Johnston Fed #4 Meter Code: 70194 T31N, R09W, Sec 33, Unit H

SITE DETAILS

Site Location: Latitude: 36.862800 N, Longitude: -107.771983 W

Land Type: State

Operator: Burlington Resources Oil & Gas Company, LP

SITE BACKGROUND

Site Assessment: 8/94Excavation: 9/94 (60 cy)

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

The Site is located on State/Fee land. Various site investigations have occurred since 1994. Monitoring wells were installed in 1995 (MW-1, MW-2, and MW-3), 2006 (MW-4 and TMW-5), 2013 (MW-6 through MW-12), and 2014 (MW-13 through MW-20). Temporary piezometers PH-PZ-1, PH-PZ-2, and PH-PZ-3 were installed and abandoned in 1997. Temporary monitoring well TMW-5 was plugged and abandoned in 2014. Free product has been observed and periodically recovered. Currently, groundwater sampling is conducted on a semi-annual basis and free product was observed in 2014.

SUMMARY OF 2014 ACTIVITIES

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

Eight new wells (MW-13, MW-14, MW-15, MW-16, MW-17, MW-18, MW-19, and MW-20) were drilled in August 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 existing monitoring wells and all new monitoring wells (completed in August 2014) were again surveyed in August 2014, by a licensed surveyor using state plane coordinates.

Monitoring wells were constructed of 2-inch-diameter, schedule 40 polyvinyl chloride (PVC), with 0.010-inch, continuous, factory-slotted PVC screen. The well screen was installed from 65 feet below ground surface (bgs) to 35 feet bgs and bisects the observed water table located at depths ranging from 48-52 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

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surface completion. Four protective bollards were installed around each new monitoring well. Borehole logs and well construction diagrams are provided in Appendix A.

Monitoring wells MW-14, MW-15, and MW-16 were installed along the eastern perimeter of the known groundwater plume in order to better delineate groundwater impacts down-gradient from the former pit. Monitoring well MW-13 was installed to replace TMW-5, which was installed in 2006 as a temporary monitoring location. Monitoring well MW-20 was installed just southwest of older well MW-2 to verify free product delineation. Monitoring wells MW-18 and MW-19 were installed to provide better delineation on the north side of the former pit. Pertinent site features and soil boring/monitoring well locations are shown on Figures 1 through 4. Borehole logs and well construction diagrams are provided in Appendix A.

During the drilling of the Site soil borings completed in August 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 SW846 9071, 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. (TestAmerica) in Corpus Christi, Texas. The soil sample analytical report is provided in Appendix B.

Monitoring well development was performed using a well swab and disposable bailer until all sediment was removed and visibly clear groundwater was observed. Purged groundwater was stored in a labeled 55-gallon drum and staged on site along with the soil boring cuttings for later disposal by Basin Disposal, Inc. In addition to monitoring well installation, monitoring well TMW-5 was plugged and abandoned in accordance with New Mexico Environment Department (NMED), Ground Water Quality Bureau, Monitoring Well Construction and Abandonment Guidelines, dated March 2011. Additionally, per the OCD requirements, form WD-08, Well Plugging Plan of Operations, and form WD-11, Plugging Record, were submitted to the State Engineer's office. Soil drums were staged on site. On November 8, 2014, Sierra Oilfield Services, Inc. removed 31 drums of soil cuttings from the Site and delivered them to Envirotech, Inc.

On April 2, 2014, groundwater levels were gauged at MW-1 through MW-4, TMW-5, and MW-6 through MW-12, and groundwater samples were collected from each well using HydraSleeveTM (HydraSleeve) no-purge passive groundwater sampling devices. Groundwater samples were not collected from MW-3, MW-6, MW-8, and MW-11 during the April 2014 sampling event due to the presence of free product. On October 23, 2014, MW-1 through MW-4, MW-6 through MW-12, and the new monitoring wells MW-13 through MW-20 were gauged for water levels, and samples were collected from each well that did not contain free product. The HydraSleeves were set during the previous sampling event approximately 0.5 foot above termination depth of the monitoring wells using a suspension tether and stainless steel weights to collect a sample from the screened interval. Groundwater samples were placed into laboratory-supplied sample containers, packed on ice, and shipped under standard chain-of-custody protocols to TestAmerica

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where they were analyzed for BTEX. Additional field parameters 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 and temperatures were above freezing. The water remaining in the HydraSleeves was combined in a waste container and taken to Basin Disposal, Inc. for disposal.

SUMMARY TABLES

Soil sample results are summarized in Table 1, and historic analytical and water level data are summarized in Table 2. When free product was present, static water level elevations were corrected for measurable thicknesses of free product (specific gravity of 0.75).

SITE MAPS

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

ANALYTICAL LAB REPORTS

The soil and groundwater analytical lab reports are provided in Appendices B and C, respectively.

RESULTS

- Historical data from water level gauging events indicated the groundwater flow direction was generally to the north-northeast at the Site. The groundwater contours were developed for the 2014 sampling event. The elevations at MW-12 remained anomalous, consistent with past results.
- Approximately 0.09 foot of free product was detected in MW-1 during the October 2014 sampling event. Groundwater samples were not collected from MW-1 during October 2014 due to the presence of free product.
- Concentrations of benzene and total xylenes in groundwater collected from MW-2 were above New Mexico Water Quality Control Commission (NMWQCC) standards, while toluene and ethylbenzene were detected, but below the NMWQCC standards during the April 2014 sampling event. All BTEX constituents were either not detected or detected below the quantitation limit (J-flagged values) during the October 2014 sampling event.
- Free product was measured in MW-3 during both of the 2014 sampling events, approximately 1.11 feet was measured in April and 1.16 feet measured in October. Groundwater samples were not collected from MW-3 during 2014 due to the presence of free product.

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- BTEX constituents were not detected in groundwater samples from MW-4 during the 2014 sampling events.
- The concentration of benzene in groundwater collected from TMW-5 was above the NMWQCC standard during the April 2014 sampling event. Concentrations of toluene, ethylbenzene and total xylenes were detected but below NMWQCC standards in April 2014. TMW-5 was initially constructed as a temporary well and was abandoned in 2014.
- Approximately 0.03 foot of free product was detected in MW-6 during the April 2014 sampling event and groundwater samples were not collected. The benzene concentration in groundwater collected during the October 2014 sampling event was above the NMWQCC standard. Toluene, ethylbenzene, and total xylenes were detected but below NMWQCC standards in October 2014.
- Benzene, ethylbenzene, and total xylenes were detected in the groundwater collected from MW-7 at concentrations below the NMWQCC standard during the April 2014 sampling event. During the October 2014 sampling event, benzene and ethylbenzene were detected below the standard and toluene was not detected. Total xylenes were not detected in April or October 2014.
- Approximately 1.12 feet of free product was detected in MW-8 during the April 2014 sampling event and 1.19 feet during the October 2014 sampling event. Groundwater samples were not collected due to the presence of free product.
- Benzene and total xylene concentrations were above the NMWQCC standard in groundwater collected from MW-9 during the April 2014 sampling event. Toluene and ethylbenzene were detected but below NMWQCC standards. During the October 2014 sampling event, all BTEX constituents were detected at concentrations below the NMWQCC standards, and total xylenes was J-flagged.
- Benzene, toluene, and total xylene concentrations were below NMWQCC standards in groundwater collected from MW-10 and ethylbenzene was not detected during the April 2014 sampling event. The benzene concentration was above the NMWQCC standard in October 2014, and toluene, ethylbenzene, and total xylenes were all detected at concentrations below the NMWQCC standard.
- Approximately 0.72 foot of free product was detected in MW-11 during the April 2014 sampling event and 0.86 foot during the October 2014 sampling event. Groundwater samples were not collected due to the presence of free product.
- BTEX constituents were not detected or were J-flagged in groundwater collected from MW-12 during 2014 sampling events.
- The concentrations of benzene in groundwater collected from MW-13, MW-15, MW-19, and MW-20 were above NMWQCC standards while toluene,

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ethylbenzene, and total xylenes were detected, but below the NMWQCC standards during the October 2014 sampling event.

- BTEX constituents were not detected in groundwater collected from MW-14 during the October 2014 sampling event.
- BTEX constituents were not detected or were J-flagged in groundwater collected from MW-16 during the October 2014 sampling event.
- Benzene and ethylbenzene concentrations were below NMWQCC standards in groundwater collected from MW-17 in October 2014. Toluene was not detected during 2014 sampling, and total xylenes were J-flagged.
- Benzene, toluene, and total xylene concentrations were below NMWQCC standards in groundwater collected from MW-18 during the October 2014 sampling event. Ethylbenzene was not detected.

Soil samples were collected from the borings for monitoring wells MW-13 through MW-20. Sample locations were based on elevated soil screening results. For benzene, results ranged from non-detect (MW-14) to 1.64 milligrams per kilogram (mg/kg) (MW-15). Toluene results ranged from non-detect (MW-13 and MW-14) to a high of 13.6 milligrams per kilogram of soil (mg/kg) at MW-15. Ethylbenzene results ranged from non-detect (MW-14) to 2.34 mg/kg at MW-15. Total xylene concentrations ranged from non-detect (MW-13 and MW-14) to 25.5 mg/kg at MW-15. Total petroleum hydrocarbons were reported at all eight sampled locations and ranged from <20 mg/kg at MW-14 and MW-19 to a high of 2,100 mg/kg at MW-15. All soil samples with the exception of MW-17 (50 mg/kg) were analyzed by TestAmerica beyond the specified holding time. Chloride was reported below the reporting limit (J-flagged) at six locations with a high concentration of 4.21 mg/kg at MW-18.

PLANNED FUTURE ACTIVITIES

Monitoring wells MW-1 through MW-4, MW-6 through MW-12, and MW-13 through MW-20 will be gauged and sampled on a semi-annual basis. Groundwater elevation and analytical data collected will be evaluated and presented in the Annual Groundwater Report.

TABLES

TABLE 1 – SOIL SAMPLING ANALYTICAL RESULTS

TABLE 2 – GROUNDWATER ANALYTICAL AND WATER LEVEL RESULTS

TABLE 1 - SOIL ANALYTICAL RESULTS

			,			Johnston Fed.	#4						_
Location	Date	Benzene (mg/Kg)		Toluene (mg/Kg)		Ethylbenzene (mg/Kg)		Total Xylenes (mg/Kg)	BTEX Total (mg/Kg)	TPH (mg/Kg)		Chloride (mg/Kg)	
NMWQCC S	Standards ¹ :	10		NA		NA		NA	50	100		600	
B3(48-52)	01/05/06	12.1		14.6		1.2		10.2	38				
B4(48-52)	01/04/06	153		381		16.5		130	681				T
B5(49-53)	01/04/06	112		157		14.7		104	388				
B6(46-50)	01/05/06	7380		11700		841		7960	27881				
MW-6(47.5-50)	11/06/13	0.037	J	0.5		0.17		2.0	2.7	150		81	
MW-7(43-45)	11/02/13	<0.019		0.24		0.37		5.1	5.7	33	J	59	
MW-8(47.5-50)	11/04/13	<0.019		0.19		0.17		2.4	2.8	620		83	
MW-9(53-55)	11/07/13	0.031	J	0.51		0.32		3.1	4.0	150		27	J
MW-10(52.5-55)	11/06/13	0.018	J	0.09		0.023	J	0.27	0.4	630		32	J
MW-11(50-52.5)	11/04/13	<0.020		0.04	J	0.098	J	1.6	1.7	170		82	
MW-12(52.5-55)	11/05/13	<0.00021		<0.00040		<0.00081		<0.00045	0.0	120		18	J
MW-13 (50-52)	08/10/14	0.00497	J	<0.00525		0.0318		<0.0193	0.0	1000	Н	2.19	J
MW-14 (38-40)	08/07/14	<0.00347		<0.00525		<0.00642		<0.0193	0.0	<20	Н	3.42	J
MW-15 (48-50)	08/08/14	1.64		13.6		2.34		25.5	43.1	2100	Н	3.55	J
MW-16 (48-50)	08/09/14	0.144		1.25		0.302		4.03	5.7	46	Н	4.07	
MW-17 (46-48)	08/12/14	0.0754	J	0.480		0.367		4.35	5.3	50		3.12	J
MW-18 (48-50)	08/11/14	0.0248		0.343		0.196		2.23	2.8	45	Н	4.21	
MW-19 (48-50)	08/07/14	0.0253		0.119		0.082		0.786	1.0	<20	Н	3.6	J
MW-20 (48-50)	08/10/14	0.0266		1.00		0.306		4.34	5.7	150	Н	2.35	J

Notes:

[&]quot;J" = Result is less than the reporting limit but greater than or equal to the method detection limit and the result in an approximate value.

[&]quot;H" = Sample was prepped or analyzed beyond the specified holding time.

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

[&]quot;NA" = Not analyzed. Samples were received out of temperature.

[&]quot;1" = 2013 Pit Rule Table I standards for soils beneith pits - Groundwater less than or equel to 50 feet

				Johnsto	n Fed #4			
		Benzene	Toluene	Ethylbenzene	Total Xylenes	Depth to	Depth to	LNAPL
Location	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	Water (ft.)	LNAPL (ft.)	Thickness (ft.)
NMWQC	C Standards:	10	750	750	620	NA	NA	NA
MW-1	08/08/95	590	2040	137	1764	50.08	-	-
MW-1	01/04/96	7380	20900	1480	14600	50.23	-	-
MW-1	12/17/96	762	1930	107	1270	50.50	49.94	0.56
MW-1	03/06/97	483	1110	66.1	678	50.38	49.99	0.39
MW-1	06/22/01					49.96	49.82	0.14
MW-1	09/04/01					50.05	49.94	0.11
MW-1	03/04/02					50.40	50.23	0.17
MW-1	06/03/02					50.50	50.31	0.19
MW-1	09/10/02					50.70	50.51	0.19
MW-1	12/12/02					50.83	50.60	0.23
MW-1	03/14/03					50.90	50.73	0.17
MW-1	06/18/03					51.28	50.74	0.54
MW-1	09/16/03					51.70	50.78	0.92
MW-1	12/17/03					51.15	50.92	0.23
MW-1	03/16/04					51.14	50.98	0.16
MW-1	06/22/04					51.15	51.02	0.13
MW-1	09/22/04					51.18	51.06	0.12
MW-1	12/21/04					51.15	51.08	0.07
MW-1	03/23/05					51.13	-	-
MW-1	06/23/05					51.09	-	-
MW-1	09/20/05					51.12	-	-
MW-1	12/14/05					51.02	-	-
MW-1	12/15/05					51.02	-	-
MW-1	03/27/06					51.86	-	-
MW-1	06/07/06					50.92	-	-
MW-1	09/25/06					51.09	-	-
MW-1	12/07/06					51.06	-	-
MW-1	03/28/07					50.85	-	-
MW-1	06/18/07					50.90	-	-
MW-1	09/17/07					51.04	-	-
MW-1	12/17/07					51.05	-	-
MW-1	03/10/08					50.93	-	-
MW-1	06/17/08					50.14	-	-
MW-1	09/10/08					49.81	-	-
MW-1	12/02/08					49.66	-	-
MW-1	03/03/09	4000	0000	200	0000	49.60	-	-
MW-1	06/09/09	1630	3000	268	3880	49.61	-	-
MW-1	08/28/09					49.71	-	-
MW-1	11/04/09					49.83	-	-
MW-1	02/11/10	4000	0400	040	00.40	49.93	-	-
MW-1	06/07/10	1630	3130	213	3840	50.12	-	-
MW-1	09/24/10					50.33	-	-
MW-1	11/02/10					50.40	-	-
MW-1	02/07/11	1000	4740	200	2400	50.53	-	-
MW-1	05/10/11 09/23/11	1000	1710	206	2400	50.69	-	-
MW-1 MW-1						50.93	-	-
IVIVV-T	11/01/11					50.99	-	-

				Johnsto	n Fed #4			
		Benzene	Toluene	Ethylbenzene	Total Xylenes	Depth to	Depth to	LNAPL
Location	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	Water (ft.)	LNAPL (ft.)	Thickness (ft.)
NMWQC	C Standards:	10	750	750	620	NA	NA	NA
MW-1	02/21/12					51.15	-	-
MW-1	05/14/12	1200	2170	152	2580	51.24	-	-
MW-1	06/09/13	3900	14000	610	10000	51.68	51.61	0.07
MW-1	09/09/13					51.84	51.78	0.06
MW-1	12/12/13					51.85	51.80	0.05
MW-1	04/02/14					51.81	-	-
MW-1	10/23/14					52.04	51.95	0.09

				Johnstoi	n Fed #4			
		Benzene	Toluene	Ethylbenzene	Total Xylenes	Depth to	Depth to	LNAPL
Location	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	Water (ft.)	LNAPL (ft.)	Thickness (ft.)
NMWQC	C Standards:	10	750	750	620	NA	NA	NA
MW-2	01/04/96	1104	5107	479	4640	48.71	-	-
MW-2	12/17/96	5900	8970	197	4670	48.84	-	-
MW-2	03/06/97	4500	6480	236	4920	48.94	-	-
MW-2	06/22/01	2800	180	41	140	48.62	-	-
MW-2	09/04/01					48.78	-	-
MW-2	06/03/02	370	11	24	18	49.15	-	-
MW-2	09/10/02					49.27	-	-
MW-2	12/12/02					49.42	-	-
MW-2	06/18/03	186	<5	34.9	16.8	49.62	-	-
MW-2	09/16/03					49.76	-	-
MW-2	12/17/03					49.72	-	-
MW-2	03/16/04					49.78	-	-
MW-2	06/22/04	88.9	24	32.9	15.2	49.82	-	-
MW-2	09/22/04					49.84	-	-
MW-2	12/21/04					49.86	-	-
MW-2	03/23/05					49.89	-	-
MW-2	06/23/05	283	9.4	27.7	64.5	49.87	-	-
MW-2	09/20/05					49.89	-	-
MW-2	12/14/05					49.75	-	-
MW-2	03/27/06					49.62	-	-
MW-2	06/07/06	92.1	18.4	4.4	5.9	49.67	-	-
MW-2	09/25/06					49.85	-	-
MW-2	12/07/06					49.82	-	-
MW-2	03/28/07					49.63	-	-
MW-2	06/19/07	83	<1	7.3	7.2	49.67	-	-
MW-2	09/17/07					49.82	-	-
MW-2	12/17/07					49.82	-	-
MW-2	03/10/08					49.92	-	-
MW-2	06/17/08	201	4.2	16.6	17.9	48.93	-	-
MW-2	09/10/08					48.60	-	-
MW-2	12/02/08					48.43	-	-
MW-2	03/03/09					48.37	-	-
MW-2	06/04/09					48.38	-	-
MW-2	06/09/09	18.5	0.82 J	2.8	6.9	48.43	-	-
MW-2	08/28/09					48.50	-	-
MW-2	11/04/09					48.62	-	-
MW-2	02/11/10					48.72	-	-
MW-2	06/07/10	5.6	0.99 J	<2	<6	48.98	-	-
MW-2	09/24/10					49.11	-	-
MW-2	11/02/10					49.17	-	-
MW-2	02/07/11					49.33	-	-
MW-2	05/10/11	5.3	1.2	0.046 J	J2.3	49.45	-	-
MW-2	09/23/11					49.72	-	-
MW-2	11/01/11					49.77	-	-
MW-2	02/21/12					49.91	-	-
MW-2	05/14/12	7.2	1.4	0.56 J	2.7 J	50.00	-	-
MW-2	06/09/13	1.8	<0.30	<0.20	<0.23	50.38	-	-
MW-2	09/09/13	1.7	< 0.30	<0.20	<0.23	50.56	-	-
MW-2	12/12/13	1.5 J	<0.38	<0.20	0.80 J	50.56	-	-
MW-2	04/02/14	540	36	230	1500	50.59	-	-
MW-2	10/23/14	0.74 J	<0.70	< 0.50	<1.6	50.73	-	-

Location Date (µg/L) (
Location Date Lipy Lip	IAPL
NMWQCC Standards: 10 750 750 620 NA NA NA NA NA NA NA NA NA	ness (ft.)
MW-3 03/19/96 3660 5410 436 3730 49.81 - MW-3 12/17/96 3910 8210 530 5020 49.84 - MW-3 03/06/97 6670 12700 759 7020 49.87 49.83 0 MW-3 06/02/01 49.66 49.58 49.91 0 0 MW-3 09/04/02 50.35 49.91 0 0 0 49.66 49.70 0 MW-3 06/03/02 50.62 49.96 0	VA
MW-3	-
MW-3 06/22/01 49.66 49.58 MW-3 09/04/01 49.76 49.70 MW-3 03/04/02 50.35 49.91 MW-3 06/03/02 50.62 49.96 MW-3 09/10/02 50.79 50.12 MW-3 12/12/02 50.95 50.25 MW-3 03/14/03 51.03 50.34 MW-3 06/18/03 51.16 50.45 MW-3 09/16/03 51.30 50.59 MW-3 12/17/03 51.08 50.60 MW-3 03/16/04 51.10 50.68 MW-3 03/16/04 51.10 50.68 MW-3 06/22/04 51.32 50.69 MW-3 09/22/04 51.30 50.69 MW-3 12/21/04 51.30 50.68 MW-3 09/22/04 51.32 50.71 MW-3 09/22/06 51.20 50.76 MW-3 06/23/05 51.20 50.76	-
MW-3 09/04/01 49.76 49.70 6 MW-3 03/04/02 50.35 49.91 6 MW-3 09/10/02 50.62 49.96 6 MW-3 09/10/02 50.95 50.25 6 MW-3 12/12/02 50.95 50.25 6 MW-3 03/14/03 51.03 50.34 6 MW-3 06/18/03 51.16 50.45 6 MW-3 09/16/03 51.30 50.59 6 MW-3 12/17/03 51.08 50.60 6 MW-3 03/16/04 51.10 50.68 6 MW-3 06/22/04 51.22 50.68 6 MW-3 09/22/04 51.30 50.69 6 MW-3 12/21/04 51.32 50.68 6 MW-3 05/22/04 51.32 50.76 6 MW-3 05/23/05 51.85 50.76 6 MW-3 05/20/05	.04
MW-3 03/04/02 50.35 49.91 6 MW-3 06/03/02 50.62 49.96 6 MW-3 12/12/02 50.79 50.12 6 MW-3 12/12/02 50.95 50.25 6 MW-3 03/14/03 51.03 50.34 6 MW-3 06/18/03 51.16 50.45 6 MW-3 09/16/03 51.30 50.59 6 MW-3 12/17/03 51.08 50.60 6 MW-3 03/16/04 51.10 50.68 6 MW-3 03/16/04 51.10 50.68 6 MW-3 09/22/04 51.30 50.69 6 MW-3 09/22/04 51.32 50.71 6 MW-3 12/21/04 51.32 50.71 6 MW-3 09/22/05 51.32 50.76 6 MW-3 09/20/05 51.31 - 6 MW-3 12/14/05 <td< td=""><td>.08</td></td<>	.08
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MW-3 06/23/05 51.20 50.76 MW-3 09/20/05 51.43 - MW-3 12/14/05 51.31 - MW-3 12/15/05 51.32 50.92 6 MW-3 03/27/06 50.92 50.58 6 MW-3 06/07/06 51.01 50.56 6 MW-3 09/25/06 51.27 50.80 6 MW-3 12/07/06 51.07 50.77 6 MW-3 03/28/07 50.99 50.66 6 MW-3 06/18/07 50.99 50.58 6 MW-3 09/17/07 51.15 50.78 6 MW-3 09/17/07 51.08 50.78 6 MW-3 03/10/08 50.90 50.75 6 MW-3 06/17/08 49.98 49.89 6 MW-3 09/10/08 49.58 - - MW-3 06/09/09 6100 8700 627 <td< td=""><td>.61</td></td<>	.61
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MW-3 03/28/07 50.99 50.66 6 MW-3 06/18/07 50.97 50.58 6 MW-3 09/17/07 51.15 50.78 6 MW-3 12/17/07 51.08 50.78 6 MW-3 03/10/08 50.90 50.75 6 MW-3 06/17/08 49.98 49.89 6 MW-3 09/10/08 49.77 - - MW-3 12/02/08 49.58 - - MW-3 03/03/09 49.55 - - MW-3 06/09/09 6100 8700 627 6630 49.39 - MW-3 08/28/09 49.65 - -	.47
MW-3 06/18/07 50.97 50.58 6 MW-3 09/17/07 51.15 50.78 6 MW-3 12/17/07 51.08 50.78 6 MW-3 03/10/08 50.90 50.75 6 MW-3 06/17/08 49.98 49.89 6 MW-3 09/10/08 49.77 - - MW-3 12/02/08 49.58 - - MW-3 03/03/09 49.55 - - MW-3 06/09/09 6100 8700 627 6630 49.39 - MW-3 08/28/09 49.65 - - -	.30
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MW-3 06/17/08 49.98 49.89 6 MW-3 09/10/08 49.77 - MW-3 12/02/08 49.58 - MW-3 03/03/09 49.55 - MW-3 06/09/09 6100 8700 627 6630 49.39 - MW-3 08/28/09 49.65 - -	.30
MW-3 09/10/08 49.77 - MW-3 12/02/08 49.58 - MW-3 03/03/09 49.55 - MW-3 06/09/09 6100 8700 627 6630 49.39 - MW-3 08/28/09 49.65 - -	.15
MW-3 12/02/08 49.58 - MW-3 03/03/09 49.55 - MW-3 06/09/09 6100 8700 627 6630 49.39 - MW-3 08/28/09 49.65 -	.09
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MW-3 06/09/09 6100 8700 627 6630 49.39 - MW-3 08/28/09 49.65 -	-
MW-3 08/28/09 49.65 -	
	-
MW-3 11/04/09 49.63 -	<u>-</u>
	.20
MW-3 09/24/10 50.19 -	<u>.20</u> -
MW-3 11/02/10 50.26 -	-
MW-3 02/07/11 50.40 -	-
MW-3 05/10/11 4180 4990 421 3780 50.46 -	-
MW-3 09/23/11 50.73 -	-
MW-3 11/01/11 50.82 -	_
	.50
	.66
	.87
	.07
	.09
	.11
	.16

				Johnstoi	n Fed #4			
		Benzene	Toluene	Ethylbenzene	Total Xylenes	Depth to	Depth to	LNAPL
Location	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	Water (ft.)	LNAPL (ft.)	Thickness (ft.)
NMWQC	C Standards:	10	750	750	620	NA	NA	NA
MW-4	12/07/06					50.40	-	-
MW-4	03/28/07					50.19	-	-
MW-4	06/19/07	<1	<1	<1	<2	50.21	-	-
MW-4	09/17/07					50.34	-	-
MW-4	12/17/07					49.78	-	-
MW-4	03/10/08					50.30	-	-
MW-4	06/17/08	<1	<1	<1	<2	49.50	-	-
MW-4	09/10/08					49.17	-	-
MW-4	12/02/08					49.00	-	-
MW-4	03/03/09					48.93	-	-
MW-4	06/09/09	<1	0.47 J	<1	0.77 J	48.94	-	-
MW-4	08/28/09					49.04	-	-
MW-4	11/04/09					49.16	-	-
MW-4	02/11/10					49.26	-	-
MW-4	06/07/10	<2	<2	<2	<6	49.45	-	-
MW-4	09/24/10					49.15	-	-
MW-4	11/02/10					49.73	-	-
MW-4	02/07/11					49.86	-	-
MW-4	05/10/11	<1	<1	<1	<3	49.98	-	-
MW-4	09/23/11					50.09	ı	-
MW-4	11/01/11					50.31	ı	-
MW-4	02/21/12					50.46	-	-
MW-4	05/14/12	0.41 J	0.36 J	0.33 J	<1	50.55	-	-
MW-4	06/09/13	<0.14	< 0.30	<0.20	< 0.23	50.93	Ī	-
MW-4	09/09/13	<0.14	< 0.30	<0.20	< 0.23	51.11	-	-
MW-4	12/12/13	<0.20	<0.38	<0.20	< 0.65	51.12	-	-
MW-4	04/02/14	<0.20	<0.38	<0.20	< 0.65	51.14	-	-
MW-4	10/23/14	<0.38	<0.70	< 0.50	<1.6	51.26	-	-

				Johnstoi	n Fed #4			
		Benzene	Toluene	Ethylbenzene	Total Xylenes	Depth to	Depth to	LNAPL
Location	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	Water (ft.)	LNAPL (ft.)	Thickness (ft.)
NMWQC	C Standards:	10	750	750	620	NA	NA	NA
TMW-5	12/07/06					49.83	-	-
TMW-5	03/28/07					49.58	-	-
TMW-5	06/19/07	2730	7.6	680	1160	49.64	-	-
TMW-5	09/17/07					49.77	-	-
TMW-5	12/17/07					50.38	-	-
TMW-5	03/10/08					46.59	-	-
TMW-5	06/17/08	3190	217	651	1220	48.87	-	-
TMW-5	09/10/08					48.56	-	-
TMW-5	12/02/08					48.44	-	-
TMW-5	03/03/09					44.40	-	-
TMW-5	06/09/09	1540	285	568	784	48.38	-	-
TMW-5	08/28/09					DRY	-	-
TMW-5	11/04/09					48.58	-	-
TMW-5	02/11/10					48.67	-	-
TMW-5	06/07/10	1970	207	591	746	48.81	-	-
TMW-5	09/24/10					49.04	-	-
TMW-5	11/02/10					49.12	-	-
TMW-5	02/07/11					49.30	-	-
TMW-5	05/10/11	3730	124	459	221	49.41	-	-
TMW-5	09/23/11					49.70	ī	-
TMW-5	11/01/11					49.71	-	-
TMW-5	02/21/12					49.87	-	-
TMW-5	05/14/12	6180	52.6	614	243	49.96	-	-
TMW-5	06/09/13	6400	210	400	180	50.31	-	-
TMW-5	09/09/13	5600	26	470	100	50.48	-	-
TMW-5	12/12/13	3900	29 J	400	120	50.53	-	-
TMW-5	04/02/14	4900	770	510	630	50.54	-	-
TMW-5	Well abandor	ned DATE						

				Johnstoi	n Fed #4			
		Benzene	Toluene	Ethylbenzene	Total Xylenes	Depth to	Depth to	LNAPL
Location	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	Water (ft.)	LNAPL (ft.)	Thickness (ft.)
NMWQC	C Standards:	10	750	750	620	NA	NA	NA
MW-6	12/12/13					51.13	51.10	0.03
MW-6	04/02/14					51.15	51.12	0.03
MW-6	10/23/14	230	3.3	420	120	51.26	-	-
MW-7	12/12/13	120	110	49 J	490	51.12	-	-
MW-7	04/02/14	3.5	3.6	4	< 0.65	51.13	-	-
MW-7	10/23/14	4.6	< 0.70	2.8	<1.6	51.25	-	-
MW-8	12/12/13					51.94	50.80	1.14
MW-8	04/02/14					51.93	50.81	1.12
MW-8	10/23/14					52.12	50.93	1.19
MW-9	12/12/13	180	310	46	430	51.85	ı	ı
MW-9	04/02/14	230	27	140	810	51.87	ı	•
MW-9	10/23/14	10	1.6	9.4	2.9 J	52.01	ī	ı
MW-10	12/12/13	1200	3500	300	3200	51.79	ı	-
MW-10	04/02/14	4.3	7.0	<0.20	13	51.81	ı	ı
MW-10	10/23/14	93	1.3	87	50	51.94	ı	•
MW-11	12/12/13					52.43	51.60	0.83
MW-11	04/02/14					52.33	51.61	0.72
MW-11	10/23/14					52.59	51.73	0.86
MW-12	12/12/13	<0.14	< 0.30	<0.20	0.39 J	48.13	-	-
MW-12	04/02/14	<0.20	0.54 J	<0.20	< 0.65	48.09	-	-
MW-12	10/23/14	0.71 J	< 0.70	0.59 J	<1.6	48.31	-	-
MW-13	10/23/14	710	2.0	7.8	21	51.62	-	-
MW-14	10/23/14	<0.38	< 0.70	< 0.50	<1.6	51.53	ı	•
MW-15	10/23/14	61	1.0	18	120	51.14	-	•
MW-16	10/23/14	0.93 J	<0.70	< 0.50	3.4 J	50.49	-	-
MW-17	10/23/14	3.0	<0.70	1.5	4.6 J	50.51	-	-
MW-18	10/23/14	6.5	3.2	< 0.50	11	51.28	-	-
MW-19	10/23/14	22	6.0	1.7	20	52.41	-	-
MW-20	10/23/14	28	2.7	2.6	42	51.33	-	-

Notes:

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

[&]quot;J" = Result is less than the reporting limit but greater than or equal to the method detection limit and the result in an approximate value.

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

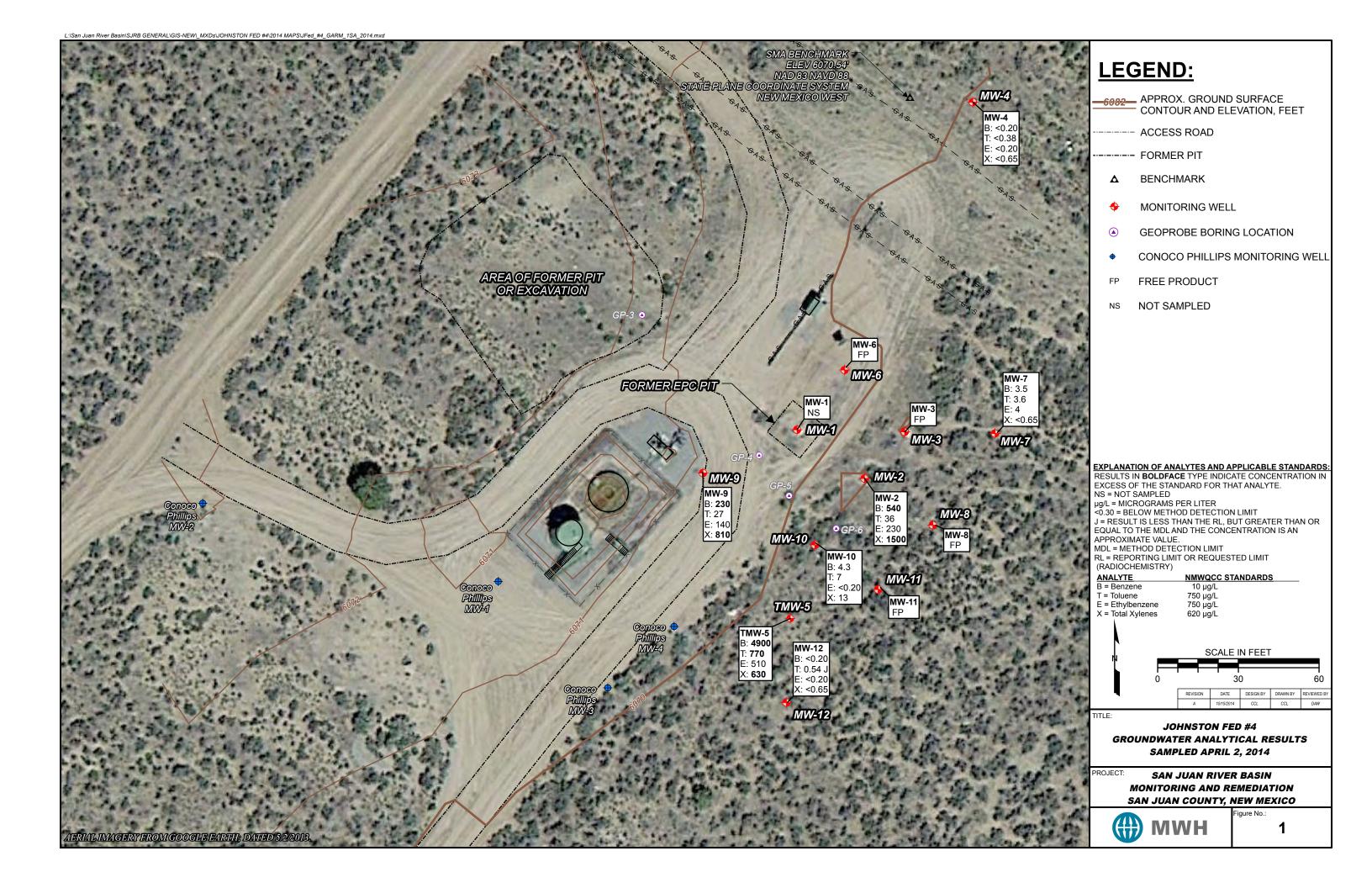
FIGURES

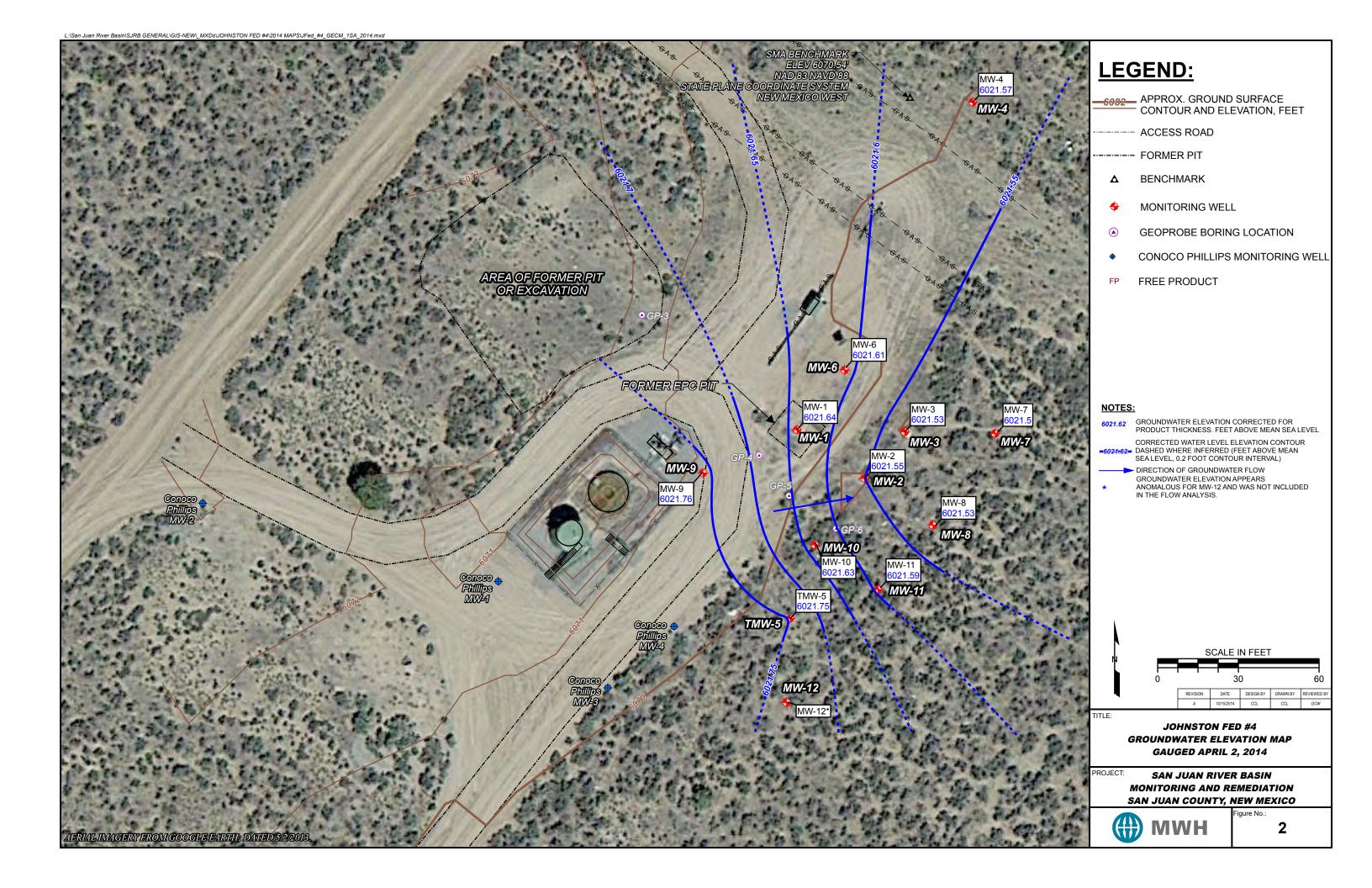
FIGURE 1: APRIL 2, 2014 GROUNDWATER ANALYTICAL RESULTS MAP

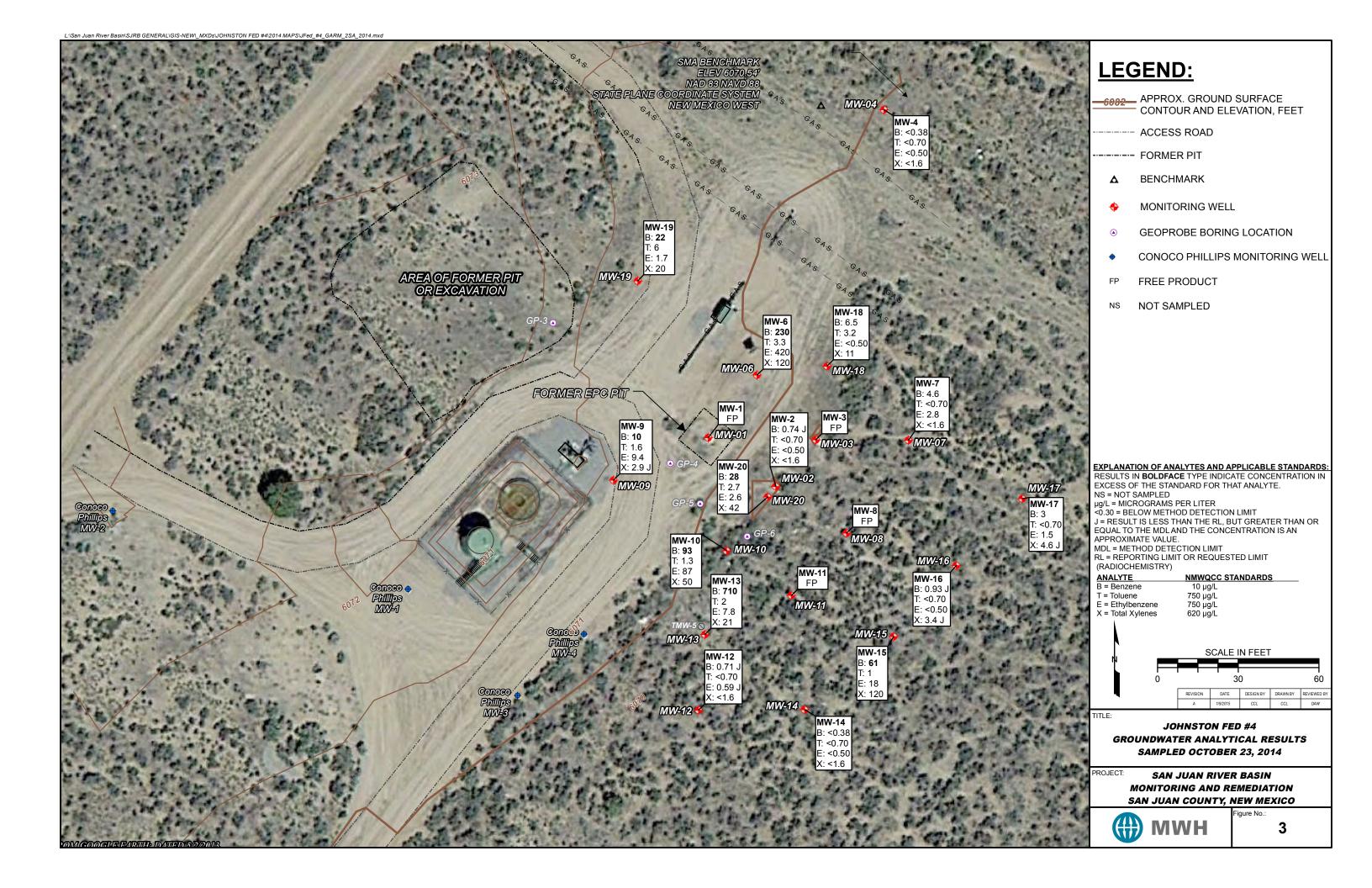
FIGURE 2: APRIL 2, 2014 GROUNDWATER ELEVATION MAP

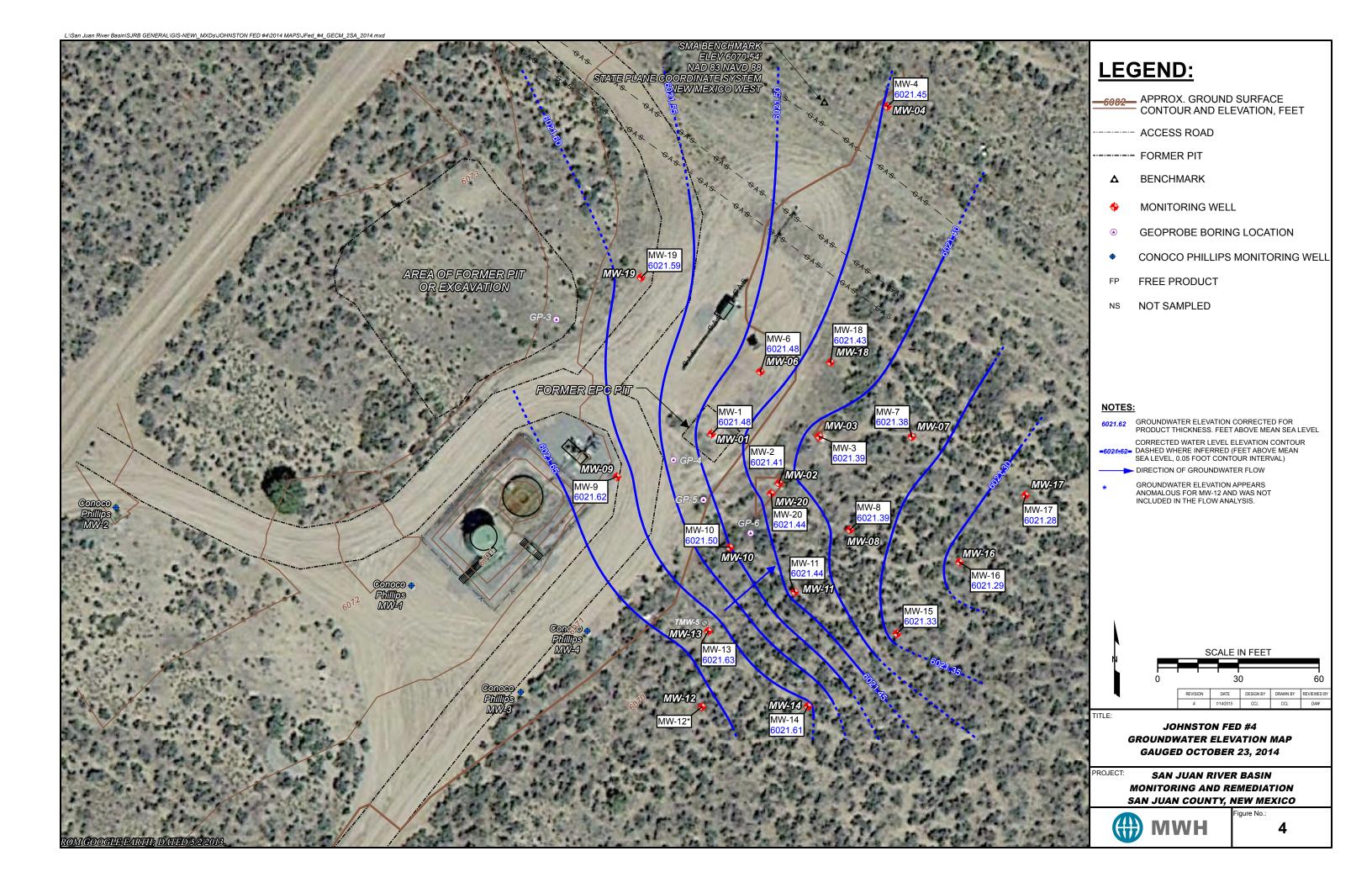
FIGURE 3: OCTOBER 23, 2014 GROUNDWATER ANALYTICAL RESULTS MAP

FIGURE 4: OCTOBER 23, 2014 GROUNDWATER ELEVATION MAP







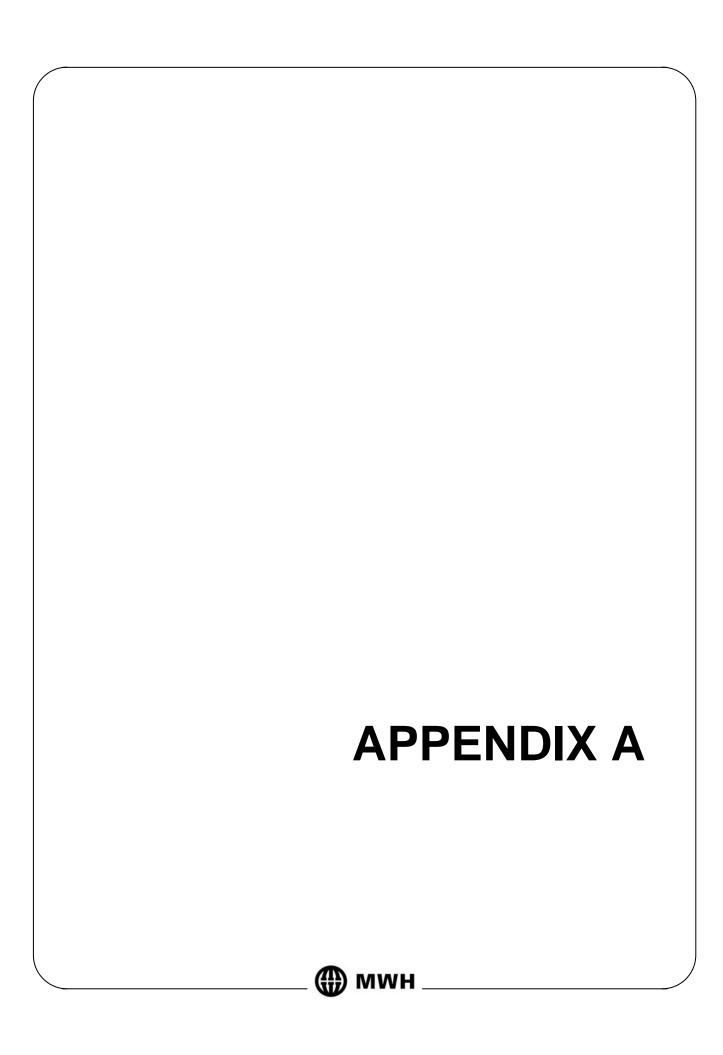


APPENDICES

APPENDIX A - BOREHOLE AND WELL CONSTRUCTION LOGS

APPENDIX B - AUGUST SOIL SAMPLING ANALYTICAL REPORT

APPENDIX C - APRIL 2, 2014 GROUNDWATER SAMPLING ANALYTICAL REPORT OCTOBER 23, 2014 GROUNDWATER SAMPLING ANALYTICAL REPORT





		.				Drilling Log	ΞIN	ΙΛΙ
W		IV	IV	Vŀ	1	Monitoring Well MW-13 Page: 1 of 2	TIIN	<i> </i>
Project _	Johnsto	n Fed	#4			Owner <u>EPCGPC</u> COMMENTS		
ocation	San J	uan Co	ounty, I	New Mex		Project Number <u>10504833.010901</u>		
Surface E	lev6	070.09	oft	North _	21332	88.47 East <u>2740972.152</u> 08/10/14		
op of Ca						nitial <u>⊻</u> Static <u>▼ 6021.84 00:00</u>		
lole Dept				creen: Di asing: Di		r <u>2 in</u> Length <u>30.0 ft</u> Type/Size <u>PVC/0.01 in</u> r <u>2 in</u> Length <u>37.5 ft</u> Type PVC		
Orill Co.	_			-		ing Method Hollow Stem Auger Sand Pack 10-20		
Oriller _M	att Cair	n/Brya	n Nydo	ske Drille	er Reg	# WD-1210 Log By Brad Barton		
Start Date						etion Date 8/10/2014 Checked By Chris Hiatt		
Ber	tonite G	rout 🛭	₩ В	entonite G	ranules	Grout Portland Cement Sand Pack Sand Pack		
도	(1	very	ount ery	je	ဟ	Description		tion
Depth (ft)	PID (mdd)	Recovery	Blow Count Recovery	Graphic Log	nscs	(Color, Moisture, Texture, Structure, Odor)	Well	Completion
		1%	용소			Geologic Descriptions are Based on the USCS.		ပိ
							l —	
								7
0 —				Ĭ.		Silt, sandy, brown, loose/soft, dry, trace organics (rootlets), no	M	K
-	0.0				ML	hydrocarbon odor, top 5' hand-augered	X	
-	0.0	100%	0	3	IVIL			
5 —			2			Sand, silty, weakly consolidated/cemented, dry, very fine-grained, no		
-	0.0					hydrocarbon odor, yellowish-brown (10YR 5/4)		
_		76%	/	$\langle \cdot \cdot \cdot \cdot \rangle$	SM			
-	0.0		<u> </u>	V- - - -		No recovery		
10 —				/::::::::::::::::::::::::::::::::::::::		Sand, well-graded, trace coarse sand, yellowish-brown, loose, dry, fine to		
_	0.0		<u> </u>	(:::::::::::::::::::::::::::::::::::::	SW	medium-grained, very weak cementation, angular to subangular, no hydrocarbon odor		
=	0.0	58%		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		No recovery		
15 —	0.0							
-	0.0		\setminus		SW	Sand, well-graded, trace coarse sand, yellowish-brown, loose, dry, fine to medium-grained, trace gravel up to 1/2" at 15', very weak cementation,		
_		62%	/	√	SVV	angular to subangular sand, no hydrocarbon odor		
_	0.0	0270				No recovery		
20 —				/:•:•:•		Sand, well-graded, trace coarse sand, yellowish-brown, loose, dry, fine to		
_	0.0			(SW	medium-grained, very weak cementation, angular to subangular, no hydrocarbon odor, at ~23.1', fine to trace medium sand; weakly		
-		62%		V:		consolidated/cemented, no hydrocarbon odor		
25 —	0.0					No recovery		
25 -	0.0					Sand, well-graded, trace coarse sand, yellowish-brown, loose, dry, fine to medium-grained, very weak cementation, angular to subangular, no		
-	0.0	700/	X		SW	hydrocarbon odor		
_	0.0	72%		V		No recovery		
30 —			-	(//////		Clay with silt, brown to dark brown, medium stiff to stiff, dry to slightly		8
-	0.0		\ 			moist, increasing moisture at 32.5', low to medium plasticity, no dilatency,		
=		92%	X		CL	slight hydrocarbon odor at 32.5'		XX
-	40.6					 		
35 —	00.0					No recovery		∄:
_	23.6	98%	X		CL	slightly moist	ľŧ	
_			V	<i>Y///////</i>		Continued Next Page	j: E	⊒:
						Comment room ago	<u> </u>	



Monitoring Well

MW-13 FINAL

Page: 2 of 2

Project Johnston Fed #4 Owner EPCGPC Location San Juan County, New Mexico Project Number 10504833.010901 Well Completion Recovery Blow Count Recovery Graphic Log uscs Depth (ft) PID (bbm) Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS. Continued Sand, clayey, light olive-gray, medium stiff, slightly moist, medium to SC fine-grained, low plasticity, mottled/gleyed, slight hydrocarbon odor 98% 40 No recovery Sand, clayey, light olive-gray, medium stiff, slightly moist, medium to 118 SC fine-grained, low plasticity, mottled/gleyed, slight hydrocarbon odor 74% Sand, silty, brown, loose, moist, fine to medium-grained, weakly SM 174 cemented, moderate hydrocarbon odor 45 No recovery MW CH Sand, well-graded, brown, loose, moist, gley 2 5/1, no hydrocarbon odor 8.7 13 50 Clay, greenish-gray, soft to medium stiff, slightly moist, high plasticity, no 52 hydrocarbon odor 100% SM 6.7 Sand, silty, dark vellowish-brown, drilling becomes hard from 50-55', dry to slightly moist, fine-grained, strongly cemented, micaceous, no 50 hydrocarbon odor SM 1543 Black-stained lens with a strong hydrocarbon odor, charcoal stained, grades to a poorly graded sand below 100% Poorly-graded sand to sandstone/siltstone, light brown to light gray, 27.4 greenish-gray (GLY2 6/1) at 60', medium hard to hard, dry, water entering hole at about 60', strongly consolidated, slight hydrocarbon odor, poor 55 recovery at 60', driller added water SP 0.5 100% 1.0 60 0.2 No recovery 26% 0.1 65 Poorly-graded sand to sandstone/siltstone, light brown to light gray, SP 100% medium hard to hard, dry, wet, strongly consolidated Well set at 65' Hole depth = 66' 70 75 Drilling Log JOHNSTON FED #4.GPJ MWH IA.GDT 11/29/14 80 85



Monitoring Well

FINAL

ng Well **MW-1**4

Start Date	San J. Elev. 6 asing th 65. meter Nation Matt Cair	uan Co 6069.93 6073.1 4ft 8.25 in al EWI n/Brya 014	ounty, I 3 ft 4 ft — So — Ca P	North Water creen: asing:	21332 Level Ir Diamete Diamete Drill Iller Reg	static <u>V</u> 6021.72 00:00 00:0	эа
Depth (ft)	OIA (mdd)	% Recovery	Blow Count Recovery	Graphic	SOSN	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well
- 0 0 10 10 -	0.0	100%		¥	ML SM	Silt, sandy, loose, dry, no hydrocarbon odor, top 5' hand-augered Sand, silty, yellowish-brown (10YR 5/4), loose to medium dense, very fine-grained, grain size increases at 10' from fine to medium, angular to subangular, weakly cemented, non-plastic, no hydrocarbon odor No recovery Sand, silty, yellowish-brown (10YR 5/4), loose to medium dense, very fine-grained, grain size increases at 10' from fine to medium, angular to subangular, weakly cemented, non-plastic, no hydrocarbon odor	
- 15 - - 15 -	0.0	66% 52%			SP	No recovery Sand, poorly-graded, yellowish-brown (10YR 5/4), loose, dry, 60-70% medium sand, trace coarse sand, none to weak cementation, angular to subangular No recovery	
- 20 -	0.0	52%		/ \	SP	Sand, poorly-graded, yellowish-brown (10YR 5/4), loose, dry, 60-70% medium sand, trace coarse sand, none to weak cementation, angular to subangular No recovery	-
Drilling Log JOHNSTON FED #4.GPJ MWH IA.GDT 11/29/14	0.0	62%			SW	Sand, well-graded, ~40% medium, ~45% fine, ~15% coarse-grained No recovery	-
Drilling Log JOHNSTON F	0.0	60%			SW	Sand, well-graded, ~40% medium, ~45% fine, ~15% coarse-grained No recovery Continued Next Page	



Monitoring Well

MW-14 FINAL

Page: 2 of 2

Project Johnston Fed #4 Owner EPCGPC Location San Juan County, New Mexico Project Number 10504833.010901 Well Completion Recovery Blow Count Recovery Graphic Log uscs Depth (ft) PID (ppm) Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS. Continued 35 Clay, with silt, dark yellowish-brown (10YR 4/4), medium stiff to stiff, slightly moist to moist, increasing moisture content at 39', trace coarse 0.0 <u>MW-</u> 14 38 angular sand, medium to high plasticity, no dilatency, mottled from 36 to CL 37', no hydrocarbon odor 88% 0.0 No recovery 40 Silt, sandy, at 44' color changes to light yellowish-brown (2.5Y 6/4), slightly 0.0 moist, 10-15% medium sand, strongly cemented at 44', well-consolidated, ML low plasticity, mottled with light greenish-gray gley (7/5 GY), no 80% hydrocarbon odor 0.0 No recovery 45 Silt, sandy, light yellowish-brown (2.5Y 6/4), slightly moist, 10-15% medium sand, strongly cemented, hard drilling from 45-46', low plasticity, ML 0.0 mottled with light greenish-gray gley (7/5 GY), no hydrocarbon odor Sand, silty, greenish-gray (Gley 5/1), driller cites very hard drilling 50-55', 100% very strongly consolidated/cemented, micaceous 0.0 50 SM 0.0 100% 0.0 Sand to sandstone, silty, very dense to very strong, platy SM 0.0 100% 55 Sandstone, with silt, very strong, dry, fine sand, strongly cemented, no hydrocarbon odor 0.0 100% 0.0 60 No recovery 0% 65 Well set at 65.4' Hole depth = 65.4' Drilling Log JOHNSTON FED #4.GPJ MWH IA.GDT 11/29/14 70 75



Drilling Log JOHNSTON FED #4.GPJ MWH IA.GDT 11/29/14

Drilling Log

Monitoring Well

FINAL

Nell **MW-15**

Page: 1 of 2 **COMMENTS** Project Johnston Fed #4 Owner EPCGPC Sage brush in well area Project Number 10504833.010901 Location San Juan County, New Mexico Surface Elev. 6069.50 ft North 2133287.837 East 2741041.797 Top of Casing <u>6072.47 ft</u> Water Level Initial $\sqrt{ }$ 6022.47 Static **▼** 6021.37 00:00 Hole Depth 66.0ft _ Screen: Diameter 2 in Length 30.0 ft _ Type/Size PVC/0.01 in Hole Diameter 8.25 in Casing: Diameter 2 in Length 37.5 ft __ Type PVC Drill Co. National EWP Drilling Method Hollow-Stem Auger Sand Pack 10-20 Log By Brad Barton Driller Matt Cain/Bryan Nydoske Driller Reg. # WD-1210 Checked By Chris Hiatt Start Date 8/6/2014 Completion Date 8/9/2014 Bentonite Grout Bentonite Granules Grout Portland Cement Sand Pack Sand Pack Well Completion Recovery Description Graphic Log uscs Depth (ft) PID (bbm) (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS. 0 Silt, sandy, loose/soft, dry, fine-grained sand, minor organics (rootlets), no ALIGER ALIGER hydrocarbon odor, top 5' hand-augered 0.0 ML 100% 0.0 5 Sand, silty, fine-grained sand, yellowish-brown (10YR 5/4), loose, dry, weakly cemented, non-plastic, no hydrocarbon odor, 0.0 No recovery 40% 0.0 10 Sand, silty, fine-grained sand, yellowish-brown (10YR 5/4), loose, dry, SM weakly cemented, non-plastic, no hydrocarbon odor, 0.0 No recovery 26% 0.0 15 Sand, poorly-graded, yellowish-brown (10YR 5/4), loose, dry, 50-60% SP medium-grained sand, no cementation, angular to subangular, no 0.0 hydrocarbon odor No recovery 40% 0.0 20 Sand, poorly-graded, yellowish-brown (10YR 5/4), loose, dry, 50-60% SP medium-grained sand, no cementation, angular to subangular, no 0.0 hydrocarbon odor No recovery 42% 0.0 25 Sand, poorly-graded, yellowish-brown (10YR 5/4), loose, dry, 50-60% SP medium-grained sand, minor coarse-grained sand below 25', no 0.0 cementation, angular to subangular, no hydrocarbon odor No recovery 46% 0.0 30 Sand, poorly-graded, yellowish-brown (10YR 5/4), loose, dry, 50-60% medium-grained sand, minor coarse-grained sand, angular to subangular, SP 0.0 no hydrocarbon odor 50% No recovery 0.0

Continued Next Page



Monitoring Well

W-15 FINAL

Page: 2 of 2

 Project
 Johnston Fed #4
 Owner
 EPCGPC

 Location
 San Juan County, New Mexico
 Project Number
 10504833.010901

Depth (ft)	DID (mdd)	% Recovery	Blow Count Recovery	Graphic Log	nscs	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well
						Continued	+
- - 35 —							
- 33	6.6	92%			CL	Clay, with silt, dark yellowish-brown (10YR 4/4), at 38' dark grayish-brown (2.5Y 4/2) with gley mottling at 39', medium stiff to stiff, dry to slightly moist, medium plasticity, no dilatency, hydrocarbon odor present below 35'	
- 40 — - -	1.7	72%			SM	No recovery Sand, silty, light olive-brown, slightly moist to moist, increasing moisture with depth, medium-grained sand with trace coarse grains, weakly cemented, angular to subangular, slight hydrocarbon odor	
	29.5			Vojaličniko.		No recovery	
- 45				ie ukanse		Li	-
<u>_</u>	1391	<u>MW-</u> 15 48- 50 54%			SM	Sand, silty, light olive-brown, slightly moist to moist, increasing moisture with depth, medium-grained sand with trace coarse grains, weakly cemented, angular to subangular, slight hydrocarbon odor, drill cuttings from 45-50' have hydrocarbon odor No recovery	
=	2083						
- 50 — - - -	10.3	100%				Sand, poorly-graded, color changes from light bluish to gray (gley 2 7/1) to yellowish-brown (10YR 5/6), dry to slightly moist, 50-60% medium-grained sand, angular to subangular, weakly to strongly cemented, slight hydrocarbon odor	
-	9.7		<i>ا</i> ا				
- 55					SP		
=	10.8	100%					
-	5.7		/\				
- 60 — - -	155					Sand, well-graded, yellowish-brown (10YR 5/4), loose, ~5-10% coarse-grained, ~50-60% medium-grained, ~30-45% fine-grained sand, trace gravel to 1/2", angular to subangular, weakly cemented but strong at	
-		100%	l IA		SW	66', none to slight hydrocarbon odor at 66'	
_	9.7		/\				
65 —	1.0	100%				Well set at 65'	
- - -		. 20,0	_			Hole depth = 66'	
- 70 —							
-							
-							
-							
-							
- 75 — -							
-							
-							



I		N/	11/	V/L	_	Drilling Log	FIN	Α
W		IV	IV	VF	1	Monitoring Well MW-16 Page: 1 of 2		
Project _	Johnsto	on Fed	#4			Owner EPCGPC COMMENTS Sage brush in well a	rea	_
ocation						Project Number <u>10504833.010901</u>	, cu	
Surface E op of Ca	lev. <u> </u>	6068.83 6071.7	8 ft 8 ft	North _2 Water L	21333 [.] evel Ir	14.191 East 2741065.249 08/09/14 O0:00 Static 2741065.249 08/09/14 O0:00		
lole Dept						r <u>2 in</u> Length <u>30.0 ft</u> Type/Size <i>PVC/0.01 in</i>		
lole Dian			Ca		amete	r <u>2 in</u> Length <u>37.5 ft</u> Type <u>PVC</u>		
Orill Co. Oriller M				ske Drille		ing Method <u>Hollow-Stem Auger</u> Sand Pack <u>10-20</u> .# <i>WD-1210</i> Log By <i>Brad Barton</i>		
Start Date			, , , , , , , , , , , , , , , , , , ,			etion Date 8/9/2014 Checked By Chris Hiatt		
Ber	ntonite G	Frout 🛭	∭ Ве	entonite G	ranules	Grout Portland Cement Sand Pack Sand Pack		_
Depth (ft)	OIA (mdd)	% Recovery	Blow Count Recovery	Graphic Log	nscs	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well	Completion
						<u> </u>	 -	_
- 0 -	0.0		ŭ,			Silt, sandy, loose, dry, no cementation, non-plastic, trace organics (rootlets), no hydrocarbon odor, top 5' hand-augered		_
-	0.0		ALIGER		ML	(recitete), ne nyarodaroan eden, top e mand dagered		
-	0.0	100%	A L		IVIL			
5 -					SM	Sand, silty, yellowish-brown (10YR 5/4), loose, dry, fine-grained, weakly		
-	0.1		\triangle		Olvi	cemented, no hydrocarbon odor No recovery	_	
-	0.1	40%				Notecovery		
- 10 —			X		SM	Sand, silty, yellowish-brown (10YR 5/4), loose, dry, fine-grained, weakly cemented, no hydrocarbon odor		
-	0.0					No recovery		
=	0.1	30%						
- - 15 –	0					Cond. poorly graded vellowish brown (40VD 5/4) leage day 60 709/		
-	0.0		X		SP	Sand, poorly-graded, yellowish-brown (10YR 5/4), loose, dry, 60-70% medium grained sand, angular to subangular, trace coarse sand, grain		
-		42%		(a, ka de jaša, i		size increases with depth, no cementation No recovery		
-	0.1							
20 -			\bigvee		SP	Sand, poorly-graded, yellowish-brown (10YR 5/4), loose, dry, 60-70%		
-	0.2				<u> </u>	medium grained sand, angular to subangular, trace coarse sand, grain size increases with depth, trace gravel at 20', no cementation		
=	0.1	36%				No recovery		
- - 25	0.1							
	0.1		X		SP	Sand, poorly-graded, yellowish-brown (10YR 5/4), loose, dry, 60-70% medium grained sand, angular to subangular, trace coarse sand, grain size increases with depth, no cementation	VOO.	
-		44%				No recovery		
20	0.1							
- 30 — - -	0.1	50%	X		SP	Sand, poorly-graded, yellowish-brown (10YR 5/4), loose, dry, 60-70% medium grained sand, angular to subangular, trace coarse sand, grain size increases with depth, no cementation		
-	0.0	JU%				No recovery		
_	0.2		ı			Continued Next Page	[]	



Monitoring Well

MW-16 FINAL

Page: 2 of 2

Project Johnston Fed #4 Owner EPCGPC Location San Juan County, New Mexico Project Number 10504833.010901 Well Completion Recovery Blow Count Recovery Graphic Log uscs Depth (ft) PID (bbm) Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS. Continued 35 Clay, with silt, brown (10YR 4/4), medium stiff, dry to slightly moist, trace fine sand, medium plasticity, no dilatency, slight hydrocarbon odor 73 9 CL 92% 213 40 No recovery Clay, with silt, brown (10YR 4/4), medium stiff, dry to slightly moist, trace CL 215 fine sand, medium plasticity, no dilatency, slight hydrocarbon odor Sand, silty, olive-brown (2.5Y 5/3), slightly moist, fine-grained, minor clay 78% SM (5-10%), low plasticity, strong hydrocarbon odor 665 No recovery 45 Sand, silty, olive-brown (2.5Y 5/3), slightly moist, fine-grained, minor clay (5-10%), low plasticity, strong hydrocarbon odor 1836 SM MW-16 48 CH Clay, water entering hole at ~49', trace fine sand, high plasticity, 1984 hydrocarbon-stained black, strong hydrocarbon odor No recovery 50 Sand, well-graded, loose, wet, coarse to medium-grained, trace silt/clay, 2.0 no cementation, driller adding water from 50-65' due to locking sand, no SW hydrocarbon odor 64% No recovery 1.9 55 Sand, well-graded, loose, wet, trace gravel, no hydrocarbon odor SW 0.6 SP Sand, poorly-graded, silty, moist, weakly cemented, no hydrocarbon odor 71% SM 8.0 No recovery Sand, poorly-graded, silty, moist, weakly cemented, no hydrocarbon odor 1.2 SM 73% 60 No recovery SP Sand, poorly-graded, silty, driller cites hard drilling 60-65', moist, weakly 0.3 cemented, no hydrocarbon odor Sand to sandstone, well-graded, yellowish-brown, slightly moist, medium 100% to coarse-grained, trace gravel, subrounded to subangular, strongly 0.3 cemented, no hydrocarbon odor SW 65 0.2 Well set at 65' 100% Hole depth = 66' Drilling Log JOHNSTON FED #4.GPJ MWH IA.GDT 11/29/14 70 75



		n /				Drilling Log	FINA
(iii		IV	IV	VF	1	Monitoring Well MW-17 Page: 1 of 2	IIIVA
Project	Johnsto	on Fed	#4			Owner EPCGPC COMMENTS	
Location	San J	uan Co	ounty, N			Project Number	
Surface E							
						$\frac{1111a1}{2} \frac{5023.79}{6020} \frac{00:00}{1111a1} \frac{1}{2} \frac{6022.64}{6022.64} \frac{00:00}{1111a1}$	
tole Depi	neter	.Uπ 8 25 in	Sc	reen: Di	amete amete	r <u>2 in</u> Length <u>30.0 ft</u> Type/Size <u>PVC/0.01 in</u> r <u>2 in</u> Length <u>37.5 ft</u> Type PVC	
Orill Co.						ing Method Hollow-Stem Auger Sand Pack 10-20	
riller _ <i>N</i>	latt Cai	n/Bryar			•	# <u>WD-1210 Log By</u> <u>Brad Barton</u>	
Start Date						etion Date 8/12/2014 Checked By Chris Hiatt	
Ber	ntonite G	Frout 🖔	<u></u> В€	entonite G	ranules	Grout Portland Cement Sand Pack Sand Pack	
£	o (c	Recovery	Blow Count Recovery	hic J	က္	Description	Well Completion
Depth (ff)	PID (mdd)	Reco	ow C	Graphic Log	nscs	(Color, Moisture, Texture, Structure, Odor)	Wel
		%	<u> </u>			Geologic Descriptions are Based on the USCS.	ŏ
- 0 -			2			Silt, sandy, yellowish-brown (10YR 5/4), dry, very fine-grained sand,	
_	0.0		ALIGER			weakly cemented, trace organics (rootlets), no hydrocarbon odor, top 5' hand-augered	
-		100%	ZER A		ML	-	
	0.0		2				
5 -						Sand, silty, yellowish-brown (10YR 5/4), loose, dry, fine to	
_	0.6		l X		SM	medium-grained, none to weak cementation	
-	0.2	58%				No recovery	_
- 10 –	0.2						
10 -	0.0		\ <i>\</i> /			Sand, silty, yellowish-brown (10YR 5/4), loose, dry, fine to medium-grained, none to weak cementation	
-	0.0				SM		
-	0.0	82%	/\				
- - 15	0.0					No recovery	
-	0.0				SW	Sand, well-graded, yellowish-brown (10YR 5/4), loose, dry, medium to coarse-grained, subangular to angular, none to weak cementation, no	
-	0.0	4001	<u> </u>			hydrocarbon odor	
-	0.0	46%				No recovery	
20 -						Sand, well-graded, yellowish-brown (10YR 5/4), loose, dry, medium to	
-	0.0		X		SW	coarse-grained, subangular to angular, none to weak cementation, no	
=		46%		· ` · ` · ° · ° · ° · ° · ° · ° · ° · °		hydrocarbon odor No recovery	
-	0.1	-/•					
25 -						Sand, well-graded, yellowish-brown (10YR 5/4), loose, dry to slightly moist	
-	0.1		}		SW	at 26', medium to coarse-grained, trace gravel to 1" at 27', subangular to angular sand, none to weak cementation, no hydrocarbon odor	
-		58%					
-	0.1					No recovery	
30 —						Sand, well-graded, yellowish-brown (10YR 5/4), loose, slightly moist,	-
-	0.0		}		SW	medium to coarse-grained, trace gravel to 2" at 32.5', subangular to angular sand, none to weak cementation, no hydrocarbon odor	
-		56%				No recovery	
-	0.0					1.0.1001019	
- 35 —			L			Continued Next Page	



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Drilling Log

Monitoring Well

FINAL MW-17

Page: 2 of 2 Project Johnston Fed #4 Owner EPCGPC Location San Juan County, New Mexico Project Number 10504833.010901 Well Completion Recovery Blow Count Recovery Graphic Log uscs Depth (ft) PID (bbm) Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS. Continued 35 Clay, with silt, brown (10YR 4/3), medium stiff, dry to slightly moist, medium to high plasticity, no dilatency, no hydrocarbon odor 0.0 CL CH 94% 0.0 40 No recovery Clay, balled cuttings, dark gray (5Y 4/1), olive-gray (5Y 4/2) at 42', soft to 2.8 medium stiff, slightly moist to moist, high plasticity, sand and black CH staining present at 42', slight hydrocarbon odor 66% MW-11.3 No recovery 17 46 **4**5 Clay, with sand, olive-gray (5Y 4/4) mottled with gleying, soft to medium stiff, moist to very moist, wet at 48', strong hydrocarbon odor, black 1549 CL staining present at 48' 68% 36.3 No recovery 50 Sand, poorly-graded, olive-gray, loose, wet, fine to medium-grained, no cementation, very slight hydrocarbon odor 6.1 SP 68% SW Sand, well-graded, yellowish-brown, loose, wet, angular to subangular, 5.4 iron oxide stained, no hydrocarbon odor No recovery 55 Sand, well-graded, yellowish-brown, loose, wet, angular to subangular, iron oxide stained, no hydrocarbon odor SW 1.2 No recovery 40% 0.2 60 Sand, well-graded, yellowish-brown, at 61' color changes to SW olive/bluish-gray, loose, wet, gravel to 2" at 60', cobbles, angular to 0.1 subangular sand, iron oxide stained, no hydrocarbon odor No recovery 42% 0.1 65 Sand, well-graded, yellowish-brown, loose, wet, gravel/cobbles, angular to 0.0 SW 100% subangular sand, iron oxide stained, no hydrocarbon odor Well set at 65' Hole depth = 66' JOHNSTON FED #4.GPJ MWH IA.GDT 11/29/14 70 75



Project Johnston Fed #4 Owner EPCGPC Owner EPCGPC Project Johnston Fed #4 Owner EPCGPC Owner EPCGPC Owner EPCGPC Project Johnston Fed #4 Owner EPCGPC Owner Ep							Drilling Log	FII	VΔ
COMMENTS Project Johnston Fed #4 Owner EPCGPC Project Name of 10504933 0109071 Project Casing 6072.71 ft Water Level Initially 6022.21 Sept. 14 Static V 6021.49 Sept. 14 Static V 6021.49 Sept. 15	W.		IV	IV	VF	1			N/\
ole Diameter 8.25 in Casing: Diameter 2 in Length 37.0 ft Type PVC Illi Co. National EVP Drilling Method Hollow Stem Auger Sand Pack 10-20 Illi Co. National EVP Drilling Method Hollow Stem Auger Sand Pack 10-20 Inlier Matt Caurityan Nydrosk Politer Reg. # WD-1210 Log By Bad Barton Completion Date 8/11/2014 Checked By Chris Hiert Bentonite Grout Sign Bentonite Granules Completion Date 8/11/2014 Checked By Chris Hiert Bentonite Grout Sign Bentonite Granules Completion Date 8/11/2014 Checked By Chris Hiert Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS. Silt, sandy, light vellowish-brown (10YR 5/4), loose, dry, very fine-grained sand, no hydrocarbon odor, top 5' hand-augered No recovery No recovery No recovery Sand, silty, yellowish-brown (10YR 5/4), loose, dry, fine-grained, very weakly cemented, non-plastic, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation to weakly cemented at 35', no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation to weakly cemented at 35', no hydrocarbon odor	ocation urface El	San Ju	uan Co 6069.70	ounty, N	<i>lew Mex</i> North	ico 213338	Owner <u>EPCGPC</u> Project Number <u>10504833.010901</u> 88.01 East 2741017.678		
Silt, sandy, light yellowish-brown (10YR 5/4), loose, dry, very fine-grained sand, no hydrocarbon odor, top 5' hand-augered Sand, silty, yellowish-brown (10YR 5/4), loose, dry, fine-grained, very weakly cemented, non-plastic, no hydrocarbon odor No recovery Sand, silty, yellowish-brown (10YR 5/4), loose, dry, fine-grained, very weakly cemented, non-plastic, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry, fine-grained, very weakly cemented, non-plastic, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", at 27.5' fines content increases, no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", at 27.5' fines content increases, no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation to weakly cemented at 35', no hydrocarbon odor No recovery	ole Diam rill Co riller _ <u>M</u> tart Date	National Nat	3.25 in al EWF n/Bryar 014	Ca n Nydos	asing: Dia	amete Drilli r Reg. Comple	r 2 in Length 37.0 ft Type PVC rg Method Hollow Stem Auger Sand Pack 10-20 # WD-1210 Log By Brad Barton etion Date 8/11/2014 Checked By Chris Hiatt		
Sand, no hydrocarbon odor, top 5' hand-augered Sand, silty, yellowish-brown (10YR 5/4), loose, dry, fine-grained, very weakly cemented, non-plastic, no hydrocarbon odor No recovery	Depth (ft)	OIA (mdd)		Blow Count Recovery	Graphic Log	nscs	(Color, Moisture, Texture, Structure, Odor)	:	Well
Sand, silty, yellowish-brown (10YR 5/4), loose, dry, fine-grained, very weakly cemented, non-plastic, no hydrocarbon odor No recovery Sand, silty, yellowish-brown (10YR 5/4), loose, dry, fine-grained, very weakly cemented, non-plastic, no hydrocarbon odor No recovery Sand, silty, yellowish-brown (10YR 5/4), loose, dry, fine-grained, very weakly cemented, non-plastic, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", at 27.5' fines content increases, no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation to weakly cemented at 35', no hydrocarbon odor No recovery	0 —		100%	Ω		ML	Silt, sandy, light yellowish-brown (10YR 5/4), loose, dry, very fine-grained sand, no hydrocarbon odor, top 5' hand-augered	•	
Sand, silty, yellowish-brown (10YR 5/4), loose, dry, fine-grained, very weakly cemented, non-plastic, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", at 27.5' fines content increases, no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation to weakly cemented at 35', no hydrocarbon odor No recovery	5 -	0.0	56%	\ \ \ \ \		SM	weakly cemented, non-plastic, no hydrocarbon odor	_	
Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation, no hydrocarbon odor Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", at 27.5' fines content increases, no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation to weakly cemented at 35', no hydrocarbon odor No recovery	10 -	0.0	60%	<u> </u>		SM	Sand, silty, yellowish-brown (10YR 5/4), loose, dry, fine-grained, very weakly cemented, non-plastic, no hydrocarbon odor	_	
Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", at 27.5' fines content increases, no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation to weakly cemented at 35', no hydrocarbon odor No recovery	15 —	0.0	56%	X		SW	Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation, no hydrocarbon odor	_	
Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", at 27.5' fines content increases, no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation, no hydrocarbon odor Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation to weakly cemented at 35', no hydrocarbon odor No recovery No recovery	20 -		54%	X	• • • • • • • • • • • • • • • • • • • •	SW	Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation, no hydrocarbon odor	_	
Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation, no hydrocarbon odor No recovery Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation to weakly cemented at 35', no hydrocarbon odor No recovery No recovery	25 — - - -		62%			SW	Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", at 27.5' fines content increases, no cementation, no hydrocarbon odor		
Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation to weakly cemented at 35', no hydrocarbon odor No recovery	30 -		64%			SW	Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation, no hydrocarbon odor		
No recovery	- 35 — - -			X		SW	Sand, well-graded, yellowish-brown, loose, dry to slightly moist, trace gravel to 1", no cementation to weakly cemented at 35', no hydrocarbon		
	- - 40 —	0.0	58%				No recovery Continued Next Page		



Monitoring Well

MW-18 FINAL

Page: 2 of 2

Project Johnston Fed #4 Owner EPCGPC Location San Juan County, New Mexico Project Number 10504833.010901 Well Completion Recovery Blow Count Recovery Graphic Log uscs Depth (ft) PID (bbm) Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS. Continued 40 Clay, with silt, brown (10YR 4/3), medium stiff with depth, slightly moist, 36.4 medium plasticity, no dilatency, minor charcoal staining at 42-43', slight hydrocarbon odor CL 100% 201 45 Clay, with sand, grades from brown to olive-gray (5Y 5/2), moist to very $\overline{\Delta}$ 1180 moist, wet below 48.5', fine to medium-grained sand, medium plasticity, MW CL 18 48 moderate to strong hydrocarbon odor at 48', possible black hydrocarbon staining at 49' 74% 2076 No recovery 50 Sand, clayey, light yellowish-brown, loose, wet, trace to minor silt content, 0.6 iron staining, no hydrocarbon odor SC 68% 0.4 No recovery 55 Sand, well-graded, yellowish-brown (10YR 5/4), loose, wet, trace gravel 0.2 SW up to 1/2", weak to no cementation, subangular to angular, minor iron oxide staining, driller adding water due to locking sand, no hydrocarbon 50% odor 0.1 No recovery 60 Sand, well-graded, yellowish-brown (10YR 5/4), loose, wet, trace gravel SW 0.0 up to 1/2", weak to no cementation, subangular to angular, minor iron СН SW oxide staining, driller adding water due to locking sand, no hydrocarbon 74% СН 0.1 Clay, high plasticity, iron-oxide stained 65 Sand, well-graded SW 0.0 100% Clay, high plasticity, iron-oxide stained Sand, well-graded, loose, wet, predominantly fine-grained, no hydrocarbon odor No recovery Well set at 64.5' 70 Sand, well-graded, loose, driller reports hard drilling 65-66', wet, predominantly fine-grained, cemented from 65-66', no hydrocarbon odor 75 JOHNSTON FED #4.GPJ MWH IA.GDT 11/29/14 80 85 90



Monitoring Well

FINAL

MW-19

Surface Elev. Top of Casing Hole Depth Hole Diameter Drill Co. Nat. Driller Matt C	1 Juan C 6070.5 6074.0 65.0ft 8.25 ir onal EW Cain/Brya	ounty, New Mexical Screen: Dia Casing: Dia Nydoske Drille	evel Initial ameter ameter Drilling er Reg. #	Owner <u>EPCGPC</u> Project Number <u>10504833.010901</u> Separate 2740946.526 Static ▼ 6015.48 00:00 2 in Length 30.0 ft Type/Size <u>PVC/0.01 in</u> 2 in Length 37.5 ft Type <u>PVC</u> Method <u>Hollow-Stem Auger</u> Sand Pack 10-20 WD-1210 Log By <u>Brad Barton</u> In Date 8/8/2014 Checked By <u>Chris Hiatt</u> Grout Portland Cement Sand Pack Sand Pack Sand Pack Sand Pack Sand Pack Sand Pack Sand Pack Sand Pack Sand Pack Sand Pack Sand Pack	
Depth (ft)	(ppm) % Recovery	Blow Count Recovery Graphic Log	SOSO	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well
- 0 - 0.4 - 5 - 0.4 - 10 - 0.4 - 10 - 0.4 - 15 - 0.4 - 15 - 0.4 - 0.4	50%	> AIGER AIGER	ML SM SP SP	Silt, sandy, brown (10YR 4/4), dry, no hydrocarbon odor, top 5' hand-augered Sand, silty, yellowish-brown (10YR 4/4), loose, dry, fine-grained, weakly cemented, no hydrocarbon odor No recovery Sand, poorly-graded, brown (10YR 5/4), loose, dry, predominantly medium-grained, trace coarse grains, no cementation, angular to subangular, no hydrocarbon odor No recovery Sand, poorly-graded, brown (10YR 5/4), loose, dry, predominantly medium-grained, trace coarse grains, no cementation, angular to subangular, no hydrocarbon odor No recovery	
- 20 - 0.0	48%		SP SP	Sand, poorly-graded, brown (10YR 5/4), loose, dry, predominantly medium-grained, trace coarse grains, no cementation, angular to subangular, no hydrocarbon odor No recovery Sand, poorly-graded, brown (10YR 5/4), loose, dry, slightly moist at 25', predominantly medium-grained, trace coarse grains, trace 1" gravel at 27', predominantly medium-grained, trace coarse grains, trace 1" gravel at 27', predominantly medium-grained, trace coarse grains, trace 1" gravel at 27', predominantly medium-grained gravel gr	-
Dulling Log Johnston FED #4. GPJ MWH IA. GDT 11/29/14	60%		SP	no cementation, angular to subangular, no hydrocarbon odor No recovery Sand, poorly-graded, brown (10YR 5/4), loose, slightly moist, predominantly medium-grained, trace coarse grains, no cementation, angular to subangular, no hydrocarbon odor No recovery	
g — 35 —				Continued Next Page	



Monitoring Well

MW-19 FINAL

Page: 2 of 2

Project Johnston Fed #4 Owner EPCGPC Location San Juan County, New Mexico Project Number 10504833.010901 Well Completion Recovery Blow Count Recovery Graphic Log uscs Depth (ft) PID (bbm) Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS. Continued 35 Clay, with silt, brown (7.5YR 4/4), dark gray (5Y 3/1) staining at 42', soft to medium stiff, slightly moist to moist at 42', medium plasticity, no dilatency, slight to moderate hydrocarbon odor at 38' and 42' 0.0 100% 107 40 161 CL 100% 82.5 45 41.9 MW-19 48 <u>50'</u> 66% Sand, clayey, dark greenish-gray (2.5Y 4/2), loose, moist to very moist, trace gravel up to 1/2", low plasticity, mottled with gleying, moderate to SC 1239 strong hydrocarbon odor 50 No recovery 1.0 SM Sand, silty, color grades to dark yellowish-brown (10YR 4/6), wet at 50', medium to coarse-grained, angular to subangular 56% No recovery 0.7 55 ₹ Sand, poorly-graded, yellowish-brown (10YR 5/4), loose, wet, trace gravel SP 0.3 up to 1", angular to subangular, no hydrocarbon odor No recovery 44% 0.0 60 Sand, well-graded, loose, wet, trace silt, subrounded to subangular, no hydrocarbon odor, driller added water at 60' due to locking sand 1.5 SW 94% 3.4 65 No recovery Well set at 65' Hole depth = 65' Drilling Log JOHNSTON FED #4.GPJ MWH IA.GDT 11/29/14 70 75 80



Monitoring Well **MW-20**

FINAL

W						Page: 1 of 2	
Project	Johnsto	on Fed	#4			Owner EPCGPC COMMENTS	
Location	San J	uan Co	ounty, N	lew Mex	ico	Project Number <u>10504833.010901</u>	
Surface E	lev. 6	6069.80) ft	North	213333	39.622 East 2740994.969	
Top of Ca						08/10/14 08/10/14 08/10/14 08/10/14 08/10/14 08/10/14 08/10/14 08/10/14 08/10/14	
Hole Dep	th 66.	Oft				er <u>2 in</u> Length <u>30.0 ft</u> Type/Size <i>PVC/0.01 in</i>	
Hole Diar				asing: Di			
Drill Co.	_					ing Method Hollow-Stem Auger Sand Pack 10-20	
				ske Drille	•	.# WD-1210 Log By Brad Barton	
Start Date			7719400			etion Date 8/10/2014 Checked By Chris Hiatt	
	ntonite G					Grout Portland Cement Sand Pack Sand Pack	
Бе	T	T Dut	<u></u>	Titoriile G	rariules	Grout Fortulatio Cernetit [17] Sand Fack [111] Sand Fack	
_		ery	ri Er	U		Description	i
Depth (ft)	PID (ppm)	Recovery	Blow Count Recovery	Graphic Log	nscs	·	Well
Ω	- <u>u</u>	%	Blov	ğ_		(Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	7 20
		J				Geologic Descriptions are based on the OSCS.	
							I
- 0 -			~			Cilt condy brown (40VD 4/2) loops dry fine grained and non plastic	MZA
-	0.0		IGFR	$ \cdot \cdot $		Silt, sandy, brown (10YR 4/3), loose, dry, fine-grained sand, non-plastic, no hydrocarbon odor, top 5' hand-augered	
	0.0		ALIC			,,,,	Y /
_		100%	FR /		ML		
_	0.0		<u> </u>				
- 5 -			A			40/27/	
					SM	Sand, silty, yellowish-brown (10YR 5/4), loose, dry, fine to medium-grained, none to weak cementation with depth, no hydrocarbon	
-	0.0				Oivi	odor	
_		42%				No recovery	
_	0.0						
- 10 -			L				
10					SM	Sand, silty, yellowish-brown (10YR 5/4), loose, dry, fine to medium-grained, none to weak cementation with depth, no hydrocarbon	
_	0.0					odor	/-
_		32%				No recovery	
_	0.0						
- 15 -							
. 15			l \/			Sand, well-graded, yellowish-brown (10YR 5/4), dry, none to weak	
_	0.0		X		SW	cementation, increasing consolidation/cementation with depth, angular to subangular, no hydrocarbon odor	
		60%	[[
	0.0					No recovery	
- 20 -						L	
			1			Sand, well-graded, yellowish-brown (10YR 5/4), dry, none to weak	
-	0.0		}		sw	cementation, increasing consolidation/cementation with depth, angular to subangular, no hydrocarbon odor	
-		60%	/	· · · · · · · · · · · · · · · · · · ·			
-	0.0	30,0				No recovery	
OF.							
- 25 -						Sand, well-graded, yellowish-brown (10YR 5/4), dry, none to weak	
-	0.0		X		SW	cementation, increasing consolidation/cementation with depth, angular to subangular, no hydrocarbon odor	
-		60%	$ \rangle$			Subaligular, no riyarocarbon odor	
-	0.0	0070				No recovery	
-	1 0.0						XXXX
- 30 -	Ī					Sand, well-graded, yellowish-brown (10YR 5/4), dry, none to weak	-
-	0.0		}		sw	cementation, increasing consolidation/cementation with depth, angular to	
	1	66%	/		```	subangular, no hydrocarbon odor	
-	0.0			<u>````````</u>		No recovery	-
	0.0		'			Continued Next Page	1
					l	I command tout ago	



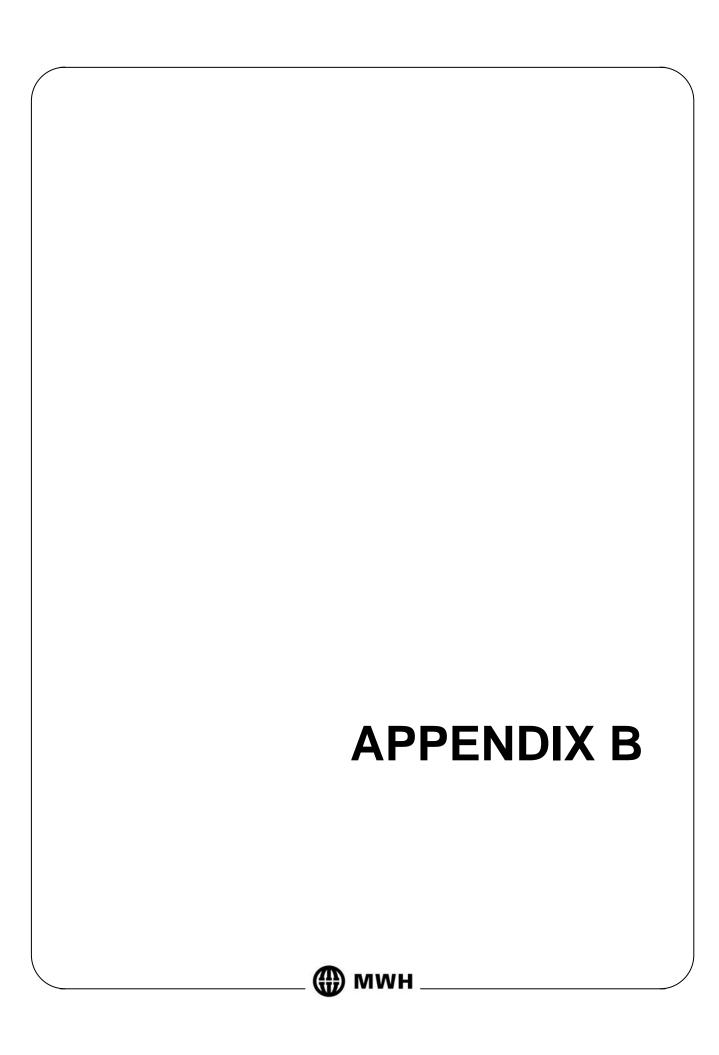
Drilling Log

Monitoring Well

MW-20 FINAL

Page: 2 of 2

Project Johnston Fed #4 Owner EPCGPC Location San Juan County, New Mexico Project Number 10504833.010901 Well Completion Recovery Blow Count Recovery Graphic Log USCS Depth (ft) PID (mdd) Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS. Continued 35 Clay, silty, brown (7.5YR 4/4), color grades from brown to light brownish-gray (2.5Y 6/2) at 37.5', medium stiff, dry to slightly moist, low to 0.5 medium plasticity, no dilatency, no hydrocarbon odor to slight at 37.5' 100% SC 134 40 239 Sand, with clay, silty, brown (7.5YR 4/4), loose, slightly moist, trace gravel 82% SM and coarse-grained sand, weakly consolidated, moderate hydrocarbon 704 No recovery 45 Sand, with clay, silty, brown (7.5YR 4/4), loose, slightly moist, trace gravel $\bar{\Delta}_{\bar{ar{A}}}$ 970 and coarse-grained sand, weakly consolidated, moderate hydrocarbon MW-SM 20 48 2376 No recovery 50 Sand, with clay, silty, brown (7.5YR 4/4), loose, very moist to wet at 50', SM trace gravel and coarse-grained sand, weakly consolidated, moderate 80.8 hydrocarbon odor, black staining and strong hydrocarbon odor at 50' Clay, with sand and silt, dark brown, soft to medium stiff, wet, high 90% CL CH plasticity, no dilatency, slight hydrocarbon odor 2.9 SW Sand, with clay and silt, well-graded, wet, medium to fine-grained, trace coarse sand, none to slight hydrocarbon odor 55 SW No recovery 0.9 Sand, with clay and silt, well-graded, wet, medium to fine-grained, trace SP coarse sand, none to slight hydrocarbon odor 60% Sand, poorly-graded, loose, wet, less moisture to slightly moist with depth, 0.5 predominantly medium-grained, trace coarse grains, increasing consolidation/cementation with depth, subangular to angular, no 60 hydrocarbon odor SW 0.4 No recovery Sand, graded to well-graded, light brown, wet, ~40% fine sand, ~45% 44% medium sand, ~15% coarse sand, driller reports gravel/cobbles at 62.5', weakly to strongly cemented, increasing cementation below 62', 0.4 subangular to angular 65 SW 100% Sand, graded to well-graded, light brown, wet, ~40% fine sand, ~45% medium sand, ~15% coarse sand, weakly to strongly cemented, JOHNSTON FED #4.GPJ MWH IA.GDT 11/29/14 subangular to angular Well set at 65' Hole depth = 66' 70 75





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: 600-97151-1 Client Project/Site: Johnston Fed #4

For:

MWH Americas Inc 11153 Aurora Avenue Des Moines, Iowa 50322-7904

Attn: Clint Oberbroeckling

Meal Solder

Authorized for release by: 9/12/2014 8:30:02 AM

Neal Salcher, Senior Project Manager (713)690-4444 neal.salcher@testamericainc.com

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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.

Client: MWH Americas Inc Project/Site: Johnston Fed #4 TestAmerica Job ID: 600-97151-1

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Case Narrative

Client: MWH Americas Inc Project/Site: Johnston Fed #4 TestAmerica Job ID: 600-97151-1

Job ID: 600-97151-1

Laboratory: TestAmerica Houston

Narrative

Job Narrative 600-97151-1

Comments

No additional comments.

Receipt

The samples were received on 8/15/2014 3:18 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.2° C.

GC/MS VOA

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

GC VOA

Method(s) 8021B: The following sample(s) was diluted to bring the concentration of target analytes within the calibration range: MW-15 (48-50) (600-97151-4). Elevated reporting limits (RLs) are provided.

Method(s) 8021B: The following sample(s) was diluted due to the nature of the sample matrix: MW-17 (46-48) (600-97151-9). Elevated reporting limits (RLs) are provided.

Method(s) 8021B: Surrogate recovery for the following sample(s) was outside control limits: MW-15 (48-50) (600-97151-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8021B: Surrogate recovery for the following sample(s) was outside control limits: MW-17 (46-48) (600-97151-9). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

General Chemistry

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

Industrial Hygiene

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

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Method Summary

Client: MWH Americas Inc Project/Site: Johnston Fed #4 TestAmerica Job ID: 600-97151-1

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	TAL HOU
9056	Anions, Ion Chromatography	SW846	TAL HOU
EPA 418.1 TPH	EPA 418.1 Total Petroleum Hydrocarbons	NONE	Hall Env

Protocol References:

NONE = NONE

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

Laboratory References:

Hall Env = Hall Environmental Analysis Laboratory, 4901 Hawkins NE, Suite D, Albuquerque, NM 87109 TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Sample Summary

Client: MWH Americas Inc Project/Site: Johnston Fed #4 TestAmerica Job ID: 600-97151-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-97151-2	MW-19 (48-50)	Solid	08/07/14 09:20	08/15/14 15:18
600-97151-3	MW- 14 (38-40)	Solid	08/07/14 15:15	08/15/14 15:18
600-97151-4	MW-15 (48-50)	Solid	08/08/14 15:40	08/15/14 15:18
600-97151-5	MW-16 (48-50)	Solid	08/09/14 11:20	08/15/14 15:18
600-97151-6	MW-20 (48-50) J- FED	Solid	08/10/14 08:25	08/15/14 15:18
600-97151-7	MW-13 (50-52) J- FED	Solid	08/10/14 13:35	08/15/14 15:18
600-97151-8	MW-18 (48-50)	Solid	08/11/14 13:10	08/15/14 15:18
600-97151-9	MW-17 (46-48)	Solid	08/12/14 09:50	08/15/14 15:18

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Client: MWH Americas Inc Project/Site: Johnston Fed #4 TestAmerica Job ID: 600-97151-1

Lab Sample ID: 600-97151-2

Lab Sample ID: 600-97151-3

Lab Sample ID: 600-97151-4

Matrix: Solid

Matrix: Solid

Matrix: Solid

Client Sample ID: MW-19 (48-50) Date Collected: 08/07/14 09:20

Date Received: 08/15/14 15:18

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.0253		0.0200	0.00347	mg/Kg		08/18/14 09:30	08/18/14 16:00	20
Toluene	0.119		0.0200	0.00525	mg/Kg		08/18/14 09:30	08/18/14 16:00	20
Ethylbenzene	0.0820		0.0200	0.00642	mg/Kg		08/18/14 09:30	08/18/14 16:00	20
Xylenes, Total	0.786		0.0200	0.0193	mg/Kg		08/18/14 09:30	08/18/14 16:00	20
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	109		43 - 141				08/18/14 09:30	08/18/14 16:00	20
a,a,a-Trifluorotoluene	97		44 - 134				08/18/14 09:30	08/18/14 16:00	20
- Method: 9056 - Anions, Ion	Chromatography - S	Soluble							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
			3.99	0.0669	mg/Kg			08/27/14 03:50	

Client Sample ID: MW-14 (38-40)

Date Collected: 08/07/14 15:15

Date Received: 08/15/14 15:18

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	0.00347	U	0.0200	0.00347	mg/Kg		08/18/14 09:30	08/18/14 16:20	2
Toluene	0.00525	U	0.0200	0.00525	mg/Kg		08/18/14 09:30	08/18/14 16:20	20
Ethylbenzene	0.00642	U	0.0200	0.00642	mg/Kg		08/18/14 09:30	08/18/14 16:20	20
Xylenes, Total	0.0193	U	0.0200	0.0193	mg/Kg		08/18/14 09:30	08/18/14 16:20	20
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107		43 - 141				08/18/14 09:30	08/18/14 16:20	20
a,a,a-Trifluorotoluene	99		44 - 134				08/18/14 09:30	08/18/14 16:20	20

Method: 9056 - Anions, Ion Chroma	tography - S	Soluble							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.42	J	4.01	0.0671	mg/Kg			08/27/14 03:30	1

Client Sample ID: MW-15 (48-50)

Date Collected: 08/08/14 15:40

Date Received: 08/15/14 15:18

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.64		0.200	0.0347	mg/Kg		08/18/14 09:30	08/19/14 09:34	200
Toluene	13.6		0.200	0.0525	mg/Kg		08/18/14 09:30	08/19/14 09:34	200
Ethylbenzene	2.34		0.200	0.0642	mg/Kg		08/18/14 09:30	08/19/14 09:34	200
Xylenes, Total	25.5		0.200	0.193	mg/Kg		08/18/14 09:30	08/19/14 09:34	200
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	229	X	43 - 141				08/18/14 09:30	08/19/14 09:34	200
a,a,a-Trifluorotoluene	115		44 - 134				08/18/14 09:30	08/19/14 09:34	200
Method: 9056 - Anions, Ion	Chromatography - 9	Soluble							
•	·	O	DI.	MDI	Unit	D	Dropored	Anglyzad	Dil Fac
Analyte	Result	Qualifier	RL	MDL	UIIIL	U	Prepared	Analyzed	DII Fac

TestAmerica Houston

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Client: MWH Americas Inc Project/Site: Johnston Fed #4 TestAmerica Job ID: 600-97151-1

Lab Sample ID: 600-97151-5

Lab Sample ID: 600-97151-6

Lab Sample ID: 600-97151-7

Matrix: Solid

Matrix: Solid

Matrix: Solid

Client Sample ID: MW-16 (48-50)

Date Collected: 08/09/14 11:20 Date Received: 08/15/14 15:18

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.144		0.0200	0.00347	mg/Kg		08/18/14 09:30	08/19/14 09:14	20
Toluene	1.25		0.0200	0.00525	mg/Kg		08/18/14 09:30	08/19/14 09:14	20
Ethylbenzene	0.302		0.0200	0.00642	mg/Kg		08/18/14 09:30	08/19/14 09:14	20
Xylenes, Total	4.03		0.0200	0.0193	mg/Kg		08/18/14 09:30	08/19/14 09:14	20
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	109		43 - 141				08/18/14 09:30	08/19/14 09:14	20
a,a,a-Trifluorotoluene	95		44 - 134				08/18/14 09:30	08/19/14 09:14	20
Method: 9056 - Anions, Ion	Chromatography - S	Soluble							
Analyte	• • •	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.07		3.97	0.0665	mg/Kg			08/27/14 05:30	

Client Sample ID: MW-20 (48-50) J- FED

Date Collected: 08/10/14 08:25

Date Received: 08/15/14 15:18

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	0.0266		0.0200	0.00347	mg/Kg		08/18/14 09:30	08/18/14 17:20	20
Toluene	1.00		0.0200	0.00525	mg/Kg		08/18/14 09:30	08/18/14 17:20	20
Ethylbenzene	0.306		0.0200	0.00642	mg/Kg		08/18/14 09:30	08/18/14 17:20	20
Xylenes, Total	4.34		0.0200	0.0193	mg/Kg		08/18/14 09:30	08/18/14 17:20	20
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	114		43 - 141				08/18/14 09:30	08/18/14 17:20	20
a,a,a-Trifluorotoluene	96		44 - 134				08/18/14 09:30	08/18/14 17:20	20

Analyte Result Qualifier RLMDL Unit Prepared Analyzed Dil Fac 0.0667 mg/Kg 2.35 J 3.98 08/27/14 01:10 Chloride

Client Sample ID: MW-13 (50-52) J- FED

Date Collected: 08/10/14 13:35

Date Received: 08/15/14 15:18

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00497	J	0.0200	0.00347	mg/Kg		08/18/14 09:30	08/18/14 17:41	20
Toluene	0.00525	U	0.0200	0.00525	mg/Kg		08/18/14 09:30	08/18/14 17:41	20
Ethylbenzene	0.0318		0.0200	0.00642	mg/Kg		08/18/14 09:30	08/18/14 17:41	20
Xylenes, Total	0.0193	U	0.0200	0.0193	mg/Kg		08/18/14 09:30	08/18/14 17:41	20
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	114		43 - 141				08/18/14 09:30	08/18/14 17:41	20
a,a,a-Trifluorotoluene	102		44 - 134				08/18/14 09:30	08/18/14 17:41	20
- Method: 9056 - Anions, Ion	Chromatography - 9	Soluble							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
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TestAmerica Houston

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Client: MWH Americas Inc Project/Site: Johnston Fed #4 TestAmerica Job ID: 600-97151-1

Lab Sample ID: 600-97151-8

Lab Sample ID: 600-97151-9

Matrix: Solid

Matrix: Solid

Client Sample ID: MW-18 (48-50)

Date Collected: 08/11/14 13:10 Date Received: 08/15/14 15:18

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.0248		0.0200	0.00347	mg/Kg		08/18/14 09:30	08/18/14 18:01	20
Toluene	0.343		0.0200	0.00525	mg/Kg		08/18/14 09:30	08/18/14 18:01	20
Ethylbenzene	0.196		0.0200	0.00642	mg/Kg		08/18/14 09:30	08/18/14 18:01	20
Xylenes, Total	2.23		0.0200	0.0193	mg/Kg		08/18/14 09:30	08/18/14 18:01	20
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	111		43 - 141				08/18/14 09:30	08/18/14 18:01	20
a,a,a-Trifluorotoluene	97		44 - 134				08/18/14 09:30	08/18/14 18:01	20
- Method: 9056 - Anions, Ion	Chromatography - S	Soluble							
	Posult	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Analyte	Result	Qualifici			•	_		, y = 0 a.	

Client Sample ID: MW-17 (46-48)

Date Collected: 08/12/14 09:50

Date Received: 08/15/14 15:18

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.0754	J	0.100	0.0174	mg/Kg		08/18/14 09:30	08/19/14 11:00	100
Toluene	0.480		0.100	0.0263	mg/Kg		08/18/14 09:30	08/19/14 11:00	100
Ethylbenzene	0.367		0.100	0.0321	mg/Kg		08/18/14 09:30	08/19/14 11:00	100
Xylenes, Total	4.35		0.100	0.0963	mg/Kg		08/18/14 09:30	08/19/14 11:00	100
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	143	X	43 - 141				08/18/14 09:30	08/19/14 11:00	100
a,a,a-Trifluorotoluene	120		44 - 134				08/18/14 09:30	08/19/14 11:00	100

Method: 9056 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.12	J	4.02	0.0673	mg/Kg			08/27/14 00:50	1

TestAmerica Houston

Definitions/Glossary

Client: MWH Americas Inc Project/Site: Johnston Fed #4 TestAmerica Job ID: 600-97151-1

Qualifiers

GC VOA

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

HPLC/IC	
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.

Glossary

RL

RPD

TEF

TEQ

Reporting Limit or Requested Limit (Radiochemistry)

Toxicity Equivalent Factor (Dioxin)

Toxicity Equivalent Quotient (Dioxin)

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

Abbreviation	These commonly used abbreviations may or may not be present in this report.
ı	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

Surrogate Summary

Client: MWH Americas Inc Project/Site: Johnston Fed #4 TestAmerica Job ID: 600-97151-1

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

		BFB1	TFT1	Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	(43-141)	(44-134)	
600-97151-2	MW-19 (48-50)	109	97	
600-97151-3	MW- 14 (38-40)	107	99	
600-97151-4	MW-15 (48-50)	229 X	115	
600-97151-5	MW-16 (48-50)	109	95	
600-97151-6	MW-20 (48-50) J- FED	114	96	
600-97151-7	MW-13 (50-52) J- FED	114	102	
600-97151-8	MW-18 (48-50)	111	97	
600-97151-9	MW-17 (46-48)	143 X	120	
LCS 600-141938/1-A	Lab Control Sample	101	97	
LCSD 600-141938/15-A	Lab Control Sample Dup	101	95	
MB 600-141938/2-A	Method Blank	105	98	

Surrogate Legend

BFB = 4-Bromofluorobenzene

TFT = a,a,a-Trifluorotoluene

TestAmerica Houston

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TestAmerica Job ID: 600-97151-1

Client: MWH Americas Inc Project/Site: Johnston Fed #4

Analysis Batch: 141922

Matrix: Solid

Matrix: Solid

Matrix: Solid

Analysis Batch: 141922

Lab Sample ID: MB 600-141938/2-A

Lab Sample ID: LCS 600-141938/1-A

Lab Sample ID: LCSD 600-141938/15-A

Method: 8021B - Volatile Organic Compounds (GC)

Client Sample ID: Method Blank

Prep Type: Total/NA	
Pren Batch: 141938	

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00347	U	0.0200	0.00347	mg/Kg		08/18/14 09:30	08/18/14 11:23	20
Toluene	0.00525	U	0.0200	0.00525	mg/Kg		08/18/14 09:30	08/18/14 11:23	20
Ethylbenzene	0.00642	U	0.0200	0.00642	mg/Kg		08/18/14 09:30	08/18/14 11:23	20
Xylenes, Total	0.0193	U	0.0200	0.0193	mg/Kg		08/18/14 09:30	08/18/14 11:23	20
	MR	MR							

	IVID	IVID				
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	105		43 - 141	08/18/14 09:30	08/18/14 11:23	20
a,a,a-Trifluorotoluene	98		44 - 134	08/18/14 09:30	08/18/14 11:23	20

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 141938

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	1.00	0.8965		mg/Kg		89	70 - 130	
Toluene	1.00	0.9285		mg/Kg		93	70 - 130	
Ethylbenzene	1.00	0.8887		mg/Kg		89	70 - 130	
Xylenes, Total	3.01	2.971		mg/Kg		99	70 - 130	

LCS LCS %Recovery Qualifier Limits Surrogate 101 43 - 141 4-Bromofluorobenzene a,a,a-Trifluorotoluene 97 44 - 134

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA **Prep Batch: 141938**

Analysis Batch: 141922 Spike LCSD LCSD RPD %Rec. Analyte Added Result Qualifier Unit %Rec Limits RPD Limit Benzene 1.00 0.9628 mg/Kg 96 70 - 130 20 Toluene 1.00 0.9861 98 70 - 130 20 mg/Kg 6 Ethylbenzene 1.00 0.9677 mg/Kg 96 70 - 130 20 3.01 Xylenes, Total 3.249 mg/Kg 108 70 - 130 20

	LCSD	LUSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene	101		43 - 141
a,a,a-Trifluorotoluene	95		44 - 134

LCCD LCCD

Method: 9056 - Anions, Ion Chromatography

Lab Sample ID: MB 600-142641/1-A Client Sample ID: Method Blank **Matrix: Solid Prep Type: Soluble**

Analysis Batch: 142682

MB MB Analyte Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac Chloride 0.0674 U 4.02 0.0674 mg/Kg 08/26/14 22:50

TestAmerica Houston

QC Sample Results

Client: MWH Americas Inc

TestAmerica Job ID: 600-97151-1

Project/Site: Johnston Fed #4

Method: 9056 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 600-142641/2-A

Client Sample ID: Lab Control Sample
Matrix: Solid

Prep Type: Soluble

Analysis Batch: 142682

Spike LCS LCS %Rec. Added Result Qualifier Analyte Limits Unit D %Rec Chloride 200 102 90 - 110 204.5 mg/Kg

Lab Sample ID: 600-97151-7 MS

Client Sample ID: MW-13 (50-52) J- FED

Matrix: Solid

Prep Type: Soluble

Analysis Batch: 142682

Sample Sample Spike MS MS %Rec. Result Qualifier Added Analyte Result Qualifier Unit %Rec Limits Chloride 2.19 J 101 98.66 mg/Kg 95 80 - 120

Lab Sample ID: 600-97151-7 MSD Client Sample ID: MW-13 (50-52) J- FED

Matrix: Solid Prep Type: Soluble

Analysis Batch: 142682

Sample Sample Spike MSD MSD %Rec. RPD Limit Result Qualifier Added Analyte Result Qualifier Unit %Rec Limits **RPD** Chloride 2.19 101 98.42 80 - 120 mg/Kg

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TestAmerica Job ID: 600-97151-1

Client: MWH Americas Inc Project/Site: Johnston Fed #4

GC VOA

Analysis Batch: 141922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-97151-2	MW-19 (48-50)	Total/NA	Solid	8021B	141938
600-97151-3	MW- 14 (38-40)	Total/NA	Solid	8021B	141938
600-97151-4	MW-15 (48-50)	Total/NA	Solid	8021B	141938
600-97151-5	MW-16 (48-50)	Total/NA	Solid	8021B	141938
600-97151-6	MW-20 (48-50) J- FED	Total/NA	Solid	8021B	141938
600-97151-7	MW-13 (50-52) J- FED	Total/NA	Solid	8021B	141938
600-97151-8	MW-18 (48-50)	Total/NA	Solid	8021B	141938
600-97151-9	MW-17 (46-48)	Total/NA	Solid	8021B	141938
LCS 600-141938/1-A	Lab Control Sample	Total/NA	Solid	8021B	141938
LCSD 600-141938/15-A	Lab Control Sample Dup	Total/NA	Solid	8021B	141938
MB 600-141938/2-A	Method Blank	Total/NA	Solid	8021B	141938

Prep Batch: 141938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-97151-2	MW-19 (48-50)	Total/NA	Solid	5030B	_
600-97151-3	MW- 14 (38-40)	Total/NA	Solid	5030B	
600-97151-4	MW-15 (48-50)	Total/NA	Solid	5030B	
600-97151-5	MW-16 (48-50)	Total/NA	Solid	5030B	
600-97151-6	MW-20 (48-50) J- FED	Total/NA	Solid	5030B	
600-97151-7	MW-13 (50-52) J- FED	Total/NA	Solid	5030B	
600-97151-8	MW-18 (48-50)	Total/NA	Solid	5030B	
600-97151-9	MW-17 (46-48)	Total/NA	Solid	5030B	
LCS 600-141938/1-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 600-141938/15-A	Lab Control Sample Dup	Total/NA	Solid	5030B	
MB 600-141938/2-A	Method Blank	Total/NA	Solid	5030B	

HPLC/IC

Leach Batch: 142641

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-97151-2	MW-19 (48-50)	Soluble	Solid	DI Leach	
600-97151-3	MW- 14 (38-40)	Soluble	Solid	DI Leach	
600-97151-4	MW-15 (48-50)	Soluble	Solid	DI Leach	
600-97151-5	MW-16 (48-50)	Soluble	Solid	DI Leach	
600-97151-6	MW-20 (48-50) J- FED	Soluble	Solid	DI Leach	
600-97151-7	MW-13 (50-52) J- FED	Soluble	Solid	DI Leach	
600-97151-7 MS	MW-13 (50-52) J- FED	Soluble	Solid	DI Leach	
600-97151-7 MSD	MW-13 (50-52) J- FED	Soluble	Solid	DI Leach	
600-97151-8	MW-18 (48-50)	Soluble	Solid	DI Leach	
600-97151-9	MW-17 (46-48)	Soluble	Solid	DI Leach	
LCS 600-142641/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
MB 600-142641/1-A	Method Blank	Soluble	Solid	DI Leach	

Analysis Batch: 142682

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-97151-2	MW-19 (48-50)	Soluble	Solid	9056	142641
600-97151-3	MW- 14 (38-40)	Soluble	Solid	9056	142641
600-97151-4	MW-15 (48-50)	Soluble	Solid	9056	142641
600-97151-5	MW-16 (48-50)	Soluble	Solid	9056	142641
600-97151-6	MW-20 (48-50) J- FED	Soluble	Solid	9056	142641

TestAmerica Houston

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QC Association Summary

Client: MWH Americas Inc
Project/Site: Johnston Fed #4

TestAmerica Job ID: 600-97151-1

HPLC/IC (Continued)

Analysis Batch: 142682 (Continued)

Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MW-13 (50-52) J- FED	Soluble	Solid	9056	142641
MW-13 (50-52) J- FED	Soluble	Solid	9056	142641
MW-13 (50-52) J- FED	Soluble	Solid	9056	142641
MW-18 (48-50)	Soluble	Solid	9056	142641
MW-17 (46-48)	Soluble	Solid	9056	142641
Lab Control Sample	Soluble	Solid	9056	142641
Method Blank	Soluble	Solid	9056	142641
	MW-13 (50-52) J- FED MW-13 (50-52) J- FED MW-13 (50-52) J- FED MW-18 (48-50) MW-17 (46-48) Lab Control Sample	MW-13 (50-52) J- FED Soluble MW-13 (50-52) J- FED Soluble MW-13 (50-52) J- FED Soluble MW-18 (48-50) Soluble MW-17 (46-48) Soluble Lab Control Sample Soluble	MW-13 (50-52) J- FED Soluble Solid MW-13 (50-52) J- FED Soluble Solid MW-13 (50-52) J- FED Soluble Solid MW-18 (48-50) Soluble Solid MW-17 (46-48) Soluble Solid Lab Control Sample Soluble Solid	MW-13 (50-52) J- FED Soluble Solid 9056 MW-13 (50-52) J- FED Soluble Solid 9056 MW-13 (50-52) J- FED Soluble Solid 9056 MW-18 (48-50) Soluble Solid 9056 MW-17 (46-48) Soluble Solid 9056 Lab Control Sample Soluble Solid 9056

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Client: MWH Americas Inc Project/Site: Johnston Fed #4

Client Sample ID: MW-19 (48-50)

Date Collected: 08/07/14 09:20 Date Received: 08/15/14 15:18 Lab Sample ID: 600-97151-2

Matrix: Solid

Matrix: Solid

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	10 mL	141938	08/18/14 09:30	MHT	TAL HOU
Total/NA	Analysis	8021B		20	10 g	10 mL	141922	08/18/14 16:00	MHT	TAL HOU
Soluble	Leach	DI Leach			5.01 g	50 mL	142641	08/26/14 13:51	DAW	TAL HOU
Soluble	Analysis	9056		1	5 mL		142682	08/27/14 03:50	DAW	TAL HOU

Client Sample ID: MW- 14 (38-40)

Lab Sample ID: 600-97151-3

Date Collected: 08/07/14 15:15 Date Received: 08/15/14 15:18

Batch Batch Dil Initial Final Batch Prepared Prep Type Туре Method Run Factor Amount Amount Number or Analyzed Analyst Lab Total/NA 5030B 141938 MHT TAL HOU Prep 10 g 10 mL 08/18/14 09:30 Total/NA 8021B Analysis 20 10 g 10 mL 141922 08/18/14 16:20 MHT TAL HOU 142641 08/26/14 13:51 TAL HOU Soluble Leach DI Leach 4.99 q 50 mL DAW 9056 142682 08/27/14 03:30 TAL HOU Soluble Analysis 1 5 mL DAW

Client Sample ID: MW-15 (48-50)

Date Collected: 08/08/14 15:40

Date Received: 08/15/14 15:18

Lab Sample ID: 600-97151-4

Matrix: Solid

Matrix: Soi

Matrix: Solid

Matrix: Solid

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	10 mL	141938	08/18/14 09:30	MHT	TAL HOU
Total/NA	Analysis	8021B		200	10 g	10 mL	141922	08/19/14 09:34	MHT	TAL HOU
Soluble	Leach	DI Leach			4.96 g	50 mL	142641	08/26/14 13:51	DAW	TAL HOU
Soluble	Analysis	9056		1	5 mL		142682	08/27/14 03:10	DAW	TAL HOU

Client Sample ID: MW-16 (48-50)

Lab Sample ID: 600-97151-5

Date Collected: 08/09/14 11:20

Date Received: 08/15/14 15:18

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	10 mL	141938	08/18/14 09:30	MHT	TAL HOU
Total/NA	Analysis	8021B		20	10 g	10 mL	141922	08/19/14 09:14	MHT	TAL HOU
Soluble	Leach	DI Leach			5.04 g	50 mL	142641	08/26/14 13:51	DAW	TAL HOU
Soluble	Analysis	9056		1	5 mL		142682	08/27/14 05:30	DAW	TAL HOU

Client Sample ID: MW-20 (48-50) J- FED Lab Sample ID: 600-97151-6

Date Collected: 08/10/14 08:25 Date Received: 08/15/14 15:18

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	10 mL	141938	08/18/14 09:30	MHT	TAL HOU
Total/NA	Analysis	8021B		20	10 g	10 mL	141922	08/18/14 17:20	MHT	TAL HOU
Soluble	Leach	DI Leach			5.02 g	50 mL	142641	08/26/14 13:51	DAW	TAL HOU

TestAmerica Houston

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Lab Chronicle

Client: MWH Americas Inc Project/Site: Johnston Fed #4 TestAmerica Job ID: 600-97151-1

Lab Sample ID: 600-97151-6

Matrix: Solid

Client Sample ID: MW-20 (48-50) J- FED

Date Collected: 08/10/14 08:25 Date Received: 08/15/14 15:18

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Soluble	Analysis	9056		1	5 mL		142682	08/27/14 01:10	DAW	TAL HOU

Client Sample ID: MW-13 (50-52) J- FED Lab Sample ID: 600-97151-7

Date Collected: 08/10/14 13:35

Date Received: 08/15/14 15:18

Matrix: Solid

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	10 mL	141938	08/18/14 09:30	MHT	TAL HOU
Total/NA	Analysis	8021B		20	10 g	10 mL	141922	08/18/14 17:41	MHT	TAL HOU
Soluble	Leach	DI Leach			4.94 g	50 mL	142641	08/26/14 13:51	DAW	TAL HOU
Soluble	Analysis	9056		1	5 mL		142682	08/27/14 04:10	DAW	TAL HOU

Client Sample ID: MW-18 (48-50)

Lab Sample ID: 600-97151-8

Date Collected: 08/11/14 13:10 Date Received: 08/15/14 15:18

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	10 mL	141938	08/18/14 09:30	MHT	TAL HOU
Total/NA	Analysis	8021B		20	10 g	10 mL	141922	08/18/14 18:01	MHT	TAL HOU
Soluble	Leach	DI Leach			4.95 g	50 mL	142641	08/26/14 13:51	DAW	TAL HOU
Soluble	Analysis	9056		1	5 mL		142682	08/27/14 00:30	DAW	TAL HOU

Client Sample ID: MW-17 (46-48)

Lab Sample ID: 600-97151-9

Date Collected: 08/12/14 09:50

Date Received: 08/15/14 15:18

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	10 mL	141938	08/18/14 09:30	MHT	TAL HOU
Total/NA	Analysis	8021B		100	10 g	10 mL	141922	08/19/14 11:00	MHT	TAL HOU
Soluble	Leach	DI Leach			4.98 g	50 mL	142641	08/26/14 13:51	DAW	TAL HOU
Soluble	Analysis	9056		1	5 mL		142682	08/27/14 00:50	DAW	TAL HOU

Laboratory References:

Hall Env = Hall Environmental Analysis Laboratory, 4901 Hawkins NE, Suite D, Albuquerque, NM 87109 TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

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Matrix: Solid

Matrix: Solid

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TestAmerica Houston

Certification Summary

Client: MWH Americas Inc TestAmerica Job ID: 600-97151-1

Project/Site: Johnston Fed #4

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	08-04-14 *
Louisiana	NELAP	6	30643	06-30-15
Oklahoma	State Program	6	1309	08-31-15 *
Texas	NELAP	6	T104704223	10-31-14
USDA	Federal		P330-14-00192	06-06-17
Utah	NELAP	8	TX00083	10-31-14

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 $[\]ensuremath{^{\star}}$ Certification renewal pending - certification considered valid.

Hall Environmental Analysis Laboratory

TEL: 505-345-3975 FAX: 505-345-4107

Website: www.hallenvironmental.com

4901 Hawkins NE

Albuquerque, NM 87109



August 28, 2014

Neal Salcher Test America 6310 Rothway Street Houston, TX 77040 TEL: (713) 690-4444

FAX

RE: Johnston Fed #4 OrderNo.: 1408D37

Dear Neal Salcher:

Hall Environmental Analysis Laboratory received 8 sample(s) on 8/26/2014 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

andel

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

DF Date Analyzed

Batch ID

Batch ID

Page 1 of 3

Lab Order: 1408D37 Date Reported: 8/28/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Test America 1408D37 Lab Order:

Project: Johnston Fed #4

Analyses

Lab ID: 1408D37-001 **Collection Date:** 8/7/2014 8:20:00 AM

Client Sample ID: MW-19 (48-50) (600-97151-2) Matrix: SOIL

RL Qual Units Analyses Result **DF Date Analyzed Batch ID EPA METHOD 418.1: TPH** Analyst: BCN Petroleum Hydrocarbons, TR 14968 ND 20 Н mg/Kg 8/27/2014

1408D37-002 Collection Date: 8/7/2014 2:15:00 PM Lab ID: **Client Sample ID:** MW-14 (38-40) (600-97151-3) Matrix: SOIL

RL Qual Units DF Date Analyzed **Batch ID** Analyses

EPA METHOD 418.1: TPH Analyst: **BCN** Petroleum Hydrocarbons, TR ND 20 mg/Kg 8/27/2014 14968 Н

Collection Date: 8/8/2014 2:40:00 PM Lab ID: 1408D37-003

Client Sample ID: MW-15 (48-50) (600-97151-4) Matrix: SOIL Result

EPA METHOD 418.1: TPH Analyst: BCN

Petroleum Hydrocarbons, TR 2100 200 mg/Kg 10 8/27/2014 14968

RL Qual Units

Lab ID: 1408D37-004 **Collection Date:** 8/9/2014 10:20:00 AM

Client Sample ID: MW-16 (48-50) (600-97151-5) Matrix: SOIL Result

RL Qual Units DF Date Analyzed Analyses **EPA METHOD 418.1: TPH** Analyst: BCN Petroleum Hydrocarbons, TR 46 20 Н mg/Kg 8/27/2014 14968

Collection Date: 8/10/2014 7:25:00 AM Lab ID: 1408D37-005

Client Sample ID: MW-20 (48-50) J-FED (600-97151-6) Matrix: SOIL

RL Qual Units DF Date Analyzed Result **Batch ID** Analyses **EPA METHOD 418.1: TPH** Analyst: BCN

Petroleum Hydrocarbons, TR 150 8/27/2014 14968 20 mg/Kg

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers: Value exceeds Maximum Contaminant Level.

Е Value above quantitation range

Analyte detected below quantitation limits

O RSD is greater than RSDlimit

R RPD outside accepted recovery limits

Spike Recovery outside accepted recovery limits

- Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.

Reporting Detection Limit

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Analytical Report Lab Order: 1408D37

Date Reported: 8/28/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Project:	Test America Johnston Fed #4					Lab C	Order: 14	408D37
Lab ID: Client Sample ID	1408D37-006 : MW-13 (50-52) J-FE	ED (600-97151-7)		(te: 8/1	10/2014 12:35:	00 PM
Analyses	. 12.11 10 (00 02) 011	Result	RL	Qual	Units		Date Analyze	ed Batch ID
EPA METHOD 41 Petroleum Hydrod		1000	200	Н	mg/Kg	10	8/27/2014	Analyst: BCN 14968
Lab ID: Client Sample ID	1408D37-007 : MW-18 (48-50) (600)-97151-8)		(te: 8/1	1/2014 12:10: DIL	00 PM
Analyses		Result	RL	Qual	Units	DF	Date Analyze	ed Batch ID
EPA METHOD 41 Petroleum Hydrod		45	20	Н	mg/Kg	1	8/27/2014	Analyst: BCN 14968
Lab ID: Client Sample ID	1408D37-008 : MW-17 (46-48) (600)-97151-9)		(te: 8/1	2/2014 8:50:0 DIL	0 AM
Analyses		Result	RL	Qual	Units	DF	Date Analyze	ed Batch ID
EPA METHOD 41	8.1: TPH							Analyst: BCN
Petroleum Hydroc	arbons, TR	50	20		mg/Kg	1	8/27/2014	14968

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Е Value above quantitation range
- Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded Η
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- Reporting Detection Limit

Page 2 of 3

WO#:

1408D37

28-Aug-14

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

Client: Test America
Project: Johnston Fed #4

Sample ID MB-14968	SampType: MBLK	TestCode: EPA Method 418.1: TPH	
Client ID: PBS	Batch ID: 14968	RunNo: 20833	
Prep Date: 8/26/2014	Analysis Date: 8/27/2014	SeqNo: 606384 Units: mg/l	К g
Analyte	Result PQL SPK value S	PK Ref Val %REC LowLimit HighLimit	%RPD RPDLimit Qual

Petroleum Hydrocarbons, TR ND 20

Sample ID LCS-14968	SampT	ype: LC	S	Tes	tCode: El	PA Method	418.1: TPH			
Client ID: LCSS	Batch	ID: 149	968	R	RunNo: 2	0833				
Prep Date: 8/26/2014	Analysis D	ate: 8/	27/2014	S	eqNo: 6	06385	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	100	20	100.0	0	101	80	120			

Sample ID LCSD-14968	SampType: L	CSD	Tes	tCode: E	PA Method	418.1: TPH			
Client ID: LCSS02	Batch ID: 1	4968	F	RunNo: 2	0833				
Prep Date: 8/26/2014	Analysis Date:	3/27/2014	8	SeqNo: 6	06386	Units: mg/K	g		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	100 20	100.0	0	102	80	120	1.52	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Page 3 of 3

Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87105

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: TEST AMERICA HOUST Work Order Number:	1408D37		RcptNo: 1
Received by/date: S OS QU	114		· · · · · · · · · · · · · · · · · · ·
Logged By: Ashley Gallegos 8/26/2014 8:43:00 AM	V	A	
Completed By: Ashley Gallegos 8/26/2014 1:24:38 PM		A	
Reviewed By: (S 08/26/14)		, (
Chain of Custody	•		
1. Custody seals intact on sample bottles?	Yes 🗌	No 🗆	Not Present ✓
2. Is Chain of Custody complete?	Yes 🗸	No 🗌	Not Present
3. How was the sample delivered?	<u>FedEx</u>		
<u>Log In</u>			
4. Was an attempt made to cool the samples?	Yes 🗹	No 🗆	NA 🗀
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes 🗹	No 🗌	NA
6. Sample(s) in proper container(s)?	Yes 🗹	No 🗆	
7. Sufficient sample volume for indicated test(s)?	Yes 🗹	No 🗆	
8. Are samples (except VOA and ONG) properly preserved?	Yes 🗹	No 🗆	
9. Was preservative added to bottles?	Yes 🗌	No 🗹	NA 🗆
10.VOA vials have zero headspace?	Yes 🗌	No 🗆	No VOA Vials ☑
11. Were any sample containers received broken?	Yes	No 🗹	# of preserved
40 -	v	No □	bottles checked for pH:
12.Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes 🗹	NO L	(<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes 🗹	No 🗆	Adjusted?
14. Is it clear what analyses were requested?	Yes 🗹	No 🗆	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes 🗹	No 🗌	Checked by:
(,			
Special Handling (if applicable)			
16. Was client notified of all discrepancies with this order?	Yes 🗆	No 🗆	NA 🗹
Person Notified: Date:		X to the best of the Co	
By Whom: Via:	eMail F	Phone 🗌 Fax	☐ In Person
Regarding:		and well a second second	Marie Carlos Company Company of the
Client Instructions:		Marketina (Valoritation)	and the second s
17. Additional remarks:			
18. Cooler Information Cooler No Temp °C Condition Seal Intact Seal No 1 3.3 Good Yes	Seal Date	Signed By	

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ΓestAmerica Houston)		֭֭֭֭֭֭֓֞֝֟֝֝֟֝			<u> </u>							<u>a</u>
hone (713) 690-4444 Fax (713) 690-5646	Sampler:	1 2 1		Lab PM	\$			- Q	Cam 60	600-97151	Chain of Custody	Custo	ay Marine		"河水"
in Contact KMI/6: Paro	Phone.	(4)	.	E-Mail.	tail:	berka	ecklin		m muchalba	. /. com		Page: Page	Page: Page 4 of 4		l E
meric							Analysis	is Requested	ested			# doL	***		
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Moinz	TAT Requested (days):	ays):	•									0 W :		N-None	∀
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0836	PO#: WD214204					0						ፗ ወ ገ	ã.	5 - H2SO	4 odecahydrate
City is the branching and July 1.00	ERG-MUH-03-LZ-14-CWO-1	- FO - M.	27-14-6	No-11	No)	30								U - Acetone V - MCAA	re ne
7	Project #: 60005509				65 CY						-		DA S	Z - other (specify)	(specify)
Slow / #9	SSOW#:				(BD (Of CO	ñ		
		<u> </u>	Sample	Matrix (w=water, S=solid,	i Piltered erm MS/I CONTRAC	B-BTEX C						l Number			
ample Identification	Sample Date	Time	G=grab)	3=grab) BT=Tissue, A=Air) Preservation Code:	Per					·		X 101	Special Instructions/Note:	struction	ıs/Note:
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M/4-19 (48-60)	m/t/0	0420	2 6	Solid		,						26-13	AH . in	14	ye iar
	7/7/14	1515	^	Solid						·		400000	11		
T-	8/6/14	1540	7	Solid	T-I Long gr	_							**		
MW-16 (48-50)	7 6 12	1176	C	Solid	_								100		
		0875	>	Solid	-					ļ	<u> </u>		2)		
***	2/10/11	1335	^	Solid		-(400)							, mar.	!	
MW- 18 (48-50)	e Milit	/3/0	^	Solid								<u> </u>	8		
4	11/2/18	0950	C	Solid								<u> </u>	eş.		
$\ f \ $	Port .			9											
	the the			Splin							and versions	-1-24.4. -			
°ossible Hazard Identification ➤ Non-Hazard ──Hammable ──Skin Initant ──Poison B	в Опкпочт		Radiological	1	Sample	ote Disposal (A f Retum To Client	Sample Disposal (A fee may Return To Client	y be asse ⊝ _{Jisp}	be assessed if samples are retained longer Disposal By Lab Archive For	ab ab	ire retair	ied Ion iive For	ger than 1 month) Mont	n onth) Months	
ested: I, II, III, IV, Other (specify)	1				Special	Special Instructions/QC	าs/QC Regi	Requirements:	Sec	ARF	**				
mpty Kit Relinquished by:		Date:		` .	Time:				Method	Method of Shipment					
Fund Bast	Date/Time//4/14		1500	Company [4]		Received by:	5.	Ex		Date/Tip	Date/Time:	/	500	Company	6162
Tal Ex	Bate/Time: 15/14	t.	1	Company		Received by	•	9		Date/Tin	ਰ _ੂ			Company	
	Date/Time:			Сотрапу		Received by	11-2	1 14	,	DateJin	715/1	~	וושי	Company	7
Custody Seals Intact: Custody Seal No.:					Cool	Cooler Température(s) °	20	and Other Remarks:	rks:	7	,				

Sc

Loc: 600 **97151** ipt Checklist

			Date/Time Received.				
JOB NUMBER:			CLIENT:	Ko	ヽエ		
JNPACKED BY:	5		CARRIER/DRIVER:	<u> </u>	ed Ex		
Custody Seal Present:	DYES [] NO	Number of Coolers Re	eceived:		\$	
Cooler ID	Temp Blank	Trip Blank	Observed Temp (℃)	Therm 1D	Them CF	Corrected Temp (℃)]
RV	Y / N Y / N	Y / N Y / N	2,4	606	-0.2	2,2).
	Y / N	Y	PCP Annual Property of the Parket of the Par				
	Y/N	Y / N Y / N					1
	Y / N	Y / N			>		
	Y / N	Y / N		1			-
	Y / N Y / N	Y / N Y / N		10			-
Samples received on ic LABORATORY PRESI Base samples are>pH	ERVATION OF				☐ YES	□ио	
pH paper Lot#							
VOA headspace accep	table (5-6mm):	□YES []NO []NA				
						YES NO	-1
Did samples meet the	laboratory's stand	dard conditio	ns of sample acceptability	upon recei	pt?		
COMMENTS:							
		a t make proper service and a service of the servic	And the state of t	•			

HS-SA-WI-013

Rev. 3: 07/01/2014 9/12/2014

Login Sample Receipt Checklist

Client: MWH Americas Inc Job Number: 600-97151-1

Login Number: 97151 List Source: TestAmerica Houston

List Number: 1

Creator: Joiner, Ninatchka M

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td>Lab does not accept radioactive samples.</td>	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	2.2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

-

A

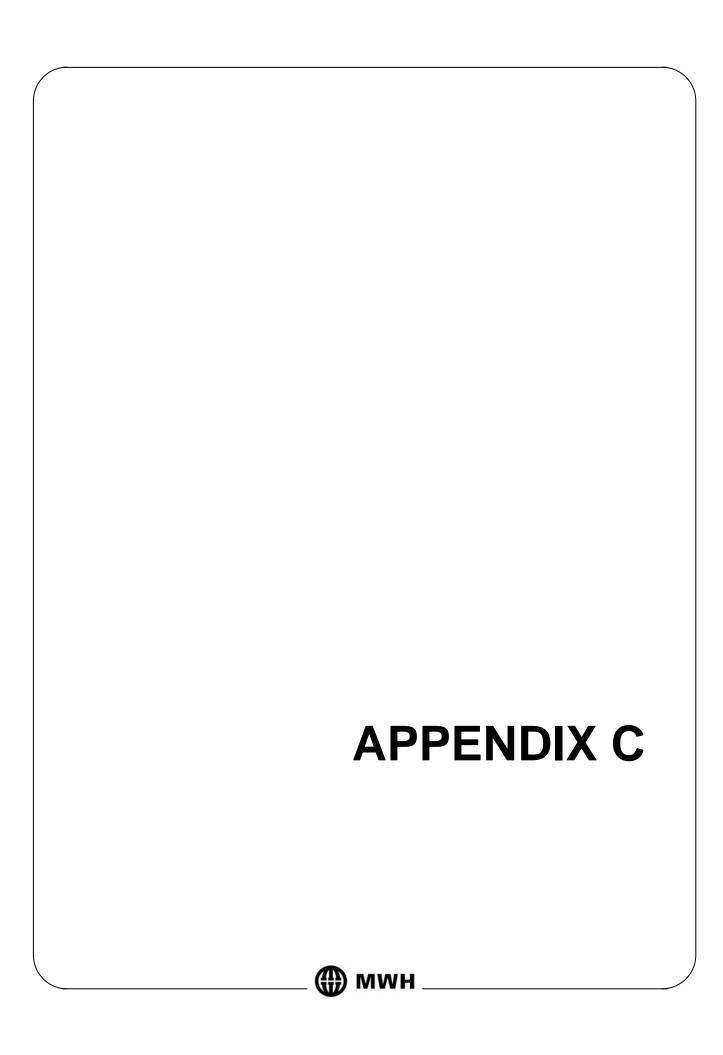
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THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

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

TestAmerica Job ID: 560-46617-1

Client Project/Site: Johnston Federal #4, 4/2/14 BTEX

For:

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

Attn: Ms. Sarah Gardner

Neal Solder

Authorized for release by: 4/22/2014 2:06:35 PM

Neal Salcher, Senior Project Manager neal.salcher@testamericainc.com

·····LINKS ·······

Review your project results through

Total Access

Have a Question?



Visit us at: www.testamericainc.com

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

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

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

Definitions/Glossary

Client: MWH Americas Inc

Project/Site: Johnston Federal #4, 4/2/14 BTEX

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

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

Reporting Limit or Requested Limit (Radiochemistry)

Practical Quantitation Limit

Toxicity Equivalent Factor (Dioxin)
Toxicity Equivalent Quotient (Dioxin)

Quality Control

Relative error ratio

TestAmerica Job ID: 560-46617-1

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.

Glossary

ND

PQL

QC

RER

RPD

TEF

TEQ

RL

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
ИL	Minimum Level (Dioxin)
NC	Not Calculated

Case Narrative

Client: MWH Americas Inc

Project/Site: Johnston Federal #4, 4/2/14 BTEX

TestAmerica Job ID: 560-46617-1

Job ID: 560-46617-1

Laboratory: TestAmerica Corpus Christi

Narrative

Job Narrative 560-46617-1

Comments

No additional comments.

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

GC VOA

Method(s) 8021B: Archon instrument failure, MS/MSD in back of run and did not get run

8021

Batch 100860

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.

TestAmerica Job ID: 560-46617-1

Lab Sample ID: 560-46617-1

Client Sample ID: MW-2

· · · · · · · · · · · · · · · · · · ·						
Analyte	Result Qualifier	RL	MDL Unit	Dil Fac D	Method	Prep Type
Benzene	540	20	2.0 ug/L	10	8021B	Total/NA
Toluene	36	20	3.8 ug/L	10	8021B	Total/NA
Ethylbenzene	230	20	2.0 ug/L	10	8021B	Total/NA
Xylenes, Total	1500	20	6.5 ug/L	10	8021B	Total/NA

Client Sample ID: MW-4 Lab Sample ID: 560-46617-2

No Detections.

Client Sample ID: TMW-5				La	b Sample II	D: 560-46617-3
Analyte	Result Qualifier	RL	MDL Unit	Dil Fac	D Method	Prep Type
Benzene	4900	100	10 ug/L	50	8021B	Total/NA
Toluene	770	100	19 ug/L	50	8021B	Total/NA

Benzene	4900	100	10 ug/L	50	8021B	Total/NA
Toluene	770	100	19 ug/L	50	8021B	Total/NA
Ethylbenzene	510	100	10 ug/L	50	8021B	Total/NA
Xylenes, Total	630	100	32 ug/L	50	8021B	Total/NA

Client Sample ID: MW-7 Lab Sample ID: 560-46617-4 Dil Fac D Method Analyte Result Qualifier RL MDL Unit Prep Type Benzene 3.5 2.0 0.20 ug/L 8021B Total/NA

Ethylbenzene	4.0	2.0	0.20	ug/L	1	8021B	Total/NA
Toluene	3.6	2.0	0.38	ug/L	1	8021B	Total/NA
				•			

Client Sample ID: MW-9 Lab Sample ID: 560-46617-5 Analyte Result Qualifier RLMDL Unit Dil Fac D Method Prep Type Benzene 230 20 2.0 ug/L 10 8021B Total/NA 20 8021B Toluene 27 3.8 ug/L 10 Total/NA Ethylbenzene 140 20 2.0 ug/L 10 8021B Total/NA

Client Sample ID: MW-10	Lab Sample ID: 560-46617-6

20

6.5 ug/L

10

8021B

810

Analyte	Result Qualifier	RL	MDL Unit	Dil Fac D	Method	Prep Type
Benzene	4.3	2.0	0.20 ug/L		8021B	Total/NA
Toluene	7.0	2.0	0.38 ug/L	1	8021B	Total/NA
Xylenes, Total	13	2.0	0.65 ug/L	1	8021B	Total/NA

Client Sample ID: MW-12 Lab Sample ID: 560-46617-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type	
Toluene	0.54	J	2.0	0.38	ug/L	1	_	8021B	Total/NA	•

Client Sample ID: Trip Blank Lab Sample ID: 560-4661

No Detections.

Xylenes, Total

This Detection Summary does not include radiochemical test results.

4/22/2014

Total/NA

Client: MWH Americas Inc

Project/Site: Johnston Federal #4, 4/2/14 BTEX

Client Sample ID: MW-2 Lab Sample ID: 560-46617-1 Date Collected: 04/02/14 09:55 Matrix: Water

Date Received: 04/08/14 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	540		20	2.0	ug/L			04/15/14 17:27	10
Toluene	36		20	3.8	ug/L			04/15/14 17:27	10
Ethylbenzene	230		20	2.0	ug/L			04/15/14 17:27	10
Xylenes, Total	1500		20	6.5	ug/L			04/15/14 17:27	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		58 - 129			-		04/15/14 17:27	10
Trifluorotoluene (Surr)	98		54 ₋ 130					04/15/14 17:27	10

Client Sample ID: MW-4 Lab Sample ID: 560-46617-2

Date Collected: 04/02/14 09:35

Date Received: 04/08/14 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.20		2.0	0.20	ug/L			04/15/14 17:54	1
Toluene	<0.38		2.0	0.38	ug/L			04/15/14 17:54	1
Ethylbenzene	<0.20		2.0	0.20	ug/L			04/15/14 17:54	1
Xylenes, Total	<0.65		2.0	0.65	ug/L			04/15/14 17:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		58 - 129			-		04/15/14 17:54	1
Trifluorotoluene (Surr)	94		54 - 130					04/15/14 17:54	1

Client Sample ID: TMW-5 Lab Sample ID: 560-46617-3

Date Collected: 04/02/14 10:20

Date Received: 04/08/14 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	4900		100	10	ug/L			04/15/14 18:22	50
Toluene	770		100	19	ug/L			04/15/14 18:22	50
Ethylbenzene	510		100	10	ug/L			04/15/14 18:22	50
Xylenes, Total	630		100	32	ug/L			04/15/14 18:22	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		58 - 129			-		04/15/14 18:22	50
Trifluorotoluene (Surr)	100		54 - 130					04/15/14 18:22	50

Client Sample ID: MW-7 Lab Sample ID: 560-46617-4

Date Collected: 04/02/14 10:00 Date Received: 04/08/14 09:45

Method: 8021B - Volatile Orga	anic Compounds (GC)					
Analyte	Result Qualifier	RL	MDL Unit	D Prepared	Analyzed	Dil Fac
Benzene	3.5	2.0	0.20 ug/L		04/15/14 18:50	1
Toluene	3.6	2.0	0.38 ug/L		04/15/14 18:50	1
Ethylbenzene	4.0	2.0	0.20 ug/L		04/15/14 18:50	1
Xylenes, Total	<0.65	2.0	0.65 ug/L		04/15/14 18:50	1

TestAmerica Corpus Christi

Page 5 of 13

Matrix: Water

Matrix: Water

Matrix: Water

Client: MWH Americas Inc

Project/Site: Johnston Federal #4, 4/2/14 BTEX

Lab Sample ID: 560-46617-4

Matrix: Water

Matrix: Water

Matrix: Water

Client Sample ID: MW-7
Date Collected: 04/02/14 10:00

Date Received: 04/08/14 09:45

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		58 - 129		04/15/14 18:50	1
Trifluorotoluene (Surr)	96		54 - 130		04/15/14 18:50	1

Client Sample ID: MW-9 Lab Sample ID: 560-46617-5

Date Collected: 04/02/14 10:30 Matrix: Water

Date Received: 04/08/14 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	230		20	2.0	ug/L			04/15/14 19:18	10
Toluene	27		20	3.8	ug/L			04/15/14 19:18	10
Ethylbenzene	140		20	2.0	ug/L			04/15/14 19:18	10
Xylenes, Total	810		20	6.5	ug/L			04/15/14 19:18	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		58 - 129			-		04/15/14 19:18	10
Trifluorotoluene (Surr)	101		54 ₋ 130					04/15/14 19:18	10

Client Sample ID: MW-10 Lab Sample ID: 560-46617-6

Date Collected: 04/02/14 10:10

Date Received: 04/08/14 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	4.3		2.0	0.20	ug/L			04/15/14 19:46	
Toluene	7.0		2.0	0.38	ug/L			04/15/14 19:46	1
Ethylbenzene	<0.20		2.0	0.20	ug/L			04/15/14 19:46	1
Xylenes, Total	13		2.0	0.65	ug/L			04/15/14 19:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		58 - 129			-		04/15/14 19:46	1
Trifluorotoluene (Surr)	102		54 - 130					04/15/14 19:46	1

Client Sample ID: MW-12 Lab Sample ID: 560-46617-7

Date Collected: 04/02/14 09:00

Date Received: 04/08/14 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.20		2.0	0.20	ug/L			04/15/14 20:14	1
Toluene	0.54	J	2.0	0.38	ug/L			04/15/14 20:14	1
Ethylbenzene	<0.20		2.0	0.20	ug/L			04/15/14 20:14	1
Xylenes, Total	<0.65		2.0	0.65	ug/L			04/15/14 20:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		58 - 129			-		04/15/14 20:14	1
Trifluorotoluene (Surr)	118		54 - 130					04/15/14 20:14	1

TestAmerica Corpus Christi

Client: MWH Americas Inc

Project/Site: Johnston Federal #4, 4/2/14 BTEX

TestAmerica Job ID: 560-46617-1

Client Sample ID: Trip Blank

Lab Sample ID: 560-46617-8 Date Collected: 04/02/14 00:00

Matrix: Water

Date Received: 04/08/14 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.20		2.0	0.20	ug/L			04/15/14 20:41	1
Toluene	<0.38		2.0	0.38	ug/L			04/15/14 20:41	1
Ethylbenzene	<0.20		2.0	0.20	ug/L			04/15/14 20:41	1
Xylenes, Total	<0.65		2.0	0.65	ug/L			04/15/14 20:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		58 - 129			-		04/15/14 20:41	1
Trifluorotoluene (Surr)	96		54 - 130					04/15/14 20:41	1

QC Sample Results

Client: MWH Americas Inc

Project/Site: Johnston Federal #4, 4/2/14 BTEX

TestAmerica Job ID: 560-46617-1

Method: 8021B - Volatile Organic Compounds (GC)

MR MR

Lab Sample ID: MB 560-100860/3

Matrix: Water

Analysis Batch: 100860

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.20		2.0	0.20	ug/L			04/15/14 16:59	1
Toluene	<0.38		2.0	0.38	ug/L			04/15/14 16:59	1
Ethylbenzene	<0.20		2.0	0.20	ug/L			04/15/14 16:59	1
Xylenes, Total	<0.65		2.0	0.65	ug/L			04/15/14 16:59	1

MB MB Limits %Recovery Qualifier Prepared Analyzed Dil Fac 58 - 129 94 04/15/14 16:59 96 54 - 130 04/15/14 16:59

Lab Sample ID: LCS 560-100860/2

Matrix: Water

Analyte

Benzene

Toluene

Ethylbenzene

Xylenes, Total

Surrogate

Analysis Batch: 100860

4-Bromofluorobenzene (Surr)

Trifluorotoluene (Surr)

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

Spike LCS LCS %Rec. Added Result Qualifier Unit %Rec Limits 40.0 41.2 ug/L 103 70 - 130 40.0 42.9 ug/L 107 70 - 130 40.0 41.9 105 70 - 130 ug/L 120 120 ug/L 100 70 - 130

LCS LCS %Recovery Qualifier Limits Surrogate 110 58 - 129 4-Bromofluorobenzene (Surr) Trifluorotoluene (Surr) 107 54 - 130

TestAmerica Corpus Christi

Certification Summary

Client: MWH Americas Inc

Project/Site: Johnston Federal #4, 4/2/14 BTEX

TestAmerica Job ID: 560-46617-1

Laboratory: TestAmerica Corpus Christi

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

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

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Method Summary

Client: MWH Americas Inc

Project/Site: Johnston Federal #4, 4/2/14 BTEX

TestAmerica Job ID: 560-46617-1

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

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Sample Summary

Client: MWH Americas Inc

Project/Site: Johnston Federal #4, 4/2/14 BTEX

TestAmerica Job ID: 560-46617-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-46617-1	MW-2	Water	04/02/14 09:55	04/08/14 09:45
560-46617-2	MW-4	Water	04/02/14 09:35	04/08/14 09:45
560-46617-3	TMW-5	Water	04/02/14 10:20	04/08/14 09:45
560-46617-4	MW-7	Water	04/02/14 10:00	04/08/14 09:45
560-46617-5	MW-9	Water	04/02/14 10:30	04/08/14 09:45
560-46617-6	MW-10	Water	04/02/14 10:10	04/08/14 09:45
560-46617-7	MW-12	Water	04/02/14 09:00	04/08/14 09:45
560-46617-8	Trip Blank	Water	04/02/14 00:00	04/08/14 09:45

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Chain of Custody Record

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

Note Decided to the Decided Scientific	Client Contact. Mr. Daniel Wade Sarah Gardner Company.	Sarah Gardru Phone: 303 291	ur(Chris Lee 2239		Kellogg@testamericainc.com	Fed ex 18036 45897188	560-13131-1157 Page: Page of	157
The properties of the frequency (appril) The properties of the f					Analysis R	equested		Loc: 560
Note Control Control		Due Date Requested:					Preserv	46617
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Publication of the publication			i de la companya de l				E - NaHS F - MeOH	
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Water Sample Disposal (A fee may be assessed if s Date: Return To Client Special Instructions/QC Requirements: Method of Shipment: Time: Method of Shipment: Date/Time: Company Received by: Conter Temperature(s) °C and Other Remarks. Date/Time: Date/Time: Company Received by: Conter Temperature(s) °C and Other Remarks. Date/Time: Date/Tim		0	0,	Water	×		n	
Water Water Water Sample Disposal (A fee may be assessed if sample Disposal By L Second Custom Special Instructions/QC Requirements: Wethod of Shipment:				Water				
Sample Disposal (A fee may by assessed if s Sample Disposal (A fee may by assessed if s Sample Disposal (A fee may by assessed if s Sample Disposal (A fee may by assessed if s S60-46617 Chain of Custoc She conpany Special Instructions/QC Requirements: Date/Time: Date/Time: Time: Method of Shipment She colved by: S				Water		The state of the s		Property of the Control of the Contr
				Water				
Special Instructions/QC Requirements:	ant	l			Sample Disposal (A fee may be		-46617 Chain of Cu	ustody
Date: Time: Network of Shipment: Wethout of Shipment: Company		l			Special Instructions/QC Requirent			
Date/Time: Dat	and the second s	Date:		Tim	1e;	Method of Shipment:	operation in the fact of the contract of the c	OCCUPATION OF THE PROPERTY OF
Conpany Received by: Cooler Temperature(s) *C and Other Remarks.	ا	4 9	9	Company $\mathcal{M}\mathcal{H}$ company	Received by: KELL	Date/Time:	still dist	Company
Cooler Temperature(s) °C and Other Remarks.		Date/Time:		ompany	Received by:	Date/Time:		Company
068 176 Cor				-				
					Cooler Temperature(s) °C and Other	015% \"	Cor	e tou sen

Job Number: 560-46617-1

SDG Number:

Login Number: 46617 List Source: TestAmerica Corpus Christi

List Number: 1

Creator: Rood, Vivian R

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



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: 400-97666-1

Client Project/Site: KM Johnston Fed #4

For:

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

Attn: Ms. Sarah Gardner

Neal Solder

Authorized for release by: 11/7/2014 2:56:03 PM

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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.

Client: MWH Americas Inc Project/Site: KM Johnston Fed #4 TestAmerica Job ID: 400-97666-1

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Definitions/Glossary

Client: MWH Americas Inc Project/Site: KM Johnston Fed #4 TestAmerica Job ID: 400-97666-1

Qualifiers

GC/MS VOA

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.				
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis				
%R	Percent Recovery				
CFL	Contains Free Liquid				
CNF	Contains no Free Liquid				
DER	Duplicate error ratio (normalized absolute difference)				
Dil Fac	Dilution Factor				
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample				
DLC	Decision level concentration				
MDA	Minimum detectable activity				
EDL	Estimated Detection Limit				

MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)

NC Not Calculated

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

PQL Practical Quantitation Limit

QC **Quality Control** Relative error ratio RER

RLReporting 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 Johnston Fed #4

TestAmerica Job ID: 400-97666-1

Job ID: 400-97666-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-97666-1

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

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

VOA Prep

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

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Sample Summary

Client: MWH Americas Inc Project/Site: KM Johnston Fed #4 TestAmerica Job ID: 400-97666-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-97666-1	MW-2	Water	10/23/14 11:35	10/28/14 09:39
400-97666-2	MW-4	Water	10/23/14 10:20	10/28/14 09:3
400-97666-3	MW-6	Water	10/23/14 11:55	10/28/14 09:3
400-97666-4	MW-7	Water	10/23/14 10:35	10/28/14 09:3
400-97666-5	MW-9	Water	10/23/14 10:30	10/28/14 09:3
400-97666-6	MW-10	Water	10/23/14 11:20	10/28/14 09:3
400-97666-7	MW-12	Water	10/23/14 11:10	10/28/14 09:3
400-97666-8	MW-13	Water	10/23/14 11:15	10/28/14 09:3
400-97666-9	MW-14	Water	10/23/14 11:05	10/28/14 09:3
400-97666-10	MW-15	Water	10/23/14 11:00	10/28/14 09:3
400-97666-11	MW-16	Water	10/23/14 10:55	10/28/14 09:3
400-97666-12	MW-17	Water	10/23/14 10:50	10/28/14 09:3
400-97666-13	MW-18	Water	10/23/14 10:40	10/28/14 09:3
400-97666-14	MW-19	Water	10/23/14 10:25	10/28/14 09:3
400-97666-15	MW-20	Water	10/23/14 11:25	10/28/14 09:3
400-97666-16	TRIP BLANK	Water	10/23/14 13:00	10/28/14 09:3

Project/Site: KM Johnston Fed #4

Lab Sample ID: 400-97666-1

TestAmerica Job ID: 400-97666-1

Matrix: Water

Client Sample ID: MW-2 Date Collected: 10/23/14 11:35

Date Received: 10/28/14 09:39

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.74	J	1.0	0.38	ug/L			10/30/14 15:30	1
Ethylbenzene	<0.50		1.0	0.50	ug/L			10/30/14 15:30	1
Toluene	<0.70		1.0	0.70	ug/L			10/30/14 15:30	1
Xylenes, Total	<1.6		10	1.6	ug/L			10/30/14 15:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		78 - 118			-		10/30/14 15:30	1
Dibromofluoromethane	100		81 - 121					10/30/14 15:30	1
Toluene-d8 (Surr)	94		80 - 120					10/30/14 15:30	1

Lab Sample ID: 400-97666-2 Client Sample ID: MW-4

Date Collected: 10/23/14 10:20

Date Received: 10/28/14 09:39

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.38		1.0	0.38	ug/L			10/30/14 15:56	1
Ethylbenzene	<0.50		1.0	0.50	ug/L			10/30/14 15:56	1
Toluene	<0.70		1.0	0.70	ug/L			10/30/14 15:56	1
Xylenes, Total	<1.6		10	1.6	ug/L			10/30/14 15:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	95		78 - 118			-		10/30/14 15:56	1
Dibromofluoromethane	101		81 - 121					10/30/14 15:56	1
Toluene-d8 (Surr)	95		80 - 120					10/30/14 15:56	1

Client Sample ID: MW-6 Lab Sample ID: 400-97666-3 Matrix: Water

Date Collected: 10/23/14 11:55

Date Received: 10/28/14 09:39

Method: 8260B - Volatile C	Organic Compounds ((GC/MS)							
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	230		2.0	0.76	ug/L			10/30/14 22:13	2
Ethylbenzene	420		2.0	1.0	ug/L			10/30/14 22:13	2
Toluene	3.3		2.0	1.4	ug/L			10/30/14 22:13	2
Xvienes Total	120		20	3.2	ua/l			10/30/14 22:13	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	89		78 - 118		10/30/14 22:13	2
Dibromofluoromethane	94		81 - 121		10/30/14 22:13	2
Toluene-d8 (Surr)	96		80 - 120		10/30/14 22:13	2

Client Sample ID: MW-7 Lab Sample ID: 400-97666-4

Date Collected: 10/23/14 10:35

Matrix: Water

Date Received: 10/28/14 09:39

Method: 8260B - Volatile Or	rganic Compounds (GC/M	IS)						
Analyte	Result Qualifi	ier RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	4.6	1.0	0.38	ug/L			10/30/14 16:22	1
Ethylbenzene	2.8	1.0	0.50	ug/L			10/30/14 16:22	1
Toluene	<0.70	1.0	0.70	ug/L			10/30/14 16:22	1

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Project/Site: KM Johnston Fed #4

Lab Sample ID: 400-97666-4

TestAmerica Job ID: 400-97666-1

Client Sample ID: MW-7 Date Collected: 10/23/14 10:35 Date Received: 10/28/14 09:39

Matrix: Water

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 16:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	95		78 - 118			-		10/30/14 16:22	1
Dibromofluoromethane	97		81 - 121					10/30/14 16:22	1
Toluene-d8 (Surr)	93		80 - 120					10/30/14 16:22	1

Client Sample ID: MW-9 Lab Sample ID: 400-97666-5

Date Collected: 10/23/14 10:30

Date Received: 10/28/14 09:39

Matrix: Water

ethod: 8260B - Volatile Or	ganic Compounds ((GC/MS)							
alyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
enzene	10		1.0	0.38	ug/L			10/30/14 16:47	1
hylbenzene	9.4		1.0	0.50	ug/L			10/30/14 16:47	1
luene	1.6		1.0	0.70	ug/L			10/30/14 16:47	1
lenes, Total	2.9	J	10	1.6	ug/L			10/30/14 16:47	1
	alyte Inzene hylbenzene Iuene	Result Result Inscreen 10 hylbenzene 9.4 iluene 1.6	hylbenzene 10 hylbenzene 9.4 lluene 1.6	Result Qualifier RL Inscene 10 1.0 hylbenzene 9.4 1.0 iluene 1.6 1.0	Result Qualifier RL NDL 0.38 Inscene 10 1.0 0.38 hylbenzene 9.4 1.0 0.50 iluene 1.6 1.0 0.70	Result on part of the properties of the part of the par	Result on the properties of the properties	Result on part of part	Result onzene Result onzene Qualifier RL onzene MDL onzene Unit onzene D onzene Prepared onzene Analyzed onzene hylbenzene oluene 9.4 1.0 0.50 ug/L ug/L 10/30/14 16:47 luene 1.6 1.0 0.70 ug/L 10/30/14 16:47

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	91		78 - 118		10/30/14 16:47	1
Dibromofluoromethane	91		81 - 121		10/30/14 16:47	1
Toluene-d8 (Surr)	93		80 - 120		10/30/14 16:47	1

Client Sample ID: MW-10

Date Collected: 10/23/14 11:20

Date Received: 10/28/14 09:39

Lab Sample	ID: 400-97666-6
	Matrix: Water

Method: 8260B - Volat	ile Organic Compounds ((GC/MS)							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	93		1.0	0.38	ug/L			10/30/14 17:12	1
Ethylbenzene	87		1.0	0.50	ug/L			10/30/14 17:12	1
Toluene	1.3		1.0	0.70	ug/L			10/30/14 17:12	1
Xylenes, Total	50		10	1.6	ug/L			10/30/14 17:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	93		78 - 118		10/30/14 17:12	1
Dibromofluoromethane	95		81 - 121		10/30/14 17:12	1
Toluene-d8 (Surr)	97		80 - 120		10/30/14 17:12	1

Client Sample ID: MW-12 Lab Sample ID: 400-97666-7

Date Collected: 10/23/14 11:10 Date Received: 10/28/14 09:39 **Matrix: Water**

Method: 8260B - Volatile C	Organic Compounds	(GC/MS)							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.71	J	1.0	0.38	ug/L			10/30/14 17:38	1
Ethylbenzene	0.59	J	1.0	0.50	ug/L			10/30/14 17:38	1
Toluene	<0.70		1.0	0.70	ug/L			10/30/14 17:38	1
Xvlenes Total	<1.6		10	1.6	ua/l			10/30/14 17:38	1

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Project/Site: KM Johnston Fed #4

Lab Sample ID: 400-97666-7

10/30/14 22:38

10/30/14 22:38

10/31/14 10:57

10/30/14 18:03

10/30/14 18:03

2

2

TestAmerica Job ID: 400-97666-1

Matrix: Water

Client Sample ID: MW-12

Date Collected: 10/23/14 11:10 Date Received: 10/28/14 09:39

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	96		78 - 118	10/	/30/14 17:38	1
Dibromofluoromethane	104		81 - 121	10/	/30/14 17:38	1
Toluene-d8 (Surr)	92		80 - 120	10/	/30/14 17:38	1

Lab Sample ID: 400-97666-8 Client Sample ID: MW-13

Date Collected: 10/23/14 11:15 **Matrix: Water**

Date Received: 10/28/14 09:39

Dibromofluoromethane

Toluene-d8 (Surr)

Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS) Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac 2.0 10/30/14 22:38 Ethylbenzene 7.8 1.0 ug/L 2 10/30/14 22:38 20 2 **Toluene** 2.0 1.4 ug/L 20 10/30/14 22:38 2 **Xylenes, Total** 21 3.2 ug/L Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 96 78 - 118 10/30/14 22:38 2 4-Bromofluorobenzene

81 - 121

80 - 120

93

97

96

100

92

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	710		5.0	1.9	ug/L			10/31/14 10:57	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	95		78 - 118			-		10/31/14 10:57	5
Dibromofluoromethane	100		81 - 121					10/31/14 10:57	5

Client Sample ID: MW-14 Lab Sample ID: 400-97666-9 Date Collected: 10/23/14 11:05 Matrix: Water

80 - 120

Date Received: 10/28/14 09:39

Method: 8260B - Volatile Organic Compounds (GC/MS) Result Qualifier Analyte RL MDL Unit D Dil Fac Prepared Analyzed 1.0 Benzene <0.38 0.38 ug/L 10/30/14 18:03 Ethylbenzene <0.50 1.0 0.50 ug/L 10/30/14 18:03 Toluene <0.70 1.0 10/30/14 18:03 0.70 ug/L 10 10/30/14 18:03 Xylenes, Total <1.6 1.6 ug/L %Recovery Qualifier Limits Prepared Analyzed Dil Fac Surrogate 4-Bromofluorobenzene 95 78 - 118 10/30/14 18:03

Client Sample ID: MW-15 Lab Sample ID: 400-97666-10

81 - 121

80 - 120

Date Collected: 10/23/14 11:00 Date Received: 10/28/14 09:39

Dibromofluoromethane

Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS) Result Qualifier Dil Fac Analyte RLMDL Unit D Prepared Analyzed Benzene 61 1.0 0.38 ug/L 10/30/14 18:28 Ethylbenzene 18 1.0 10/30/14 18:28 0.50 ug/L

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Matrix: Water

TestAmerica Job ID: 400-97666-1

Client: MWH Americas Inc Project/Site: KM Johnston Fed #4

Client Sample ID: MW-15

Lab Sample ID: 400-97666-10

Matrix: Water

Matrix: Water

Date Collected: 10/23/14 11:00 Date Received: 10/28/14 09:39

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	1.0		1.0	0.70	ug/L			10/30/14 18:28	1
Xylenes, Total	120		10	1.6	ug/L			10/30/14 18:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	94		78 - 118			-		10/30/14 18:28	1
Dibromofluoromethane	98		81 - 121					10/30/14 18:28	1
Toluene-d8 (Surr)	97		80 - 120					10/30/14 18:28	1

Client Sample ID: MW-16 Lab Sample ID: 400-97666-11

Date Collected: 10/23/14 10:55

Date Received: 10/28/14 09:39

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.93	J	1.0	0.38	ug/L			10/30/14 18:53	1
Ethylbenzene	<0.50		1.0	0.50	ug/L			10/30/14 18:53	1
Toluene	<0.70		1.0	0.70	ug/L			10/30/14 18:53	1
Xylenes, Total	3.4	J	10	1.6	ug/L			10/30/14 18:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	97		78 - 118			-		10/30/14 18:53	1
Dibromofluoromethane	99		81 - 121					10/30/14 18:53	1
Toluene-d8 (Surr)	95		80 - 120					10/30/14 18:53	1

Client Sample ID: MW-17 Lab Sample ID: 400-97666-12

Date Collected: 10/23/14 10:50

Date Received: 10/28/14 09:39

Method: 8260B - Volatile Or	ganic Compounds	(GC/MS)							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	3.0		1.0	0.38	ug/L			10/30/14 19:18	1
Ethylbenzene	1.5		1.0	0.50	ug/L			10/30/14 19:18	1
Toluene	<0.70		1.0	0.70	ug/L			10/30/14 19:18	1
Xylenes, Total	4.6	J	10	1.6	ug/L			10/30/14 19:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98	-	78 - 118			=		10/30/14 19:18	1
Dibromofluoromethane	97		81 - 121					10/30/14 19:18	1
Toluene-d8 (Surr)	97		80 - 120					10/30/14 19:18	1

Client Sample ID: MW-18 Lab Sample ID: 400-97666-13

Date Collected: 10/23/14 10:40

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	6.5		1.0	0.38	ug/L			10/30/14 19:43	1
Ethylbenzene	<0.50		1.0	0.50	ug/L			10/30/14 19:43	1
Toluene	3.2		1.0	0.70	ug/L			10/30/14 19:43	1
Xylenes, Total	11		10	1.6	ug/L			10/30/14 19:43	1

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Matrix: Water

Client: MWH Americas Inc Project/Site: KM Johnston Fed #4

Lab Sample ID: 400-97666-13

TestAmerica Job ID: 400-97666-1

Matrix: Water

Client Sample ID: MW-18

Date Collected: 10/23/14 10:40 Date Received: 10/28/14 09:39

Surrogate	%Recovery	Qualifier	Limits	Prepared Analyzed	Dil Fac
4-Bromofluorobenzene	94		78 - 118	10/30/14 19:43	1
Dibromofluoromethane	96		81 - 121	10/30/14 19:43	1
Toluene-d8 (Surr)	94		80 - 120	10/30/14 19:43	1

Client Sample ID: MW-19 Lab Sample ID: 400-97666-14

Date Collected: 10/23/14 10:25 Matrix: Water

Date Received: 10/28/14 09:39

Method: 8260B - Volatile Or	ganic Compounds	(GC/MS)							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	22		1.0	0.38	ug/L			10/30/14 20:08	1
Ethylbenzene	1.7		1.0	0.50	ug/L			10/30/14 20:08	1
Toluene	6.0		1.0	0.70	ug/L			10/30/14 20:08	1
Xylenes, Total	20		10	1.6	ug/L			10/30/14 20:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	97		78 - 118			=		10/30/14 20:08	1
Dibromofluoromethane	102		81 - 121					10/30/14 20:08	1
Toluene-d8 (Surr)	91		80 - 120					10/30/14 20:08	1

Client Sample ID: MW-20 Lab Sample ID: 400-97666-15

Date Collected: 10/23/14 11:25 Matrix: Water

Date Received: 10/28/14 09:39

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	28		1.0	0.38	ug/L			10/30/14 20:33	1
Ethylbenzene	2.6		1.0	0.50	ug/L			10/30/14 20:33	1
Toluene	2.7		1.0	0.70	ug/L			10/30/14 20:33	1
Xylenes, Total	42		10	1.6	ug/L			10/30/14 20:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	97		78 - 118			-		10/30/14 20:33	1
Dibromofluoromethane	99		81 - 121					10/30/14 20:33	1
Toluene-d8 (Surr)	97		80 - 120					10/30/14 20:33	1

Client Sample ID: TRIP BLANK Lab Sample ID: 400-97666-16

Date Collected: 10/23/14 13:00 Matrix: Water

Date Received: 10/28/14 09:39

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.38		1.0	0.38	ug/L		<u> </u>	10/30/14 20:58	1
Ethylbenzene	<0.50		1.0	0.50	ug/L			10/30/14 20:58	1
Toluene	<0.70		1.0	0.70	ug/L			10/30/14 20:58	1
Xylenes, Total	<1.6		10	1.6	ug/L			10/30/14 20:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	95		78 - 118			-		10/30/14 20:58	1
Dibromofluoromethane	101		81 - 121					10/30/14 20:58	1
Toluene-d8 (Surr)	95		80 - 120					10/30/14 20:58	1

TestAmerica Pensacola

TestAmerica Job ID: 400-97666-1

Project/Site: KM Johnston Fed #4

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

Lab Sample ID: MB 400-234839/5

Matrix: Water

Analysis Batch: 234839

Client Sample ID: Method Blank

Prep Type: Total/NA

	IVID	IVID							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.38		1.0	0.38	ug/L			10/30/14 13:46	1
Ethylbenzene	<0.50		1.0	0.50	ug/L			10/30/14 13:46	1
Toluene	<0.70		1.0	0.70	ug/L			10/30/14 13:46	1
Xylenes, Total	<1.6		10	1.6	ug/L			10/30/14 13:46	1

MB MB Limits Surrogate Qualifier Prepared Analyzed Dil Fac %Recovery 78 - 118 4-Bromofluorobenzene 96 10/30/14 13:46 99 81 - 121 10/30/14 13:46 Dibromofluoromethane Toluene-d8 (Surr) 80 - 120 10/30/14 13:46 91

Lab Sample ID: LCS 400-234839/1003

Matrix: Water

Analysis Batch: 234839

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

•	Spike	LCS	LCS				%Rec.
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Benzene	50.0	55.0		ug/L		110	79 - 120
Ethylbenzene	50.0	54.1		ug/L		108	80 - 120
Toluene	50.0	51.4		ug/L		103	80 - 120
Xylenes, Total	100	107		ug/L		107	70 - 130

LCS LCS Surrogate %Recovery Qualifier Limits 4-Bromofluorobenzene 91 78 - 118 Dibromofluoromethane 95 81 - 121 Toluene-d8 (Surr) 95 80 - 120

Client Sample ID: MW-2 Lab Sample ID: 400-97666-1 MS **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 234839

Sample Sample Spike MS MS %Rec. Analyte Result Qualifier Added %Rec Limits Result Qualifier Unit Benzene 0.74 50.0 55.8 ug/L 110 10 - 150 Ethylbenzene 50.0 < 0.50 53.2 ug/L 106 10 - 150 Toluene < 0.70 50.0 49.7 ug/L 99 10 - 150 Xylenes, Total <1.6 100 105 ug/L 105 10 - 150

	MS MS	
Surrogate	%Recovery Quali	fier Limits
4-Bromofluorobenzene	94	78 - 118
Dibromofluoromethane	98	81 - 121
Toluene-d8 (Surr)	95	80 - 120

Lab Sample ID: 400-97666-1 MSD

Matrix: Water

Analysis Batch: 234839

Analysis Daton. 204003											
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.74	J	50.0	55.9		ug/L		110	10 - 150	0	19
Ethylbenzene	<0.50		50.0	53.8		ua/L		108	10 - 150	1	40

TestAmerica Pensacola

Client Sample ID: MW-2

Prep Type: Total/NA

Page 11 of 18

Client: MWH Americas Inc Project/Site: KM Johnston Fed #4 TestAmerica Job ID: 400-97666-1

Client Sample ID: MW-2

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

Lab Sample ID: 400-97666-1 MSD

Matrix: Water								Prep 1	Type: Tot	tal/NA
Analysis Batch: 234839										
	Sample Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit

Analyto	Nosuit	Qualifici	Audeu	ittosuit	Qualifici	Oilit	_	/01100	Lillits	111 0		
Toluene	<0.70		50.0	50.5		ug/L	_	101	10 - 150	2	26	
Xylenes, Total	<1.6		100	107	l	ug/L		107	10 _ 150	2	41	
	MSD	MSD										

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene	95		78 - 118
Dibromofluoromethane	97		81 - 121
Toluene-d8 (Surr)	94		80 - 120

Lab Sample ID: MB 400-235011/4 **Client Sample ID: Method Blank** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 235011

MB MB

Analyte	Result Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.38	1.0	0.38 ug/L			10/31/14 09:45	1

MB MB

Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	91		78 - 118	_		10/31/14 09:45	1
Dibromofluoromethane	106		81 - 121			10/31/14 09:45	1
Toluene-d8 (Surr)	95		80 - 120			10/31/14 09:45	1

Lab Sample ID: LCS 400-235011/1002

Matrix: Water

Allalysis Batch. 235011								
	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	50.0	54.6		ug/L		109	79 - 120	 -

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene	91		78 - 118
Dibromofluoromethane	109		81 - 121
Toluene-d8 (Surr)	96		80 - 120

TestAmerica Pensacola

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Project/Site: KM Johnston Fed #4

Lab Sample ID: 400-97666-1

Matrix: Water

Date Collected: 10/23/14 11:35 Date Received: 10/28/14 09:39

Client Sample ID: MW-4

Date Collected: 10/23/14 10:20

Date Received: 10/28/14 09:39

Total/NA

Analysis

8260B

Client Sample ID: MW-2

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	234839	10/30/14 15:30	CAR	TAL PEN

Lab Sample ID: 400-97666-2

Matrix: Water

Batch Batch Dilution Batch Prepared Method Factor Prep Type Type Run Number or Analyzed Analyst Lab Total/NA 8260B 234839 10/30/14 15:56 CAR TAL PEN Analysis

Client Sample ID: MW-6 Lab Sample ID: 400-97666-3

Date Collected: 10/23/14 11:55 Matrix: Water Date Received: 10/28/14 09:39

Batch Batch Dilution Batch Prepared Prep Type Туре Method Run Factor Number or Analyzed Analyst

8260B 234839 Total/NA Analysis 10/30/14 22:13 CAR TAL PEN

Lab Sample ID: 400-97666-4 Client Sample ID: MW-7 Date Collected: 10/23/14 10:35 **Matrix: Water**

Date Received: 10/28/14 09:39

Batch Batch Dilution Batch Prepared Method Prep Type Туре Run Factor Number or Analyzed Analyst Lab

Client Sample ID: MW-9 Lab Sample ID: 400-97666-5

234839

10/30/14 16:22

CAR

TAL PEN

Date Collected: 10/23/14 10:30 **Matrix: Water** Date Received: 10/28/14 09:39

Batch Dilution Batch Batch Prepared

Method Prep Type Type Run Factor Number or Analyzed Analyst Lab Analysis 8260B 234839 TAL PEN Total/NA 10/30/14 16:47 CAR

Client Sample ID: MW-10 Lab Sample ID: 400-97666-6

Date Collected: 10/23/14 11:20 Matrix: Water Date Received: 10/28/14 09:39

Batch Batch Dilution Batch Prepared Method **Prep Type** Type Run Factor Number or Analyzed Analyst Lab Total/NA Analysis 8260B 234839 10/30/14 17:12 CAR TAL PEN Client: MWH Americas Inc Project/Site: KM Johnston Fed #4

Lab Sample ID: 400-97666-7

Matrix: Water

Client Sample ID: MW-12 Date Collected: 10/23/14 11:10 Date Received: 10/28/14 09:39

Date Received: 10/28/14 09:39

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	234839	10/30/14 17:38	CAR	TAL PEN

Lab Sample ID: 400-97666-8

Client Sample ID: MW-13 Date Collected: 10/23/14 11:15

Matrix: Water

Batch Batch Dilution Batch Prepared Method Factor Number or Analyzed Prep Type Type Run Analyst Lab DL Total/NA Analysis 8260B 5 235011 10/31/14 10:57 CLN TAL PEN Total/NA 8260B 2 234839 10/30/14 22:38 CAR TAL PEN Analysis

Client Sample ID: MW-14 Lab Sample ID: 400-97666-9

Matrix: Water

Date Collected: 10/23/14 11:05 Date Received: 10/28/14 09:39

Batch Batch Dilution Batch Prepared Method **Prep Type** Type Run Factor Number or Analyzed Analyst Lab Total/NA Analysis 8260B 234839 10/30/14 18:03 CAR TAL PEN

Client Sample ID: MW-15 Lab Sample ID: 400-97666-10

Date Collected: 10/23/14 11:00

Date Received: 10/28/14 09:39

Matrix: Water

Batch Dilution Batch Batch Prepared Method Prep Type Туре Run Factor Number or Analyzed **Analyst** Lab Total/NA Analysis 8260B 234839 CAR TAL PEN 10/30/14 18:28

Client Sample ID: MW-16 Lab Sample ID: 400-97666-11

Date Collected: 10/23/14 10:55

Date Received: 10/28/14 09:39

Matrix: Water

Batch Batch Dilution Batch Prepared Prep Type Туре Method Run Factor Number or Analyzed Analyst Lab Total/NA Analysis 8260B 234839 10/30/14 18:53 CAR TAL PEN

Client Sample ID: MW-17 Lab Sample ID: 400-97666-12

Date Collected: 10/23/14 10:50

Date Received: 10/28/14 09:39

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	234839	10/30/14 19:18	CAR	TAL PEN

Matrix: Water

Project/Site: KM Johnston Fed #4

TestAmerica Job ID: 400-97666-1

Client Sample ID: MW-18

Date Collected: 10/23/14 10:40 Date Received: 10/28/14 09:39

Analysis

Analysis

Lab Sample ID: 400-97666-13

Matrix: Water

Batch Batch Dilution Batch Prep Type Туре Method Run Factor Number

8260B

8260B

Prepared or Analyzed 10/30/14 19:43

10/30/14 20:08

CAR

234839

234839

Analyst CAR TAL PEN

Client Sample ID: MW-19

Date Collected: 10/23/14 10:25

Total/NA

Total/NA

Lab Sample ID: 400-97666-14

Matrix: Water

Date Received: 10/28/14 09:39

Batch Batch Dilution Batch Prepared Method Factor Number Prep Type Туре Run or Analyzed Analyst

Lab TAL PEN

Client Sample ID: MW-20

Lab Sample ID: 400-97666-15

Matrix: Water

Date Collected: 10/23/14 11:25 Date Received: 10/28/14 09:39

Batch Dilution Batch Prepared Batch Prep Type Method Factor Number or Analyzed Туре Run Analyst Lab Total/NA Analysis 8260B 234839 10/30/14 20:33 CAR TAL PEN

Client Sample ID: TRIP BLANK

Lab Sample ID: 400-97666-16

Matrix: Water

Date Collected: 10/23/14 13:00 Date Received: 10/28/14 09:39

Dilution Batch Batch Batch Prepared Method **Prep Type** Type Run Factor Number or Analyzed Analyst Lab Total/NA Analysis 8260B 234839 10/30/14 20:58 CAR TAL PEN

Laboratory References:

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

TestAmerica Pensacola

Method Summary

Client: MWH Americas Inc

Project/Site: KM Johnston Fed #4

TestAmerica Job ID: 400-97666-1

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

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

Chain of Custody Record

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166 TestAmerica Indicated to the Indicated Indi

N - None
O - AsNaO2
P - Na2O4S
Q - Na2SSO3
R - Na2SSSO3
S - H2SO4
T - TSP Dodecafydrate Special Instructions/Note: W - ph 4-5 Z - other (specify) Company Company Months Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Special Instructions/QC Requirements: COC No: 560-15303-1537.1 Preservation Codes H - Ascorbic Acid Page: Page 1 of 1 Job #: E - NaHSO4 F - MeOH I - loe J - Di Water K - EDTA L - EDA G - Amchlor arenistrog to redmuly istoT Date/Time: 0,0 400-97666 COC Analysis Requested Sooler Temperature(s) C and Other Remarks: neal.salcher@testamericainc.com Received by: Lab PM: Salcher, Neal Perform MS/MSD (Yes or No) Ompany MWH Matrix (W=water, S=solid, O=waste/oil Water Water Water Water Company Chris Lee, Savan Gadner Type (C=comp, G=grab) Sample Radiological 303 291-2242 S 5 ও S ড J J ও S P 5 965 Po#: Purchase Order Requested 16/23/14 1055 1135 Sample 10/23/14 1100 10/23/14 1035 10/23/14 1115 10/23/14 1105 10/23/14 1155 1120 0111 4/152/01 10/23/14 1026 16.30 Date: 10/27/14 Date/Fime: / (AT Requested (days): Unknown Due Date Requested: 10/23/14 Sample Date wo#. As per Enfos 10123/14 10/23/14 Project #: 56004979 SSOW#. Date/Time: Poison B Howelet Name:
KAN-Lot-0-24-Line-Drip K.M. Johnshan F.c. #4 Skin Irritant Peliverable Requested: I, II, III, IV, Other (specify) Custody Seal No.: Rossible Hazard Identification 801 California Street Suite 2900 sarah.gardner@mwhglobal.com Empty Kit Relinquished by: Control of the Contro Custody Seals Intact:

Δ Yes Δ No Client Information Sample Identification **WWH Americas Inc** Vis. Sarah Gardner 303-291-2239(Tel) MW-12 MW-13 MW-9 BE-15 01-MW *71-*~₩ 2 - SE AW-16 M 62-4 U-MW elinquished by: 12-21 State, Zip: CO, 80202 Denver

			1	
TestAmerica Corpus Christi	 1733 N. Padre Island Drive 	Corpus Christí, TX 78408	Phone (361) 289-2673 Fax (361) 289-2471	

Chain of Custody Record

TestAmerice

1733 NPadre Island Drive Corpus Christi, TX 78408	Chain of C	of Custody Record	Sandra Sandra		うどうじょくだい
Phone (361) 289-2673 Fax (361) 289-2471					the indopen as natural constitut
Client Information	Sampler. Chis Lee, Sarah Chadnel		Carrier Tr	acking No(s): CC	COC No: 560-15216-1512.2
Client Contact Ms. Sarah Gardner	, 29,		E-Mail: neal.salcher@testamericainc.com	<u>a</u> à	Page: Page 2 of 2
Company: MWH Americas Inc			Analysis Requested		Job #;
Address: 1801 California Street Suite 2900	Due Date Requested:				vation Code
City: Denver	TAT Requested (days):	<i>* 3/8</i>		1.00	A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2
State, Zip: CO, 80202					
Phone: 303-291-2239(Tel)	Po #: Purchase Order Requested	塞蒙(6		L O I	F - MeOH R - Na2S2SO3 G - Amchlor S - H2SO4 H - Ascontic Acid T - TSP Dodecatvotrate
Email: sarah.gardner@mwhglobal.com	wo#. As per Enfos	N dos		Maria de la composición dela composición de la composición dela composición de la composición de la composición de la composición de la composición dela composición de la com	ы Н
Project Name: KM Johnston Fed #4	Project #. 56004969	ө Д) ө	io se		K - EDTA W - ph 4-5 L - EDA Z - other (specify)
Site:	SSOW#:	dwgs	, , , , , , , , , , , , , , , , , , ,		Other:
	Sample	ple Matrix Composition (w-water, composition)	Missim, Missim	red Mumber	age contact have no accorded 200 th
Sample Identification		BT=Tissue, A=Air.)		o1 X	Special Instructions/Note:
M.S-17		Water			Total Mills Richard Communication Communication
61-WW 80	0/105 /	Water	×		
	1025	Water	. ><	<u> </u>	
M-20	1125	Water	×		
TRIP BLANK		Water	X	28 / 38 28	
		Water			
		Water		- 2	
		Water		7. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	
		Water			
Possiple Hazard Identification Ron-Hazard Flammable Skin Irritant Poison B	on B Unknown Radiological	al	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	if samples are retained lu v Lab	onger than 1 month) or Months
, III, IV, Other (specify)			Special Instructions/QC Requirements:		
Empty Kit Relinquished by:	Date:	Time:		Method of Shipment:	
	Date/Time: 10/27/14 915	Company	Recorded by Manager	Date Time: JEACH	94 Company
Relinquished	Date/fime:	Company	Received by:	Date/Time:	Company
Reinquished by:	Date/Time:	Company	Received by:	Date/Time:	Сотрапу
Custody Seals Intact Custody Seal No.: A Yes A No			Cooler Temperature(s) °C and Other Remarks;	302	The