
Total/NA	Prep	5030B			10.46 g	10 mL	253086	11/14/14 09:37	EER	TAL DEN
Total/NA	Analysis	8015B		1	10.46 g	10 mL	253164	11/14/14 23:34	EER	TAL DEN
Total/NA	Prep	3546			15.04 g	1.0 mL	148551	11/05/14 06:42	RLK	TAL HOU
Total/NA	Analysis	8015B		1	15.04 g	1.0 mL	148645	11/06/14 02:06	RJV	TAL HOU
Soluble	Leach	DI Leach			4.95 g	50 mL	149576	11/17/14 13:51	DAW	TAL HOU
Soluble	Analysis	300.0		1	5 mL		149574	11/17/14 19:37	DAW	TAL HOU

Client Sample ID: SGC # 1-MW-12-78

Date Collected: 11/01/14 12:20

Date Received: 11/04/14 10:38

Lab Sample ID: 600-101598-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 g	5 g	148886	11/08/14 22:09	WS1	TAL HOU
Total/NA	Prep	5030B			10.23 g	10 mL	253086	11/14/14 09:37	EER	TAL DEN
Total/NA	Analysis	8015B		1	10.23 g	10 mL	253164	11/14/14 23:59	EER	TAL DEN
Total/NA	Prep	3546			15.06 g	1.0 mL	148551	11/05/14 06:42	RLK	TAL HOU
Total/NA	Analysis	8015B		1	15.06 g	1.0 mL	148645	11/06/14 02:39	RJV	TAL HOU
Soluble	Leach	DI Leach			4.98 g	50 mL	149576	11/17/14 13:51	DAW	TAL HOU
Soluble	Analysis	300.0		1	5 mL		149574	11/17/14 19:57	DAW	TAL HOU

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

TestAmerica Houston

Certification Summary

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

TestAmerica Job ID: 600-101598-1

Laboratory: TestAmerica Houston

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0759	08-04-15
Louisiana	NELAP	6	30643	06-30-15
Oklahoma	State Program	6	1309	08-31-15
Texas	NELAP	6	T104704223	10-31-15
USDA	Federal		P330-14-00192	06-06-17
Utah	NELAP	8	TX00083	10-31-14 *

Laboratory: TestAmerica Denver

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

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2907.01	10-31-15
A2LA	ISO/IEC 17025		2907.01	10-31-15
Alabama	State Program	4	40730	09-30-12 *
Alaska (UST)	State Program	10	UST-30	04-05-15
Arizona	State Program	9	AZ0713	12-19-14
Arkansas DEQ	State Program	6	88-0687	06-01-15
California	State Program	9	2513	08-31-16
Connecticut	State Program	1	PH-0686	09-30-16
Florida	NELAP	4	E87667	06-30-15
Georgia	State Program	4	N/A	01-09-15
Illinois	NELAP	5	200017	04-30-15
Iowa	State Program	7	370	12-01-14 *
Kansas	NELAP	7	E-10166	04-30-15
Louisiana	NELAP	6	02096	06-30-15
Maine	State Program	1	CO0002	03-03-15
Minnesota	NELAP	5	8-999-405	12-31-14
Nevada	State Program	9	CO0026	07-31-15
New Hampshire	NELAP	1	205310	04-28-15
New Jersey	NELAP	2	CO004	06-30-15
New Mexico	State Program	6	CO00026	01-09-15
New York	NELAP	2	11964	03-31-15
North Carolina (VW/SW)	State Program	4	358	12-31-14
North Dakota	State Program	8	R-034	06-30-14 *
Oklahoma	State Program	6	8614	08-31-15
Oregon	NELAP	10	4025	01-09-15
Pennsylvania	NELAP	3	68-00664	07-30-15
South Carolina	State Program	4	72002001	06-30-15
Texas	NELAP	6	T104704183-13-8	09-30-15
USDA	Federal		P330-13-00202	07-02-16
Utah	NELAP	8	CO00026	07-31-15
Virginia	NELAP	3	460232	06-14-15
Washington	State Program	10	C583	08-03-15
West Virginia DEP	State Program	3	354	11-30-15
Wisconsin	State Program	5	999615430	08-31-15
Wyoming (UST)	A2LA	8	2907.01	10-31-15

* Certification renewal pending - certification considered valid.

TestAmerica Houston

6310 Rodway Street
Houston, TX 77040
Phone (713) 690-4444 Fax (713) 690-5646

Chain of Custody Record



TestAmerica
7375 FOSTER RD FORT WORTH, TX 76126
737-555-7375

Client Information		Sample: <u>Des Moines (2013)</u>	Lab PM: <u>neal schaler</u>
Client Contact:	Phone: <u>916 661 3793</u>	E-Mail: <u>neal.schaler@testamerica.com</u>	
Company: <u>MMW Americas Inc</u>		Job #:	

Address: <u>11153 Aurora Avenue</u>		Due Date Requested:
City: <u>Des Moines</u>	State, Zip: <u>IA, 50322-7904</u>	TAI Requested (days):
Phone: <u>515-210-4299(Tel)</u>	PO #: <u>515-210-4299(Tel)</u>	Purchase Order Requested
Email: <u>clint.w.oberbroeckling@mmwglobal.com</u>	Project Name: <u>Kinder Morgan State Gas Com N #1</u>	Project #: <u>60005778</u>
Site: <u>SSOW#:</u>		

Analysis Requested

Field Filtered Sample (Yes or No)	Field MS/MS (Yes or No)	8015B_DRO - Local Method	8015B_GRO, 8021B	8015B MRO	8015B BTEX
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Receipt Checklist

Loc: 600
101598

Date/Time Received:

JOB NUMBER: _____

CLIENT: MWH AmericasUNPACKED BY: NSCARRIER/DRIVER: Fed ExCustody Seal Present: ☒ YES ☐ NO

Number of Coolers Received: _____

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Therm CF	Corrected Temp (°C)
<u>Sn B'w</u>	Y / N	Y / N	<u>4.4</u>	<u>6016</u>	<u>0.5</u>	<u>4.9</u>
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				

CF = correction factor

Samples received on ice? ☒ YES ☐ NOLABORATORY PRESERVATION OF SAMPLES REQUIRED: ☐ NO ☐ YESBase samples are >pH 12: ☐ YES ☐ NO Acid preserved are <pH 2: ☐ YES ☐ NO

pH paper Lot # _____

VOA headspace acceptable (5-6mm): ☐ YES ☐ NO ☐ NA

	YES	NO
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	☒	☐

COMMENTS:

[Handwritten signature across the comments section]

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 600-101598-1

Login Number: 101598

List Source: TestAmerica Houston

List Number: 1

Creator: Joiner, Ninatchka M

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
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	4.9
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 600-101598-1

Login Number: 101598

List Source: TestAmerica Denver

List Number: 2

List Creation: 11/06/14 02:39 PM

Creator: Conquest, Tyler W

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

6310 Rothway Street

Houston, TX 77040

Tel: (713)690-4444

TestAmerica Job ID: 600-102021-1

Client Project/Site: Kinder-Morgan State Gas Com N #1

For:

MWH Americas Inc

11153 Aurora Avenue

Des Moines, Iowa 50322-7904

Attn: Mr. Mike Alowitz



Authorized for release by:

11/24/2014 1:21:40 PM

Neal Salcher, Senior Project Manager

(512)264-0854

neal.salcher@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

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

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

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

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Case Narrative

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

TestAmerica Job ID: 600-102021-1

Job ID: 600-102021-1

Laboratory: TestAmerica Houston

Narrative

Job Narrative 600-102021-1

Comments

No additional comments.

Receipt

The samples were received on 11/11/2014 10:54 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was -2.5° C.

GC/MS VOA

Method(s) 8260B: The following sample was diluted due to the nature of the sample matrix: MW-19 (70-72) (600-102021-1), SB-1 (22-24) (600-102021-2), SB-1 (25-27) (600-102021-3), SB-1 (32-34) (600-102021-4), SB1- (46.5-48.5) (600-102021-6), SB-1 (57-58.9) (600-102021-7). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-19 (70-72) (600-102021-1). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: Surrogate recovery for the following sample was outside control limits: MW-19 (70-72) (600-102021-1). Surrogate diluted out.

Method(s) 8260B: The following sample was diluted due to the nature of the sample matrix: SB-1 (43-44.8) (600-102021-5), SB-1 (67-68.8) (600-102021-8), SB-1 (71-73) (600-102021-9). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The following sample was diluted to bring the concentration of target analytes within the calibration range: SB-1 (22-24) (600-102021-2), SB-1 (25-27) (600-102021-3), SB-1 (32-34) (600-102021-4), SB-1 (43-44.8) (600-102021-5), SB1- (46.5-48.5) (600-102021-6), SB-1 (57-58.9) (600-102021-7), SB-1 (67-68.8) (600-102021-8), SB-1 (71-73) (600-102021-9). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: Surrogate recovery for the following sample was outside control limits: SB-1 (43-44.8) (600-102021-5). Evidence of matrix interference is present and surrogate diluted out.

Method(s) 8260B: Surrogate recovery for the following sample was outside control limits: SB-1 (22-24) (600-102021-2), SB-1 (25-27) (600-102021-3), SB-1 (32-34) (600-102021-4), SB-1 (43-44.8) (600-102021-5), SB1- (46.5-48.5) (600-102021-6), SB-1 (57-58.9) (600-102021-7), SB-1 (67-68.8) (600-102021-8), SB-1 (71-73) (600-102021-9). Surrogate diluted out.

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

GC VOA

Method(s) 8015B: The matrix of the listed samples was wet mud.
8015GRO/254010

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

GC Semi VOA

Method(s) 8015B: The following sample(s) was diluted due to the nature of the sample matrix: SB-1 (22-24) (600-102021-2), SB-1 (25-27) (600-102021-3), SB-1 (32-34) (600-102021-4), SB-1 (43-44.8) (600-102021-5). Elevated reporting limits (RLs) are provided.

Method(s) 8015B: The following sample(s) was diluted due to the nature of the sample matrix: SB-1 (57-58.9) (600-102021-7), SB-1 (67-68.8) (600-102021-8), SB-1 (71-73) (600-102021-9). Elevated reporting limits (RLs) are provided.

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

General Chemistry

Method(s) 300.0: The matrix spike duplicate (MSD) recovery for batch 149574 was outside control limits for Chloride. Sample matrix

Case Narrative

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

TestAmerica Job ID: 600-102021-1

Job ID: 600-102021-1 (Continued)

Laboratory: TestAmerica Houston (Continued)

interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 300.0: The following sample(s) was diluted to bring the concentration of target analytes within the calibration range: (600-102021-2 MS), (600-102021-2 MSD), MW-19 (70-72) (600-102021-1), SB-1 (22-24) (600-102021-2), SB-1 (25-27) (600-102021-3), SB-1 (32-34) (600-102021-4), SB-1 (43-44.8) (600-102021-5), SB1- (46.5-48.5) (600-102021-6), SB-1 (57-58.9) (600-102021-7), SB-1 (67-68.8) (600-102021-8), SB-1 (71-73) (600-102021-9). Elevated reporting limits (RLs) are provided.

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

Industrial Hygiene

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

Organic Prep

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

Method Summary

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

TestAmerica Job ID: 600-102021-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL HOU
8015B	Gasoline Range Organics - (GC)	SW846	TAL DEN
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL HOU
300.0	Anions, Ion Chromatography	MCAWW	TAL HOU

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Sample Summary

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

TestAmerica Job ID: 600-102021-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-102021-1	MW-19 (70-72)	Solid	11/07/14 12:00	11/11/14 10:54
600-102021-2	SB-1 (22-24)	Solid	11/08/14 11:50	11/11/14 10:54
600-102021-3	SB-1 (25-27)	Solid	11/08/14 11:55	11/11/14 10:54
600-102021-4	SB-1 (32-34)	Solid	11/08/14 12:00	11/11/14 10:54
600-102021-5	SB-1 (43-44.8)	Solid	11/08/14 12:15	11/11/14 10:54
600-102021-6	SB1- (46.5-48.5)	Solid	11/08/14 13:05	11/11/14 10:54
600-102021-7	SB-1 (57-58.9)	Solid	11/08/14 13:15	11/11/14 10:54
600-102021-8	SB-1 (67-68.8)	Solid	11/08/14 13:35	11/11/14 10:54
600-102021-9	SB-1 (71-73)	Solid	11/08/14 13:45	11/11/14 10:54

Client Sample Results

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

TestAmerica Job ID: 600-102021-1

Client Sample ID: MW-19 (70-72)

Date Collected: 11/07/14 12:00

Date Received: 11/11/14 10:54

Lab Sample ID: 600-102021-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	5.39		0.625	0.0788	mg/Kg		11/18/14 10:00	11/18/14 15:33	1
Toluene	0.192	J	0.625	0.173	mg/Kg		11/18/14 10:00	11/18/14 15:33	1
Ethylbenzene	12.3		0.625	0.128	mg/Kg		11/18/14 10:00	11/18/14 15:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		61 - 130				11/18/14 10:00	11/18/14 15:33	1
Dibromofluoromethane	78		68 - 140				11/18/14 10:00	11/18/14 15:33	1
Toluene-d8 (Surr)	87		50 - 130				11/18/14 10:00	11/18/14 15:33	1
4-Bromofluorobenzene	89		57 - 140				11/18/14 10:00	11/18/14 15:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	94.4		6.25	1.41	mg/Kg		11/18/14 10:00	11/20/14 00:28	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		61 - 130				11/18/14 10:00	11/20/14 00:28	10
Dibromofluoromethane	71		68 - 140				11/18/14 10:00	11/20/14 00:28	10
Toluene-d8 (Surr)	82		50 - 130				11/18/14 10:00	11/20/14 00:28	10
4-Bromofluorobenzene	25	X	57 - 140				11/18/14 10:00	11/20/14 00:28	10

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	1700		58.3	15.8	mg/Kg		11/18/14 12:00	11/19/14 21:54	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	0	D X	77 - 123				11/18/14 12:00	11/19/14 21:54	50

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	159		8.22	1.69	mg/Kg		11/18/14 11:04	11/18/14 23:33	1
Oil Range Organics (C28-C35)	4.95	U	8.22	4.95	mg/Kg		11/18/14 11:04	11/18/14 23:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	79		60 - 140				11/18/14 11:04	11/18/14 23:33	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	123		81.3	1.36	mg/Kg			11/17/14 20:17	20

Client Sample ID: SB-1 (22-24)

Date Collected: 11/08/14 11:50

Date Received: 11/11/14 10:54

Lab Sample ID: 600-102021-2

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	14.9		0.625	0.0788	mg/Kg		11/18/14 10:00	11/18/14 15:57	1
Ethylbenzene	6.13		0.625	0.128	mg/Kg		11/18/14 10:00	11/18/14 15:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	78		61 - 130				11/18/14 10:00	11/18/14 15:57	1
Dibromofluoromethane	79		68 - 140				11/18/14 10:00	11/18/14 15:57	1

TestAmerica Houston

Client Sample Results

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

TestAmerica Job ID: 600-102021-1

Client Sample ID: SB-1 (22-24)

Lab Sample ID: 600-102021-2

Date Collected: 11/08/14 11:50

Matrix: Solid

Date Received: 11/11/14 10:54

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	77		50 - 130	11/18/14 10:00	11/18/14 15:57	1
4-Bromofluorobenzene	81		57 - 140	11/18/14 10:00	11/18/14 15:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	53.2		6.25	1.73	mg/Kg		11/18/14 10:00	11/20/14 14:51	10
Xylenes, Total	107		6.25	1.41	mg/Kg		11/18/14 10:00	11/20/14 14:51	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	35	X	61 - 130	11/18/14 10:00	11/20/14 14:51	10
Dibromofluoromethane	104		68 - 140	11/18/14 10:00	11/20/14 14:51	10
Toluene-d8 (Surr)	100		50 - 130	11/18/14 10:00	11/20/14 14:51	10
4-Bromofluorobenzene	34	X	57 - 140	11/18/14 10:00	11/20/14 14:51	10

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)	2130		58.9	16.0	mg/Kg		11/18/14 12:00	11/19/14 22:19	50
-C6-C10									

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	0	D X	77 - 123	11/18/14 12:00	11/19/14 22:19	50

Method: 8015B - Diesel Range Organics (DRO) (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	246		41.0	8.44	mg/Kg		11/18/14 11:04	11/18/14 00:05	5
Oil Range Organics (C28-C35)	144		41.0	24.7	mg/Kg		11/18/14 11:04	11/18/14 00:05	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	89		60 - 140	11/18/14 11:04	11/18/14 00:05	5

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	36.7		8.06	0.135	mg/Kg			11/17/14 20:37	2

Client Sample ID: SB-1 (25-27)

Lab Sample ID: 600-102021-3

Date Collected: 11/08/14 11:55

Matrix: Solid

Date Received: 11/11/14 10:54

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	9.88		0.625	0.0788	mg/Kg		11/18/14 10:00	11/18/14 16:21	1
Ethylbenzene	6.76		0.625	0.128	mg/Kg		11/18/14 10:00	11/18/14 16:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		61 - 130	11/18/14 10:00	11/18/14 16:21	1
Dibromofluoromethane	89		68 - 140	11/18/14 10:00	11/18/14 16:21	1
Toluene-d8 (Surr)	80		50 - 130	11/18/14 10:00	11/18/14 16:21	1
4-Bromofluorobenzene	79		57 - 140	11/18/14 10:00	11/18/14 16:21	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	40.3		6.25	1.73	mg/Kg		11/18/14 10:00	11/20/14 15:14	10

TestAmerica Houston

Client Sample Results

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

TestAmerica Job ID: 600-102021-1

Client Sample ID: SB-1 (25-27)

Lab Sample ID: 600-102021-3

Date Collected: 11/08/14 11:55

Matrix: Solid

Date Received: 11/11/14 10:54

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	148		6.25	1.41	mg/Kg	-	11/18/14 10:00	11/20/14 15:14	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	69		61 - 130				11/18/14 10:00	11/20/14 15:14	10
Dibromofluoromethane	91		68 - 140				11/18/14 10:00	11/20/14 15:14	10
Toluene-d8 (Surr)	83		50 - 130				11/18/14 10:00	11/20/14 15:14	10
4-Bromofluorobenzene	47	X	57 - 140				11/18/14 10:00	11/20/14 15:14	10

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	4200		232	62.9	mg/Kg	-	11/18/14 12:00	11/20/14 10:03	200
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	0	X D	77 - 123				11/18/14 12:00	11/20/14 10:03	200

Method: 8015B - Diesel Range Organics (DRO) (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	391		41.0	8.45	mg/Kg	-	11/18/14 11:04	11/18/14 00:36	5
Oil Range Organics (C28-C35)	205		41.0	24.7	mg/Kg	-	11/18/14 11:04	11/18/14 00:36	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	94		60 - 140				11/18/14 11:04	11/18/14 00:36	5

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	62.1		20.0	0.336	mg/Kg	-		11/17/14 21:37	5

Client Sample ID: SB-1 (32-34)

Lab Sample ID: 600-102021-4

Date Collected: 11/08/14 12:00

Matrix: Solid

Date Received: 11/11/14 10:54

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	5.22		0.625	0.0788	mg/Kg	-	11/18/14 10:00	11/18/14 16:45	1
Toluene	22.8		0.625	0.173	mg/Kg	-	11/18/14 10:00	11/18/14 16:45	1
Ethylbenzene	11.3		0.625	0.128	mg/Kg	-	11/18/14 10:00	11/18/14 16:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	82		61 - 130				11/18/14 10:00	11/18/14 16:45	1
Dibromofluoromethane	78		68 - 140				11/18/14 10:00	11/18/14 16:45	1
Toluene-d8 (Surr)	80		50 - 130				11/18/14 10:00	11/18/14 16:45	1
4-Bromofluorobenzene	83		57 - 140				11/18/14 10:00	11/18/14 16:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	214		6.25	1.41	mg/Kg	-	11/18/14 10:00	11/20/14 15:38	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	68		61 - 130				11/18/14 10:00	11/20/14 15:38	10
Dibromofluoromethane	64	X	68 - 140				11/18/14 10:00	11/20/14 15:38	10
Toluene-d8 (Surr)	80		50 - 130				11/18/14 10:00	11/20/14 15:38	10

TestAmerica Houston

Client Sample Results

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

TestAmerica Job ID: 600-102021-1

Client Sample ID: SB-1 (32-34)

Date Collected: 11/08/14 12:00

Date Received: 11/11/14 10:54

Lab Sample ID: 600-102021-4

Matrix: Solid

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	36	X	57 - 140	11/18/14 10:00	11/20/14 15:38	10

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	7150		229	62.1	mg/Kg	-	11/18/14 12:00	11/20/14 10:28	200

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	0	X D	77 - 123	11/18/14 12:00	11/20/14 10:28	200

Method: 8015B - Diesel Range Organics (DRO) (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	450		41.1	8.47	mg/Kg	-	11/18/14 11:04	11/19/14 01:08	5
Oil Range Organics (C28-C35)	59.0		41.1	24.8	mg/Kg	-	11/18/14 11:04	11/19/14 01:08	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	82		60 - 140	11/18/14 11:04	11/19/14 01:08	5

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	77.8		20.0	0.335	mg/Kg	-		11/17/14 21:57	5

Client Sample ID: SB-1 (43-44.8)

Date Collected: 11/08/14 12:15

Date Received: 11/11/14 10:54

Lab Sample ID: 600-102021-5

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	31.9		6.25	0.788	mg/Kg	-	11/18/14 10:00	11/20/14 16:02	10
Ethylbenzene	65.9		6.25	1.28	mg/Kg	-	11/18/14 10:00	11/20/14 16:02	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	56	X	61 - 130	11/18/14 10:00	11/20/14 16:02	10
Dibromofluoromethane	142	X	68 - 140	11/18/14 10:00	11/20/14 16:02	10
Toluene-d8 (Surr)	87		50 - 130	11/18/14 10:00	11/20/14 16:02	10
4-Bromofluorobenzene	0	X	57 - 140	11/18/14 10:00	11/20/14 16:02	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	316		62.5	17.3	mg/Kg	-	11/18/14 10:00	11/20/14 16:26	100
Xylenes, Total	573		62.5	14.1	mg/Kg	-	11/18/14 10:00	11/20/14 16:26	100

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	0	X	61 - 130	11/18/14 10:00	11/20/14 16:26	100
Dibromofluoromethane	0	X	68 - 140	11/18/14 10:00	11/20/14 16:26	100
Toluene-d8 (Surr)	0	X	50 - 130	11/18/14 10:00	11/20/14 16:26	100
4-Bromofluorobenzene	0	X	57 - 140	11/18/14 10:00	11/20/14 16:26	100

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	12200		576	156	mg/Kg	-	11/18/14 12:00	11/20/14 10:54	500

TestAmerica Houston

Client Sample Results

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

TestAmerica Job ID: 600-102021-1

Client Sample ID: SB-1 (43-44.8)

Date Collected: 11/08/14 12:15

Date Received: 11/11/14 10:54

Lab Sample ID: 600-102021-5

Matrix: Solid

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	0	X D	77 - 123	11/18/14 12:00	11/20/14 10:54	500

Method: 8015B - Diesel Range Organics (DRO) (GC) - DL							Prepared	Analyzed	Dil Fac
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	750		40.9	8.43	mg/Kg	-	11/18/14 11:04	11/19/14 02:42	5
Oil Range Organics (C28-C35)	126		40.9	24.7	mg/Kg	-	11/18/14 11:04	11/19/14 02:42	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	93		60 - 140	11/18/14 11:04	11/19/14 02:42	5

Method: 300.0 - Anions, Ion Chromatography - Soluble							Prepared	Analyzed	Dil Fac
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	66.5		7.95	0.133	mg/Kg	-		11/17/14 22:17	2

Client Sample ID: SB1- (46.5-48.5)

Date Collected: 11/08/14 13:05

Date Received: 11/11/14 10:54

Lab Sample ID: 600-102021-6

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)							Prepared	Analyzed	Dil Fac
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	8.93		0.625	0.0788	mg/Kg	-	11/18/14 10:00	11/18/14 18:20	1
Ethylbenzene	21.6		0.625	0.128	mg/Kg	-	11/18/14 10:00	11/18/14 18:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		61 - 130	11/18/14 10:00	11/18/14 18:20	1
Dibromofluoromethane	88		68 - 140	11/18/14 10:00	11/18/14 18:20	1
Toluene-d8 (Surr)	72		50 - 130	11/18/14 10:00	11/18/14 18:20	1
4-Bromofluorobenzene	68		57 - 140	11/18/14 10:00	11/18/14 18:20	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL							Prepared	Analyzed	Dil Fac
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	109		6.25	1.73	mg/Kg	-	11/18/14 10:00	11/20/14 16:50	10
Xylenes, Total	247		6.25	1.41	mg/Kg	-	11/18/14 10:00	11/20/14 16:50	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	0	X	61 - 130	11/18/14 10:00	11/20/14 16:50	10
Dibromofluoromethane	66	X	68 - 140	11/18/14 10:00	11/20/14 16:50	10
Toluene-d8 (Surr)	81		50 - 130	11/18/14 10:00	11/20/14 16:50	10
4-Bromofluorobenzene	0	X	57 - 140	11/18/14 10:00	11/20/14 16:50	10

Method: 8015B - Gasoline Range Organics - (GC)							Prepared	Analyzed	Dil Fac
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	9270		231	62.7	mg/Kg	-	11/18/14 12:00	11/20/14 11:19	200

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	0	X D	77 - 123	11/18/14 12:00	11/20/14 11:19	200

Method: 8015B - Diesel Range Organics (DRO) (GC)							Prepared	Analyzed	Dil Fac
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	244		8.21	1.69	mg/Kg	-	11/18/14 11:04	11/19/14 03:14	1
Oil Range Organics (C28-C35)	58.5		8.21	4.94	mg/Kg	-	11/18/14 11:04	11/19/14 03:14	1

TestAmerica Houston

Client Sample Results

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

TestAmerica Job ID: 600-102021-1

Client Sample ID: SB1- (46.5-48.5)

Lab Sample ID: 600-102021-6

Date Collected: 11/08/14 13:05

Matrix: Solid

Date Received: 11/11/14 10:54

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	69		60 - 140	11/18/14 11:04	11/19/14 03:14	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	44.3		7.95	0.133	mg/Kg	-		11/17/14 23:17	2

Method: 300.0 - Anions, Ion Chromatography - Soluble

Client Sample ID: SB-1 (57-58.9)

Lab Sample ID: 600-102021-7

Date Collected: 11/08/14 13:15

Matrix: Solid

Date Received: 11/11/14 10:54

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	82		61 - 130	11/18/14 10:00	11/18/14 18:44	1
Dibromofluoromethane	87		68 - 140	11/18/14 10:00	11/18/14 18:44	1
Toluene-d8 (Surr)	81		50 - 130	11/18/14 10:00	11/18/14 18:44	1
4-Bromofluorobenzene	67		57 - 140	11/18/14 10:00	11/18/14 18:44	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	16.1		0.625	0.0788	mg/Kg	-	11/18/14 10:00	11/18/14 18:44	1
Ethylbenzene	22.2		0.625	0.128	mg/Kg	-	11/18/14 10:00	11/18/14 18:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	0	X	61 - 130	11/18/14 10:00	11/20/14 17:13	10
Dibromofluoromethane	63	X	68 - 140	11/18/14 10:00	11/20/14 17:13	10
Toluene-d8 (Surr)	89		50 - 130	11/18/14 10:00	11/20/14 17:13	10
4-Bromofluorobenzene	0	X	57 - 140	11/18/14 10:00	11/20/14 17:13	10

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

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

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	9220		230	62.3	mg/Kg	-	11/18/14 12:00	11/20/14 11:44	200

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>a,a,a</i> -Trifluorotoluene	0	X D	77 - 123	11/18/14 12:00	11/20/14 11:44	200

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oil Range Organics (C28-C35)	8.98		8.25	4.97	mg/Kg	-	11/18/14 11:04	11/19/14 03:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	79		60 - 140	11/18/14 11:04	11/19/14 03:45	1

Method: 8015B - Diesel Range Organics (DRO) (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	291		24.7	5.10	mg/Kg	-	11/18/14 11:04	11/19/14 09:10	3

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	84		60 - 140	11/18/14 11:04	11/19/14 09:10	3

TestAmerica Houston

Client Sample Results

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

TestAmerica Job ID: 600-102021-1

Client Sample ID: SB-1 (57-58.9)

Date Collected: 11/08/14 13:15

Date Received: 11/11/14 10:54

Lab Sample ID: 600-102021-7

Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	200		199	3.34	mg/Kg	-		11/17/14 23:37	50

Client Sample ID: SB-1 (67-68.8)

Date Collected: 11/08/14 13:35

Date Received: 11/11/14 10:54

Lab Sample ID: 600-102021-8

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	37.4		6.25	0.788	mg/Kg	-	11/18/14 10:00	11/20/14 17:37	10
Toluene	65.0		6.25	1.73	mg/Kg	-	11/18/14 10:00	11/20/14 17:37	10
Ethylbenzene	57.0		6.25	1.28	mg/Kg	-	11/18/14 10:00	11/20/14 17:37	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	80		61 - 130	11/18/14 10:00	11/20/14 17:37	10
Dibromofluoromethane	77		68 - 140	11/18/14 10:00	11/20/14 17:37	10
Toluene-d8 (Surr)	68		50 - 130	11/18/14 10:00	11/20/14 17:37	10
4-Bromofluorobenzene	31	X	57 - 140	11/18/14 10:00	11/20/14 17:37	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	487		62.5	14.1	mg/Kg	-	11/18/14 10:00	11/20/14 18:01	100

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	0	X	61 - 130	11/18/14 10:00	11/20/14 18:01	100
Dibromofluoromethane	0	X	68 - 140	11/18/14 10:00	11/20/14 18:01	100
Toluene-d8 (Surr)	0	X	50 - 130	11/18/14 10:00	11/20/14 18:01	100
4-Bromofluorobenzene	0	X	57 - 140	11/18/14 10:00	11/20/14 18:01	100

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	14100		594	161	mg/Kg	-	11/18/14 12:00	11/20/14 12:09	500

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	0	X D	77 - 123	11/18/14 12:00	11/20/14 12:09	500

Method: 8015B - Diesel Range Organics (DRO) (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	645		41.3	8.50	mg/Kg	-	11/18/14 11:04	11/19/14 09:42	5
Oil Range Organics (C28-C35)	24.9	U	41.3	24.9	mg/Kg	-	11/18/14 11:04	11/19/14 09:42	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	97		60 - 140	11/18/14 11:04	11/19/14 09:42	5

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	246		201	3.37	mg/Kg	-		11/17/14 23:57	50

TestAmerica Houston

Client Sample Results

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

TestAmerica Job ID: 600-102021-1

Client Sample ID: SB-1 (71-73)

Lab Sample ID: 600-102021-9

Date Collected: 11/08/14 13:45

Matrix: Solid

Date Received: 11/11/14 10:54

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	35.8		6.25	0.788	mg/Kg		11/18/14 10:00	11/20/14 18:25	10
Toluene	47.8		6.25	1.73	mg/Kg		11/18/14 10:00	11/20/14 18:25	10
Ethylbenzene	36.6		6.25	1.28	mg/Kg		11/18/14 10:00	11/20/14 18:25	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	0	X	61 - 130	11/18/14 10:00	11/20/14 18:25	10
Dibromofluoromethane	0	X	68 - 140	11/18/14 10:00	11/20/14 18:25	10
Toluene-d8 (Surr)	92		50 - 130	11/18/14 10:00	11/20/14 18:25	10
4-Bromofluorobenzene	63		57 - 140	11/18/14 10:00	11/20/14 18:25	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	304		62.5	14.1	mg/Kg		11/18/14 10:00	11/20/14 18:49	100

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	0	X	61 - 130	11/18/14 10:00	11/20/14 18:49	100
Dibromofluoromethane	0	X	68 - 140	11/18/14 10:00	11/20/14 18:49	100
Toluene-d8 (Surr)	0	X	50 - 130	11/18/14 10:00	11/20/14 18:49	100
4-Bromofluorobenzene	0	X	57 - 140	11/18/14 10:00	11/20/14 18:49	100

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	12100		591	160	mg/Kg		11/18/14 12:00	11/20/14 12:34	500

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	0	X D	77 - 123	11/18/14 12:00	11/20/14 12:34	500

Method: 8015B - Diesel Range Organics (DRO) (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	528		24.7	5.10	mg/Kg		11/18/14 11:04	11/19/14 10:13	3
Oil Range Organics (C28-C35)	14.9	U	24.7	14.9	mg/Kg		11/18/14 11:04	11/19/14 10:13	3

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	94		60 - 140	11/18/14 11:04	11/19/14 10:13	3

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	136		80.2	1.34	mg/Kg			11/18/14 00:17	20

TestAmerica Houston

Definitions/Glossary

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

TestAmerica Job ID: 600-102021-1

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.
X	Surrogate is outside control limits
U	Indicates the analyte was analyzed for but not detected.

GC VOA

Qualifier	Qualifier Description
D	Sample results are obtained from a dilution; the surrogate or matrix spike recoveries reported are calculated from diluted samples.
X	Surrogate is outside control limits
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery exceeds the control limits
U	Indicates the analyte was analyzed for but not detected.

Glossary

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

Surrogate Summary

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

TestAmerica Job ID: 600-102021-1

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

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (61-130)	DBFM (68-140)	TOL (50-130)	BFB (57-140)
600-102021-1	MW-19 (70-72)	90	78	87	89
600-102021-1 - DL	MW-19 (70-72)	85	71	82	25 X
600-102021-2	SB-1 (22-24)	78	79	77	81
600-102021-2 - DL	SB-1 (22-24)	35 X	104	100	34 X
600-102021-3	SB-1 (25-27)	87	89	80	79
600-102021-3 - DL	SB-1 (25-27)	69	91	83	47 X
600-102021-4	SB-1 (32-34)	82	78	80	83
600-102021-4 - DL	SB-1 (32-34)	68	64 X	80	36 X
600-102021-5	SB-1 (43-44.8)	56 X	142 X	87	0 X
600-102021-5 - DL	SB-1 (43-44.8)	0 X	0 X	0 X	0 X
600-102021-6	SB1- (46.5-48.5)	90	88	72	68
600-102021-6 - DL	SB1- (46.5-48.5)	0 X	66 X	81	0 X
600-102021-7	SB-1 (57-58.9)	82	87	81	67
600-102021-7 - DL	SB-1 (57-58.9)	0 X	63 X	89	0 X
600-102021-8	SB-1 (67-68.8)	80	77	68	31 X
600-102021-8 - DL	SB-1 (67-68.8)	0 X	0 X	0 X	0 X
600-102021-9	SB-1 (71-73)	0 X	0 X	92	63
600-102021-9 - DL	SB-1 (71-73)	0 X	0 X	0 X	0 X
LCS 600-149677/1-A	Lab Control Sample	115	99	106	122
LCSD 600-149677/2-A	Lab Control Sample Dup	101	93	97	123
MB 600-149677/3-A	Method Blank	97	95	92	117

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene

Method: 8015B - Gasoline Range Organics - (GC)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		TFT1 (77-123)			
600-102021-1	MW-19 (70-72)	0 D X			
600-102021-2	SB-1 (22-24)	0 D X			
600-102021-3	SB-1 (25-27)	0 X D			
600-102021-4	SB-1 (32-34)	0 X D			
600-102021-5	SB-1 (43-44.8)	0 X D			
600-102021-6	SB1- (46.5-48.5)	0 X D			
600-102021-7	SB-1 (57-58.9)	0 X D			
600-102021-8	SB-1 (67-68.8)	0 X D			
600-102021-9	SB-1 (71-73)	0 X D			
LCS 280-253612/2-A	Lab Control Sample	104			
LCSD 280-253612/3-A	Lab Control Sample Dup	109			
MB 280-253612/1-A	Method Blank	110			

Surrogate Legend

TFT = a,a,a-Trifluorotoluene

TestAmerica Houston

Surrogate Summary

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

TestAmerica Job ID: 600-102021-1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	OTPH1 (60-140)
600-102021-1	MW-19 (70-72)	79
600-102021-2 - DL	SB-1 (22-24)	89
600-102021-3 - DL	SB-1 (25-27)	94
600-102021-4 - DL	SB-1 (32-34)	82
600-102021-5 - DL	SB-1 (43-44.8)	93
600-102021-6	SB1- (46.5-48.5)	69
600-102021-7	SB-1 (57-58.9)	79
600-102021-7 - DL	SB-1 (57-58.9)	84
600-102021-8 - DL	SB-1 (67-68.8)	97
600-102021-9 - DL	SB-1 (71-73)	94
LCS 600-149671/2-A	Lab Control Sample	112
MB 600-149671/1-A	Method Blank	90

Surrogate Legend

OTPH = o-Terphenyl

QC Sample Results

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

TestAmerica Job ID: 600-102021-1

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

Lab Sample ID: MB 600-149677/3-A

Matrix: Solid

Analysis Batch: 149678

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 149677

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.0788	U	0.625	0.0788	mg/Kg		11/18/14 10:00	11/18/14 14:21	1
Toluene	0.173	U	0.625	0.173	mg/Kg		11/18/14 10:00	11/18/14 14:21	1
Ethylbenzene	0.128	U	0.625	0.128	mg/Kg		11/18/14 10:00	11/18/14 14:21	1
Xylenes, Total	0.141	U	0.625	0.141	mg/Kg		11/18/14 10:00	11/18/14 14:21	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		61 - 130	11/18/14 10:00	11/18/14 14:21	1
Dibromofluoromethane	95		68 - 140	11/18/14 10:00	11/18/14 14:21	1
Toluene-d8 (Surr)	92		50 - 130	11/18/14 10:00	11/18/14 14:21	1
4-Bromofluorobenzene	117		57 - 140	11/18/14 10:00	11/18/14 14:21	1

Lab Sample ID: LCS 600-149677/1-A

Matrix: Solid

Analysis Batch: 149678

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 149677

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	6.25	7.232		mg/Kg		116	70 - 131
Toluene	6.25	6.515		mg/Kg		104	67 - 130
Ethylbenzene	6.25	7.202		mg/Kg		115	66 - 130
Xylenes, Total	12.5	13.42		mg/Kg		107	63 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	115		61 - 130
Dibromofluoromethane	99		68 - 140
Toluene-d8 (Surr)	106		50 - 130
4-Bromofluorobenzene	122		57 - 140

Lab Sample ID: LCSD 600-149677/2-A

Matrix: Solid

Analysis Batch: 149678

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 149677

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	6.25	6.355		mg/Kg		102	70 - 131	13	30
Toluene	6.25	5.938		mg/Kg		95	67 - 130	9	30
Ethylbenzene	6.25	5.971		mg/Kg		96	66 - 130	19	30
Xylenes, Total	12.5	12.09		mg/Kg		97	63 - 130	10	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		61 - 130
Dibromofluoromethane	93		68 - 140
Toluene-d8 (Surr)	97		50 - 130
4-Bromofluorobenzene	123		57 - 140

TestAmerica Houston

QC Sample Results

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

TestAmerica Job ID: 600-102021-1

Method: 8015B - Gasoline Range Organics - (GC)

Lab Sample ID: MB 280-253612/1-A

Matrix: Solid

Analysis Batch: 253816

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 253612

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	0.314	U	1.16	0.314	mg/Kg	-	11/18/14 12:00	11/19/14 20:39	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	110		77 - 123				11/18/14 12:00	11/19/14 20:39	1

Lab Sample ID: LCS 280-253612/2-A

Matrix: Solid

Analysis Batch: 253816

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 253612

Analyte		Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Gasoline Range Organics (GRO) -C6-C10		5.38	5.973		mg/Kg	-	111	85 - 153	
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
a,a,a-Trifluorotoluene	104		77 - 123						

Lab Sample ID: LCSD 280-253612/3-A

Matrix: Solid

Analysis Batch: 253816

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 253612

Analyte		Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C6-C10		5.47	6.347		mg/Kg	-	116	85 - 153	6	30
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits							
a,a,a-Trifluorotoluene	109		77 - 123							

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 600-149671/1-A

Matrix: Solid

Analysis Batch: 149707

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 149671

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	1.70	U	8.27	1.70	mg/Kg	-	11/18/14 11:04	11/18/14 20:55	1
Oil Range Organics (C28-C35)	4.98	U	8.27	4.98	mg/Kg	-	11/18/14 11:04	11/18/14 20:55	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	90		60 - 140				11/18/14 11:04	11/18/14 20:55	1

Lab Sample ID: LCS 600-149671/2-A

Matrix: Solid

Analysis Batch: 149707

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 149671

Analyte		Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Diesel Range Organics [C10-C28]		66.4	47.76		mg/Kg	-	72	66 - 134	

TestAmerica Houston

QC Sample Results

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

TestAmerica Job ID: 600-102021-1

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 600-149671/2-A

Matrix: Solid

Analysis Batch: 149707

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 149671

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
<i>o</i> -Terphenyl	112		60 - 140

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 600-149576/1-A

Matrix: Solid

Analysis Batch: 149574

Client Sample ID: Method Blank

Prep Type: Soluble

	MB	MB								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil	Fac
Chloride	0.0670	U	4.00	0.0670	mg/Kg			11/17/14 15:08		1

Lab Sample ID: LCS 600-149576/2-A

Matrix: Solid

Analysis Batch: 149574

Client Sample ID: Lab Control Sample

Prep Type: Soluble

			Spike	LCS	LCS				%Rec.	
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride			200	188.6		mg/Kg		94	90 - 110	

Lab Sample ID: 600-102021-2 MS

Matrix: Solid

Analysis Batch: 149574

Client Sample ID: SB-1 (22-24)

Prep Type: Soluble

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	36.7		202	199.1		mg/Kg		81	80 - 120	

Lab Sample ID: 600-102021-2 MSD

Matrix: Solid

Analysis Batch: 149574

Client Sample ID: SB-1 (22-24)

Prep Type: Soluble

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chloride	36.7		202	195.6	F1	mg/Kg		79	80 - 120	2	20	

QC Association Summary

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

TestAmerica Job ID: 600-102021-1

GC/MS VOA

Prep Batch: 149677

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-102021-1	MW-19 (70-72)	Total/NA	Solid	5030B	
600-102021-1 - DL	MW-19 (70-72)	Total/NA	Solid	5030B	
600-102021-2	SB-1 (22-24)	Total/NA	Solid	5030B	
600-102021-2 - DL	SB-1 (22-24)	Total/NA	Solid	5030B	
600-102021-3 - DL	SB-1 (25-27)	Total/NA	Solid	5030B	
600-102021-3	SB-1 (25-27)	Total/NA	Solid	5030B	
600-102021-4	SB-1 (32-34)	Total/NA	Solid	5030B	
600-102021-4 - DL	SB-1 (32-34)	Total/NA	Solid	5030B	
600-102021-5 - DL	SB-1 (43-44.8)	Total/NA	Solid	5030B	
600-102021-5	SB-1 (43-44.8)	Total/NA	Solid	5030B	
600-102021-6	SB1- (46.5-48.5)	Total/NA	Solid	5030B	
600-102021-6 - DL	SB1- (46.5-48.5)	Total/NA	Solid	5030B	
600-102021-7 - DL	SB-1 (57-58.9)	Total/NA	Solid	5030B	
600-102021-7	SB-1 (57-58.9)	Total/NA	Solid	5030B	
600-102021-8	SB-1 (67-68.8)	Total/NA	Solid	5030B	
600-102021-8 - DL	SB-1 (67-68.8)	Total/NA	Solid	5030B	
600-102021-9 - DL	SB-1 (71-73)	Total/NA	Solid	5030B	
600-102021-9	SB-1 (71-73)	Total/NA	Solid	5030B	
LCS 600-149677/1-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 600-149677/2-A	Lab Control Sample Dup	Total/NA	Solid	5030B	
MB 600-149677/3-A	Method Blank	Total/NA	Solid	5030B	

Analysis Batch: 149678

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-102021-1	MW-19 (70-72)	Total/NA	Solid	8260B	149677
600-102021-2	SB-1 (22-24)	Total/NA	Solid	8260B	149677
600-102021-3	SB-1 (25-27)	Total/NA	Solid	8260B	149677
600-102021-4	SB-1 (32-34)	Total/NA	Solid	8260B	149677
600-102021-6	SB1- (46.5-48.5)	Total/NA	Solid	8260B	149677
600-102021-7	SB-1 (57-58.9)	Total/NA	Solid	8260B	149677
LCS 600-149677/1-A	Lab Control Sample	Total/NA	Solid	8260B	149677
LCSD 600-149677/2-A	Lab Control Sample Dup	Total/NA	Solid	8260B	149677
MB 600-149677/3-A	Method Blank	Total/NA	Solid	8260B	149677

Analysis Batch: 149795

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-102021-1 - DL	MW-19 (70-72)	Total/NA	Solid	8260B	149677

Analysis Batch: 149879

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-102021-2 - DL	SB-1 (22-24)	Total/NA	Solid	8260B	149677
600-102021-3 - DL	SB-1 (25-27)	Total/NA	Solid	8260B	149677
600-102021-4 - DL	SB-1 (32-34)	Total/NA	Solid	8260B	149677
600-102021-5	SB-1 (43-44.8)	Total/NA	Solid	8260B	149677
600-102021-5 - DL	SB-1 (43-44.8)	Total/NA	Solid	8260B	149677
600-102021-6 - DL	SB1- (46.5-48.5)	Total/NA	Solid	8260B	149677
600-102021-7 - DL	SB-1 (57-58.9)	Total/NA	Solid	8260B	149677
600-102021-8	SB-1 (67-68.8)	Total/NA	Solid	8260B	149677
600-102021-8 - DL	SB-1 (67-68.8)	Total/NA	Solid	8260B	149677
600-102021-9	SB-1 (71-73)	Total/NA	Solid	8260B	149677
600-102021-9 - DL	SB-1 (71-73)	Total/NA	Solid	8260B	149677

TestAmerica Houston

QC Association Summary

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

TestAmerica Job ID: 600-102021-1

GC VOA

Prep Batch: 253612

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-102021-1	MW-19 (70-72)	Total/NA	Solid	5030B	
600-102021-2	SB-1 (22-24)	Total/NA	Solid	5030B	
600-102021-3	SB-1 (25-27)	Total/NA	Solid	5030B	
600-102021-4	SB-1 (32-34)	Total/NA	Solid	5030B	
600-102021-5	SB-1 (43-44.8)	Total/NA	Solid	5030B	
600-102021-6	SB1- (46.5-48.5)	Total/NA	Solid	5030B	
600-102021-7	SB-1 (57-58.9)	Total/NA	Solid	5030B	
600-102021-8	SB-1 (67-68.8)	Total/NA	Solid	5030B	
600-102021-9	SB-1 (71-73)	Total/NA	Solid	5030B	
LCS 280-253612/2-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 280-253612/3-A	Lab Control Sample Dup	Total/NA	Solid	5030B	
MB 280-253612/1-A	Method Blank	Total/NA	Solid	5030B	

Analysis Batch: 253816

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-102021-1	MW-19 (70-72)	Total/NA	Solid	8015B	253612
600-102021-2	SB-1 (22-24)	Total/NA	Solid	8015B	253612
LCS 280-253612/2-A	Lab Control Sample	Total/NA	Solid	8015B	253612
LCSD 280-253612/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B	253612
MB 280-253612/1-A	Method Blank	Total/NA	Solid	8015B	253612

Analysis Batch: 254010

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-102021-3	SB-1 (25-27)	Total/NA	Solid	8015B	253612
600-102021-4	SB-1 (32-34)	Total/NA	Solid	8015B	253612
600-102021-5	SB-1 (43-44.8)	Total/NA	Solid	8015B	253612
600-102021-6	SB1- (46.5-48.5)	Total/NA	Solid	8015B	253612
600-102021-7	SB-1 (57-58.9)	Total/NA	Solid	8015B	253612
600-102021-8	SB-1 (67-68.8)	Total/NA	Solid	8015B	253612
600-102021-9	SB-1 (71-73)	Total/NA	Solid	8015B	253612

GC Semi VOA

Prep Batch: 149671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-102021-1	MW-19 (70-72)	Total/NA	Solid	3546	
600-102021-2 - DL	SB-1 (22-24)	Total/NA	Solid	3546	
600-102021-3 - DL	SB-1 (25-27)	Total/NA	Solid	3546	
600-102021-4 - DL	SB-1 (32-34)	Total/NA	Solid	3546	
600-102021-5 - DL	SB-1 (43-44.8)	Total/NA	Solid	3546	
600-102021-6	SB1- (46.5-48.5)	Total/NA	Solid	3546	
600-102021-7	SB-1 (57-58.9)	Total/NA	Solid	3546	
600-102021-7 - DL	SB-1 (57-58.9)	Total/NA	Solid	3546	
600-102021-8 - DL	SB-1 (67-68.8)	Total/NA	Solid	3546	
600-102021-9 - DL	SB-1 (71-73)	Total/NA	Solid	3546	
LCS 600-149671/2-A	Lab Control Sample	Total/NA	Solid	3546	
MB 600-149671/1-A	Method Blank	Total/NA	Solid	3546	

TestAmerica Houston

QC Association Summary

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

TestAmerica Job ID: 600-102021-1

GC Semi VOA (Continued)

Analysis Batch: 149707

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-102021-1	MW-19 (70-72)	Total/NA	Solid	8015B	149671
600-102021-2 - DL	SB-1 (22-24)	Total/NA	Solid	8015B	149671
600-102021-3 - DL	SB-1 (25-27)	Total/NA	Solid	8015B	149671
600-102021-4 - DL	SB-1 (32-34)	Total/NA	Solid	8015B	149671
600-102021-5 - DL	SB-1 (43-44.8)	Total/NA	Solid	8015B	149671
600-102021-6	SB1- (46.5-48.5)	Total/NA	Solid	8015B	149671
600-102021-7	SB-1 (57-58.9)	Total/NA	Solid	8015B	149671
600-102021-7 - DL	SB-1 (57-58.9)	Total/NA	Solid	8015B	149671
600-102021-8 - DL	SB-1 (67-68.8)	Total/NA	Solid	8015B	149671
600-102021-9 - DL	SB-1 (71-73)	Total/NA	Solid	8015B	149671
LCS 600-149671/2-A	Lab Control Sample	Total/NA	Solid	8015B	149671
MB 600-149671/1-A	Method Blank	Total/NA	Solid	8015B	149671

HPLC/IC

Analysis Batch: 149574

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-102021-1	MW-19 (70-72)	Soluble	Solid	300.0	149576
600-102021-2	SB-1 (22-24)	Soluble	Solid	300.0	149576
600-102021-2 MS	SB-1 (22-24)	Soluble	Solid	300.0	149576
600-102021-2 MSD	SB-1 (22-24)	Soluble	Solid	300.0	149576
600-102021-3	SB-1 (25-27)	Soluble	Solid	300.0	149576
600-102021-4	SB-1 (32-34)	Soluble	Solid	300.0	149576
600-102021-5	SB-1 (43-44.8)	Soluble	Solid	300.0	149576
600-102021-6	SB1- (46.5-48.5)	Soluble	Solid	300.0	149576
600-102021-7	SB-1 (57-58.9)	Soluble	Solid	300.0	149576
600-102021-8	SB-1 (67-68.8)	Soluble	Solid	300.0	149576
600-102021-9	SB-1 (71-73)	Soluble	Solid	300.0	149576
LCS 600-149576/2-A	Lab Control Sample	Soluble	Solid	300.0	149576
MB 600-149576/1-A	Method Blank	Soluble	Solid	300.0	149576

Leach Batch: 149576

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-102021-1	MW-19 (70-72)	Soluble	Solid	DI Leach	
600-102021-2	SB-1 (22-24)	Soluble	Solid	DI Leach	
600-102021-2 MS	SB-1 (22-24)	Soluble	Solid	DI Leach	
600-102021-2 MSD	SB-1 (22-24)	Soluble	Solid	DI Leach	
600-102021-3	SB-1 (25-27)	Soluble	Solid	DI Leach	
600-102021-4	SB-1 (32-34)	Soluble	Solid	DI Leach	
600-102021-5	SB-1 (43-44.8)	Soluble	Solid	DI Leach	
600-102021-6	SB1- (46.5-48.5)	Soluble	Solid	DI Leach	
600-102021-7	SB-1 (57-58.9)	Soluble	Solid	DI Leach	
600-102021-8	SB-1 (67-68.8)	Soluble	Solid	DI Leach	
600-102021-9	SB-1 (71-73)	Soluble	Solid	DI Leach	
LCS 600-149576/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
MB 600-149576/1-A	Method Blank	Soluble	Solid	DI Leach	

TestAmerica Houston

Lab Chronicle

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

TestAmerica Job ID: 600-102021-1

Client Sample ID: MW-19 (70-72)

Date Collected: 11/07/14 12:00

Date Received: 11/11/14 10:54

Lab Sample ID: 600-102021-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4 g	10 mL	149677	11/18/14 10:00	KLV	TAL HOU
Total/NA	Analysis	8260B		1	4 g	10 mL	149678	11/18/14 15:33	KLV	TAL HOU
Total/NA	Prep	5030B	DL		4 g	10 mL	149677	11/18/14 10:00	KLV	TAL HOU
Total/NA	Analysis	8260B	DL	10	4 g	10 mL	149795	11/20/14 00:28	KLV	TAL HOU
Total/NA	Prep	5030B			10.30 g	10 mL	253612	11/18/14 12:00	EER	TAL DEN
Total/NA	Analysis	8015B		50	10.30 g	10 mL	253816	11/19/14 21:54	EER	TAL DEN
Total/NA	Prep	3546			15.14 g	1.00 mL	149671	11/18/14 11:04	FNC	TAL HOU
Total/NA	Analysis	8015B		1	15.14 g	1.00 mL	149707	11/18/14 23:33	RJV	TAL HOU
Soluble	Leach	DI Leach			4.92 g	50 mL	149576	11/17/14 13:51	DAW	TAL HOU
Soluble	Analysis	300.0		20	5 mL		149574	11/17/14 20:17	DAW	TAL HOU

Client Sample ID: SB-1 (22-24)

Date Collected: 11/08/14 11:50

Date Received: 11/11/14 10:54

Lab Sample ID: 600-102021-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4 g	10 mL	149677	11/18/14 10:00	KLV	TAL HOU
Total/NA	Analysis	8260B		1	4 g	10 mL	149678	11/18/14 15:57	KLV	TAL HOU
Total/NA	Prep	5030B	DL		4 g	10 mL	149677	11/18/14 10:00	KLV	TAL HOU
Total/NA	Analysis	8260B	DL	10	4 g	10 mL	149879	11/20/14 14:51	KLV	TAL HOU
Total/NA	Prep	5030B			10.18 g	10 mL	253612	11/18/14 12:00	EER	TAL DEN
Total/NA	Analysis	8015B		50	10.18 g	10 mL	253816	11/19/14 22:19	EER	TAL DEN
Total/NA	Analysis	8015B	DL	5	15.20 g	1.00 mL	149707	11/18/14 00:05	RJV	TAL HOU
Total/NA	Prep	3546	DL		15.20 g	1.00 mL	149671	11/18/14 11:04	FNC	TAL HOU
Soluble	Leach	DI Leach			4.96 g	50 mL	149576	11/17/14 13:51	DAW	TAL HOU
Soluble	Analysis	300.0		2	5 mL		149574	11/17/14 20:37	DAW	TAL HOU

Client Sample ID: SB-1 (25-27)

Date Collected: 11/08/14 11:55

Date Received: 11/11/14 10:54

Lab Sample ID: 600-102021-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4 g	10 mL	149677	11/18/14 10:00	KLV	TAL HOU
Total/NA	Analysis	8260B		1	4 g	10 mL	149678	11/18/14 16:21	KLV	TAL HOU
Total/NA	Prep	5030B	DL		4 g	10 mL	149677	11/18/14 10:00	KLV	TAL HOU
Total/NA	Analysis	8260B	DL	10	4 g	10 mL	149879	11/20/14 15:14	KLV	TAL HOU
Total/NA	Prep	5030B			10.33 g	10 mL	253612	11/18/14 12:00	EER	TAL DEN
Total/NA	Analysis	8015B		200	10.33 g	10 mL	254010	11/20/14 10:03	EER	TAL DEN
Total/NA	Analysis	8015B	DL	5	15.18 g	1.00 mL	149707	11/18/14 00:36	RJV	TAL HOU
Total/NA	Prep	3546	DL		15.18 g	1.00 mL	149671	11/18/14 11:04	FNC	TAL HOU
Soluble	Leach	DI Leach			4.99 g	50 mL	149576	11/17/14 13:51	DAW	TAL HOU
Soluble	Analysis	300.0		5	5 mL		149574	11/17/14 21:37	DAW	TAL HOU

TestAmerica Houston

Lab Chronicle

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

TestAmerica Job ID: 600-102021-1

Client Sample ID: SB-1 (32-34)

Date Collected: 11/08/14 12:00

Date Received: 11/11/14 10:54

Lab Sample ID: 600-102021-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4 g	10 mL	149677	11/18/14 10:00	KLV	TAL HOU
Total/NA	Analysis	8260B		1	4 g	10 mL	149678	11/18/14 16:45	KLV	TAL HOU
Total/NA	Prep	5030B	DL		4 g	10 mL	149677	11/18/14 10:00	KLV	TAL HOU
Total/NA	Analysis	8260B	DL	10	4 g	10 mL	149879	11/20/14 15:38	KLV	TAL HOU
Total/NA	Prep	5030B			10.46 g	10 mL	253612	11/18/14 12:00	EER	TAL DEN
Total/NA	Analysis	8015B		200	10.46 g	10 mL	254010	11/20/14 10:28	EER	TAL DEN
Total/NA	Prep	3546	DL		15.15 g	1.00 mL	149671	11/18/14 11:04	FNC	TAL HOU
Total/NA	Analysis	8015B	DL	5	15.15 g	1.00 mL	149707	11/19/14 01:08	RJV	TAL HOU
Soluble	Leach	DI Leach			5.00 g	50 mL	149576	11/17/14 13:51	DAW	TAL HOU
Soluble	Analysis	300.0		5	5 mL		149574	11/17/14 21:57	DAW	TAL HOU

Client Sample ID: SB-1 (43-44.8)

Date Collected: 11/08/14 12:15

Date Received: 11/11/14 10:54

Lab Sample ID: 600-102021-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4 g	10 mL	149677	11/18/14 10:00	KLV	TAL HOU
Total/NA	Analysis	8260B		10	4 g	10 mL	149879	11/20/14 16:02	KLV	TAL HOU
Total/NA	Prep	5030B	DL		4 g	10 mL	149677	11/18/14 10:00	KLV	TAL HOU
Total/NA	Analysis	8260B	DL	100	4 g	10 mL	149879	11/20/14 16:26	KLV	TAL HOU
Total/NA	Prep	5030B			10.42 g	10 mL	253612	11/18/14 12:00	EER	TAL DEN
Total/NA	Analysis	8015B		500	10.42 g	10 mL	254010	11/20/14 10:54	EER	TAL DEN
Total/NA	Prep	3546	DL		15.21 g	1.00 mL	149671	11/18/14 11:04	FNC	TAL HOU
Total/NA	Analysis	8015B	DL	5	15.21 g	1.00 mL	149707	11/19/14 02:42	RJV	TAL HOU
Soluble	Leach	DI Leach			5.03 g	50 mL	149576	11/17/14 13:51	DAW	TAL HOU
Soluble	Analysis	300.0		2	5 mL		149574	11/17/14 22:17	DAW	TAL HOU

Client Sample ID: SB1- (46.5-48.5)

Date Collected: 11/08/14 13:05

Date Received: 11/11/14 10:54

Lab Sample ID: 600-102021-6

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4 g	10 mL	149677	11/18/14 10:00	KLV	TAL HOU
Total/NA	Analysis	8260B		1	4 g	10 mL	149678	11/18/14 18:20	KLV	TAL HOU
Total/NA	Prep	5030B	DL		4 g	10 mL	149677	11/18/14 10:00	KLV	TAL HOU
Total/NA	Analysis	8260B	DL	10	4 g	10 mL	149879	11/20/14 16:50	KLV	TAL HOU
Total/NA	Prep	5030B			10.37 g	10 mL	253612	11/18/14 12:00	EER	TAL DEN
Total/NA	Analysis	8015B		200	10.37 g	10 mL	254010	11/20/14 11:19	EER	TAL DEN
Total/NA	Prep	3546			15.17 g	1.00 mL	149671	11/18/14 11:04	FNC	TAL HOU
Total/NA	Analysis	8015B		1	15.17 g	1.00 mL	149707	11/19/14 03:14	RJV	TAL HOU
Soluble	Leach	DI Leach			5.03 g	50 mL	149576	11/17/14 13:51	DAW	TAL HOU
Soluble	Analysis	300.0		2	5 mL		149574	11/17/14 23:17	DAW	TAL HOU

TestAmerica Houston

Lab Chronicle

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

TestAmerica Job ID: 600-102021-1

Client Sample ID: SB-1 (57-58.9)

Date Collected: 11/08/14 13:15

Date Received: 11/11/14 10:54

Lab Sample ID: 600-102021-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4 g	10 mL	149677	11/18/14 10:00	KLV	TAL HOU
Total/NA	Analysis	8260B		1	4 g	10 mL	149678	11/18/14 18:44	KLV	TAL HOU
Total/NA	Prep	5030B	DL		4 g	10 mL	149677	11/18/14 10:00	KLV	TAL HOU
Total/NA	Analysis	8260B	DL	10	4 g	10 mL	149879	11/20/14 17:13	KLV	TAL HOU
Total/NA	Prep	5030B			10.44 g	10 mL	253612	11/18/14 12:00	EER	TAL DEN
Total/NA	Analysis	8015B		200	10.44 g	10 mL	254010	11/20/14 11:44	EER	TAL DEN
Total/NA	Prep	3546			15.10 g	1.00 mL	149671	11/18/14 11:04	FNC	TAL HOU
Total/NA	Analysis	8015B		1	15.10 g	1.00 mL	149707	11/19/14 03:45	RJV	TAL HOU
Total/NA	Prep	3546	DL		15.10 g	1.00 mL	149671	11/18/14 11:04	FNC	TAL HOU
Total/NA	Analysis	8015B	DL	3	15.10 g	1.00 mL	149707	11/19/14 09:10	RJV	TAL HOU
Soluble	Leach	DI Leach			5.02 g	50 mL	149576	11/17/14 13:51	DAW	TAL HOU
Soluble	Analysis	300.0		50	5 mL		149574	11/17/14 23:37	DAW	TAL HOU

Client Sample ID: SB-1 (67-68.8)

Date Collected: 11/08/14 13:35

Date Received: 11/11/14 10:54

Lab Sample ID: 600-102021-8

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4 g	10 mL	149677	11/18/14 10:00	KLV	TAL HOU
Total/NA	Analysis	8260B		10	4 g	10 mL	149879	11/20/14 17:37	KLV	TAL HOU
Total/NA	Prep	5030B	DL		4 g	10 mL	149677	11/18/14 10:00	KLV	TAL HOU
Total/NA	Analysis	8260B	DL	100	4 g	10 mL	149879	11/20/14 18:01	KLV	TAL HOU
Total/NA	Prep	5030B			10.10 g	10 mL	253612	11/18/14 12:00	EER	TAL DEN
Total/NA	Analysis	8015B		500	10.10 g	10 mL	254010	11/20/14 12:09	EER	TAL DEN
Total/NA	Prep	3546	DL		15.08 g	1.00 mL	149671	11/18/14 11:04	FNC	TAL HOU
Total/NA	Analysis	8015B	DL	5	15.08 g	1.00 mL	149707	11/19/14 09:42	RJV	TAL HOU
Soluble	Leach	DI Leach			4.97 g	50 mL	149576	11/17/14 13:57	DAW	TAL HOU
Soluble	Analysis	300.0		50	5 mL		149574	11/17/14 23:57	DAW	TAL HOU

Client Sample ID: SB-1 (71-73)

Date Collected: 11/08/14 13:45

Date Received: 11/11/14 10:54

Lab Sample ID: 600-102021-9

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4 g	10 mL	149677	11/18/14 10:00	KLV	TAL HOU
Total/NA	Analysis	8260B		10	4 g	10 mL	149879	11/20/14 18:25	KLV	TAL HOU
Total/NA	Prep	5030B	DL		4 g	10 mL	149677	11/18/14 10:00	KLV	TAL HOU
Total/NA	Analysis	8260B	DL	100	4 g	10 mL	149879	11/20/14 18:49	KLV	TAL HOU
Total/NA	Prep	5030B			10.15 g	10 mL	253612	11/18/14 12:00	EER	TAL DEN
Total/NA	Analysis	8015B		500	10.15 g	10 mL	254010	11/20/14 12:34	EER	TAL DEN
Total/NA	Prep	3546	DL		15.10 g	1.00 mL	149671	11/18/14 11:04	FNC	TAL HOU
Total/NA	Analysis	8015B	DL	3	15.10 g	1.00 mL	149707	11/19/14 10:13	RJV	TAL HOU
Soluble	Leach	DI Leach			4.99 g	50 mL	149576	11/17/14 13:57	DAW	TAL HOU

TestAmerica Houston

Lab Chronicle

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

TestAmerica Job ID: 600-102021-1

Client Sample ID: SB-1 (71-73)

Lab Sample ID: 600-102021-9

Date Collected: 11/08/14 13:45

Matrix: Solid

Date Received: 11/11/14 10:54

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Analysis	300.0		20	5 mL		149574	11/18/14 00:17	DAW	TAL HOU

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Certification Summary

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

TestAmerica Job ID: 600-102021-1

Laboratory: TestAmerica Houston

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0759	08-04-15
Louisiana	NELAP	6	30643	06-30-15
Oklahoma	State Program	6	1309	08-31-15
Texas	NELAP	6	T104704223	10-31-15
USDA	Federal		P330-14-00192	06-06-17
Utah	NELAP	8	TX00083	10-31-14 *

Laboratory: TestAmerica Denver

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

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2907.01	10-31-15
A2LA	ISO/IEC 17025		2907.01	10-31-15
Alabama	State Program	4	40730	09-30-12 *
Alaska (UST)	State Program	10	UST-30	04-05-15
Arizona	State Program	9	AZ0713	12-19-14
Arkansas DEQ	State Program	6	88-0687	06-01-15
California	State Program	9	2513	08-31-16
Connecticut	State Program	1	PH-0686	09-30-16
Florida	NELAP	4	E87667	06-30-15
Georgia	State Program	4	N/A	01-09-15
Illinois	NELAP	5	200017	04-30-15
Iowa	State Program	7	370	12-01-14 *
Kansas	NELAP	7	E-10166	04-30-15
Louisiana	NELAP	6	02096	06-30-15
Maine	State Program	1	CO0002	03-03-15
Minnesota	NELAP	5	8-999-405	12-31-14
Nevada	State Program	9	CO0026	07-31-15
New Hampshire	NELAP	1	205310	04-28-15
New Jersey	NELAP	2	CO004	06-30-15
New Mexico	State Program	6	CO00026	01-09-15
New York	NELAP	2	11964	03-31-15
North Carolina (VW/SW)	State Program	4	358	12-31-14
North Dakota	State Program	8	R-034	06-30-14 *
Oklahoma	State Program	6	8614	08-31-15
Oregon	NELAP	10	4025	01-09-15
Pennsylvania	NELAP	3	68-00664	07-30-15
South Carolina	State Program	4	72002001	06-30-15
Texas	NELAP	6	T104704183-13-8	09-30-15
USDA	Federal		P330-13-00202	07-02-16
Utah	NELAP	8	CO00026	07-31-15
Virginia	NELAP	3	460232	06-14-15
Washington	State Program	10	C583	08-03-15
West Virginia DEP	State Program	3	354	11-30-15
Wisconsin	State Program	5	999615430	08-31-15
Wyoming (UST)	A2LA	8	2907.01	10-31-15

* Certification renewal pending - certification considered valid.

TestAmerica Houston

TestAmerica Houston

6310 Rothway Street
Houston, TX 77040
Phone (713) 690-4444 Fax (713) 690-5646

Chain of Custody Record

Form A-102021

Client Information

Client Contact: **Mr. KWI/GI, P.O.**
Phone: **311 345 2799**

Sampler: **Brad Barker**

Lab Pk: **Salcher, Neal**

Carrier Tracking: **600-102021**

Company: **TestAmerica Houston, Inc.**

Address: **4404 St. Charles Ave. 1153 Aurora Ave.**

City: **Los Angeles, CA**

State, Zip: **CA 90028**

Phone: **(515) 253-0830**

Email: **clint@testamex.com**

Project Name: **Stake Gas Con N#1**

Project #: **60005509**

Site: **Stake Gas Con N#1 N/A**

Due Date Requested:

TAI Requested (days):

PO #

WD214204

WO #

FRG-MWH-18-07-14-CUB-01

Project #

SSON#

Analysis Requested

Field Filtered Sample (Yes or No)

Perform MS/MSD (Yes or No)

60405-1000A

SUBCONTRACT - EPA 418.1 TPH

9056 ORGFM 28D - Chloride

8021B (MOD) BTEX Only List

8015B PRO

8015D - 6RO

Preservation Codes:

- A - HCL
- B - NaOH
- C - Zn Acetate
- D - Nitric Acid
- E - NaHSO4
- F - MeOH
- G - Ammonia
- H - Ascorbic Acid
- I - Ice
- J - DI Water
- K - EDTA
- L - EPA
- M - Hexane
- N - ASH2O2
- O - Na2CO3
- P - Na2CO3
- Q - Na2SO3
- R - Na2S2O3
- S - H2SO4
- T - TSP Dodecylalcohol
- U - Acetone
- V - MCAA
- W - pH 4.5
- Z - other (specify)

Sample Identification

Sample Date

Sample Time

Sample Type (C=Comp, G=grab)

Matrix (W=Water, S=solid, O=other)

Field Filtered Sample (Yes or No)

Perform MS/MSD (Yes or No)

60405-1000A

SUBCONTRACT - EPA 418.1 TPH

9056 ORGFM 28D - Chloride

8021B (MOD) BTEX Only List

8015B PRO

8015D - 6RO

8015E - 6RO

8015F - 6RO

8015G - 6RO

8015H - 6RO

8015I - 6RO

8015J - 6RO

8015K - 6RO

8015L - 6RO

8015M - 6RO

8015N - 6RO

8015O - 6RO

8015P - 6RO

8015Q - 6RO

8015R - 6RO

8015S - 6RO

8015T - 6RO

8015U - 6RO

8015V - 6RO

8015W - 6RO

8015X - 6RO

8015Y - 6RO

8015Z - 6RO

8015AA - 6RO

8015AB - 6RO

8015AC - 6RO

8015AD - 6RO

8015AE - 6RO

8015AF - 6RO

8015AG - 6RO

8015AH - 6RO

8015AI - 6RO

8015AJ - 6RO

8015AK - 6RO

8015AL - 6RO

8015AM - 6RO

8015AN - 6RO

8015AO - 6RO

8015AP - 6RO

8015AQ - 6RO

8015AR - 6RO

8015AS - 6RO

8015AT - 6RO

8015AU - 6RO

8015AV - 6RO

8015AW - 6RO

8015AX - 6RO

8015AY - 6RO

8015AZ - 6RO

8015BA - 6RO

8015BB - 6RO

8015BC - 6RO

8015BD - 6RO

8015BE - 6RO

8015BF - 6RO

8015BG - 6RO

8015BH - 6RO

8015BI - 6RO

8015BJ - 6RO

8015BK - 6RO

8015BL - 6RO

8015BM - 6RO

8015BN - 6RO

8015BO - 6RO

8015BP - 6RO

8015BQ - 6RO

8015BR - 6RO

8015BS - 6RO

8015BT - 6RO

8015BU - 6RO

8015BV - 6RO

8015BW - 6RO

8015BX - 6RO

8015BY - 6RO

8015BZ - 6RO

8015CA - 6RO

8015CB - 6RO

8015CC - 6RO

8015CD - 6RO

8015CE - 6RO

8015CF - 6RO

8015CG - 6RO

8015CH - 6RO

8015CI - 6RO

8015CJ - 6RO

8015CK - 6RO

8015CL - 6RO

8015CM - 6RO

8015CN - 6RO

8015CO - 6RO

8015CP - 6RO

8015CQ - 6RO

8015CR - 6RO

8015CS - 6RO

8015CT - 6RO

8015CU - 6RO

8015CV - 6RO

8015CW - 6RO

8015CX - 6RO

8015CY - 6RO

8015CZ - 6RO

8015DA - 6RO

8015DB - 6RO

8015DC - 6RO

8015DD - 6RO

8015DE - 6RO

8015DF - 6RO

8015DG - 6RO

8015DH - 6RO

8015DI - 6RO

8015DJ - 6RO

8015DK - 6RO

8015DL - 6RO

8015DM - 6RO

8015DN - 6RO

8015DO - 6RO

8015DP - 6RO

8015DQ - 6RO

8015DR - 6RO

8015DS - 6RO

8015DT - 6RO

8015DU - 6RO

8015DV - 6RO

8015DW - 6RO

8015DX - 6RO

8015DY - 6RO

8015DZ - 6RO

8015EA - 6RO

8015EB - 6RO

8015EC - 6RO

8015ED - 6RO

8015EE - 6RO

8015EF - 6RO

8015EG - 6RO

8015EH - 6RO

8015EI - 6RO

8015EJ - 6RO

8015EK - 6RO

8015EL - 6RO

8015EM - 6RO

8015EN - 6RO

8015EO - 6RO

8015EP - 6RO

8015EQ - 6RO

8015ER - 6RO

8015ES - 6RO

8015ET - 6RO

8015EU - 6RO

8015EV - 6RO

8015EW - 6RO

8015EX - 6RO

8015EY - 6RO

8015EZ - 6RO

8015FA - 6RO

8015FB - 6RO

8015FC - 6RO

8015FD - 6RO

8015FE - 6RO

8015FF - 6RO

8015FG - 6RO

8015FH - 6RO

8015FI - 6RO

8015FJ - 6RO

8015FK - 6RO

8015FL - 6RO

8015FM - 6RO

8015FN - 6RO

8015FO - 6RO

8015FP - 6RO

8015FQ - 6RO

8015FR - 6RO

8015FS - 6RO

8015FT - 6RO

8015FU - 6RO

8015FV - 6RO

8015FW - 6RO

8015FX - 6RO

8015FY - 6RO

8015FZ - 6RO

8015GA - 6RO

8015GB - 6RO

8015GC - 6RO

8015GD - 6RO

8015GE - 6RO

8015GF - 6RO

8015GG - 6RO

8015GH - 6RO

8015GI - 6RO

8015GJ - 6RO

8015GK - 6RO

8015GL - 6RO

8015GM - 6RO

8015GN - 6RO

8015GO - 6RO

8015GP - 6RO

8015GQ - 6RO

8015GR - 6RO

8015GS - 6RO

8015GT - 6RO

Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	1
---	---

☒ YES ☐ NO

VOA headspace acceptable (5-6mm): ☒ YES ☐ NO ☐ NA

PH paper Lot #

Base samples are $\text{pH} \geq 12$: ☐ YES ☒ NO
Acid preserved are $\text{pH} \geq 2$: ☐ YES ☒ NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED: ☒ YES ☐ NO

Samples received on ice? ☒ YES ☐ NO

SECRET

[illegible]

Custody Seal Present: ☒ YES ☐ NO

UNPACKED BY:

JOB NUMBER:

Date/Time Received:

CARRIER/DRIVER:

CLIENT:

MIWOT America

Feb 27

Number of Coolers Received:

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica

Loc: 600
102021
Receipt Checklist

TestAmerica Houston

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 600-102021-1

Login Number: 102021

List Source: TestAmerica Houston

List Number: 1

Creator: Capps, Dana R

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
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	-2.5
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 600-102021-1

Login Number: 102021

List Number: 2

Creator: Conquest, Tyler W

List Source: TestAmerica Denver

List Creation: 11/14/14 04:27 PM

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

APPENDIX C

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: 560-46615-1

Client Project/Site: State Gas Com, 4/5/14 BTEX

For:

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

Attn: Ms. Sarah Gardner



Authorized for release by:
4/22/2014 1:52:27 PM

Neal Salcher, Senior Project Manager
neal.salcher@testamericainc.com

LINKS

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results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

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

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

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

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Definitions/Glossary

Client: MWH Americas Inc
Project/Site: State Gas Com, 4/5/14 BTEX

TestAmerica Job ID: 560-46615-1

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.
F1	MS and/or MSD Recovery exceeds the control limits

Glossary

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

Case Narrative

Client: MWH Americas Inc
Project/Site: State Gas Com, 4/5/14 BTEX

TestAmerica Job ID: 560-46615-1

Job ID: 560-46615-1

Laboratory: TestAmerica Corpus Christi

Narrative

Job Narrative
560-46615-1

Comments

No additional comments.

Receipt

The samples were received on 4/8/2014 9:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.8° C.

GC VOA

Method(s) 8021B: The sample size used in the preparation of the matrix spike/matrix spike duplicate (MS/MSD) associated with batch 100701 was outside the 10% difference. As the relative percent difference (RPD) calculation is based upon the MS/MSD concentration as opposed to the MS/MSD percent recovery, elevated %RPD values were obtained.

8021
Batch100701

Method(s) 8021B: LCS and MB are also designated as ICV and ICB for calibration...batch 100781

Method(s) 8021B: Reanalysis of the following sample(s) was performed outside of the analytical holding time due to inconsistent results run with in holding time. Re-analysed at 200X and 1000 X with consistent results.

8021
Batch 100789

No other analytical or quality issues were noted.

Organic Prep

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

Detection Summary

Client: MWH Americas Inc
Project/Site: State Gas Com, 4/5/14 BTEX

TestAmerica Job ID: 560-46615-1

Client Sample ID: MW-1

Lab Sample ID: 560-46615-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	10000		200	20	ug/L	100		8021B	Total/NA
Toluene	5300		200	38	ug/L	100		8021B	Total/NA
Ethylbenzene	360		200	20	ug/L	100		8021B	Total/NA
Xylenes, Total	2000		200	65	ug/L	100		8021B	Total/NA

Client Sample ID: MW-2

Lab Sample ID: 560-46615-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	680		40	4.0	ug/L	20		8021B	Total/NA
Toluene	440		40	7.5	ug/L	20		8021B	Total/NA
Ethylbenzene	37	J	40	4.0	ug/L	20		8021B	Total/NA
Xylenes, Total	400		40	13	ug/L	20		8021B	Total/NA

Client Sample ID: MW-3

Lab Sample ID: 560-46615-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	24000		2000	200	ug/L	1000		8021B	Total/NA
Ethylbenzene	570	J	2000	200	ug/L	1000		8021B	Total/NA
Xylenes, Total	2400		2000	650	ug/L	1000		8021B	Total/NA

Client Sample ID: MW-4

Lab Sample ID: 560-46615-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	12000		200	20	ug/L	100		8021B	Total/NA
Toluene	57	J	200	38	ug/L	100		8021B	Total/NA
Ethylbenzene	350		200	20	ug/L	100		8021B	Total/NA
Xylenes, Total	1600		200	65	ug/L	100		8021B	Total/NA

Client Sample ID: MW-6

Lab Sample ID: 560-46615-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	19000		200	20	ug/L	100		8021B	Total/NA
Toluene	13000		200	38	ug/L	100		8021B	Total/NA
Ethylbenzene	720		200	20	ug/L	100		8021B	Total/NA
Xylenes, Total	9100		200	65	ug/L	100		8021B	Total/NA

Client Sample ID: MW-9

Lab Sample ID: 560-46615-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	51		2.0	0.20	ug/L	1		8021B	Total/NA
Toluene	89		2.0	0.38	ug/L	1		8021B	Total/NA
Ethylbenzene	8.0		2.0	0.20	ug/L	1		8021B	Total/NA
Xylenes, Total	67		2.0	0.65	ug/L	1		8021B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

Client Sample Results

Client: MWH Americas Inc
Project/Site: State Gas Com, 4/5/14 BTEX

TestAmerica Job ID: 560-46615-1

Client Sample ID: MW-1

Date Collected: 04/05/14 11:50

Date Received: 04/08/14 09:45

Lab Sample ID: 560-46615-1

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	10000		200	20	ug/L			04/11/14 16:42	100
Toluene	5300		200	38	ug/L			04/11/14 16:42	100
Ethylbenzene	360		200	20	ug/L			04/11/14 16:42	100
Xylenes, Total	2000		200	65	ug/L			04/11/14 16:42	100
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		58 - 129					04/11/14 16:42	100
Trifluorotoluene (Surr)	94		54 - 130					04/11/14 16:42	100

Client Sample ID: MW-2

Date Collected: 04/05/14 11:55

Date Received: 04/08/14 09:45

Lab Sample ID: 560-46615-2

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	680		40	4.0	ug/L			04/11/14 13:19	20
Toluene	440		40	7.5	ug/L			04/11/14 13:19	20
Ethylbenzene	37 J		40	4.0	ug/L			04/11/14 13:19	20
Xylenes, Total	400		40	13	ug/L			04/11/14 13:19	20
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		58 - 129					04/11/14 13:19	20
Trifluorotoluene (Surr)	92		54 - 130					04/11/14 13:19	20

Client Sample ID: MW-3

Date Collected: 04/05/14 12:05

Date Received: 04/08/14 09:45

Lab Sample ID: 560-46615-3

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	24000		2000	200	ug/L			04/11/14 16:02	1000
Toluene	<380		2000	380	ug/L			04/11/14 16:02	1000
Ethylbenzene	570 J		2000	200	ug/L			04/11/14 16:02	1000
Xylenes, Total	2400		2000	650	ug/L			04/11/14 16:02	1000
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		58 - 129					04/11/14 16:02	1000
Trifluorotoluene (Surr)	96		54 - 130					04/11/14 16:02	1000

Client Sample ID: MW-4

Date Collected: 04/05/14 12:00

Date Received: 04/08/14 09:45

Lab Sample ID: 560-46615-4

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	12000		200	20	ug/L			04/11/14 14:13	100
Toluene	57 J		200	38	ug/L			04/11/14 14:13	100
Ethylbenzene	350		200	20	ug/L			04/11/14 14:13	100
Xylenes, Total	1600		200	65	ug/L			04/11/14 14:13	100

TestAmerica Corpus Christi

Client Sample Results

Client: MWH Americas Inc
Project/Site: State Gas Com, 4/5/14 BTEX

TestAmerica Job ID: 560-46615-1

Client Sample ID: MW-4

Date Collected: 04/05/14 12:00

Date Received: 04/08/14 09:45

Lab Sample ID: 560-46615-4

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		58 - 129		04/11/14 14:13	100
Trifluorotoluene (Surr)	90		54 - 130		04/11/14 14:13	100

Client Sample ID: MW-6

Date Collected: 04/05/14 11:35

Date Received: 04/08/14 09:45

Lab Sample ID: 560-46615-5

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	19000		200	20	ug/L			04/11/14 14:40	100
Toluene	13000		200	38	ug/L			04/11/14 14:40	100
Ethylbenzene	720		200	20	ug/L			04/11/14 14:40	100
Xylenes, Total	9100		200	65	ug/L			04/11/14 14:40	100
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
4-Bromofluorobenzene (Surr)	100		58 - 129		04/11/14 14:40	100			
Trifluorotoluene (Surr)	98		54 - 130		04/11/14 14:40	100			

Client Sample ID: MW-9

Date Collected: 04/05/14 11:20

Date Received: 04/08/14 09:45

Lab Sample ID: 560-46615-6

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	51		2.0	0.20	ug/L			04/11/14 15:08	1
Toluene	89		2.0	0.38	ug/L			04/11/14 15:08	1
Ethylbenzene	8.0		2.0	0.20	ug/L			04/11/14 15:08	1
Xylenes, Total	67		2.0	0.65	ug/L			04/11/14 15:08	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
4-Bromofluorobenzene (Surr)	99		58 - 129		04/11/14 15:08	1			
Trifluorotoluene (Surr)	93		54 - 130		04/11/14 15:08	1			

QC Sample Results

Client: MWH Americas Inc
Project/Site: State Gas Com, 4/5/14 BTEX

TestAmerica Job ID: 560-46615-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 560-100701/5

Matrix: Water

Analysis Batch: 100701

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.20		2.0	0.20	ug/L			04/11/14 12:22	1
Toluene	<0.38		2.0	0.38	ug/L			04/11/14 12:22	1
Ethylbenzene	<0.20		2.0	0.20	ug/L			04/11/14 12:22	1
Xylenes, Total	<0.65		2.0	0.65	ug/L			04/11/14 12:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		58 - 129		04/11/14 12:22	1
Trifluorotoluene (Surr)	87		54 - 130		04/11/14 12:22	1

Lab Sample ID: LCS 560-100701/4

Matrix: Water

Analysis Batch: 100701

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	40.0	39.0		ug/L		98	70 - 130
Toluene	40.0	41.3		ug/L		103	70 - 130
Ethylbenzene	40.0	39.9		ug/L		100	70 - 130
Xylenes, Total	120	114		ug/L		95	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		58 - 129
Trifluorotoluene (Surr)	92		54 - 130

Lab Sample ID: 560-46615-6 MS

Matrix: Water

Analysis Batch: 100701

Client Sample ID: MW-9

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	51		40.0	41.6	F1	ug/L		-24	64 - 130
Toluene	89		40.0	43.2	F1	ug/L		-114	59 - 130
Ethylbenzene	8.0		40.0	42.2		ug/L		85	63 - 133
Xylenes, Total	67		120	120	F1	ug/L		44	53 - 147

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	110		58 - 129
Trifluorotoluene (Surr)	93		54 - 130

Lab Sample ID: 560-46615-6 MSD

Matrix: Water

Analysis Batch: 100701

Client Sample ID: MW-9

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	51		40.0	41.6	F1	ug/L		-24	64 - 130	0	20
Toluene	89		40.0	44.4	F1	ug/L		-111	59 - 130	3	20
Ethylbenzene	8.0		40.0	43.1		ug/L		88	63 - 133	2	20
Xylenes, Total	67		120	122	F1	ug/L		46	53 - 147	2	20

TestAmerica Corpus Christi

QC Sample Results

Client: MWH Americas Inc
Project/Site: State Gas Com, 4/5/14 BTEX

TestAmerica Job ID: 560-46615-1

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

Lab Sample ID: 560-46615-6 MSD

Matrix: Water

Analysis Batch: 100701

Client Sample ID: MW-9

Prep Type: Total/NA

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	102		58 - 129
Trifluorotoluene (Surr)	92		54 - 130

Certification Summary

Client: MWH Americas Inc
Project/Site: State Gas Com, 4/5/14 BTEX

TestAmerica Job ID: 560-46615-1

Laboratory: TestAmerica Corpus Christi

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

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

Method Summary

Client: MWH Americas Inc
Project/Site: State Gas Com, 4/5/14 BTEX

TestAmerica Job ID: 560-46615-1

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, 4/5/14 BTEX

TestAmerica Job ID: 560-46615-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-46615-1	MW-1	Water	04/05/14 11:50	04/08/14 09:45
560-46615-2	MW-2	Water	04/05/14 11:55	04/08/14 09:45
560-46615-3	MW-3	Water	04/05/14 12:05	04/08/14 09:45
560-46615-4	MW-4	Water	04/05/14 12:00	04/08/14 09:45
560-46615-5	MW-6	Water	04/05/14 11:35	04/08/14 09:45
560-46615-6	MW-9	Water	04/05/14 11:20	04/08/14 09:45

Chain of Custody Record

Client Information Client Contact: Sarah Gardner Mr. Daniel Wade	Sampler Sarah Gardner	Lab PM# Chris Lee	Carrier Tracking No(s) Fedex	COC No: 560-13131-1157
	Phone: 303 291 2239	E-Mail: tim_kellogg@testamericainc.com	Page: 889527757392	Loc: 560 46615
Company: MWH Americas Inc			Analysis Requested	
			Job #: 	

Address	1801 California Street Suite 2900									
City:	Denver									
State, Zip:	CO, 80202									
Phone:	713-420-4444 (Tel) 303 291 2239									
Purchase Order not required	Purchase Order not required									
WO #:	WO #									
WO #:	C-STLI-									
Project #:	56000058									
Project Name:	San Juan River Basin Pit Sites									
Site:	SSOW#:									
State Gas Com										

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=other)	Field Filtered	Perform MS/M	8260B - BTEX	Special Instructions/Note:
mw-1	4/5/14	1150		Water			X	3 Unpreserved
mw-2	4/5/14	1155		Water			X	3 Unpreserved
mw-3	4/5/14	1205		Water			X	3 Unpreserved
mw-4	4/5/14	1200		Water			X	3 Unpreserved
mw-6	4/5/14	1135		Water			X	3 Unpreserved
mw-9	4/5/14	1120		Water			X	3
				Water				
				Water				
				Water				
				Water				
				Water				



560-46615 Chain of Custody

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: _____		Method of Shipment: _____	
Relinquished by: _____ Relinquished by: <i>Samantha</i> Relinquished by: _____		Received by: <i>W. H. H.</i> Received by: _____ Received by: _____	
Date/Time: _____ Date/Time: <i>4/11/14 900</i> Date/Time: _____		Date/Time: _____ Date/Time: _____ Date/Time: _____	
Company: _____ Company: <i>MWH</i> Company: _____		Company: _____ Company: _____ Company: _____	
Custody Seal No.: _____		Cooler Temperature(s) °C and Other Remarks: <i>241 + R4 063116 0 car 14 02</i>	
Custody Seals Intact: Δ Yes Δ No			

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 560-46615-1

SDG Number:

Login Number: 46615

List Number: 1

Creator: Rood, Vivian R

List Source: TestAmerica Corpus Christi

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

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

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

TestAmerica Job ID: 400-97670-1

Client Project/Site: KM State Gas Com N #1

For:

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

Attn: Ms. Sarah Gardner



Authorized for release by:

11/6/2014 1:17:44 PM

Bernard Kirkland, Manager of Project Management
(912)354-7858 e.3238

bernard.kirkland@testamericainc.com

Designee for

Neal Salcher, Senior Project Manager
(713)690-4444

neal.salcher@testamericainc.com

LINKS

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

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

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

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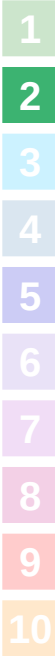


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Definitions/Glossary

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

TestAmerica Job ID: 400-97670-1

Qualifiers

GC/MS VOA

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

Glossary

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

Case Narrative

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

TestAmerica Job ID: 400-97670-1

Job ID: 400-97670-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-97670-1

Comments

No additional comments.

Receipt

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

GC/MS VOA

Method(s) 8260B: The following samples (400-97670-1), (400-97670-2), (400-97670-3), (400-97670-4), (400-97670-5), MW-1 (400-97670-1), MW-2 (400-97670-2), MW-3 (400-97670-3), MW-4 (400-97670-4), MW-6 (400-97670-5) were analyzed outside of holding time due to the pH being out of range. The samples were marked as preserved when received at the lab. The holding time expired on 10-28-14 and the samples were analyzed on 10-29-14.

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

VOA Prep

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

Sample Summary

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

TestAmerica Job ID: 400-97670-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-97670-1	MW-1	Water	10/21/14 09:20	10/28/14 09:39
400-97670-2	MW-2	Water	10/21/14 09:25	10/28/14 09:39
400-97670-3	MW-3	Water	10/21/14 09:30	10/28/14 09:39
400-97670-4	MW-4	Water	10/21/14 09:35	10/28/14 09:39
400-97670-5	MW-6	Water	10/21/14 09:10	10/28/14 09:39
400-97670-6	MW-9	Water	10/21/14 09:05	10/28/14 09:39
400-97670-7	TRIP BLANK	Water	10/21/14 09:45	10/28/14 09:39

Client Sample Results

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

TestAmerica Job ID: 400-97670-1

Client Sample ID: MW-1

Date Collected: 10/21/14 09:20

Date Received: 10/28/14 09:39

Lab Sample ID: 400-97670-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	14000	H	50	19	ug/L			10/29/14 16:33	50
Ethylbenzene	520	H	50	25	ug/L			10/29/14 16:33	50
Toluene	4900	H	50	35	ug/L			10/29/14 16:33	50
Xylenes, Total	6400	H	500	80	ug/L			10/29/14 16:33	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	92		78 - 118					10/29/14 16:33	50
Dibromofluoromethane	100		81 - 121					10/29/14 16:33	50
Toluene-d8 (Surr)	98		80 - 120					10/29/14 16:33	50

Client Sample ID: MW-2

Date Collected: 10/21/14 09:25

Date Received: 10/28/14 09:39

Lab Sample ID: 400-97670-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	620	H	50	25	ug/L			10/29/14 16:58	50
Toluene	1500	H	50	35	ug/L			10/29/14 16:58	50
Xylenes, Total	6700	H	500	80	ug/L			10/29/14 16:58	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	94		78 - 118					10/29/14 16:58	50
Dibromofluoromethane	99		81 - 121					10/29/14 16:58	50
Toluene-d8 (Surr)	97		80 - 120					10/29/14 16:58	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	15000	H	100	38	ug/L			10/29/14 18:37	100
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	95		78 - 118					10/29/14 18:37	100
Dibromofluoromethane	99		81 - 121					10/29/14 18:37	100
Toluene-d8 (Surr)	96		80 - 120					10/29/14 18:37	100

Client Sample ID: MW-3

Date Collected: 10/21/14 09:30

Date Received: 10/28/14 09:39

Lab Sample ID: 400-97670-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	27000	H	100	38	ug/L			10/29/14 17:23	100
Ethylbenzene	770	H	100	50	ug/L			10/29/14 17:23	100
Toluene	98	J H	100	70	ug/L			10/29/14 17:23	100
Xylenes, Total	2900	H	1000	160	ug/L			10/29/14 17:23	100
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	95		78 - 118					10/29/14 17:23	100
Dibromofluoromethane	99		81 - 121					10/29/14 17:23	100
Toluene-d8 (Surr)	97		80 - 120					10/29/14 17:23	100

TestAmerica Pensacola

Client Sample Results

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

TestAmerica Job ID: 400-97670-1

Client Sample ID: MW-4

Lab Sample ID: 400-97670-4

Date Collected: 10/21/14 09:35

Matrix: Water

Date Received: 10/28/14 09:39

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	21000	H	100	38	ug/L			10/29/14 17:47	100
Ethylbenzene	520	H	100	50	ug/L			10/29/14 17:47	100
Toluene	13000	H	100	70	ug/L			10/29/14 17:47	100
Xylenes, Total	8400	H	1000	160	ug/L			10/29/14 17:47	100
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	97		78 - 118					10/29/14 17:47	100
Dibromofluoromethane	98		81 - 121					10/29/14 17:47	100
Toluene-d8 (Surr)	94		80 - 120					10/29/14 17:47	100

Client Sample ID: MW-6

Lab Sample ID: 400-97670-5

Date Collected: 10/21/14 09:10

Matrix: Water

Date Received: 10/28/14 09:39

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	2900	H	20	7.6	ug/L			10/29/14 18:12	20
Ethylbenzene	380	H	20	10	ug/L			10/29/14 18:12	20
Toluene	3300	H	20	14	ug/L			10/29/14 18:12	20
Xylenes, Total	5400	H	200	32	ug/L			10/29/14 18:12	20
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	96		78 - 118					10/29/14 18:12	20
Dibromofluoromethane	99		81 - 121					10/29/14 18:12	20
Toluene-d8 (Surr)	100		80 - 120					10/29/14 18:12	20

Client Sample ID: MW-9

Lab Sample ID: 400-97670-6

Date Collected: 10/21/14 09:05

Matrix: Water

Date Received: 10/28/14 09:39

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.38		1.0	0.38	ug/L			10/30/14 18:39	1
Ethylbenzene	<0.50		1.0	0.50	ug/L			10/30/14 18:39	1
Toluene	<0.70		1.0	0.70	ug/L			10/30/14 18:39	1
Xylenes, Total	<1.6		10	1.6	ug/L			10/30/14 18:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	93		78 - 118					10/30/14 18:39	1
Dibromofluoromethane	106		81 - 121					10/30/14 18:39	1
Toluene-d8 (Surr)	92		80 - 120					10/30/14 18:39	1

Client Sample ID: TRIP BLANK

Lab Sample ID: 400-97670-7

Date Collected: 10/21/14 09:45

Matrix: Water

Date Received: 10/28/14 09:39

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.38		1.0	0.38	ug/L			10/30/14 19:03	1
Ethylbenzene	<0.50		1.0	0.50	ug/L			10/30/14 19:03	1
Toluene	<0.70		1.0	0.70	ug/L			10/30/14 19:03	1

TestAmerica Pensacola

Client Sample Results

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

TestAmerica Job ID: 400-97670-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 400-97670-7

Date Collected: 10/21/14 09:45

Matrix: Water

Date Received: 10/28/14 09:39

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	<1.6		10	1.6	ug/L			10/30/14 19:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	96		78 - 118		10/30/14 19:03	1
Dibromofluoromethane	105		81 - 121		10/30/14 19:03	1
Toluene-d8 (Surr)	93		80 - 120		10/30/14 19:03	1

QC Sample Results

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

TestAmerica Job ID: 400-97670-1

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

Lab Sample ID: MB 400-234691/4

Matrix: Water

Analysis Batch: 234691

Client Sample ID: Method Blank

Prep Type: Total/NA

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

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

Lab Sample ID: LCS 400-234691/1002

Matrix: Water

Analysis Batch: 234691

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

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

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

Lab Sample ID: MB 400-234848/4

Matrix: Water

Analysis Batch: 234848

Client Sample ID: Method Blank

Prep Type: Total/NA

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

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

Lab Sample ID: LCS 400-234848/1002

Matrix: Water

Analysis Batch: 234848

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

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

TestAmerica Pensacola

QC Sample Results

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

TestAmerica Job ID: 400-97670-1

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

Lab Sample ID: LCS 400-234848/1002

Matrix: Water

Analysis Batch: 234848

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

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

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

Lab Chronicle

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

TestAmerica Job ID: 400-97670-1

Client Sample ID: MW-1

Date Collected: 10/21/14 09:20

Date Received: 10/28/14 09:39

Lab Sample ID: 400-97670-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		50	234691	10/29/14 16:33	CLN	TAL PEN

Client Sample ID: MW-2

Date Collected: 10/21/14 09:25

Date Received: 10/28/14 09:39

Lab Sample ID: 400-97670-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		50	234691	10/29/14 16:58	CLN	TAL PEN
Total/NA	Analysis	8260B	DL	100	234691	10/29/14 18:37	CLN	TAL PEN

Client Sample ID: MW-3

Date Collected: 10/21/14 09:30

Date Received: 10/28/14 09:39

Lab Sample ID: 400-97670-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		100	234691	10/29/14 17:23	CLN	TAL PEN

Client Sample ID: MW-4

Date Collected: 10/21/14 09:35

Date Received: 10/28/14 09:39

Lab Sample ID: 400-97670-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		100	234691	10/29/14 17:47	CLN	TAL PEN

Client Sample ID: MW-6

Date Collected: 10/21/14 09:10

Date Received: 10/28/14 09:39

Lab Sample ID: 400-97670-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		20	234691	10/29/14 18:12	CLN	TAL PEN

Client Sample ID: MW-9

Date Collected: 10/21/14 09:05

Date Received: 10/28/14 09:39

Lab Sample ID: 400-97670-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	234848	10/30/14 18:39	WPD	TAL PEN

TestAmerica Pensacola

Lab Chronicle

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

TestAmerica Job ID: 400-97670-1

Client Sample ID: TRIP BLANK
Date Collected: 10/21/14 09:45
Date Received: 10/28/14 09:39

Lab Sample ID: 400-97670-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	234848	10/30/14 19:03	WPD	TAL PEN

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

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Method Summary

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

TestAmerica Job ID: 400-97670-1

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

Protocol References:

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

Laboratory References:

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

Chain of Custody Record

Client Information Client Contact: Ms. Sarah Gardner Company: MWH Americas Inc Address: 1801 California Street Suite 2900 City: Denver State, Zip: CO, 80202 Phone: 303-291-2239(Tel) Email: sarah.gardner@mwhglobal.com Project Name: Slate Gas Corn N #1 Site:		Sampler: CHRIS LEE, SARAH GARDNER Lab PM: Salcher, Neal E-Mail: neal.salcher@testamericainc.com Carrier Tracking No(s): COC No: 560-15437-1549.1 Page: Page 1 of 1 Job #:	
Due Date Requested: TAT Requested (days): PO #: Purchase Order Requested WO #: As per Entos Project #: 56004992 SSOW#:		Analysis Requested  400-97670 COC	
Sample Identification Sample ID Sample Date Sample Time Sample Type (C=Comp, G=grab) Matrix (W=water, S=solid, O=wastefoil, BT=Tissue, A=Air) Field Filtered Sample (Yes or No) Performed MS/MSD (Yes or No) 8280B - BTEX		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - ph 4-5 Z - other (specify)	
Special Instructions/Note: UNPRESERVED UNPRESERVED UNPRESERVED UNPRESERVED		Total Number of Containers	
Possible Hazard Identification ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological Deliverable Requested: I, II, III, IV, Other (specify)			
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:			
Empty Kit Relinquished by: <i>Chris Lee</i> Relinquished by: <i>Chris Lee</i> Relinquished by:		Date: 10/27/14 915 Date/Time: 10/27/14 939 Date/Time: Company Date/Time: Company Date/Time: Company	
Custody Seals Intact: ☒ Yes ☐ No Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 3.0°C 12-1	