2015 ANNUAL GROUNDWATER REPORT

Hammond #41A
NMOCD Case#: 3RP-186-0
Meter Code: 89894
T27N, R8W, Sec25, Unit 0

SITE DETAILS

Site Location: Latitude: 36.540090 N, Longitude: -107.631944 W
Land Type: Federal
Operator: M&G Drilling Company

SITE BACKGROUND

- **Site Assessment:** 6/94
- **Excavation:** 7/94
- **Re-excavation:** 5/97
- **ORC Nutrient Injection:** 7/98

Environmental Remediation activities at the Hammond #41A (Site) are managed pursuant to the procedures set forth in the document entitled, "Remediation Plan for Groundwater Encountered during Pit Closure Activities" (Remediation Plan, El Paso Natural Gas Company / El Paso Field Services Company, 1995). This Remediation Plan was conditionally approved by the New Mexico Oil Conservation Division (OCD) in correspondence dated November 30, 1995; and the OCD approval conditions were adopted into El Paso CGP Company (EPCPG) program methods. Currently, the Site is operated by M & G Drilling Company and is active.

The Site is located on Federal land. Various site investigations have occurred from 1994 through 2003. Monitoring wells were installed in 1997 (MW-1), 1999 (MW-2 and MW-3), and 2003 (MW-4). Currently, groundwater sampling is conducted on a semi-annual basis and free product was not observed in 2015.

SUMMARY OF 2015 ACTIVITIES

On May 31 and November 21, 2015, water levels were gauged at MW-1, MW-2, MW-3, and MW-4. Groundwater samples were collected from each well that did not contain free product using HydraSleeve™ (HydraSleeve) no-purge passive groundwater sampling devices. 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 protocol to TestAmerica Laboratories, Inc. in Pensacola, Florida where they were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX). Additional field parameters are collected from the excess sample water recovered by the HydraSleeve. Excess sample water is poured into a YSI multi-parameter instrument sample cup and analyzed. Field parameters include dissolved oxygen, temperature, conductivity, pH, and oxidation-reduction potential. Field parameters are not collected if free product is present. The unused sample water is combined in a waste container and taken to Basin Disposal, Inc. for disposal.

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SUMMARY TABLES

Historic analytical and water level data are summarized in Table 1 and Table 2, respectively.

SITE MAPS

Groundwater analytical maps (Figures 1and 3) and groundwater elevation contour maps (Figures 2 and 4) summarize results of the 2015 groundwater sampling and gauging events.

ANALYTICAL LAB REPORTS

The groundwater analytical lab reports are included as Appendix A.

GROUNDWATER RESULTS

- During both 2015 sampling events MW-1, MW-2, MW-3, and MW-4 water levels were all gauged and measured as dry. Because MW-4 was the only well that contained measurable groundwater; elevation contours are not provided (Figures 2, and 4).

- Concentrations of BTEX constituents in groundwater samples collected from monitoring well MW-4 exhibited either non-detect or below New Mexico Water Quality Control Commission standards for BTEX in 2015.

- BTEX constituents were not sampled for at MW-1, MW-2, and MW-3 due to insufficient groundwater during the 2015 sampling events.

PLANNED FUTURE ACTIVITIES

Additional monitoring wells are planned for future installation at the Site. The wells will be installed to further assess the extent of the dissolved-phase hydrocarbons and to confirm and/or further define the groundwater gradient at the Site. Monitoring wells will be installed around the known extent of dissolved-phase hydrocarbons in order to better delineate impacts from the former pit. Monitoring wells MW-1, MW-2, and MW-3 will be plugged and abandoned. Plugging activities will be completed in accordance with NMED, Ground Water Quality Bureau, Monitoring Well Construction and Abandonment Guidelines, dated March 2011. Groundwater monitoring events will be conducted on a semi-annual basis.

TABLE

TABLE 1 - GROUNDWATER ANYALYTICAL RESULTS

Hammond #41A					
Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards:		10	750	750	620
MW-1	05/21/97	150	60.1	56.7	484
MW-1	06/09/97	190	12.3	36.9	181
MW-1	09/17/97	1230	<5	263	830
MW-1	12/09/97	685	<1	141	261
MW-1	03/20/98	662	3.06	78.7	292
MW-1	06/04/98	286	2.43	38.4	140
MW-1	09/10/98	391	<1	34	144
MW-1	12/17/98	330	1.6	30	150
MW-1	03/23/99	197	<1	15.8	74.1
MW-1	06/11/99	260	3.3	42	270
MW-1	09/20/99	460	16	78	440
MW-1	12/09/99	110	3.9	13	53
MW-1	03/31/00	98	3.4	19	59
MW-1	06/09/00	290	9.7	49	290
MW-1	09/21/00	110	1.7	16	44
MW-1	12/05/00	10	<0.5	3.6	4.3
MW-1	06/04/01	39	0.6	5.5	16
MW-1	08/07/01	33	<0.5	2.8	4.9
MW-1	11/27/01	3.2	<0.5	0.6	<0.5
MW-1	02/25/02	3.9	<0.5	0.5	<1
MW-1	05/21/02	4.4	<0.5	<0.5	<1
MW-1	08/21/02	NS	NS	NS	NS
MW-1	09/05/02	2.7	0.5	2.2	1.4
MW-1	11/15/03	NS	NS	NS	NS
MW-1	02/29/04	NS	NS	NS	NS
MW-1	05/11/04	NS	NS	NS	NS
MW-1	08/19/04	NS	NS	NS	NS

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Hammond #41A					
Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards:		10	750	750	620
MW-1	11/16/04	NS	NS	NS	NS
MW-1	02/21/05	NS	NS	NS	NS
MW-1	05/18/05	NS	NS	NS	NS
MW-1	08/23/05	NS	NS	NS	NS
MW-1	11/08/05	NS	NS	NS	NS
MW-1	02/23/06	NS	NS	NS	NS
MW-1	05/23/06	NS	NS	NS	NS
MW-1	11/08/06	NS	NS	NS	NS
MW-1	05/24/07	26.6	106	77.4	446
MW-1	08/21/07	NS	NS	NS	NS
MW-1	11/13/07	NS	NS	NS	NS
MW-1	02/12/08	NS	NS	NS	NS
MW-1	08/26/08	NS	NS	NS	NS
MW-1	02/17/09	NS	NS	NS	NS
MW-1	08/25/09	NS	NS	NS	NS
MW-1	02/16/10	NS	NS	NS	NS
MW-1	02/01/11	NS	NS	NS	NS
MW-1	09/23/11	NS	NS	NS	NS
MW-1	02/22/12	NS	NS	NS	NS
MW-1	06/05/13	NS	NS	NS	NS
MW-1	09/11/13	NS	NS	NS	NS
MW-1	12/11/13	NS	NS	NS	NS
MW-1	04/04/14	NS	NS	NS	NS
MW-1	10/24/14	NS	NS	NS	NS
MW-1	05/31/15	NS	NS	NS	NS
MW-1	11/21/15	NS	NS	NS	NS

TABLE 1 - GROUNDWATER ANYALYTICAL RESULTS

Hammond #41A					
Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards:		10	750	750	620
MW-2	10/15/99	<0.5	<0.5	<0.5	<0.5
MW-2	08/28/00	69	1.3	9.4	28
MW-2	06/04/01	<0.5	<0.5	<0.5	<0.5
MW-2	08/07/01	<0.5	<0.5	<0.5	<0.5
MW-2	11/27/01	<0.5	<0.5	<0.5	<0.5
MW-2	02/25/02	<0.5	<0.5	<0.5	<1
MW-2	05/21/02	<0.5	<0.5	<0.5	<1
MW-2	08/21/02	NS	NS	NS	NS
MW-2	10/08/02	<0.5	<0.5	<0.5	0.5
MW-2	11/15/03	NS	NS	NS	NS
MW-2	02/29/04	NS	NS	NS	NS
MW-2	05/11/04	NS	NS	NS	NS
MW-2	08/19/04	NS	NS	NS	NS
MW-2	11/16/04	NS	NS	NS	NS
MW-2	02/21/05	NS	NS	NS	NS
MW-2	05/18/05	NS	NS	NS	NS
MW-2	08/23/05	NS	NS	NS	NS
MW-2	11/08/05	NS	NS	NS	NS
MW-2	02/23/06	NS	NS	NS	NS
MW-2	05/23/06	NS	NS	NS	NS
MW-2	11/08/06	NS	NS	NS	NS
MW-2	05/24/07	NS	NS	NS	NS
MW-2	08/21/07	NS	NS	NS	NS
MW-2	11/13/07	NS	NS	NS	NS
MW-2	02/12/08	NS	NS	NS	NS
MW-2	08/26/08	NS	NS	NS	NS
MW-2	02/17/09	NS	NS	NS	NS
MW-2	08/25/09	NS	NS	NS	NS
MW-2	02/16/10	NS	NS	NS	NS
MW-2	09/27/10	NS	NS	NS	NS
MW-2	02/01/11	NS	NS	NS	NS
MW-2	09/23/11	NS	NS	NS	NS
MW-2	02/22/12	NS	NS	NS	NS
MW-2	06/05/13	NS	NS	NS	NS
MW-2	09/11/13	NS	NS	NS	NS
MW-2	12/11/13	NS	NS	NS	NS
MW-2	04/04/14	NS	NS	NS	NS
MW-2	10/24/14	NS	NS	NS	NS
MW-2	05/31/15	NS	NS	NS	NS
MW-2	11/21/15	NS	NS	NS	NS

TABLE 1 - GROUNDWATER ANYALYTICAL RESULTS

Hammond #41A					
Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards:		10	750	750	620
MW-3	10/15/99	<0.5	<0.5	<0.5	<0.5
MW-3	08/28/00	<0.5	<0.5	<0.5	<0.5
MW-3	06/04/01	NS	NS	NS	NS
MW-3	08/07/01	<0.5	<0.5	<0.5	<0.5
MW-3	11/27/01	NS	NS	NS	NS
MW-3	02/25/02	NS	NS	NS	NS
MW-3	05/21/02	NS	NS	NS	NS
MW-3	08/21/02	NS	NS	NS	NS
MW-3	10/08/02	<0.5	<0.5	<0.5	0.6
MW-3	11/15/03	NS	NS	NS	NS
MW-3	02/29/04	NS	NS	NS	NS
MW-3	05/11/04	NS	NS	NS	NS
MW-3	08/19/04	NS	NS	NS	NS
MW-3	11/16/04	NS	NS	NS	NS
MW-3	02/21/05	NS	NS	NS	NS
MW-3	05/18/05	NS	NS	NS	NS
MW-3	08/23/05	NS	NS	NS	NS
MW-3	11/08/05	NS	NS	NS	NS
MW-3	02/23/06	NS	NS	NS	NS
MW-3	05/23/06	NS	NS	NS	NS
MW-3	11/08/06	NS	NS	NS	NS
MW-3	05/24/07	NS	NS	NS	NS
MW-3	08/21/07	NS	NS	NS	NS
MW-3	11/13/07	NS	NS	NS	NS
MW-3	02/12/08	NS	NS	NS	NS
MW-3	08/26/08	NS	NS	NS	NS
MW-3	02/17/09	NS	NS	NS	NS
MW-3	08/25/09	NS	NS	NS	NS
MW-3	02/16/10	NS	NS	NS	NS
MW-3	09/27/10	NS	NS	NS	NS
MW-3	02/01/11	NS	NS	NS	NS
MW-3	09/23/11	NS	NS	NS	NS
MW-3	02/22/12	NS	NS	NS	NS
MW-3	06/05/13	NS	NS	NS	NS
MW-3	09/11/13	NS	NS	NS	NS
MW-3	12/11/13	NS	NS	NS	NS
MW-3	04/04/14	NS	NS	NS	NS
MW-3	10/24/14	NS	NS	NS	NS
MW-3	05/31/15	NS	NS	NS	NS
MW-3	11/21/15	NS	NS	NS	NS

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Hammond #41A					
Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards:		10	750	750	620
MW-4	08/13/03	7.3	128	44.8	625
MW-4	11/15/03	19.2	113	84.6	1200
MW-4	02/17/04	22.3	109	83.2	774
MW-4	02/29/04	NS	NS	NS	NS
MW-4	05/11/04	27.2	255	56.6	685
MW-4	08/19/04	3.1	<0.5	2.6	5.6
MW-4	11/16/04	55.2	53.3	70.7	306
MW-4	02/21/05	11.2	20.2	28.9	196
MW-4	05/18/05	140	398	252	1710
MW-4	08/23/05	<1	<1	<1	5.6
MW-4	11/08/05	13.9	20.1	20.1	149
MW-4	02/23/06	64.2	195	118	641
MW-4	05/23/06	49.2	188	85.1	304
MW-4	11/08/06	1.7	1.8	2.2	4.7
MW-4	02/24/07	NS	NS	NS	NS
MW-4	05/24/07	25.8	103	74.3	399
MW-4	08/21/07	15.9	81	59.6	322
MW-4	11/13/07	21.7	83	93.4	343
MW-4	02/12/08	24.2	74.5	99.1	362
MW-4	08/26/08	15.9	60.6	73.5	255
MW-4	02/17/09	14.3	50.6	85.3	246
MW-4	08/25/09	2.7	23.4	28.3	127
MW-4	02/16/10	13.8	1.2	52.9	79.9
MW-4	09/27/10	2.6	<2	3.2	4.2 J

TABLE 1 - GROUNDWATER ANYALYTICAL RESULTS

Hammond #41A					
Location	**Date**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethylbenzene (µg/L)**	**Total Xylenes (µg/L)**
NMWQCC Standards:		10	750	750	620
MW-4	02/01/11	11.8	0.88 J	82.7	249
MW-4	09/23/11	<1	<1	<1	<3
MW-4	02/22/12	8.5	0.34 J	69.4	88.7
MW-4	02/23/06	<1	<1	<1	<2
MW-4	05/23/06	<1	<1	<1	<2
MW-4	05/24/07	<1	<1	<1	<2
MW-4	08/26/08	<1	<1	<1	<3
MW-4	02/17/09	<1	<1	<1	<2
MW-4	08/25/09	<1	<1	<1	<2
MW-4	09/23/11	<1	<1	<1	1.8 J
MW-4	06/05/13	0.73	<0.30	16	4
MW-4	09/11/13	<0.14	<0.20	<0.30	<0.23
MW-4	12/11/13	<0.20	<0.38	2	11
MW-4	04/04/14	<0.20	<0.38	16	23
MW-4	10/24/14	<0.38	<0.70	0.53 J	<1.6
MW-4	05/31/15	0.64 J	<5.0	2.6	3.0 J
MW-4	11/21/15	2.8	<1.0	4	<3.0

Notes:
µg/L = micrograms per miter
Results highlighted yellow exceed their respective New Mexico Water Quality Control Commission (NMWQCC) standards.
"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.
"<" = analyte was not detected at the indicated reporting limit (some historic data were reported at the detection limit).
"NS" = Monitoring well not sampled

TABLE 2 - GROUNDWATER ELEVATION RESULTS

Hammond #41A						
Location	Date	TOC	Depth to Water (ft.)	Depth to LNAPL (ft.)	LNAPL Thickness (ft.)	GW Elevation (ft.)
MW-1	05/21/97	5978.20	18.79	NR		5959.41
MW-1	06/09/97	5978.20	18.89	NR		5959.31
MW-1	09/17/97	5978.20	18.79	NR		5959.41
MW-1	12/09/97	5978.20	18.47	NR		5959.73
MW-1	03/20/98	5978.20	18.05	NR		5960.15
MW-1	06/04/98	5978.20	18.54	NR		5959.66
MW-1	09/10/98	5978.20	18.19	NR		5960.01
MW-1	12/17/98	5978.20	17.42	NR		5960.78
MW-1	03/23/99	5978.20	17.56	NR		5960.64
MW-1	06/11/99	5978.20	17.80	NR		5960.40
MW-1	09/20/99	5978.20	17.36	NR		5960.84
MW-1	12/09/99	5978.20	17.42	NR		5960.78
MW-1	03/31/00	5978.20	17.15	NR		5961.05
MW-1	06/09/00	5978.20	17.64	NR		5960.56
MW-1	09/21/00	5978.20	18.10	NR		5960.10
MW-1	12/05/00	5978.20	17.91	NR		5960.29
MW-1	06/04/01	5978.20	18.09	NR		5960.11
MW-1	08/07/01	5978.20	18.62	NR		5959.58
MW-1	11/27/01	5978.20	18.06	NR		5960.14
MW-1	02/25/02	5978.20	17.86	NR		5960.34
MW-1	05/21/02	5978.20	18.16	NR		5960.04
MW-1	08/21/02	5978.20	18.70	NR		5959.50
MW-1	09/05/02	5978.20	18.82	NR		5959.38
MW-1	11/15/03	5978.20	18.26	ND		5959.94
MW-1	02/29/04	5978.20	17.75	ND		5960.45
MW-1	05/11/04	5978.20	17.88	ND		5960.32
MW-1	08/19/04	5978.20	19.06	ND		5959.14

TABLE 2 - GROUNDWATER ELEVATION RESULTS

Hammond #41A						
Location	**Date**	**TOC**	**Depth to Water (ft.)**	**Depth to LNAPL (ft.)**	**LNAPL Thickness (ft.)**	**GW Elevation (ft.)**
MW-1	11/16/04	5978.20	18.83	ND		5959.37
MW-1	02/21/05	5978.20	18.29	ND		5959.91
MW-1	05/18/05	5978.20	18.21	ND		5959.99
MW-1	08/23/05	5978.20	19.03	ND		5959.17
MW-1	11/08/05	5978.20	18.76	ND		5959.44
MW-1	02/23/06	5978.20	18.48	ND		5959.72
MW-1	05/23/06	5978.20	18.77	ND		5959.43
MW-1	11/08/06	5978.20	17.86	ND		5960.34
MW-1	05/24/07	5978.20	17.50	ND		5960.70
MW-1	08/21/07	5978.20	18.19	ND		5960.01
MW-1	11/13/07	5978.20	18.13	ND		5960.07
MW-1	02/12/08	5978.20	17.66	ND		5960.54
MW-1	08/26/08	5978.20	18.46	ND		5959.74
MW-1	02/17/09	5978.20	17.92	ND		5960.28
MW-1	08/25/09	5978.20	18.06	ND		5960.14
MW-1	02/16/10	5978.20	18.37	ND		5959.83
MW-1	02/01/11	5978.20	18.36	ND		5959.84
MW-1	09/23/11	5978.20	DRY	ND		DRY
MW-1	02/22/12	5978.20	18.35	ND		5959.85
MW-1	06/05/13	5978.20	DRY	ND		DRY
MW-1	09/11/13	5978.20	DRY	ND		DRY
MW-1	12/11/13	5978.20	DRY	ND		DRY
MW-1	04/04/14	5978.20	DRY	ND		DRY
MW-1	10/24/14	5978.20	DRY	ND		DRY
MW-1	05/31/15	5978.20	DRY	ND		DRY
MW-1	11/21/15	5978.20	DRY	ND		DRY

TABLE 2 - GROUNDWATER ELEVATION RESULTS

Hammond #41A						
Location	Date	TOC	Depth to Water (ft.)	Depth to LNAPL (ft.)	LNAPL Thickness (ft.)	GW Elevation (ft.)
MW-2	10/15/99	5977.47	14.12	NR		5963.35
MW-2	08/28/00	5977.47	17.32	NR		5960.15
MW-2	06/04/01	5977.47	17.54	NR		5959.93
MW-2	08/07/01	5977.47	18.08	NR		5959.39
MW-2	11/27/01	5977.47	17.47	NR		5960.00
MW-2	02/25/02	5977.47	17.30	NR		5960.17
MW-2	05/21/02	5977.47	17.62	NR		5959.85
MW-2	08/21/02	5977.47	18.19	NR		5959.28
MW-2	10/08/02	5977.47	17.80	NR		5959.67
MW-2	11/15/03	5977.47	17.69	ND		5959.78
MW-2	02/29/04	5977.47	17.16	ND		5960.31
MW-2	05/11/04	5977.47	17.30	ND		5960.17
MW-2	08/19/04	5977.47	18.51	ND		5958.96
MW-2	11/16/04	5977.47	18.30	ND		5959.17
MW-2	02/21/05	5977.47	17.72	ND		5959.75
MW-2	05/18/05	5977.47	17.65	ND		5959.82
MW-2	08/23/05	5977.47	18.48	ND		5958.99
MW-2	11/08/05	5977.47	18.20	ND		5959.27
MW-2	02/23/06	5977.47	19.95	ND		5957.52
MW-2	05/23/06	5977.47	18.28	ND		5959.19
MW-2	11/08/06	5977.47	17.18	ND		5960.29
MW-2	05/24/07	5977.47	16.90	ND		5960.57
MW-2	08/21/07	5977.47	17.56	ND		5959.91
MW-2	11/13/07	5977.47	17.60	ND		5959.87
MW-2	02/12/08	5977.47	17.13	ND		5960.34
MW-2	08/26/08	5977.47	17.51	ND		5959.96
MW-2	02/17/09	5977.47	17.33	ND		5960.14
MW-2	08/25/09	5977.47	17.40	ND		5960.07
MW-2	02/16/10	5977.47	17.75	ND		5959.72
MW-2	09/27/10	5977.47	DRY	ND		DRY
MW-2	02/01/11	5977.47	17.66	ND		5959.81
MW-2	09/23/11	5977.47	DRY	ND		DRY
MW-2	02/22/12	5977.47	DRY	ND		DRY
MW-2	06/05/13	5977.47	DRY	ND		DRY
MW-2	09/11/13	5977.47	DRY	ND		DRY
MW-2	12/11/13	5977.47	DRY	ND		DRY
MW-2	04/04/14	5977.47	DRY	ND		DRY
MW-2	10/24/14	5977.47	DRY	ND		DRY
MW-2	05/31/15	5977.47	DRY	ND		DRY
MW-2	11/21/15	5977.47	DRY	ND		DRY

TABLE 2 - GROUNDWATER ELEVATION RESULTS

Hammond #41A						
Location	Date	TOC	Depth to Water (ft.)	Depth to LNAPL (ft.)	LNAPL Thickness (ft.)	GW Elevation (ft.)
MW-3	10/15/99	5979.22	16.43	NR		5962.79
MW-3	08/28/00	5979.22	18.96	NR		5960.26
MW-3	06/04/01	5979.22	19.05	NR		5960.17
MW-3	08/07/01	5979.22	19.58	NR		5959.64
MW-3	11/27/01	5979.22	19.02	NR		5960.20
MW-3	02/25/02	5979.22	18.81	NR		5960.41
MW-3	05/21/02	5979.22	19.10	NR		5960.12
MW-3	08/21/02	5979.22	19.67	NR		5959.55
MW-3	10/08/02	5979.22	19.38	NR		5959.84
MW-3	11/15/03	5979.22	19.23	ND		5959.99
MW-3	02/29/04	5979.22	18.72	ND		5960.50
MW-3	05/11/04	5979.22	18.84	ND		5960.38
MW-3	08/19/04	5979.22	19.84	ND		5959.38
MW-3	11/16/04	5979.22	19.77	ND		5959.45
MW-3	02/21/05	5979.22	19.24	ND		5959.98
MW-3	05/18/05	5979.22	19.15	ND		5960.07
MW-3	08/23/05	5979.22	19.99	ND		5959.23
MW-3	11/08/05	5979.22	19.71	ND		5959.51
MW-3	02/23/06	5979.22	19.40	ND		5959.82
MW-3	05/23/06	5979.22	19.70	ND		5959.52
MW-3	11/08/06	5979.22	18.85	ND		5960.37
MW-3	05/24/07	5979.22	18.48	ND		5960.74
MW-3	08/21/07	5979.22	18.77	ND		5960.45
MW-3	11/13/07	5979.22	19.24	ND		5959.98
MW-3	02/12/08	5979.22	18.36	ND		5960.86
MW-3	08/26/08	5979.22	18.57	ND		5960.65
MW-3	02/17/09	5979.22	18.63	ND		5960.59
MW-3	08/25/09	5979.22	18.55	ND		5960.67
MW-3	02/16/10	5979.22	18.75	ND		5960.47
MW-3	09/27/10	5979.22	DRY	ND		DRY
MW-3	02/01/11	5979.22	DRY	ND		DRY
MW-3	09/23/11	5979.22	DRY	ND		DRY
MW-3	02/22/12	5979.22	DRY	ND		DRY
MW-3	06/05/13	5979.22	DRY	ND		DRY
MW-3	09/11/13	5979.22	DRY	ND		DRY
MW-3	12/11/13	5979.22	DRY	ND		DRY
MW-3	04/04/14	5979.22	DRY	ND		DRY
MW-3	10/24/14	5979.22	DRY	ND		DRY
MW-3	05/31/15	5979.22	DRY	ND		DRY
MW-3	11/21/15	5979.22	DRY	ND		DRY

TABLE 2 - GROUNDWATER ELEVATION RESULTS

Hammond #41A						
Location	**Date**	**TOC**	**Depth to Water (ft.)**	**Depth to LNAPL (ft.)**	**LNAPL Thickness (ft.)**	**GW Elevation (ft.)**
MW-4	08/13/03	5976.22	17.22	ND		5959.00
MW-4	11/15/03	5976.22	16.40	ND		5959.82
MW-4	02/17/04	5976.22	16.01	ND		5960.21
MW-4	02/29/04	5976.22	15.89	ND		5960.33
MW-4	05/11/04	5976.22	16.03	ND		5960.19
MW-4	08/19/04	5976.22	17.24	ND		5958.98
MW-4	11/16/04	5976.22	17.00	ND		5959.22
MW-4	02/21/05	5976.22	16.43	ND		5959.79
MW-4	05/18/05	5976.22	16.35	ND		5959.87
MW-4	08/23/05	5976.22	17.18	ND		5959.04
MW-4	11/08/05	5976.22	16.91	ND		5959.31
MW-4	02/23/06	5976.22	16.23	ND		5959.99
MW-4	05/23/06	5976.22	16.92	ND		5959.30
MW-4	11/08/06	5976.22	15.97	ND		5960.25
MW-4	02/24/07	5976.22	15.66	ND		5960.56
MW-4	05/24/07	5976.22	15.66	ND		5960.56
MW-4	08/21/07	5976.22	16.33	ND		5959.89
MW-4	11/13/07	5976.22	16.30	ND		5959.92
MW-4	02/12/08	5976.22	16.81	ND		5959.41
MW-4	08/26/08	5976.22	16.62	ND		5959.60
MW-4	02/17/09	5976.22	17.06	ND		5959.16
MW-4	08/25/09	5976.22	17.17	ND		5959.05
MW-4	02/16/10	5976.22	16.55	ND		5959.67
MW-4	09/27/10	5976.22	17.15	ND		5959.07
MW-4	02/01/11	5976.22	16.51	ND		5959.71
MW-4	09/23/11	5976.22	17.30	ND		5958.92
MW-4	02/22/12	5976.22	16.53	ND		5959.69
MW-4	02/23/06	5976.22	15.57	ND		5960.65
MW-4	05/23/06	5976.22	15.04	ND		5961.18
MW-4	05/24/07	5976.22	NA	ND		NA
MW-4	08/26/08	5976.22	17.23	ND		5958.99
MW-4	02/17/09	5976.22	18.70	ND		5957.52
MW-4	08/25/09	5976.22	14.45	ND		5961.77
MW-4	09/23/11	5976.22	14.62	ND		5961.60
MW-4	06/05/13	5976.22	16.51	ND		5959.71
MW-4	09/11/13	5976.22	16.52	ND		5959.70
MW-4	12/11/13	5976.22	15.87	ND		5960.35
MW-4	04/04/14	5976.22	15.71	ND		5960.51
MW-4	10/24/14	5976.22	17.24	ND		5958.98
MW-4	05/31/15	5976.22	15.89	ND		5960.33
MW-4	11/21/15	5976.22	15.76	ND		5960.46

Notes:
"ft" = feet
"TOC" = Top of casing
"LNAPL" = Light non-aqueous phase liquid
"ND" = LNAPL not detected
"NR" = LNAPL not recorded

FIGURES

L:\San Juan River Basin\SJRB GENERAL\GIS-NEW_MXDs\HAMMOND #41A\2015 MAPS\Hammond#41A_GARM_1SA_2015.mxd

LEGEND:

- 5980 — APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- G A S — NATURAL GAS LINE
- FORMER PIEZOMETER LOCATION
- MONITORING WELL
- ORC INJECTION LOCATION
- PROBEHOLE LOCATION
- SMA BENCHMARK

EXPLANATION OF ANALYTES AND APPLICABLE STANDARDS:

RESULTS IN **BOLDFACE** TYPE INDICATE CONCENTRATION IN EXCESS OF THE STANDARD FOR THAT ANALYTE.
NS = NOT SAMPLED
µg/L = MICROGRAMS PER LITER
<5 = BELOW METHOD DETECTION LIMIT
J = RESULT IS LESS THAN THE REPORTING LIMIT, BUT GREATER THAN OR EQUAL TO THE METHOD DETECTION LIMIT AND THE CONCENTRATION IS AN APPROXIMATE VALUE.

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

N

SCALE IN FEET
0 40 80

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	2/10/2016	CCL	CCL	SRV

TITLE:
GROUNDWATER ANALYTICAL RESULTS
MAY 31, 2015

PROJECT:
HAMMOND #41A
SAN JUAN RIVER BASIN
SAN JUAN COUNTY, NEW MEXICO

MWH

Figure No.: 1

L:\San Juan River Basin\SJRB GENERAL\GIS-NEW_MXDs\HAMMOND #41A\2015 MAPS\Hammond#41A_GECM_1SA_2015.mxd

SMA BENCHMARK
ELEV. 5975.98'
NAD 83 NAVD 88
STATE PLANE COORDINATE SYSTEM
NEW MEXICO WEST

MW-2
DRY
MW-2

MW-4
5960.33
MW-4

MW-1
DRY
MW-1

FORMER EPC PIT -
EXCAVATED TO 19 FEET

MW-3
DRY
MW-3

HAMMOND #41A WELLHEAD

METER HOUSE

EPFS

SEPARATOR

DRIP TANK

DOGLEG

EPFS

GAS RISER

METER RUN
(OUTSIDE)

HAMMOND #092 WELLHEAD

METER HOUSE
(NOT IN USE)

5976 5977 5978 5979 5980

LEGEND:

- 5980 — APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- G A S — NATURAL GAS LINE
- MONITORING WELL
- SMA BENCHMARK

NOTES:

5960.33 GROUNDWATER ELEVATION, (FEET ABOVE MEAN SEA LEVEL)

N

SCALE IN FEET
0 40 80

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	2/10/2016	CCL	CCL	SRV

TITLE:
GROUNDWATER ELEVATION MAP
GAUGED MAY 31, 2015

PROJECT:
HAMMOND #41A
SAN JUAN RIVER BASIN
SAN JUAN COUNTY, NEW MEXICO

MWH

Figure No.: 2

L:\San Juan River Basin\SJRB GENERAL\GIS-NEW_MXDs\HAMMOND #41A\2015 MAPS\Hammond#41A_GARM_2SA_2015.mxd

SMA BENCHMARK
ELEV. 5975.98'
NAD 83 NAVD 88
STATE PLANE COORDINATE SYSTEM
NEW MEXICO WEST

MW-4
B: 2.8
T: <1.0
E: 4
X: <3.0

MW-2
NS

MW-4
PZ-2
MW-2
PH-2
PZ-3
MW-1
NS
MW-1
PH-1
FORMER EPC PIT -
EXCAVATED TO 19 FEET
MW-3
NS
MW-3
METER HOUSE
EPFS
HAMMOND #41A WELLHEAD
SEPARATOR
DRIP TANK
DOGLEG
EPFS
METER RUN
(OUTSIDE)
HAMMOND #092 WELLHEAD
METER HOUSE
(NOT IN USE)
GAS RISER

5976
5977
5978
5979
5980

LEGEND:

- 5980 — APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- G A S — NATURAL GAS LINE
- FORMER PIEZOMETER LOCATION
- MONITORING WELL
- ORC INJECTION LOCATION
- PROBEHOLE LOCATION
- SMA BENCHMARK

EXPLANATION OF ANALYTES AND APPLICABLE STANDARDS:

RESULTS IN **BOLDFACE** TYPE INDICATE CONCENTRATION IN EXCESS OF THE STANDARD FOR THAT ANALYTE.
NS = NOT SAMPLED
µg/L = MICROGRAMS PER LITER
<1 = BELOW METHOD DETECTION LIMIT

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

N

SCALE IN FEET
0 40 80

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	2/10/2016	CCL	CCL	SRV

TITLE:
GROUNDWATER ANALYTICAL RESULTS
NOVEMBER 21, 2015

PROJECT:
HAMMOND #41A
SAN JUAN RIVER BASIN
SAN JUAN COUNTY, NEW MEXICO

MWH

Figure No.: 3

L:\San Juan River Basin\SJRB GENERAL\GIS-NEW_MXDs\HAMMOND #41A\2015 MAPS\Hammond#41A_GECM_2SA_2015.mxd

SMA BENCHMARK
ELEV. 5975.98'
NAD 83 NAVD 88
STATE PLANE COORDINATE SYSTEM
NEW MEXICO WEST

MW-2
DRY
MW-2

MW-4
5960.46
MW-4

MW-1
DRY
MW-1

FORMER EPC PIT -
EXCAVATED TO 19 FEET

MW-3
DRY
MW-3

HAMMOND #41A WELLHEAD

METER HOUSE

EPFS

SEPARATOR

DRIP TANK

DOGLEG

EPFS

GAS RISER

METER RUN
(OUTSIDE)

HAMMOND #092 WELLHEAD

METER HOUSE
(NOT IN USE)

5976 5977 5978 5979 5980

LEGEND:

- 5980 — APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- G A S — NATURAL GAS LINE
- MONITORING WELL
- SMA BENCHMARK

NOTES:

5960.46 GROUNDWATER ELEVATION, (FEET ABOVE MEAN SEA LEVEL)

N

SCALE IN FEET
0 40 80

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	2/10/2016	CCL	CCL	SRV

TITLE:
GROUNDWATER ELEVATION MAP
NOVEMBER 21, 2015

PROJECT:
HAMMOND #41A
SAN JUAN RIVER BASIN
SAN JUAN COUNTY, NEW MEXICO

MWH

Figure No.: 4

APPENDIX A

MAY 31, 2015 GROUNDWATER SAMPLING ANALYTICAL REPORT
NOVEMBER 21, 2015 GROUNDWATER SAMPLING ANALYTICAL REPORT

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-106452-1
Client Project/Site: NM-GW Pits, Hammond #41A

For:
MWH Americas Inc
1560 Broadway
Suite 1800
Denver, Colorado 80202

Attn: Ms. Sarah Gardner

Authorized for release by:
6/16/2015 4:38:30 PM

Marty Edwards, Manager of Project Management
(850)474-1001
marty.edwards@testamericainc.com

Table of Contents

Definitions/Glossary

Client: MWH Americas Inc
Project/Site: NM-GW Pits, Hammond #41A

TestAmerica Job ID: 400-106452-1

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

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

Case Narrative

Client: MWH Americas Inc
Project/Site: NM-GW Pits, Hammond #41A

TestAmerica Job ID: 400-106452-1

Job ID: 400-106452-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-106452-1

Comments
No additional comments.

Receipt
The samples were received on 6/2/2015 9:37 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.0º C.

Receipt Exceptions

One of two VOA Vials for the following sample was received broken: HAMMOMD #41A MW-4 (400-106452-1).

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

Detection Summary

Client: MWH Americas Inc
Project/Site: NM-GW Pits, Hammond #41A

TestAmerica Job ID: 400-106452-1

Client Sample ID: HAMMOMD #41A MW-4 — Lab Sample ID: 400-106452-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.64	J	1.0	0.56	ug/L	1		8021B	Total/NA
Ethylbenzene	2.6		1.0	0.64	ug/L	1		8021B	Total/NA
Xylenes, Total	3.0	J	5.0	1.7	ug/L	1		8021B	Total/NA

Client Sample ID: HAMMOMD #41A TRIP BLANK — Lab Sample ID: 400-106452-2

No Detections.

This Detection Summary does not include radiochemical test results.

Sample Summary

Client: MWH Americas Inc
Project/Site: NM-GW Pits, Hammond #41A

TestAmerica Job ID: 400-106452-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-106452-1	HAMMOMD #41A MW-4	Water	05/31/15 13:30	06/02/15 09:37
400-106452-2	HAMMOMD #41A TRIP BLANK	Water	05/31/15 13:20	06/02/15 09:37

Client: MWH Americas Inc
Project/Site: NM-GW Pits, Hammond #41A

TestAmerica Job ID: 400-106452-1

Client Sample ID: HAMMOMD #41A MW-4
Date Collected: 05/31/15 13:30
Date Received: 06/02/15 09:37

Lab Sample ID: 400-106452-1
Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.64**	**J**	1.0	0.56	ug/L			06/09/15 00:16	1
Ethylbenzene	**2.6**		1.0	0.64	ug/L			06/09/15 00:16	1
Toluene	<5.0		5.0	0.98	ug/L			06/09/15 00:16	1
Xylenes, Total	**3.0**	**J**	5.0	1.7	ug/L			06/09/15 00:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (pid)	*96*		*78 - 124*		*06/09/15 00:16*	*1*

Client: MWH Americas Inc
Project/Site: NM-GW Pits, Hammond #41A

TestAmerica Job ID: 400-106452-1

Client Sample ID: HAMMOMD #41A TRIP BLANK
Lab Sample ID: 400-106452-2
Date Collected: 05/31/15 13:20
Matrix: Water
Date Received: 06/02/15 09:37

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0	0.56	ug/L			06/06/15 22:23	1
Ethylbenzene	<1.0		1.0	0.64	ug/L			06/06/15 22:23	1
Toluene	<5.0		5.0	0.98	ug/L			06/06/15 22:23	1
Xylenes, Total	<5.0		5.0	1.7	ug/L			06/06/15 22:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (pid)	*98*		*78 - 124*		*06/06/15 22:23*	*1*

QC Association Summary

Client: MWH Americas Inc
Project/Site: NM-GW Pits, Hammond #41A

TestAmerica Job ID: 400-106452-1

GC VOA

Analysis Batch: 260178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-106452-2	HAMMOMD #41A TRIP BLANK	Total/NA	Water	8021B	
400-106465-A-1 MS	Matrix Spike	Total/NA	Water	8021B	
400-106465-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8021B	
LCS 400-260178/1034	Lab Control Sample	Total/NA	Water	8021B	
MB 400-260178/35	Method Blank	Total/NA	Water	8021B	

Analysis Batch: 260285

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-106452-1	HAMMOMD #41A MW-4	Total/NA	Water	8021B	
400-106530-B-3 MS	Matrix Spike	Total/NA	Water	8021B	
400-106530-B-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8021B	
LCS 400-260285/1003	Lab Control Sample	Total/NA	Water	8021B	
MB 400-260285/5	Method Blank	Total/NA	Water	8021B	

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 400-260178/35
Matrix: Water
Analysis Batch: 260178

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0	0.56	ug/L			06/06/15 12:55	1
Ethylbenzene	<1.0		1.0	0.64	ug/L			06/06/15 12:55	1
Toluene	<5.0		5.0	0.98	ug/L			06/06/15 12:55	1
Xylenes, Total	<5.0		5.0	1.7	ug/L			06/06/15 12:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (pid)	*99*		*78 - 124*		*06/06/15 12:55*	*1*

Lab Sample ID: LCS 400-260178/1034
Matrix: Water
Analysis Batch: 260178

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			50.0	53.2		ug/L		106	85 - 115		
Ethylbenzene			50.0	53.2		ug/L		106	85 - 115		
Toluene			50.0	52.8		ug/L		106	85 - 115		
Xylenes, Total			150	156		ug/L		104	85 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (pid)	*98*		*78 - 124*

Lab Sample ID: 400-106465-A-1 MS
Matrix: Water
Analysis Batch: 260178

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	<1.0		50.0	59.1		ug/L		118	44 - 150		
Ethylbenzene	<1.0		50.0	59.7		ug/L		119	70 - 142		
Toluene	<5.0		50.0	59.0		ug/L		118	69 - 136		
Xylenes, Total	<5.0		150	176		ug/L		117	68 - 142		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (pid)	*98*		*78 - 124*

Lab Sample ID: 400-106465-A-1 MSD
Matrix: Water
Analysis Batch: 260178

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<1.0		50.0	59.0		ug/L		118	44 - 150	0	16
Ethylbenzene	<1.0		50.0	60.4		ug/L		121	70 - 142	1	16
Toluene	<5.0		50.0	59.5		ug/L		119	69 - 136	1	16
Xylenes, Total	<5.0		150	178		ug/L		119	68 - 142	1	15

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene (pid)	*98*		*78 - 124*

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

Lab Sample ID: MB 400-260285/5
Matrix: Water
Analysis Batch: 260285

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0	0.56	ug/L			06/08/15 13:15	1
Ethylbenzene	<1.0		1.0	0.64	ug/L			06/08/15 13:15	1
Toluene	<5.0		5.0	0.98	ug/L			06/08/15 13:15	1
Xylenes, Total	<5.0		5.0	1.7	ug/L			06/08/15 13:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (pid)	*98*		*78 - 124*		*06/08/15 13:15*	*1*

Lab Sample ID: LCS 400-260285/1003
Matrix: Water
Analysis Batch: 260285

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	49.5		ug/L		99	85 - 115
Ethylbenzene	50.0	50.3		ug/L		101	85 - 115
Toluene	50.0	49.6		ug/L		99	85 - 115
Xylenes, Total	150	150		ug/L		100	85 - 115

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (pid)	*97*		*78 - 124*

Lab Sample ID: 400-106530-B-3 MS
Matrix: Water
Analysis Batch: 260285

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<1.0		50.0	55.6		ug/L		111	44 - 150
Ethylbenzene	5.4		50.0	61.8		ug/L		113	70 - 142
Toluene	<5.0		50.0	56.0		ug/L		112	69 - 136
Xylenes, Total	5.1		150	172		ug/L		112	68 - 142

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (pid)	*95*		*78 - 124*

Lab Sample ID: 400-106530-B-3 MSD
Matrix: Water
Analysis Batch: 260285

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<1.0		50.0	56.4		ug/L		113	44 - 150	1	16
Ethylbenzene	5.4		50.0	61.0		ug/L		111	70 - 142	1	16
Toluene	<5.0		50.0	56.1		ug/L		112	69 - 136	0	16
Xylenes, Total	5.1		150	169		ug/L		109	68 - 142	2	15

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene (pid)	*96*		*78 - 124*

Lab Chronicle

Client: MWH Americas Inc
Project/Site: NM-GW Pits, Hammond #41A

TestAmerica Job ID: 400-106452-1

Client Sample ID: HAMMOMD #41A MW-4

Lab Sample ID: 400-106452-1
Matrix: Water
Date Collected: 05/31/15 13:30
Date Received: 06/02/15 09:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	260285	06/09/15 00:16	MKA	TAL PEN
	Instrument ID: CH_PAULA									

Client Sample ID: HAMMOMD #41A TRIP BLANK

Lab Sample ID: 400-106452-2
Matrix: Water
Date Collected: 05/31/15 13:20
Date Received: 06/02/15 09:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	260178	06/06/15 22:23	MKA	TAL PEN
	Instrument ID: CH_PAULA									

Laboratory References:

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

Certification Summary

Client: MWH Americas Inc
Project/Site: NM-GW Pits, Hammond #41A

TestAmerica Job ID: 400-106452-1

Laboratory: TestAmerica Pensacola

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alabama	State Program	4	40150	06-30-15
Arizona	State Program	9	AZ0710	01-11-16
Arkansas DEQ	State Program	6	88-0689	09-01-15
Florida	NELAP	4	E81010	06-30-15
Georgia	State Program	4	N/A	06-30-15
Illinois	NELAP	5	200041	10-09-15
Iowa	State Program	7	367	07-31-16
Kansas	NELAP	7	E-10253	06-30-15 *
Kentucky (UST)	State Program	4	53	06-30-15
Kentucky (WW)	State Program	4	98030	12-31-15
Louisiana	NELAP	6	30976	06-30-15
Maryland	State Program	3	233	09-30-15
Massachusetts	State Program	1	M-FL094	06-30-15
Michigan	State Program	5	9912	06-30-15
New Jersey	NELAP	2	FL006	06-30-15
North Carolina (WW/SW)	State Program	4	314	12-31-15
Oklahoma	State Program	6	9810	08-31-15
Pennsylvania	NELAP	3	68-00467	01-31-16
Rhode Island	State Program	1	LAO00307	12-30-15
South Carolina	State Program	4	96026	06-30-15
Tennessee	State Program	4	TN02907	06-30-15
Texas	NELAP	6	T104704286-12-5	09-30-15
USDA	Federal		P330-13-00193	07-01-16
Virginia	NELAP	3	460166	06-14-16
West Virginia DEP	State Program	3	136	06-30-15

* Certification renewal pending - certification considered valid.

Method Summary

Client: MWH Americas Inc
Project/Site: NM-GW Pits, Hammond #41A

TestAmerica Job ID: 400-106452-1

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	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

400-106452

SERIAL NUMBER: 80205

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Phone: 850-474-1001
Fax: 850-478-2671
Website: www.testamericainc.com

QUOTE NO.	BOTTLE ORDER NO.	ORDER - LOG-IN NO.
		C

CLIENT	ADDRESS	PAGE	OF
MWH	1560 Broadway Suite 1800 Denver CO 80202	1	1

PROJECT NAME	PROJECT NO.	CLIENT PROJECT MANAGER	PROJECT LOC. (STATE)
NM-EWPit Hammond #41A	40005479	Steve Varsa	NM

SAMPLED BY	CONTRACT / P.O. NO.
Sarah Gardner/Chris Lee	

CLIENT PHONE	CLIENT E-MAIL OR FAX
303 291 2239	sarah.gardner@mwhglobal.com

TAT REQUESTED: RUSH NEEDS LAB PREAPPROVAL ☐ NORMAL ☑ 10 BUSINESS DAYS
☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☐ 5 DAYS ☐ 20 DAYS (Package) ☐ OTHER:

SAMPLE DISPOSAL: ☐ RETURN TO CLIENT ☑ DISPOSAL BY LAB
☐ SEE CONTRACT ☐ OTHER:

REQUESTED ANALYSIS

BTEX - 8021B

400-106452 COC

POSSIBLE HAZARD IDENTIFICATION
☒ NON-HAZARD
Δ FLAMMABLE
Δ RADIOACTIVE
Δ POISON B
Δ UNKNOWN
Δ OTHER:

NO. OF COOLERS PER SHIPMENT:

SPECIAL INSTRUCTIONS/ CONDITIONS OF RECEIPT

LAB USE ONLY - SAMPLE NUMBER

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION		PRESERVATIVE: No Preservative	HCL - Hydrochloric Acid	HNO3 - Nitric Acid	H2SO4 - Sulfuric Acid or H3PO4	NAOH - Sodium Hydroxide	CH3OH - Methanol	NAHSO4 - Sodium Bisulfate	NA2S2O3 - Sodium Thiosulfate	Other:	MATRIX: Drinking Water	Aqueous GW, SW, WW	Solid, Semisolid, Sediment	Air	NonAqueous (Oil, Solvent, etc.)	NUMBER OF CONTAINERS SUBMITTED
5/31/15	1330	Hammond #41A	MW-4		Y									X				2
5/31/15	1320	Hammond #41A	TRIP BLANK		X									X				2

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
EMPTY CONTAINERS			Sarah Gardner	6/1/15	1345			
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
EMPTY CONTAINERS								

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY:	DATE	TIME	CUSTODY INTACT?	CUSTODY SEAL NO.	REMARKS:
	6/2/15	0937	Δ YES Δ NO		2.0°C JR6

TAL-8251 (1207)

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 400-106452-1

Login Number: 106452
List Number: 1
Creator: Crawford, Lauren E

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.0°C IR-6
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.	False	Refer to Job Narrative for details.
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-114306-1
Client Project/Site: Hammond #41A

For:
MWH Americas Inc
1560 Broadway
Suite 1800
Denver, Colorado 80202

Attn: Ms. Sarah Gardner

Authorized for release by:
12/14/2015 7:24:02 PM

Marty Edwards, Manager of Project Management
(850)474-1001
marty.edwards@testamericainc.com

Table of Contents

Definitions/Glossary

Client: MWH Americas Inc
Project/Site: Hammond #41A

TestAmerica Job ID: 400-114306-1

Qualifiers

GC VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits

Glossary

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

Job ID: 400-114306-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-114306-1

Comments
No additional comments.

Receipt
The samples were received on 11/24/2015 8:47 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 0.4º C, 0.8º C, 0.9º C, 0.9º C and 1.1º C.

GC VOA
Method 8021B: Surrogate recovery was high for the following samples, and were reanalyzed and confirmed in a subsequent run: MW-4 (400-114306-1). The confirmation samples, however, had pH = 7, despite being sent out as preserved vials. Being that the original runs were pH <2, the repeats were treated as unpreserved, with a holding time that had expired. Therefore, the sample with high surrogate have been qualified and reported:

Method 8021B: This continuing calibration verification associated with Batch 490-303336 recovered high for surrogate. The target analytes were within range, however, so this CCV has been qualified and reported.

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

Detection Summary

Client: MWH Americas Inc
Project/Site: Hammond #41A

TestAmerica Job ID: 400-114306-1

Client Sample ID: MW-4 — Lab Sample ID: 400-114306-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	4.0		1.0		ug/L	1		8021B	Total/NA
Benzene	2.8		1.0		ug/L	1		8021B	Total/NA

Client Sample ID: TRIP BLANK — Lab Sample ID: 400-114306-2

No Detections.

This Detection Summary does not include radiochemical test results.

Sample Summary

Client: MWH Americas Inc
Project/Site: Hammond #41A

TestAmerica Job ID: 400-114306-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-114306-1	MW-4	Water	11/21/15 15:30	11/24/15 08:47
400-114306-2	TRIP BLANK	Water	11/21/15 16:00	11/24/15 08:47

Client: MWH Americas Inc
Project/Site: Hammond #41A

TestAmerica Job ID: 400-114306-1

Client Sample ID: MW-4
Date Collected: 11/21/15 15:30
Date Received: 11/24/15 08:47

Lab Sample ID: 400-114306-1
Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	**4.0**		1.0		ug/L			12/03/15 02:38	1
Toluene	<1.0		1.0		ug/L			12/03/15 02:38	1
Xylenes, Total	<3.0		3.0		ug/L			12/03/15 02:38	1
Benzene	**2.8**		1.0		ug/L			12/03/15 02:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*189*	*X*	*50 - 150*		*12/03/15 02:38*	*1*

Client: MWH Americas Inc
Project/Site: Hammond #41A

TestAmerica Job ID: 400-114306-1

Client Sample ID: TRIP BLANK
Date Collected: 11/21/15 16:00
Date Received: 11/24/15 08:47

Lab Sample ID: 400-114306-2
Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	<1.0		1.0		ug/L			12/02/15 18:27	1
Toluene	<1.0		1.0		ug/L			12/02/15 18:27	1
Xylenes, Total	<3.0		3.0		ug/L			12/02/15 18:27	1
Benzene	<1.0		1.0		ug/L			12/02/15 18:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*88*		*50 - 150*		*12/02/15 18:27*	*1*

QC Association Summary

Client: MWH Americas Inc
Project/Site: Hammond #41A

TestAmerica Job ID: 400-114306-1

GC VOA

Analysis Batch: 303336

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-114306-1	MW-4	Total/NA	Water	8021B	
400-114306-2	TRIP BLANK	Total/NA	Water	8021B	
LCS 490-303336/4	Lab Control Sample	Total/NA	Water	8021B	
LCSD 490-303336/16	Lab Control Sample Dup	Total/NA	Water	8021B	
MB 490-303336/5	Method Blank	Total/NA	Water	8021B	

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 490-303336/5
Matrix: Water
Analysis Batch: 303336

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	<1.0		1.0		ug/L			12/02/15 14:13	1
Toluene	<1.0		1.0		ug/L			12/02/15 14:13	1
Xylenes, Total	<3.0		3.0		ug/L			12/02/15 14:13	1
Benzene	<1.0		1.0		ug/L			12/02/15 14:13	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*92*		*50 - 150*		*12/02/15 14:13*	*1*

Lab Sample ID: LCS 490-303336/4
Matrix: Water
Analysis Batch: 303336

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ethylbenzene			100	104		ug/L		104	70 - 130		
Toluene			100	104		ug/L		104	66 - 127		
Xylenes, Total			300	309		ug/L		103	69 - 123		
Benzene			100	107		ug/L		107	69 - 129		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
a,a,a-Trifluorotoluene	*69*		*50 - 150*

Lab Sample ID: LCSD 490-303336/16
Matrix: Water
Analysis Batch: 303336

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylbenzene			100	107		ug/L		107	70 - 130	3	35
Toluene			100	107		ug/L		107	66 - 127	3	34
Xylenes, Total			300	319		ug/L		106	69 - 123	3	37
Benzene			100	111		ug/L		111	69 - 129	3	33

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene	*115*		*50 - 150*

Lab Chronicle

Client: MWH Americas Inc
Project/Site: Hammond #41A

TestAmerica Job ID: 400-114306-1

Client Sample ID: MW-4

Lab Sample ID: 400-114306-1

Date Collected: 11/21/15 15:30

Matrix: Water

Date Received: 11/24/15 08:47

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	303336	12/03/15 02:38	AMC	TAL NSH
	Instrument ID: HP15									

Client Sample ID: TRIP BLANK

Lab Sample ID: 400-114306-2

Date Collected: 11/21/15 16:00

Matrix: Water

Date Received: 11/24/15 08:47

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	303336	12/02/15 18:27	AMC	TAL NSH
	Instrument ID: HP15									

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Certification Summary

Client: MWH Americas Inc
Project/Site: Hammond #41A

TestAmerica Job ID: 400-114306-1

Laboratory: TestAmerica Pensacola

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alabama	State Program	4	40150	12-31-15 *
Arizona	State Program	9	AZ0710	01-11-16
Arkansas DEQ	State Program	6	88-0689	09-01-16
Florida	NELAP	4	E81010	06-30-16
Georgia	State Program	4	N/A	06-30-16
Illinois	NELAP	5	200041	10-09-16
Iowa	State Program	7	367	07-31-16
Kansas	NELAP	7	E-10253	01-31-16 *
Kentucky (UST)	State Program	4	53	06-30-16
Kentucky (WW)	State Program	4	98030	12-31-15
Louisiana	NELAP	6	30976	06-30-16
Maryland	State Program	3	233	09-30-16
Massachusetts	State Program	1	M-FL094	06-30-16
Michigan	State Program	5	9912	06-30-16
New Jersey	NELAP	2	FL006	06-30-16
North Carolina (WW/SW)	State Program	4	314	12-31-15
Oklahoma	State Program	6	9810	08-31-16
Pennsylvania	NELAP	3	68-00467	01-31-16
Rhode Island	State Program	1	LAO00307	12-30-15
South Carolina	State Program	4	96026	06-30-16
Tennessee	State Program	4	TN02907	06-30-16
Texas	NELAP	6	T104704286-15-9	09-30-16
USDA	Federal		P330-13-00193	07-01-16
Virginia	NELAP	3	460166	06-14-16
West Virginia DEP	State Program	3	136	06-30-16

Laboratory: TestAmerica Nashville

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

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	A2LA		NA: NELAP & A2LA	12-31-15
A2LA	ISO/IEC 17025		0453.07	12-31-15
Alaska (UST)	State Program	10	UST-087	07-24-16
Arizona	State Program	9	AZ0473	05-05-16
Arkansas DEQ	State Program	6	88-0737	04-25-16
California	State Program	9	2938	10-31-16
Connecticut	State Program	1	PH-0220	12-31-15
Florida	NELAP	4	E87358	06-30-16
Georgia	State Program	4	N/A	06-30-16
Illinois	NELAP	5	200010	12-09-16
Iowa	State Program	7	131	04-01-16
Kansas	NELAP	7	E-10229	01-31-16
Kentucky (UST)	State Program	4	19	06-30-16
Kentucky (WW)	State Program	4	90038	12-31-15
Louisiana	NELAP	6	30613	06-30-16
Maine	State Program	1	TN00032	11-03-17
Maryland	State Program	3	316	03-31-16
Massachusetts	State Program	1	M-TN032	06-30-16
Minnesota	NELAP	5	047-999-345	12-31-16
Mississippi	State Program	4	N/A	06-30-16

* Certification renewal pending - certification considered valid.

Certification Summary

Client: MWH Americas Inc
Project/Site: Hammond #41A

TestAmerica Job ID: 400-114306-1

Laboratory: TestAmerica Nashville (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Montana (UST)	State Program	8	NA	02-24-20
Nevada	State Program	9	TN00032	07-31-16
New Hampshire	NELAP	1	2963	10-09-16
New Jersey	NELAP	2	TN965	06-30-16
New York	NELAP	2	11342	03-31-16
North Carolina (WW/SW)	State Program	4	387	12-31-15
North Dakota	State Program	8	R-146	06-30-16
Ohio VAP	State Program	5	CL0033	07-10-17
Oklahoma	State Program	6	9412	08-31-16
Oregon	NELAP	10	TN200001	04-27-16
Pennsylvania	NELAP	3	68-00585	06-30-16
Rhode Island	State Program	1	LAO00268	12-30-15
South Carolina	State Program	4	84009 (001)	02-28-16
South Carolina (Do Not Use - DW)	State Program	4	84009 (002)	12-16-17
Tennessee	State Program	4	2008	02-23-17
Texas	NELAP	6	T104704077	08-31-16
USDA	Federal		S-48469	10-30-16
Utah	NELAP	8	TN00032	07-31-16
Virginia	NELAP	3	460152	06-14-16
Washington	State Program	10	C789	07-19-16
West Virginia DEP	State Program	3	219	02-28-16
Wisconsin	State Program	5	998020430	08-31-16
Wyoming (UST)	A2LA	8	453.07	12-31-15

Method Summary

Client: MWH Americas Inc
Project/Site: Hammond #41A

TestAmerica Job ID: 400-114306-1

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	TAL NSH

Protocol References:

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

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Sarah Gardner / Chris Lee	Lab PM: Edwards, Marty P	Carrier Tracking No(s):	COC No: 400-50148-21701.1
Client Contact: Ms. Sarah Gardner	Phone: 303 291 2239	E-Mail: marty.edwards@testamericainc.com		Page: Page 1 of 1
Company: MWH Americas Inc		Analysis Reques		Job #:
Address: 1560 Broadway Suite 1800	Due Date Requested:			Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
City: Denver	TAT Requested (days): Standard			
State, Zip: CO, 80202				
Phone: 303-291-2239(Tel)	PO #: Purchase Order Requested			Other:
Email: sarah.gardner@mwhglobal.com	WO #:			
Project Name: Hammond #41A	Project #: 40005479			
Site: Hammond #41A	SSOW#:			

400-114306 COC

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8021B - BTEX 8021			Total Number of containers	Special Instructions/Note:
			Preservation Code:								
				Water			X	X	X		SW6
MW-4	11/21/2015	1530	G	Water	N	N	2			2	
TRIP BLANK	11/21/2015	1600	G	Water	N	N	2			2	
				Water							
				Water							
				Water							
				Water							

Possible Hazard Identification
[X] Non-Hazard [ ] Flammable [ ] Skin Irritant [ ] Poison B [ ] Unknown [ ] Radiological

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Sarah Gardner	11/23/2015 800	MWH			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
				11/24/15 0847	

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: IR0 1.1/0.9/0.8/0.4/0.9

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12/14/2015

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 400-114306-1

Login Number: 114306
List Number: 1
Creator: Menoher, Rachel C

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.1/0.9/0.8/0.4/0.9°C IR6
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	

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 400-114306-1

Login Number: 114306
List Number: 2
Creator: Ford, Easton

List Source: TestAmerica Nashville
List Creation: 11/25/15 04:49 PM

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