# 2016 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 2016. Monitoring wells were installed in 1997 (MW-1), 1999 (MW-2 and MW-3), 2003 (MW-4), and 2016 (MW-1R, MW-2R, MW-3R, MW-5, MW-6, and MW-7). Currently, groundwater sampling is conducted on a semi-annual basis. Free product has not been observed at the Site.

## MONITORING WELL INSTALLATION ACTIVITIES

In April 2016, new monitoring well locations were staked and surveyed for permitting and utility locating purposes. The monitoring well advancement and installation activities were completed in accordance with the Monitoring Well Installation Work Plan, submitted on May 4, 2016.

Six new wells (MW-1R, MW-2R, MW-3R, MW-5, MW-6, and MW-7) were drilled in May 2016, to further characterize the extent of the dissolved-phase hydrocarbons and to define the groundwater gradient at the Site. Additionally, MW-1, MW-2, and MW-3 were plugged and abandoned in accordance to Subsection C of 19.27.4.30 of the New Mexico Administrative Code and the conditions outlined in the New Mexico Office of the State Engineer approved Plugging Plan. Ground surface and casing elevations of the new monitoring wells were surveyed in June 2016 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 10 feet below ground surface (bgs) to 30 feet bgs and bisects the observed water table located at depths ranging from 12-17 feet below the top of the monitoring well casings during 2016 gauging events. A 3-foot seal of bentonite chips was placed above the sandpack and hydrated, and the remaining annular space filled with bentonite grout. The wells were completed as stick-up wells with locking protective casings and a concrete surface completion. Four protective bollards were installed around each new monitoring well. Borehole logs and well construction diagrams are provided in Appendix A. Monitoring well MW-5 was installed to the west of monitoring well MW-1. Monitoring well MW-6 was installed southeast of the former pit. Monitoring well MW-7 was installed northeast of the former pit. Replacement monitoring wells MW-1R, MW-2R, and MW-3R were installed near previously abandoned MW-1, MW-2, and MW-3, respectively. The monitoring well MW-3R location was adjusted closer to the former pit to better define potential hydrocarbons in this direction. Pertinent site features and monitoring well locations are shown on maps in Figures 1 through 4.

During advancement of each monitoring well completed in May 2016, the soil sample interval exhibiting the highest photoionization detector (PID) reading was collected and placed in a 4-ounce jar for laboratory analysis. Retained sample jars were stored in an ice-filled cooler and shipped under standard chain-of-custody protocols to TestAmerica Laboratories, Inc. in Pensacola, Florida (TestAmerica). The 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 8021B, total petroleum hydrocarbons (TPH), gasoline range organics, diesel range organics, and mineral range organics using EPA Method 8015B; and chloride according to EPA Method 300. The soil sample analytical report is provided in Appendix B.

Monitoring well development was performed using a well swab and down-hole pump until visibly clear groundwater was observed. Purged groundwater was containerized and transported to Basin Disposal, Inc. in Bloomfield, NM for disposal. Soil drums were staged on site for later disposal at Envirotech, Inc. (Envirotech), located south of Bloomfield, NM. On May 23, 2016, Sierra Oilfield Services, Inc. removed 9 drums of soil cuttings from the Site and delivered them to Envirotech. Disposal documentation is contained in Appendix C.

## GROUNDWATER SAMPLING ACTIVITIES

On April 17 were gauged at MW-1, MW-2, MW-3, and MW-4. One groundwater sample was collected from MW-4 on April 17, 2016. An insufficient amount of water was present to collect samples from the remaining monitoring wells on April 17, 2016. Monitoring wells MW-1R through MW-3R, and MW-4 through MW-7 were gauged and

sampled on October 15, 2016. Groundwater sampling was accomplished - using HydraSleeve™ (HydraSleeve) no-purge groundwater sampling device. The HydraSleeves were set either during the previous sampling event, or in the new monitoring wells following development activities, 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.

## SUMMARY TABLES

Historic analytical and water level data are summarized in Table 1 and Table 2, respectively. Soil analytical results are summarized in Table 3.

## SITE MAPS

Groundwater analytical maps (Figures 1 and 3) and groundwater elevation contour maps (Figures 2 and 4) summarize results of the 2016 groundwater sampling and gauging events.

## ANALYTICAL LAB REPORTS

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

## GROUNDWATER RESULTS

- Groundwater elevations indicate a flow direction to the northwest (see Figures 2 and 4).

- Concentrations of benzene were either below the New Mexico Water Quality Control Commission standard (10 µg/L) or not detected in any of the Site monitoring wells sampled in 2016.

- Concentrations of toluene were not detected in any of the Site monitoring wells sampled in 2016.

- Concentrations of ethylbenzene were either below the NMWQCC standard

(750 µg/L) or not detected in any of the Site monitoring wells sampled in 2016.

- Concentrations of total xylenes were either below the NMWQCC standard (620 µg/L) or not detected in any of the Site monitoring wells sampled in 2016.

## SOIL RESULTS

- Soil samples were collected from the borings for monitoring wells MW-1R, MW-2R, MW-3R, MW-5, MW-6, and MW-7. Sample locations were based on elevated soil screening results. For benzene, the reported concentrations were below the reporting limit or below the applicable New Mexico Oil Conservation Division (NMOCD) 2013 Pit Rule Guidance (10 milligrams per kilogram (mg/kg)). Total BTEX concentrations in the soil samples were also below the reporting limit or below the applicable NMOCD 2013 Pit Rule Guidance

- TPH ranged from below reporting limits to 54.39 mg/kg in MW-3R. The TPH concentrations were below the applicable NMOCD Guidance (100 mg/kg).

- The soil sample concentrations of chloride were below the applicable NMOCD guidance (600 mg/kg).

## PLANNED FUTURE ACTIVITIES

BTEX concentrations in the monitoring wells are reported below the NMWQCC standards during the fourth calendar quarter of 2016. Groundwater sampling will be completed quarterly through at least the third calendar quarter of 2017. If groundwater concentrations remain below NMWQCC standards after four consecutive quarters, groundwater monitoring may cease, and EPCGP may request site closure from NMOCD. If site closure is not requested in 2017, a 2017 Annual Report will be submitted to the NMOCD in early 2018.

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## TABLES

# 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 |
| MW-1 | 04/17/16 | NS | NS | NS | NS |
| MW-1 was abandoned and replaced with MW-1R on May 20, 2016 | | | | | |

# 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-2 | 04/17/16 | NS | NS | NS | NS |
| MW-2 was abandoned and replaced with MW-2R on May 20, 2016 | | | | | |
| 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 |

# 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 | 05/31/15 | NS | NS | NS | NS |
| MW-3 | 11/21/15 | NS | NS | NS | NS |
| MW-3 | 04/17/16 | NS | NS | NS | NS |
| MW-3 was abandoned and replaced with MW-3R on May 20, 2016 | | | | | |
| 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 |
| MW-4 | 04/17/16 | <1.0 | <5.0 | 15 | 7 |
| MW-4 | 10/15/16 | 2.0 | <5.0 | 18 | <5.0 |
| MW-1R | 10/15/16 | <1.0 | <5.0 | <1.0 | <5.0 |
| MW-2R | 10/15/16 | <1.0 | <5.0 | <1.0 | <5.0 |
| MW-3R | 10/15/16 | <1.0 | <5.0 | <1.0 | <5.0 |
| MW-5 | 10/15/16 | <1.0 | <5.0 | 1.9 | 5.0 |
| MW-6 | 10/15/16 | <1.0 | <5.0 | <1.0 | <5.0 |
| MW-7 | 10/15/16 | <1.0 | <5.0 | <1.0 | <5.0 |

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 |
| MW-1 | 04/17/16 | 5978.20 | DRY | ND | | DRY |
| MW-1 was abandoned and replaced with MW-1R on May 20, 2016 | | | | | | |

# 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 |
| MW-2 | 04/17/16 | 5977.47 | 17.45 | ND | | 5960.02 |
| MW-2 was abandoned and replaced with MW-2R on May 20, 2016 | | | | | | |

# 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 |
| MW-3 | 04/17/16 | 5979.22 | 15.65 | ND | | 5963.57 |
| MW-3 was abandoned and replaced with MW-3R on May 20, 2016 | | | | | | |

# 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 |
| MW-4 | 04/17/16 | 5976.22 | 16.75 | ND | | 5959.47 |
| MW-4 | 10/15/16 | 5976.22 | 16.29 | ND | | 5959.93 |

# 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-1R | 10/15/16 | 5978.06 | 17.12 | ND | | 5960.94 |
| MW-2R | 10/15/16 | 5976.83 | 16.68 | ND | | 5960.15 |
| MW-3R | 10/15/16 | 5978.48 | 18.23 | ND | | 5960.25 |
| MW-5 | 10/15/16 | 5977.74 | 17.55 | ND | | 5960.19 |
| MW-6 | 10/15/16 | 5978.44 | 18.05 | ND | | 5960.39 |
| MW-7 | 10/15/16 | 5978.63 | 18.17 | ND | | 5960.46 |

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

# TABLE 3 - SOIL ANALYTICAL RESULTS

| Hammond #41A | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Location (depth in feet bgs)** | **Date (mm/dd/yy)** | **Benzene (mg/kg)** | **Toluene (mg/kg)** | **Ethylbenzene (mg/kg)** | **Total Xylenes (mg/kg)** | **BTEX Total (mg/kg)** | **GRO C6-10 (mg/kg)** | **DRO C10-28 (mg/kg)** | **MRO C28-35 (mg/kg)** | **TPH (mg/kg)** | **Chloride (mg/kg)** |
| NMOCD Criteria: | | 10 | NE | NE | NE | 50 | NE | NE | NE | 100 | 600 |
| MW-1R (13.5-14.5) | 05/18/16 | BRL | BRL | BRL | BRL | BRL | BRL | BRL | BRL | BRL | BRL |
| MW-2R (13-14) | 05/18/16 | BRL | BRL | BRL | BRL | BRL | BRL | BRL | BRL | BRL | 39 |
| MW-3R(12-13) | 05/20/16 | BRL | BRL | BRL | BRL | BRL | 0.39 | 54 | BRL | 54.39 | 35 |
| MW-5 (13.5-14.5) | 05/18/16 | BRL | BRL | BRL | BRL | BRL | BRL | BRL | BRL | BRL | BRL |
| MW-6 (14-15) | 05/18/16 | BRL | BRL | BRL | BRL | BRL | BRL | BRL | BRL | BRL | 26 |
| MW-7 (14-15) | 05/19/16 | 0.029 | 0.25 | 0.16 | 0.44 | 0.879 | 25 | BRL | BRL | 25 | 28 |

Notes:

| | |
|---|---|
| mg/kg | Milligrams per kilogram |
| BRL | Below Reporting Limits |
| NE | New Mexico Oil Conservation Division (NMOCD) Standard Not Established |
| BTEX | Benzene, toluene, ethylbenzene, xylenes |
| GRO | Gasoline range organics |
| DRO | Diesel range organics |
| MRO | Motor oil range organics |
| Total BTEX | Sum of the detectable concentrations of individual BTEX constituents |
| TPH | Total Petroleum Hydrocarbon concentration is calculated by adding GRO, DRO, and MRO and rounded to the nearest mg/kg. |
| NMOCD Criteria | New Mexico Oil Conservation Division closure criteria for groundwater ≤50 feet below bottom of pit to groundwater less than 10,000 mg/L TDS<br>Results bolded and highlighted yellow exceed their respective NMOCD Standards |

## FIGURES

L:\San Juan River Basin\SJRB GENERAL\GIS-NEW_MXDs\HAMMOND #41A\2016 MAPS\Hammond#41A_GARM_1SA_2016.mxd

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

MW-2
NS
MW-2

MW-4
MW-4
B: <1.0
T: <5.0
E: 15
X: 7

MW-1
NS
MW-1

PH-1

FORMER EPC PIT -
EXCAVATED TO 19 FEET

MW-3
NS
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
- WELLHEAD
- 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 |
|---|---|---|---|---|
| | 10/7/2016 | SLG | SLG | SRV |

TITLE:
GROUNDWATER ANALYTICAL RESULTS
APRIL 17, 2016

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\2016 MAPS\Hammond#41A_GECM_1SA_2016.mxd

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

MW-2
5960.02*
MW-2

MW-4
5959.47
MW-4

MW-1
DRY
MW-1

FORMER EPC PIT -
EXCAVATED TO 19 FEET

MW-3
5963.57*
MW-3

HAMMOND #41A WELLHEAD

METER HOUSE

EPFS

SEPARATOR

DRIP TANK

DOGLEG

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
- WELLHEAD
- SMA BENCHMARK

**NOTES:**

- 5960.46 — GROUNDWATER ELEVATION, (FEET ABOVE MEAN SEA LEVEL)
- * — INDICATES WATER LEVELS WERE NEAR OR AT THE BOTTOM OF MONITORING WELL

N

SCALE IN FEET
0 40 80

| REVISION | DATE | DESIGN BY | DRAWN BY | REVIEWED BY |
|---|---|---|---|---|
| | 10/7/2016 | SLG | SLG | SRV |

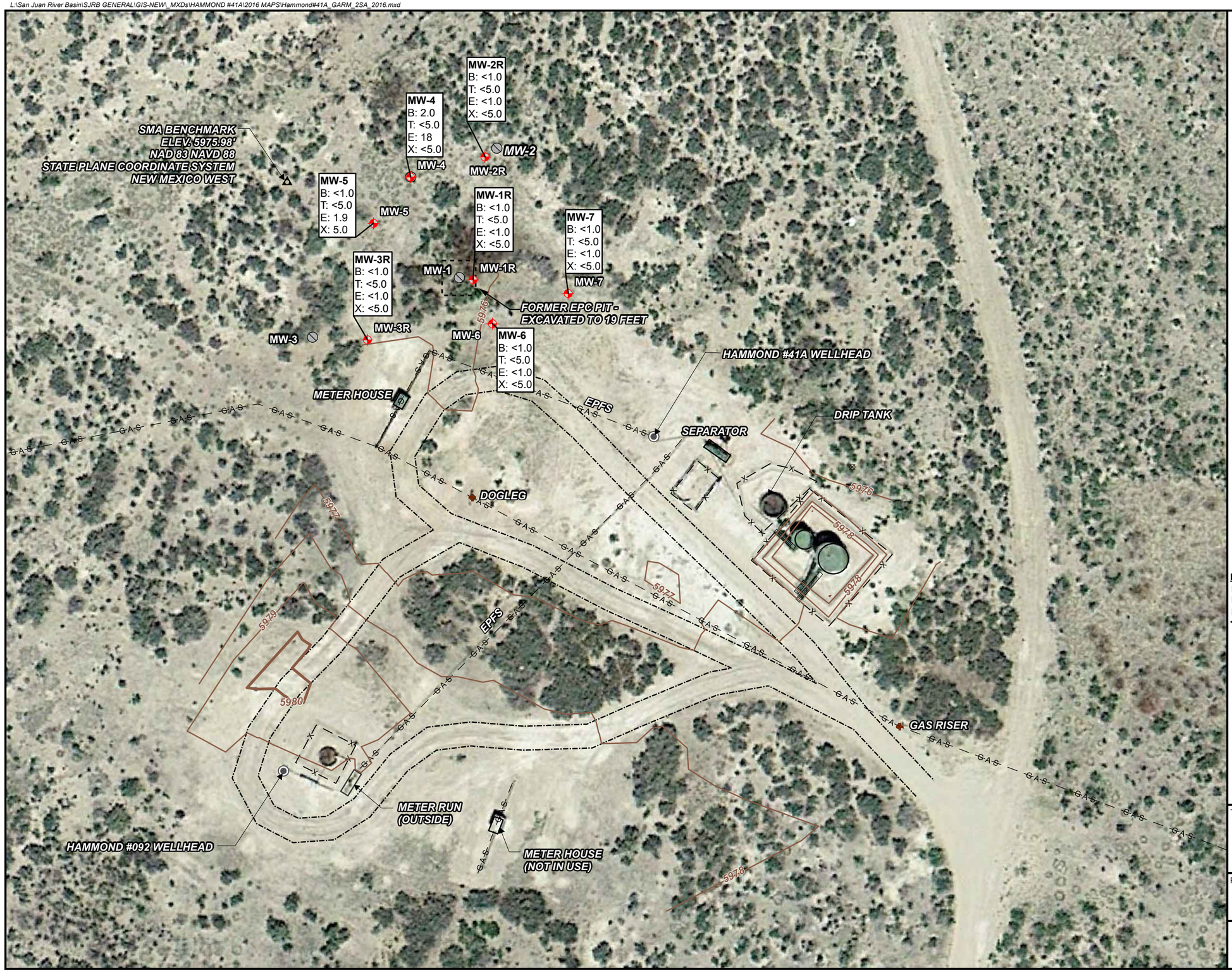
TITLE:
**GROUNDWATER ELEVATION MAP**
**APRIL 17, 2016**

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\2016 MAPS\Hammond#41A_GARM_2SA_2016.mxd




## LEGEND:

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

**EXPLANATION OF ANALYTES AND APPLICABLE STANDARDS:**

RESULTS IN **BOLDFACE** TYPE INDICATE CONCENTRATION IN EXCESS OF THE STANDARD FOR THAT ANALYTE.
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 |
|---|---|---|---|---|
| | 11/30/2016 | SLG | SLG | SRV |

TITLE:

**GROUNDWATER ANALYTICAL RESULTS**
**OCTOBER 15, 2016**

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\2016 MAPS\Hammond#41A_GECM_2SA_2016.mxd

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

MW-4 5959.93
MW-2R 5960.15
MW-5 5960.19
MW-1R 5960.94
MW-7 5960.46
MW-3R 5960.25
MW-6 5960.39

5960.1
5960.2
5960.3
5960.4
5960

MW-4
MW-2R
MW-2
MW-5
MW-1
MW-1R
MW-7
MW-3
MW-3R
MW-6

FORMER EPC PIT - EXCAVATED TO 19 FEET

HAMMOND #41A WELLHEAD
METER HOUSE
EPFS
SEPARATOR
DRIP TANK
DOGLEG
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
- ABANDONED MONITORING WELL
- WELLHEAD
- SMA BENCHMARK

**NOTES:**

5467.31 GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)

5437.3 WATER LEVEL ELEVATION CONTOUR (DASHED WHERE INFERRED, FEET ABOVE MEAN SEA LEVEL)

DIRECTION OF APPARENT GROUNDWATER FLOW

N

SCALE IN FEET
0 40 80

| REVISION | DATE | DESIGN BY | DRAWN BY | REVIEWED BY |
|---|---|---|---|---|
| | 1/12/2017 | SLG | SLG | SRV |

TITLE:

**GROUNDWATER ELEVATION MAP**
**OCTOBER 15, 2016**

PROJECT:

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

MWH

Figure No.: 4

L:\San Juan River Basin\SJRB GENERAL\GIS-NEW_MXDs\HAMMOND #41A\2016 MAPS\Hammond#41A_SARM_MAY2016.mxd

**MW-5**
**13.5-14.5 ft. bgs**
B: BRL
BTEX: BRL
TPH: BRL
Cl: BRL

**MW-2R**
**13-14 ft. bgs**
B: BRL
BTEX: BRL
TPH: BRL
Cl: 39

**MW-1R**
**13.5-14.5 ft. bgs**
B: BRL
BTEX: BRL
TPH: BRL
Cl: BRL

**MW-3R**
**12-13 ft. bgs**
B: BRL
BTEX: BRL
TPH: 54.39
Cl: 35

**MW-7**
**14-15 ft. bgs**
B: 0.029
BTEX: 0.879
TPH: 25
Cl: 28

**MW-6**
**14-15 ft. bgs**
B: BRL
BTEX: BRL
TPH: BRL
Cl: 26

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

MW-2 NS
MW-2
MW-4 NS
MW-4
MW-2R
PZ-2
PZ-2 NS
MW-5
PH-2
PH-2 NS
MW-1 NS
PZ-3
PZ-3 NS
MW-1
MW-1R
PH-1
PH-1 NS
MW-7
FORMER EPC PIT - EXCAVATED TO 19 FEET
MW-3R
MW-6
MW-3
MW-3 NS
HAMMOND #41A WELLHEAD
METER HOUSE
EPFS
SEPARATOR
DRIP TANK
DOGLEG
GAS RISER
METER RUN (OUTSIDE)
HAMMOND #092 WELLHEAD
METER HOUSE (NOT IN USE)

5976 5977 5978 5979 5980

# LEGEND:

- APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET (5980)
- ACCESS ROAD
- NATURAL GAS LINE
- MONITORING WELL
- ABANDONED MONITORING WELL
- WELLHEAD
- SMA BENCHMARK
- ORC INJECTION LOCATION
- PROBEHOLE LOCATION
- FORMER PIEZOMETER LOCATION

**NOTES:**

MW-1R, MW-2R, MW-5 AND MW-6 SAMPLES COLLECTED 5/18/2016; MW-7 5/19/2016; MW-3R 5/20/2016.

UTILITY LOCATIONS ARE APPROXIMATE.

ft. bgs = FEET BELOW GROUND SURFACE
NS = NOT SAMPLED

**EXPLANATION OF ANALYTES AND APPLICABLE STANDARDS:**

RESULTS IN **BOLDFACE** TYPE INDICATE CONCENTRATION IN EXCESS OF APPLICABLE NEW MEXICO OIL CONSERVATION DIVISION SOIL CRITERIA FOR THAT ANALYTE.
mg/kg = MILLIGRAM/KILOGRAM
BRL = BELOW REPORTING LIMITS

| ANALYTE | NMOCD STANDARDS |
|---|---|
| B = Benzene | 10 mg/kg |
| BTEX = Benzene, toluene, ethylbenzene, xylenes | 50 mg/kg |
| TPH = Total Petroleum Hydrocarbons | 100 mg/kg |
| Cl = Chloride | 600 mg/kg |

N

SCALE IN FEET
0 40 80

| REVISION | DATE | DESIGN BY | DRAWN BY | REVIEWED BY |
|---|---|---|---|---|
| | 1/27/2017 | SLG | SLG | SRV |

TITLE:

## SOIL ANALYTICAL RESULTS

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

MWH

Figure No.: 5

## APPENDICES

APPENDIX A – BOREHOLE AND WELL CONSTRUCTION LOGS

APPENDIX B – SOIL SAMPLING ANALYTICAL REPORTS

APPENDIX C – WASTE DISPOSAL DOCUMENTATION

APPENDIX D – APRIL 30, 2016 GROUNDWATER SAMPLING ANALYTICAL REPORT
OCTOBER 27, 2016 GROUNDWATER SAMPLING ANALYTICAL REPORT

# APPENDIX A

# MWH

# Drilling Log

Monitoring Well **MW-1R**



Project *Hammond #41A* Owner *El Paso CGP Company, LLC*

Location *San Juan County, New Mexico* Project Number *10509071*

Surface Elev. *5975.93 ft* North *2016022* East *2782197*

Top of Casing *5978.06 ft* Water Level Initial ▽ *5960.52* 05/18/16 00:00 Static ▼ *5960.86* 05/21/16 00:00

Hole Depth *30.0 ft* Screen: Diameter *2 in* Length *20.0 ft* Type/Size *PVC/0.01 in*

Hole Diameter *6.25 in* Casing: Diameter *2 in* Length *NA* Type *PVC*

Drill Co. *Vista Geoscience* Drilling Method *Direct Push/Hollow-stem Auger* Sand Pack *10/20 CO Silica*

Driller *Chase Cain* Driller Reg. # *WD-1705* Log By *Brad Barton*

Start Date *5/18/2016* Completion Date *5/21/2016* Checked By *S. Varsa*

*COMMENTS*
*Adjacent to MW-1. Surface is dirt with vegetation, a tree nearby.*

Bentonite Chips | Bentonite Granules | Grout | Bentonite Pellets | Sand Pack | PP Sand Pack

| Depth (ft) | PID (ppm) | % Recovery | Blow Count Recovery | Graphic Log | USCS | Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS. | Well Completion |
|---|---|---|---|---|---|---|---|
| 0 | | | | | | | |
| 2 | 0.0 | | | | | Sand, silty, brown, dry, loose, fine to med. sand, subrounded, no hydrocarbon odor, water at 14.5', discoloration (black/dark gray) with hydrocarbon staining and sl. odor at 16', soil compacted in core liner. (0-8' cleared with a hydro-vac). | |
| 4 | 0.0 | 100% | | | | | |
| 6 | 0.0 | | | | | | |
| 8 | 0.0 | | | | SM | | |
| 10 | 0.0 | 100% | | | | | |
| 12 | 0.0 | | | | | | |
| 14 | 0.0 | 100% MW1R 13.5-14.5' | | | | | |
| ▽ ▼ | 2.1 | | | | | | |
| 16 | 8.6 | | | | | | |
| 18 | 10.7 | MW1R 17-18' (not analyzed) | | | CH | Fat clay, with sand, wet, very stiff, high plasticity, fine sand, slight hydrocarbon odor, dark brown with black/gray hydrocarbon staining, soil compacted in core liner. | |
| 20 | 0.5 | 100% | | | | Poorly-graded sand, light brown, wet, loose, fine sand, minor medium sand, no hydrocarbon odor, subrounded sand, soil compacted in core liner. | |
| | 0.3 | | | | SP | | |
| | 0.0 | | | | | | |

*Continued Next Page*

# Drilling Log

MWH

Monitoring Well **MW-1R**



Project *Hammond #41A* Owner *El Paso CGP Company, LLC*

Location *San Juan County, New Mexico* Project Number *10509071*

| Depth (ft) | PID (ppm) | % Recovery | Blow Count Recovery | Graphic Log | USCS | Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS. | Well Completion |
|---|---|---|---|---|---|---|---|
| | | | | | | *Continued* | |
| 20 | | | | | SP | | |
| | 0.0 | | | | | Fat clay, with sand (continues), brown, color changes to olive-brown at 29', medium stiff to stiff, very stiff at 25.5', becoming softer at 29', wet, high plasticity, no hydrocarbon odor. | |
| 22 | 0.0 | | | | | | |
| | 0.0 | 100% | | | | | |
| 24 | 0.0 | | | | | | |
| | 0.0 | | | | | | |
| 26 | 0.0 | | | | CH | | |
| | 0.0 | | | | | | |
| 28 | 0.0 | 100% | | | | | |
| | 0.0 | | | | | | |
| 30 | 0.0 | | | | | | |
| 32 | | | | | | Total sampled depth = 30'. Boring overdrilled to 32' to set well. | |
| 34 | | | | | | | |
| 36 | | | | | | | |
| 38 | | | | | | | |
| 40 | | | | | | | |
| 42 | | | | | | | |
| 44 | | | | | | | |
| 46 | | | | | | | |

# Drilling Log

MWH

Monitoring Well **MW-2R**



Project *Hammond #41A* Owner *El Paso CGP Company, LLC*

Location *San Juan County, New Mexico* Project Number *10509071*

Surface Elev. *5974.20 ft* North *2016073* East *2782203*

Top of Casing *5976.83 ft* Water Level Initial ▽ *5960.2* 05/18/16 00:00 Static ▼ *5960.68* 05/20/16 00:00

Hole Depth *30.0 ft* Screen: Diameter *2 in* Length *20.0 ft* Type/Size *PVC/0.01 in*

Hole Diameter *6.25 in* Casing: Diameter *2 in* Length *NA* Type *PVC*

Drill Co. *Vista Geoscience* Drilling Method *Direct Push/Hollow-stem Auger* Sand Pack *10/20 CO Silica*

Driller *Chase Cain* Driller Reg. # *WD-1705* Log By *Brad Barton*

Start Date *5/18/2016* Completion Date *5/20/2016* Checked By *S. Varsa*

*COMMENTS*
*Adjacent to MW-2. Surface is dirt with minor vegetation (sagebrush).*

Bentonite Chips | Bentonite Granules | Grout | Bentonite Pellets | Sand Pack | PP Sand Pack

| Depth (ft) | PID (ppm) | % Recovery | Blow Count Recovery | Graphic Log | USCS | Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS. | Well Completion |
|---|---|---|---|---|---|---|---|
| 0 | | | | | | | |
| | 0.0 | | | | | Sand, silty, dry, brown, loose, fine to medium sand, no hydrocarbon odor. (0-8' cleared with a hydro-vac). | |
| 2 | 0.0 | | | | | | |
| | 0.0 | | | | | | |
| 4 | 0.0 | 100% | | | | | |
| | 0.0 | | | | | | |
| 6 | 0.0 | | | | SM | | |
| | 0.0 | | | | | | |
| 8 | 0.0 | | | | | | |
| | 0.0 | 100% | | | | | |
| 10 | 0.0 | | | | | | |
| | 0.0 | | | | | | |
| 12 | 0.0 | MW-2R 12-13' (not analyzed) | | | | | |
| | 0.0 | 100% MW-2R 13-14' | | | | | |
| ▽ 14 | 0.0 | | | | CH | Fat clay, with sand, dark brown with gray mottling, high plasticity, very moist to wet-water at 14', soft. | |
| | 0.0 | | | | | | |
| 16 | 0.0 | | | | | | |
| | 0.1 | | | | | Poorly-graded sand, fine sand with minor medium sand, wet, loose, no hydrocarbon odor, slight black discoloration at 17', some large gravel at base/crushed in core liner. | |
| 18 | 0.2 | 100% | | | SP | | |
| | 0.1 | | | | | | |
| 20 | 0.1 | | | | CH | Fat clay, with sand (continues), very stiff, very moist, high plasticity, no hydrocarbon odor, light brown becoming light gray with depth. | |

*Continued Next Page*

# Drilling Log

MWH

Monitoring Well **MW-2R**



Project *Hammond #41A* Owner *El Paso CGP Company, LLC*

Location *San Juan County, New Mexico* Project Number *10509071*

| Depth (ft) | PID (ppm) | % Recovery | Blow Count Recovery | Graphic Log | USCS | Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS. | Well Completion |
|---|---|---|---|---|---|---|---|
| | | | | | | *Continued* | |
| 20 | | | | | | | |
| | 0.0 | | | | | | |
| 22 | 0.0 | | | | CH | | |
| | 0.0 | 100% | | | | | |
| 24 | 0.0 | | | | | No recovery. | |
| | 0.0 | | | | | | |
| 26 | 0.0 | | | | | Fat clay, with sand (continues), very stiff, brown, color changes to olive-brown/gray with depth, very moist, high plasticity, no hydrocarbon odor. Overdrilled to approximately 32' before setting well. | |
| | 0.0 | | | | | | |
| 28 | 0.0 | 100% | | | CH | | |
| | 0.0 | | | | | | |
| 30 | 0.0 | | | | | | |
| 32 | | | | | | Total sampled depth = 30'. Boring overdrilled to 32' to set well. | |
| 34 | | | | | | | |
| 36 | | | | | | | |
| 38 | | | | | | | |
| 40 | | | | | | | |
| 42 | | | | | | | |
| 44 | | | | | | | |
| 46 | | | | | | | |

# MWH

# Drilling Log

Monitoring Well **MW-3R**



Project *Hammond #41A* Owner *El Paso CGP Company, LLC*

Location *San Juan County, New Mexico* Project Number *10509071*

Surface Elev. *5976.06 ft* North *2015997* East *2782153*

Top of Casing *5978.48 ft* Water Level Initial ▽ *5961.06* 05/20/16 00:00 Static ▼ *5960.88* 05/21/16 00:00

Hole Depth *30.0 ft* Screen: Diameter *2 in* Length *20.0 ft* Type/Size *PVC/0.01 in*

Hole Diameter *6.25 in* Casing: Diameter *2 in* Length *NA* Type *PVC*

Drill Co. *Vista Geoscience* Drilling Method *Direct Push/Hollow-stem Auger* Sand Pack *10/20 CO Silica*

Driller *Chase Cain* Driller Reg. # *WD-1705* Log By *Brad Barton*

Start Date *5/20/2016* Completion Date *5/21/2016* Checked By *S. Varsa*

*COMMENTS*
*Approx. 10' E of MW-3. Surface is dirt with minor vegetation (sagebrush). NM = Not measured.*

Bentonite Chips | Bentonite Granules | Grout | Bentonite Pellets | Sand Pack | PP Sand Pack

| Depth (ft) | PID (ppm) | % Recovery | Blow Count Recovery | Graphic Log | USCS | Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS. | Well Completion |
|---|---|---|---|---|---|---|---|
| 0 | | | | | | | |
| | 0.0 | | | | | Sand, silty, some clay present with content increasing at 12', brown, dry, slightly moist at 11.5', water at 15', loose, fine to medium sand, subrounded sand, slight hydrocarbon odor from 12-13'. (0-8' cleared with a hydro-vac). | |
| 2 | 0.0 | | | | | | |
| | 0.0 | | | | | | |
| 4 | 0.0 | 100% | | | | | |
| | 0.0 | | | | | | |
| 6 | 0.0 | | | | | | |
| | 0.0 | | | | | | |
| 8 | 0.0 | | | | SM | | |
| | 0.0 | 100% | | | | | |
| 10 | 0.0 | | | | | | |
| | 0.0 | | | | | | |
| 12 | 321 | MW-3R 12-13' | | | | | |
| | 1.6 | 100% | | | | | |
| 14 | 1.2 | | | | | | |
| ▽▼ | 0.0 | | | | | Poorly-graded sand, brown, becoming light gray to light brown at 19.5', loose, fine sand, minor medium sand, minor fines, wet, no hydrocarbon odor, soil compacted in liner from 15-20'. | |
| 16 | 0.0 | | | | | | |
| | 0.0 | | | | SP | | |
| 18 | 0.0 | 100% | | | | | |
| | 0.0 | | | | | | |
| 20 | 0.0 | | | | | | |

*Continued Next Page*

# Drilling Log

MWH

Monitoring Well **MW-3R**



Project *Hammond #41A* Owner *El Paso CGP Company, LLC*

Location *San Juan County, New Mexico* Project Number *10509071*

| Depth (ft) | PID (ppm) | % Recovery | Blow Count Recovery | Graphic Log | USCS | Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS. | Well Completion |
|---|---|---|---|---|---|---|---|
| | | | | | | *Continued* | |
| 20 | | | | | | No recovery due to "sand lock". Augered from 20-30'. | |
| | NM | | | | | | |
| 22 | NM | | | | | | |
| | NM | | | | | | |
| 24 | NM | | | | | | |
| | NM | | | | | | |
| 26 | NM | | | | | | |
| | NM | | | | | | |
| 28 | NM | | | | | | |
| | NM | | | | | | |
| 30 | NM | | | | | | |
| 32 | | | | | | Total sampled depth = 30'. Boring overdrilled to 32' to set well. | |
| 34 | | | | | | | |
| 36 | | | | | | | |
| 38 | | | | | | | |
| 40 | | | | | | | |
| 42 | | | | | | | |
| 44 | | | | | | | |
| 46 | | | | | | | |

# Drilling Log

MWH

Monitoring Well **MW-5**



Project *Hammond #41A* Owner *El Paso CGP Company, LLC*

Location *San Juan County, New Mexico* Project Number *10509071*

Surface Elev. *5975.34 ft* North *2016045* East *2782156*

Top of Casing *5977.74 ft* Water Level Initial ▽ *5960.64* 05/18/16 00:00 Static ▼ *5960.49* 05/21/16 00:00

Hole Depth *30.0 ft* Screen: Diameter *2 in* Length *20.0 ft* Type/Size *PVC/0.01 in*

Hole Diameter *6.25 in* Casing: Diameter *2 in* Length *NA* Type *PVC*

Drill Co. *Vista Geoscience* Drilling Method *Direct Push/Hollow-stem Auger* Sand Pack *10/20 CO Silica*

Driller *Chase Cain* Driller Reg. # *WD-1705* Log By *Brad Barton*

Start Date *5/18/2016* Completion Date *5/21/2016* Checked By *S. Varsa*

*COMMENTS*
*Surface is dirt with minor vegetation (sagebrush).*

Bentonite Chips | Bentonite Granules | Grout | Bentonite Pellets | Sand Pack | PP Sand Pack

| Depth (ft) | PID (ppm) | % Recovery | Blow Count Recovery | Graphic Log | USCS | Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS. | Well Completion |
|---|---|---|---|---|---|---|---|
| 0 | | | | | | | |
| | 0.0 | | | | | Sand, silty, brown, discolored dark gray/black at 14.5', water at 14.5', loose, fine to medium sand, subrounded sand, hydrocarbon staining and very slight odor at 14.5', soil compacted in liner from 10-15'. (0-8' cleared with a hydro-vac). | |
| 2 | 0.0 | | | | | | |
| | 0.0 | | | | | | |
| 4 | 0.0 | 100% | | | | | |
| | 0.0 | | | | | | |
| 6 | 0.0 | | | | | | |
| | 0.0 | | | | | | |
| 8 | 0.0 | | | | SM | | |
| | 0.0 | 100% | | | | | |
| 10 | 0.0 | | | | | | |
| | 0.0 | | | | | | |
| 12 | 0.0 | MW-5 12.5-13.5' (not analyzed) | | | | | |
| | 0.0 | | | | | | |
| 14 | 4.2 | 100% MW-5 13.5-14.5' | | | | | |
| ▽▼ | 386.9 | | | | | | |
| 16 | 159.6 | | | | | Poorly-graded sand, dark gray (hydrocarbon-stained) to light brown at 20', loose, fine sand, minor medium sand, subrounded, moderate to very slight hydrocarbon odor, hydrocarbon staining and odor stops at 20', wet, soil compacted in liner from 15-20'. | |
| | 8.4 | | | | | | |
| 18 | 6.1 | 100% | | | SP | | |
| | 4.2 | | | | | | |
| 20 | 0.0 | | | | | | |

*Continued Next Page*

# Drilling Log

MWH

Monitoring Well **MW-5**



Project *Hammond #41A* Owner *El Paso CGP Company, LLC*

Location *San Juan County, New Mexico* Project Number *10509071*

| Depth (ft) | PID (ppm) | % Recovery | Blow Count Recovery | Graphic Log | USCS | Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS. | Well Completion |
|---|---|---|---|---|---|---|---|
| | | | | | | *Continued* | |
| 20 | 0.0 | 100% | | | CH | Fat clay with fine sand, very stiff, wet, high plasticity, dark brown, no hydrocarbon odor. | |
| 22 | 0.0 | | | | | | |
| | 0.0 | | | | | | |
| 24 | 0.0 | | | | SP | Poorly-graded sand, brown, loose, wet, fine sand, minor medium sand, no hydrocarbon odor, subrounded sand. | |
| 26 | 0.0 | 100% | | | | | |
| | 0.0 | | | | | | |
| 28 | 0.0 | | | | | | |
| | 0.0 | | | | CH | Fat clay with fine sand, dark brown, very stiff, very moist, high plasticity. | |
| 30 | 0.0 | | | | | | |
| 32 | | | | | | Total sampled depth = 30'. Boring overdrilled to 33' to set well. | |
| 34 | | | | | | | |
| 36 | | | | | | | |
| 38 | | | | | | | |
| 40 | | | | | | | |
| 42 | | | | | | | |
| 44 | | | | | | | |
| 46 | | | | | | | |

# Drilling Log

MWH

Monitoring Well **MW-6**



Project *Hammond #41A* Owner *El Paso CGP Company, LLC*

Location *San Juan County, New Mexico* Project Number *10509071*

Surface Elev. *5976.31 ft* North *2016004* East *2782205*

Top of Casing *5978.44 ft* Water Level Initial ▽ *5960.61* 05/18/16 00:00 Static ▼ *5960.97* 05/20/16 00:00

Hole Depth *30.0 ft* Screen: Diameter *2 in* Length *20.0 ft* Type/Size *PVC/0.01 in*

Hole Diameter *6.25 in* Casing: Diameter *2 in* Length *NA* Type *PVC*

Drill Co. *Vista Geoscience* Drilling Method *Direct Push/Hollow-stem Auger* Sand Pack *10/20 CO Silica*

Driller *Chase Cain* Driller Reg. # *WD-1705* Log By *Brad Barton*

Start Date *5/18/2016* Completion Date *5/20/2016* Checked By *S. Varsa*

*COMMENTS*
*Surface is dirt with minor vegetation (sagebrush).*

Bentonite Chips | Bentonite Granules | Grout | Bentonite Pellets | Sand Pack | PP Sand Pack

| Depth (ft) | PID (ppm) | % Recovery | Blow Count Recovery | Graphic Log | USCS | Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS. | Well Completion |
|---|---|---|---|---|---|---|---|
| 0 | | | | | | | |
| | 0.0 | | | | | Sand, silty, brown, water at 15', loose, minor clay content increasing with depth, low plasticity clay, fine sand, no hydrocarbon odor, soil compacted in liner from 10-15'. (0-8' cleared with a hydro-vac). | |
| 2 | 0.0 | | | | | | |
| | 0.0 | | | | | | |
| 4 | 0.0 | 100% | | | | | |
| | 0.0 | | | | | | |
| 6 | 0.0 | | | | | | |
| | 0.0 | | | | | | |
| 8 | 0.0 | | | | SM | | |
| | 0.0 | 100% | | | | | |
| 10 | 0.0 | | | | | | |
| | 0.0 | | | | | | |
| 12 | 0.0 | | | | | | |
| | 0.0 | 100% MW-6 13-14' (not analyzed) MW-6 14-15' | | | | | |
| 14 | 0.0 | | | | | | |
| | 0.0 | | | | | | |
| 16 | 0.1 | | | | | | |
| | 3.3 | | | | CL | Silty sand/clay with sand, saturated, very slight hydrocarbon odor, minor black/gray hydrocarbon staining present, low to medium plasticity, fine sand. | |
| 18 | 0.6 | 100% | | | | | |
| | 0.1 | | | | SP | Poorly-graded sand, light gray to light brown, wet/saturated, no hydrocarbon odor, loose, fine sand, minor medium sand, subrounded, trace coarse sand. | |
| 20 | 0.0 | | | | | | |

*Continued Next Page*

# Drilling Log

MWH

Monitoring Well **MW-6**



Project *Hammond #41A* Owner *El Paso CGP Company, LLC*

Location *San Juan County, New Mexico* Project Number *10509071*

| Depth (ft) | PID (ppm) | % Recovery | Blow Count Recovery | Graphic Log | USCS | Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS. | Well Completion |
|---|---|---|---|---|---|---|---|
| | | | | | | *Continued* | |
| 20 | 0.0 | | | | | | |
| 22 | 0.0 | | | | | | |
| | 0.0 | 100% | | | SP | | |
| 24 | 0.0 | | | | | | |
| | 0.0 | | | | | | |
| 26 | 0.0 | | | | | | |
| | 0.0 | | | | | Fat clay with sand, fine sand, high plasticity, very moist, stiff to very stiff at 29', soft to medium stiff at 29.5', dark brown and gray to live-brown with gray at 29.5', no hydrocarbon odor. | |
| | 0.0 | 100% | | | CH | | |
| 28 | 0.0 | | | | | | |
| | 0.0 | | | | | | |
| 30 | 0.0 | | | | | | |
| 32 | | | | | | Total sampled depth = 30'. Boring overdrilled to 32' to set well. | |
| 34 | | | | | | | |
| 36 | | | | | | | |
| 38 | | | | | | | |
| 40 | | | | | | | |
| 42 | | | | | | | |
| 44 | | | | | | | |
| 46 | | | | | | | |

# Drilling Log

MWH

Monitoring Well **MW-7**



Project *Hammond #41A* Owner *El Paso CGP Company, LLC*

Location *San Juan County, New Mexico* Project Number *10509071*

Surface Elev. *5976.40 ft* North *2016016* East *2782237*

Top of Casing *5978.63 ft* Water Level Initial ▽ *5961.15* 05/17/16 00:00 Static ▼ *5961.11* 05/20/16 00:00

Hole Depth *30.0 ft* Screen: Diameter *2 in* Length *20.0 ft* Type/Size *PVC/0.01 in*

Hole Diameter *6.25 in* Casing: Diameter *2 in* Length *NA* Type *PVC*

Drill Co. *Vista Geoscience* Drilling Method *Direct Push/Hollow-stem Auger* Sand Pack *10/20 CO Silica*

Driller *Chase Cain* Driller Reg. # *WD-1705* Log By *Brad Barton*

Start Date *5/17/2016* Completion Date *5/20/2016* Checked By *S. Varsa*

*COMMENTS*
*Soil boring advanced 1' E of this location to collect sample MW-7 14-15'. Surface is dirt with minor vegetation (sagebrush).*

Bentonite Chips | Bentonite Granules | Grout | Bentonite Pellets | Sand Pack | PP Sand Pack

| Depth (ft) | PID (ppm) | % Recovery | Blow Count Recovery | Graphic Log | USCS | Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS. | Well Completion |
|---|---|---|---|---|---|---|---|
| 0 | | | | | | | |
| | 0.0 | | | | | | |
| 2 | 0.0 | | | | SM | Silty sand, brown, loose, dry, fine sand, minor clay content, no hydrocarbon odor. | |
| | 0.0 | | | | | | |
| 4 | 0.0 | 100% | | | | Clay, brown, dry, soft, medium to high plasticity, no hydrocarbon odor. (0-8' cleared with a hydro-vac). | |
| | 0.0 | | | | | | |
| 6 | 0.0 | | | | CL | | |
| | 0.0 | | | | | | |
| 8 | 0.0 | | | | | | |
| | 0.0 | 100% | | | | | |
| 10 | 3.9 | | | | | | |
| | 2.7 | | | | | Fat clay, dark brown, medium stiff, slightly moist increasing with depth, none to slight hydrocarbon odor, gray and black hydrocarbon staining at 14', high plasticity, soil compacted slightly in the core liner from 10-15'. | |
| 12 | 93.0 | | | | CH | | |
| | 2.6 | 100% | | | | | |
| 14 | 98.7 | MW-7 14-15' (see comments) | | | | | |
| ▽▼ | 104.1 | MW-7 15-16' (not analyzed) | | | | | |
| 16 | 2.6 | | | | | Poorly-graded sand, wet, loose, fine sand, trace medium sand, brown, no hydrocarbon odor, soil compacted slightly in the core liner from 20-25'. | |
| | 1.3 | | | | SP | | |
| 18 | 0.5 | 100% | | | | | |
| | 0.4 | | | | | | |
| 20 | 0.0 | | | | | | |

*Continued Next Page*

# Drilling Log

MWH

Monitoring Well **MW-7**



Project *Hammond #41A* Owner *El Paso CGP Company, LLC*

Location *San Juan County, New Mexico* Project Number *10509071*

| Depth (ft) | PID (ppm) | % Recovery | Blow Count Recovery | Graphic Log | USCS | Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS. | Well Completion |
|---|---|---|---|---|---|---|---|
| | | | | | | *Continued* | |
| 20 | 0.0 | | | | | | |
| 22 | 0.0 | 100% | | | SP | | |
| 24 | 0.0 | | | | | | |
| 26 | 0.0 | | | | | Fat clay with sand, brown, medium stiff to stiff, high plasticity, fine sand, very moist to wet. | |
| 28 | 0.0 | 100% | | | CH | | |
| 30 | 0.0 | | | | | | |
| 32 | | | | | | Total sampled depth = 30'. Boring overdrilled to 32' to set well. | |
| 34 | | | | | | | |
| 36 | | | | | | | |
| 38 | | | | | | | |
| 40 | | | | | | | |
| 42 | | | | | | | |
| 44 | | | | | | | |
| 46 | | | | | | | |

# APPENDIX B

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: 400-121955-1
Client Project/Site: Hammond #41A

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

Attn: Steve Varsa

*Authorized for release by:*
*6/8/2016 6:21:05 PM*

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

# Table of Contents

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

TestAmerica Job ID: 400-121955-1

## Qualifiers

### GC Semi VOA

| Qualifier | Qualifier Description |
|---|---|
| F1 | MS and/or MSD Recovery is outside acceptance limits. |
| 4 | MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable. |
| 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: 400-121955-1

### Laboratory: TestAmerica Pensacola

**Narrative**

**Job Narrative**
**400-121955-1**

**Comments**
No additional comments.

**Receipt**
The samples were received on 5/20/2016 9:02 AM and 5/24/2016 9:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.2º C and 3.7º C.

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

**GC VOA**
Method 8021B: Matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 400-307703 and analytical batch 400-307634 were not analyzed due to analyst error. LCS/LCSD data is provided.

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

**GC Semi VOA**
Method 8015B, 8015C: The following samples was diluted to bring the concentration of target analytes within the calibration range: (400-122174-A-1-A), (400-122174-A-1-B MS) and (400-122174-A-1-C MSD). Elevated reporting limits (RLs) are provided.

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

**Organic Prep**
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.

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

# Detection Summary

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

TestAmerica Job ID: 400-121955-1

## Client Sample ID: MW-6 (14-15) — Lab Sample ID: 400-121955-1

| Analyte | Result | Qualifier | RL | | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 26 | | 22 | | mg/Kg | 1 | ☼ | 300.0 | Soluble |

## Client Sample ID: MW-2R (13-14) — Lab Sample ID: 400-121955-2

| Analyte | Result | Qualifier | RL | | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 39 | | 26 | | mg/Kg | 1 | ☼ | 300.0 | Soluble |

## Client Sample ID: MW-5 (13.5-14.5) — Lab Sample ID: 400-121955-3

No Detections.

## Client Sample ID: MW-1R (13.5-14.5) — Lab Sample ID: 400-121955-4

No Detections.

## Client Sample ID: MW-7 (14-15) — Lab Sample ID: 400-121955-5

| Analyte | Result | Qualifier | RL | | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) C6--C10 | 25 | | 5.8 | | mg/Kg | 50 | ☼ | 8015B | Total/NA |
| Benzene | 0.029 | | 0.0025 | | mg/Kg | 1 | ☼ | 8021B | Total/NA |
| Ethylbenzene | 0.16 | | 0.0025 | | mg/Kg | 1 | ☼ | 8021B | Total/NA |
| Toluene | 0.25 | | 0.013 | | mg/Kg | 1 | ☼ | 8021B | Total/NA |
| Xylenes, Total | 0.44 | | 0.013 | | mg/Kg | 1 | ☼ | 8021B | Total/NA |
| Chloride | 28 | | 25 | | mg/Kg | 1 | ☼ | 300.0 | Soluble |

## Client Sample ID: MW-3R(12-13) — Lab Sample ID: 400-122067-1

| Analyte | Result | Qualifier | RL | | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) C6--C10 | 0.39 | | 0.22 | | mg/Kg | 1 | ☼ | 8015B | Total/NA |
| C10-C28 | 54 | | 13 | | mg/Kg | 1 | ☼ | 8015B | Total/NA |
| Chloride | 35 | | 28 | | mg/Kg | 1 | ☼ | 300.0 | Soluble |

This Detection Summary does not include radiochemical test results.

# Sample Summary

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

TestAmerica Job ID: 400-121955-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---|---|---|---|---|
| 400-121955-1 | MW-6 (14-15) | Solid | 05/18/16 09:10 | 05/20/16 09:02 |
| 400-121955-2 | MW-2R (13-14) | Solid | 05/18/16 10:55 | 05/20/16 09:02 |
| 400-121955-3 | MW-5 (13.5-14.5) | Solid | 05/18/16 13:20 | 05/20/16 09:02 |
| 400-121955-4 | MW-1R (13.5-14.5) | Solid | 05/18/16 14:55 | 05/20/16 09:02 |
| 400-121955-5 | MW-7 (14-15) | Solid | 05/19/16 12:30 | 05/20/16 09:02 |
| 400-122067-1 | MW-3R(12-13) | Solid | 05/20/16 15:40 | 05/24/16 09:20 |

## Client Sample ID: MW-6 (14-15)

**Lab Sample ID: 400-121955-1**

**Date Collected: 05/18/16 09:10**

**Matrix: Solid**

**Date Received: 05/20/16 09:02**

**Percent Solids: 90.9**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) C6--C10 | <0.10 | | 0.10 | | mg/Kg | ☼ | 05/31/16 12:42 | 05/31/16 15:28 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *a,a,a-Trifluorotoluene (fid)* | *105* | | *65 - 125* | *05/31/16 12:42* | *05/31/16 15:28* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.0011 | | 0.0011 | | mg/Kg | ☼ | 05/25/16 12:00 | 05/25/16 21:53 | 1 |
| Ethylbenzene | <0.0011 | | 0.0011 | | mg/Kg | ☼ | 05/25/16 12:00 | 05/25/16 21:53 | 1 |
| Toluene | <0.0054 | | 0.0054 | | mg/Kg | ☼ | 05/25/16 12:00 | 05/25/16 21:53 | 1 |
| Xylenes, Total | <0.0054 | | 0.0054 | | mg/Kg | ☼ | 05/25/16 12:00 | 05/25/16 21:53 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *a,a,a-Trifluorotoluene (pid)* | *103* | | *40 - 150* | *05/25/16 12:00* | *05/25/16 21:53* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| C10-C28 | <11 | | 11 | | mg/Kg | ☼ | 05/24/16 14:51 | 05/26/16 00:01 | 1 |
| C28-C35 | <11 | | 11 | | mg/Kg | ☼ | 05/24/16 14:51 | 05/26/16 00:01 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *o-Terphenyl* | *75* | | *27 - 151* | *05/24/16 14:51* | *05/26/16 00:01* | *1* |

### Method: 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **26** | | 22 | | mg/Kg | ☼ | | 06/05/16 05:35 | 1 |

## Client Sample ID: MW-2R (13-14)

**Date Collected: 05/18/16 10:55**
**Date Received: 05/20/16 09:02**

## Lab Sample ID: 400-121955-2

**Matrix: Solid**
**Percent Solids: 80.1**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) C6--C10 | <0.13 | | 0.13 | | mg/Kg | ☼ | 05/31/16 12:42 | 05/31/16 15:55 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *a,a,a-Trifluorotoluene (fid)* | *101* | | *65 - 125* | *05/31/16 12:42* | *05/31/16 15:55* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.0012 | | 0.0012 | | mg/Kg | ☼ | 05/25/16 12:00 | 05/25/16 22:20 | 1 |
| Ethylbenzene | <0.0012 | | 0.0012 | | mg/Kg | ☼ | 05/25/16 12:00 | 05/25/16 22:20 | 1 |
| Toluene | <0.0061 | | 0.0061 | | mg/Kg | ☼ | 05/25/16 12:00 | 05/25/16 22:20 | 1 |
| Xylenes, Total | <0.0061 | | 0.0061 | | mg/Kg | ☼ | 05/25/16 12:00 | 05/25/16 22:20 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *a,a,a-Trifluorotoluene (pid)* | *103* | | *40 - 150* | *05/25/16 12:00* | *05/25/16 22:20* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| C10-C28 | <12 | | 12 | | mg/Kg | ☼ | 05/24/16 14:51 | 05/26/16 00:11 | 1 |
| C28-C35 | <12 | | 12 | | mg/Kg | ☼ | 05/24/16 14:51 | 05/26/16 00:11 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *o-Terphenyl* | *115* | | *27 - 151* | *05/24/16 14:51* | *05/26/16 00:11* | *1* |

### Method: 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **39** | | 26 | | mg/Kg | ☼ | | 06/05/16 07:29 | 1 |

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

TestAmerica Job ID: 400-121955-1

## Client Sample ID: MW-5 (13.5-14.5)

**Date Collected: 05/18/16 13:20**
**Date Received: 05/20/16 09:02**

## Lab Sample ID: 400-121955-3

**Matrix: Solid**
**Percent Solids: 95.0**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) C6--C10 | <0.10 | | 0.10 | | mg/Kg | ☼ | 05/31/16 12:42 | 05/31/16 16:22 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *a,a,a-Trifluorotoluene (fid)* | *106* | | *65 - 125* | *05/31/16 12:42* | *05/31/16 16:22* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.0010 | | 0.0010 | | mg/Kg | ☼ | 05/25/16 12:00 | 05/25/16 22:47 | 1 |
| Ethylbenzene | <0.0010 | | 0.0010 | | mg/Kg | ☼ | 05/25/16 12:00 | 05/25/16 22:47 | 1 |
| Toluene | <0.0051 | | 0.0051 | | mg/Kg | ☼ | 05/25/16 12:00 | 05/25/16 22:47 | 1 |
| Xylenes, Total | <0.0051 | | 0.0051 | | mg/Kg | ☼ | 05/25/16 12:00 | 05/25/16 22:47 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *a,a,a-Trifluorotoluene (pid)* | *103* | | *40 - 150* | *05/25/16 12:00* | *05/25/16 22:47* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| C10-C28 | <10 | | 10 | | mg/Kg | ☼ | 05/24/16 14:51 | 05/26/16 00:21 | 1 |
| C28-C35 | <10 | | 10 | | mg/Kg | ☼ | 05/24/16 14:51 | 05/26/16 00:21 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *o-Terphenyl* | *82* | | *27 - 151* | *05/24/16 14:51* | *05/26/16 00:21* | *1* |

### Method: 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | <22 | | 22 | | mg/Kg | ☼ | | 06/05/16 07:51 | 1 |

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

TestAmerica Job ID: 400-121955-1

## Client Sample ID: MW-1R (13.5-14.5)

**Date Collected: 05/18/16 14:55**
**Date Received: 05/20/16 09:02**

## Lab Sample ID: 400-121955-4

**Matrix: Solid**
**Percent Solids: 92.1**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) C6--C10 | <0.10 | | 0.10 | | mg/Kg | ☼ | 05/31/16 12:42 | 05/31/16 16:50 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *a,a,a-Trifluorotoluene (fid)* | *105* | | *65 - 125* | *05/31/16 12:42* | *05/31/16 16:50* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.0011 | | 0.0011 | | mg/Kg | ☼ | 05/25/16 12:00 | 05/25/16 23:15 | 1 |
| Ethylbenzene | <0.0011 | | 0.0011 | | mg/Kg | ☼ | 05/25/16 12:00 | 05/25/16 23:15 | 1 |
| Toluene | <0.0053 | | 0.0053 | | mg/Kg | ☼ | 05/25/16 12:00 | 05/25/16 23:15 | 1 |
| Xylenes, Total | <0.0053 | | 0.0053 | | mg/Kg | ☼ | 05/25/16 12:00 | 05/25/16 23:15 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *a,a,a-Trifluorotoluene (pid)* | *103* | | *40 - 150* | *05/25/16 12:00* | *05/25/16 23:15* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| C10-C28 | <11 | | 11 | | mg/Kg | ☼ | 05/24/16 14:51 | 05/26/16 00:32 | 1 |
| C28-C35 | <11 | | 11 | | mg/Kg | ☼ | 05/24/16 14:51 | 05/26/16 00:32 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *o-Terphenyl* | *87* | | *27 - 151* | *05/24/16 14:51* | *05/26/16 00:32* | *1* |

### Method: 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | <22 | | 22 | | mg/Kg | ☼ | | 06/05/16 08:14 | 1 |

**Client Sample ID: MW-7 (14-15)** — **Lab Sample ID: 400-121955-5**
**Date Collected: 05/19/16 12:30** — **Matrix: Solid**
**Date Received: 05/20/16 09:02** — **Percent Solids: 76.3**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) C6--C10 | 25 | | 5.8 | | mg/Kg | ☼ | 05/25/16 12:50 | 05/26/16 20:23 | 50 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *a,a,a-Trifluorotoluene (fid)* | *98* | | *65 - 125* | *05/25/16 12:50* | *05/26/16 20:23* | *50* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.029 | | 0.0025 | | mg/Kg | ☼ | 05/26/16 12:00 | 05/26/16 21:46 | 1 |
| Ethylbenzene | 0.16 | | 0.0025 | | mg/Kg | ☼ | 05/26/16 12:00 | 05/26/16 21:46 | 1 |
| Toluene | 0.25 | | 0.013 | | mg/Kg | ☼ | 05/26/16 12:00 | 05/26/16 21:46 | 1 |
| Xylenes, Total | 0.44 | | 0.013 | | mg/Kg | ☼ | 05/26/16 12:00 | 05/26/16 21:46 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *a,a,a-Trifluorotoluene (pid)* | *98* | | *40 - 150* | *05/26/16 12:00* | *05/26/16 21:46* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| C10-C28 | <13 | | 13 | | mg/Kg | ☼ | 05/24/16 14:51 | 05/26/16 00:42 | 1 |
| C28-C35 | <13 | | 13 | | mg/Kg | ☼ | 05/24/16 14:51 | 05/26/16 00:42 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *o-Terphenyl* | *103* | | *27 - 151* | *05/24/16 14:51* | *05/26/16 00:42* | *1* |

### Method: 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 28 | | 25 | | mg/Kg | ☼ | | 06/05/16 08:37 | 1 |

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

TestAmerica Job ID: 400-121955-1

**Client Sample ID: MW-3R(12-13)**
**Date Collected: 05/20/16 15:40**
**Date Received: 05/24/16 09:20**

**Lab Sample ID: 400-122067-1**
**Matrix: Solid**
**Percent Solids: 72.3**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) C6--C10 | 0.39 | | 0.22 | | mg/Kg | ☼ | 05/26/16 12:00 | 05/26/16 21:19 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *a,a,a-Trifluorotoluene (fid)* | *98* | | *65 - 125* | *05/26/16 12:00* | *05/26/16 21:19* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.0022 | | 0.0022 | | mg/Kg | ☼ | 05/26/16 12:00 | 05/26/16 21:19 | 1 |
| Ethylbenzene | <0.0022 | | 0.0022 | | mg/Kg | ☼ | 05/26/16 12:00 | 05/26/16 21:19 | 1 |
| Toluene | <0.011 | | 0.011 | | mg/Kg | ☼ | 05/26/16 12:00 | 05/26/16 21:19 | 1 |
| Xylenes, Total | <0.011 | | 0.011 | | mg/Kg | ☼ | 05/26/16 12:00 | 05/26/16 21:19 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *a,a,a-Trifluorotoluene (pid)* | *99* | | *40 - 150* | *05/26/16 12:00* | *05/26/16 21:19* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| C10-C28 | 54 | | 13 | | mg/Kg | ☼ | 05/27/16 07:33 | 05/31/16 22:50 | 1 |
| C28-C35 | <13 | | 13 | | mg/Kg | ☼ | 05/27/16 07:33 | 05/31/16 22:50 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *o-Terphenyl* | *94* | | *27 - 151* | *05/27/16 07:33* | *05/31/16 22:50* | *1* |

### Method: 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 35 | | 28 | | mg/Kg | ☼ | | 06/05/16 09:00 | 1 |

## GC VOA

### Prep Batch: 307464

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 400-121955-5 | MW-7 (14-15) | Total/NA | Solid | 5035 | |
| 400-122090-A-1-B MS | Matrix Spike | Total/NA | Solid | 5035 | |
| 400-122090-A-1-C MSD | Matrix Spike Duplicate | Total/NA | Solid | 5035 | |
| LCS 400-307464/1-A | Lab Control Sample | Total/NA | Solid | 5035 | |
| MB 400-307464/2-A | Method Blank | Total/NA | Solid | 5035 | |

### Analysis Batch: 307479

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 400-121955-5 | MW-7 (14-15) | Total/NA | Solid | 8015B | 307464 |
| LCS 400-307464/1-A | Lab Control Sample | Total/NA | Solid | 8015B | 307464 |
| MB 400-307464/2-A | Method Blank | Total/NA | Solid | 8015B | 307464 |

### Analysis Batch: 307480

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 400-122090-A-1-B MS | Matrix Spike | Total/NA | Solid | 8015B | 307464 |
| 400-122090-A-1-C MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015B | 307464 |

### Prep Batch: 307541

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 400-121955-1 | MW-6 (14-15) | Total/NA | Solid | 5035 | |
| 400-121955-1 MS | MW-6 (14-15) | Total/NA | Solid | 5035 | |
| 400-121955-1 MSD | MW-6 (14-15) | Total/NA | Solid | 5035 | |
| 400-121955-2 | MW-2R (13-14) | Total/NA | Solid | 5035 | |
| 400-121955-3 | MW-5 (13.5-14.5) | Total/NA | Solid | 5035 | |
| 400-121955-4 | MW-1R (13.5-14.5) | Total/NA | Solid | 5035 | |
| LCS 400-307541/1-A | Lab Control Sample | Total/NA | Solid | 5035 | |
| MB 400-307541/3-A | Method Blank | Total/NA | Solid | 5035 | |

### Analysis Batch: 307547

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 400-121955-1 | MW-6 (14-15) | Total/NA | Solid | 8021B | 307541 |
| 400-121955-1 MS | MW-6 (14-15) | Total/NA | Solid | 8021B | 307541 |
| 400-121955-1 MSD | MW-6 (14-15) | Total/NA | Solid | 8021B | 307541 |
| 400-121955-2 | MW-2R (13-14) | Total/NA | Solid | 8021B | 307541 |
| 400-121955-3 | MW-5 (13.5-14.5) | Total/NA | Solid | 8021B | 307541 |
| 400-121955-4 | MW-1R (13.5-14.5) | Total/NA | Solid | 8021B | 307541 |
| LCS 400-307541/1-A | Lab Control Sample | Total/NA | Solid | 8021B | 307541 |
| MB 400-307541/3-A | Method Blank | Total/NA | Solid | 8021B | 307541 |

### Analysis Batch: 307634

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 400-121955-5 | MW-7 (14-15) | Total/NA | Solid | 8021B | 307703 |
| 400-122067-1 | MW-3R(12-13) | Total/NA | Solid | 8021B | 307703 |
| LCS 400-307703/9-A | Lab Control Sample | Total/NA | Solid | 8021B | 307703 |
| LCSD 400-307703/10-A | Lab Control Sample Dup | Total/NA | Solid | 8021B | 307703 |
| MB 400-307703/1-A | Method Blank | Total/NA | Solid | 8021B | 307703 |

### Analysis Batch: 307635

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 400-122067-1 | MW-3R(12-13) | Total/NA | Solid | 8015B | 307703 |
| 400-122082-B-6-E MS | Matrix Spike | Total/NA | Solid | 8015B | 307703 |

## GC VOA (Continued)

### Analysis Batch: 307635 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 400-122082-B-6-F MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015B | 307703 |
| LCS 400-307703/2-A | Lab Control Sample | Total/NA | Solid | 8015B | 307703 |
| MB 400-307703/1-A | Method Blank | Total/NA | Solid | 8015B | 307703 |

### Prep Batch: 307703

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 400-121955-5 | MW-7 (14-15) | Total/NA | Solid | 5035 | |
| 400-122067-1 | MW-3R(12-13) | Total/NA | Solid | 5035 | |
| 400-122067-1 | MW-3R(12-13) | Total/NA | Solid | 5035 | |
| 400-122082-B-6-E MS | Matrix Spike | Total/NA | Solid | 5035 | |
| 400-122082-B-6-F MSD | Matrix Spike Duplicate | Total/NA | Solid | 5035 | |
| LCS 400-307703/2-A | Lab Control Sample | Total/NA | Solid | 5035 | |
| LCS 400-307703/9-A | Lab Control Sample | Total/NA | Solid | 5035 | |
| LCSD 400-307703/10-A | Lab Control Sample Dup | Total/NA | Solid | 5035 | |
| MB 400-307703/1-A | Method Blank | Total/NA | Solid | 5035 | |

### Analysis Batch: 308019

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 400-121955-1 | MW-6 (14-15) | Total/NA | Solid | 8015B | 308053 |
| 400-121955-1 MS | MW-6 (14-15) | Total/NA | Solid | 8015B | 308053 |
| 400-121955-1 MSD | MW-6 (14-15) | Total/NA | Solid | 8015B | 308053 |
| 400-121955-2 | MW-2R (13-14) | Total/NA | Solid | 8015B | 308053 |
| 400-121955-3 | MW-5 (13.5-14.5) | Total/NA | Solid | 8015B | 308053 |
| 400-121955-4 | MW-1R (13.5-14.5) | Total/NA | Solid | 8015B | 308053 |
| LCS 400-308053/1-A | Lab Control Sample | Total/NA | Solid | 8015B | 308053 |
| MB 400-308053/2-A | Method Blank | Total/NA | Solid | 8015B | 308053 |

### Prep Batch: 308053

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 400-121955-1 | MW-6 (14-15) | Total/NA | Solid | 5035 | |
| 400-121955-1 MS | MW-6 (14-15) | Total/NA | Solid | 5035 | |
| 400-121955-1 MSD | MW-6 (14-15) | Total/NA | Solid | 5035 | |
| 400-121955-2 | MW-2R (13-14) | Total/NA | Solid | 5035 | |
| 400-121955-3 | MW-5 (13.5-14.5) | Total/NA | Solid | 5035 | |
| 400-121955-4 | MW-1R (13.5-14.5) | Total/NA | Solid | 5035 | |
| LCS 400-308053/1-A | Lab Control Sample | Total/NA | Solid | 5035 | |
| MB 400-308053/2-A | Method Blank | Total/NA | Solid | 5035 | |

## GC Semi VOA

### Prep Batch: 307309

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 400-121955-1 | MW-6 (14-15) | Total/NA | Solid | 3546 | |
| 400-121955-1 MS | MW-6 (14-15) | Total/NA | Solid | 3546 | |
| 400-121955-1 MSD | MW-6 (14-15) | Total/NA | Solid | 3546 | |
| 400-121955-2 | MW-2R (13-14) | Total/NA | Solid | 3546 | |
| 400-121955-3 | MW-5 (13.5-14.5) | Total/NA | Solid | 3546 | |
| 400-121955-4 | MW-1R (13.5-14.5) | Total/NA | Solid | 3546 | |
| 400-121955-5 | MW-7 (14-15) | Total/NA | Solid | 3546 | |
| LCS 400-307309/9-A | Lab Control Sample | Total/NA | Solid | 3546 | |

## GC Semi VOA (Continued)

### Prep Batch: 307309 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| MB 400-307309/10-A | Method Blank | Total/NA | Solid | 3546 | |

### Analysis Batch: 307530

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 400-121955-1 | MW-6 (14-15) | Total/NA | Solid | 8015B | 307309 |
| 400-121955-1 MS | MW-6 (14-15) | Total/NA | Solid | 8015B | 307309 |
| 400-121955-1 MSD | MW-6 (14-15) | Total/NA | Solid | 8015B | 307309 |
| 400-121955-2 | MW-2R (13-14) | Total/NA | Solid | 8015B | 307309 |
| 400-121955-3 | MW-5 (13.5-14.5) | Total/NA | Solid | 8015B | 307309 |
| 400-121955-4 | MW-1R (13.5-14.5) | Total/NA | Solid | 8015B | 307309 |
| 400-121955-5 | MW-7 (14-15) | Total/NA | Solid | 8015B | 307309 |
| LCS 400-307309/9-A | Lab Control Sample | Total/NA | Solid | 8015B | 307309 |
| MB 400-307309/10-A | Method Blank | Total/NA | Solid | 8015B | 307309 |

### Prep Batch: 307725

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 400-122067-1 | MW-3R(12-13) | Total/NA | Solid | 3546 | |
| 400-122174-A-1-B MS | Matrix Spike | Total/NA | Solid | 3546 | |
| 400-122174-A-1-C MSD | Matrix Spike Duplicate | Total/NA | Solid | 3546 | |
| LCS 400-307725/5-A | Lab Control Sample | Total/NA | Solid | 3546 | |
| MB 400-307725/6-A | Method Blank | Total/NA | Solid | 3546 | |

### Analysis Batch: 308102

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 400-122067-1 | MW-3R(12-13) | Total/NA | Solid | 8015B | 307725 |
| LCS 400-307725/5-A | Lab Control Sample | Total/NA | Solid | 8015B | 307725 |
| MB 400-307725/6-A | Method Blank | Total/NA | Solid | 8015B | 307725 |

### Analysis Batch: 308150

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 400-122174-A-1-B MS | Matrix Spike | Total/NA | Solid | 8015B | 307725 |
| 400-122174-A-1-C MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015B | 307725 |

## HPLC/IC

### Leach Batch: 308530

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 400-121955-1 | MW-6 (14-15) | Soluble | Solid | DI Leach | |
| 400-121955-1 MS | MW-6 (14-15) | Soluble | Solid | DI Leach | |
| 400-121955-1 MSD | MW-6 (14-15) | Soluble | Solid | DI Leach | |
| 400-121955-2 | MW-2R (13-14) | Soluble | Solid | DI Leach | |
| 400-121955-3 | MW-5 (13.5-14.5) | Soluble | Solid | DI Leach | |
| 400-121955-4 | MW-1R (13.5-14.5) | Soluble | Solid | DI Leach | |
| 400-121955-5 | MW-7 (14-15) | Soluble | Solid | DI Leach | |
| 400-122067-1 | MW-3R(12-13) | Soluble | Solid | DI Leach | |
| LCS 400-308530/2-A | Lab Control Sample | Soluble | Solid | DI Leach | |
| LCSD 400-308530/3-A | Lab Control Sample Dup | Soluble | Solid | DI Leach | |
| MB 400-308530/1-A | Method Blank | Soluble | Solid | DI Leach | |

## HPLC/IC (Continued)

### Analysis Batch: 308790

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 400-121955-1 | MW-6 (14-15) | Soluble | Solid | 300.0 | 308530 |
| 400-121955-1 MS | MW-6 (14-15) | Soluble | Solid | 300.0 | 308530 |
| 400-121955-1 MSD | MW-6 (14-15) | Soluble | Solid | 300.0 | 308530 |
| 400-121955-2 | MW-2R (13-14) | Soluble | Solid | 300.0 | 308530 |
| 400-121955-3 | MW-5 (13.5-14.5) | Soluble | Solid | 300.0 | 308530 |
| 400-121955-4 | MW-1R (13.5-14.5) | Soluble | Solid | 300.0 | 308530 |
| 400-121955-5 | MW-7 (14-15) | Soluble | Solid | 300.0 | 308530 |
| 400-122067-1 | MW-3R(12-13) | Soluble | Solid | 300.0 | 308530 |
| LCS 400-308530/2-A | Lab Control Sample | Soluble | Solid | 300.0 | 308530 |
| LCSD 400-308530/3-A | Lab Control Sample Dup | Soluble | Solid | 300.0 | 308530 |
| MB 400-308530/1-A | Method Blank | Soluble | Solid | 300.0 | 308530 |

## General Chemistry

### Analysis Batch: 307408

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 400-121955-1 | MW-6 (14-15) | Total/NA | Solid | Moisture | |
| 400-121955-2 | MW-2R (13-14) | Total/NA | Solid | Moisture | |
| 400-121955-3 | MW-5 (13.5-14.5) | Total/NA | Solid | Moisture | |
| 400-121955-4 | MW-1R (13.5-14.5) | Total/NA | Solid | Moisture | |
| 400-121955-5 | MW-7 (14-15) | Total/NA | Solid | Moisture | |
| 400-121955-5 DU | MW-7 (14-15) | Total/NA | Solid | Moisture | |
| 400-121969-A-1 MS | Matrix Spike | Total/NA | Solid | Moisture | |
| 400-121969-A-1 MSD | Matrix Spike Duplicate | Total/NA | Solid | Moisture | |

### Analysis Batch: 307684

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 400-122067-1 | MW-3R(12-13) | Total/NA | Solid | Moisture | |
| 400-122067-1 DU | MW-3R(12-13) | Total/NA | Solid | Moisture | |

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

**Lab Sample ID: MB 400-307464/2-A**
**Matrix: Solid**
**Analysis Batch: 307479**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 307464**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) C6--C10 | <5.0 | | 5.0 | | mg/Kg | | 05/25/16 12:50 | 05/26/16 19:29 | 50 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *a,a,a-Trifluorotoluene (fid)* | *108* | | *65 - 125* | *05/25/16 12:50* | *05/26/16 19:29* | *50* |

**Lab Sample ID: LCS 400-307464/1-A**
**Matrix: Solid**
**Analysis Batch: 307479**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 307464**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) C6--C10 | | | 50.0 | 50.5 | | mg/Kg | | 101 | 62 - 141 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *a,a,a-Trifluorotoluene (fid)* | *107* | | *65 - 125* |

**Lab Sample ID: 400-122090-A-1-B MS**
**Matrix: Solid**
**Analysis Batch: 307480**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 307464**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) C6--C10 | <5.0 | | 50.0 | 48.0 | | mg/Kg | ☼ | 96 | 10 - 150 | | |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *a,a,a-Trifluorotoluene (fid)* | *105* | | *65 - 125* |

**Lab Sample ID: 400-122090-A-1-C MSD**
**Matrix: Solid**
**Analysis Batch: 307480**

**Client Sample ID: Matrix Spike Duplicate**
**Prep Type: Total/NA**
**Prep Batch: 307464**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) C6--C10 | <5.0 | | 50.0 | 54.1 | | mg/Kg | ☼ | 108 | 10 - 150 | 12 | 32 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *a,a,a-Trifluorotoluene (fid)* | *106* | | *65 - 125* |

**Lab Sample ID: MB 400-307703/1-A**
**Matrix: Solid**
**Analysis Batch: 307635**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 307703**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) C6--C10 | <0.10 | | 0.10 | | mg/Kg | | 05/26/16 12:00 | 05/26/16 13:51 | 1 |

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

**Lab Sample ID: MB 400-307703/1-A**
**Matrix: Solid**
**Analysis Batch: 307635**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 307703**

| Surrogate | MB %Recovery | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene (fid) | 110 | | 65 - 125 | 05/26/16 12:00 | 05/26/16 13:51 | 1 |

**Lab Sample ID: LCS 400-307703/2-A**
**Matrix: Solid**
**Analysis Batch: 307635**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 307703**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) C6--C10 | | | 1.00 | 1.10 | | mg/Kg | | 110 | 62 - 141 | | |

| Surrogate | LCS %Recovery | LCS Qualifier | Limits |
|---|---|---|---|
| a,a,a-Trifluorotoluene (fid) | 101 | | 65 - 125 |

**Lab Sample ID: 400-122082-B-6-E MS**
**Matrix: Solid**
**Analysis Batch: 307635**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 307703**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) C6--C10 | <0.11 | | 1.15 | 1.01 | | mg/Kg | ☼ | 87 | 10 - 150 | | |

| Surrogate | MS %Recovery | MS Qualifier | Limits |
|---|---|---|---|
| a,a,a-Trifluorotoluene (fid) | 103 | | 65 - 125 |

**Lab Sample ID: 400-122082-B-6-F MSD**
**Matrix: Solid**
**Analysis Batch: 307635**

**Client Sample ID: Matrix Spike Duplicate**
**Prep Type: Total/NA**
**Prep Batch: 307703**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) C6--C10 | <0.11 | | 1.13 | 0.841 | | mg/Kg | ☼ | 74 | 10 - 150 | 18 | 32 |

| Surrogate | MSD %Recovery | MSD Qualifier | Limits |
|---|---|---|---|
| a,a,a-Trifluorotoluene (fid) | 104 | | 65 - 125 |

**Lab Sample ID: MB 400-308053/2-A**
**Matrix: Solid**
**Analysis Batch: 308019**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 308053**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) C6--C10 | <0.10 | | 0.10 | | mg/Kg | | 05/31/16 12:42 | 05/31/16 15:00 | 1 |

| Surrogate | MB %Recovery | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene (fid) | 109 | | 65 - 125 | 05/31/16 12:42 | 05/31/16 15:00 | 1 |

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

**Lab Sample ID: LCS 400-308053/1-A**
**Matrix: Solid**
**Analysis Batch: 308019**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 308053**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) C6--C10 | 1.00 | 0.836 | | mg/Kg | | 84 | 62 - 141 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *a,a,a-Trifluorotoluene (fid)* | *102* | | *65 - 125* |

**Lab Sample ID: 400-121955-1 MS**
**Matrix: Solid**
**Analysis Batch: 308019**

**Client Sample ID: MW-6 (14-15)**
**Prep Type: Total/NA**
**Prep Batch: 308053**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) C6--C10 | <0.10 | | 1.05 | 0.840 | | mg/Kg | ☼ | 80 | 10 - 150 |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *a,a,a-Trifluorotoluene (fid)* | *104* | | *65 - 125* |

**Lab Sample ID: 400-121955-1 MSD**
**Matrix: Solid**
**Analysis Batch: 308019**

**Client Sample ID: MW-6 (14-15)**
**Prep Type: Total/NA**
**Prep Batch: 308053**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) C6--C10 | <0.10 | | 1.04 | 0.720 | | mg/Kg | ☼ | 69 | 10 - 150 | 15 | 32 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *a,a,a-Trifluorotoluene (fid)* | *101* | | *65 - 125* |

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

**Lab Sample ID: MB 400-307541/3-A**
**Matrix: Solid**
**Analysis Batch: 307547**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 307541**

| Analyte | MB Result | MB Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Benzene | <0.0010 | | 0.0010 | mg/Kg | | 05/25/16 12:00 | 05/26/16 01:31 | 1 |
| Ethylbenzene | <0.0010 | | 0.0010 | mg/Kg | | 05/25/16 12:00 | 05/26/16 01:31 | 1 |
| Toluene | <0.0050 | | 0.0050 | mg/Kg | | 05/25/16 12:00 | 05/26/16 01:31 | 1 |
| Xylenes, Total | <0.0050 | | 0.0050 | mg/Kg | | 05/25/16 12:00 | 05/26/16 01:31 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *a,a,a-Trifluorotoluene (pid)* | *103* | | *40 - 150* | *05/25/16 12:00* | *05/26/16 01:31* | *1* |

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

**Lab Sample ID: LCS 400-307541/1-A**
**Matrix: Solid**
**Analysis Batch: 307547**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 307541**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Benzene | 0.0500 | 0.0436 | | mg/Kg | | 87 | 74 - 127 |
| Ethylbenzene | 0.0500 | 0.0423 | | mg/Kg | | 85 | 79 - 131 |
| Toluene | 0.0500 | 0.0436 | | mg/Kg | | 87 | 76 - 127 |
| Xylenes, Total | 0.150 | 0.127 | | mg/Kg | | 85 | 80 - 129 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *a,a,a-Trifluorotoluene (pid)* | *103* | | *40 - 150* |

**Lab Sample ID: 400-121955-1 MS**
**Matrix: Solid**
**Analysis Batch: 307547**

**Client Sample ID: MW-6 (14-15)**
**Prep Type: Total/NA**
**Prep Batch: 307541**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.0011 | | 0.0542 | 0.0465 | | mg/Kg | ☼ | 86 | 10 - 150 |
| Ethylbenzene | <0.0011 | | 0.0542 | 0.0488 | | mg/Kg | ☼ | 90 | 10 - 150 |
| Toluene | <0.0054 | | 0.0542 | 0.0476 | | mg/Kg | ☼ | 88 | 10 - 150 |
| Xylenes, Total | <0.0054 | | 0.163 | 0.147 | | mg/Kg | ☼ | 90 | 50 - 150 |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *a,a,a-Trifluorotoluene (pid)* | *99* | | *40 - 150* |

**Lab Sample ID: 400-121955-1 MSD**
**Matrix: Solid**
**Analysis Batch: 307547**

**Client Sample ID: MW-6 (14-15)**
**Prep Type: Total/NA**
**Prep Batch: 307541**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.0011 | | 0.0541 | 0.0504 | | mg/Kg | ☼ | 93 | 10 - 150 | 8 | 34 |
| Ethylbenzene | <0.0011 | | 0.0541 | 0.0502 | | mg/Kg | ☼ | 93 | 10 - 150 | 3 | 66 |
| Toluene | <0.0054 | | 0.0541 | 0.0508 | | mg/Kg | ☼ | 94 | 10 - 150 | 6 | 44 |
| Xylenes, Total | <0.0054 | | 0.162 | 0.151 | | mg/Kg | ☼ | 93 | 50 - 150 | 3 | 46 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *a,a,a-Trifluorotoluene (pid)* | *101* | | *40 - 150* |

**Lab Sample ID: MB 400-307703/1-A**
**Matrix: Solid**
**Analysis Batch: 307634**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 307703**

| Analyte | MB Result | MB Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| Benzene | <0.0010 | | 0.0010 | mg/Kg | | 05/26/16 12:00 | 05/26/16 13:51 | 1 |
| Ethylbenzene | <0.0010 | | 0.0010 | mg/Kg | | 05/26/16 12:00 | 05/26/16 13:51 | 1 |
| Toluene | <0.0050 | | 0.0050 | mg/Kg | | 05/26/16 12:00 | 05/26/16 13:51 | 1 |
| Xylenes, Total | <0.0050 | | 0.0050 | mg/Kg | | 05/26/16 12:00 | 05/26/16 13:51 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *a,a,a-Trifluorotoluene (pid)* | *102* | | *40 - 150* | *05/26/16 12:00* | *05/26/16 13:51* | *1* |

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

**Lab Sample ID: LCS 400-307703/9-A**
**Matrix: Solid**
**Analysis Batch: 307634**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 307703**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Benzene | 0.0500 | 0.0524 | | mg/Kg | | 105 | 74 - 127 |
| Ethylbenzene | 0.0500 | 0.0507 | | mg/Kg | | 101 | 79 - 131 |
| Toluene | 0.0500 | 0.0520 | | mg/Kg | | 104 | 76 - 127 |
| Xylenes, Total | 0.150 | 0.152 | | mg/Kg | | 101 | 80 - 129 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *a,a,a-Trifluorotoluene (pid)* | *102* | | *40 - 150* |

**Lab Sample ID: LCSD 400-307703/10-A**
**Matrix: Solid**
**Analysis Batch: 307634**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 307703**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.0500 | 0.0430 | | mg/Kg | | 86 | 74 - 127 | 20 | 50 |
| Ethylbenzene | 0.0500 | 0.0417 | | mg/Kg | | 83 | 79 - 131 | 19 | 50 |
| Toluene | 0.0500 | 0.0428 | | mg/Kg | | 86 | 76 - 127 | 19 | 50 |
| Xylenes, Total | 0.150 | 0.125 | | mg/Kg | | 84 | 80 - 129 | 19 | 50 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *a,a,a-Trifluorotoluene (pid)* | *98* | | *40 - 150* |

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

**Lab Sample ID: MB 400-307309/10-A**
**Matrix: Solid**
**Analysis Batch: 307530**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 307309**

| Analyte | MB Result | MB Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| C10-C28 | <10 | | 10 | mg/Kg | | 05/24/16 14:51 | 05/25/16 23:08 | 1 |
| C28-C35 | <10 | | 10 | mg/Kg | | 05/24/16 14:51 | 05/25/16 23:08 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *o-Terphenyl* | *117* | | *27 - 151* | *05/24/16 14:51* | *05/25/16 23:08* | *1* |

**Lab Sample ID: LCS 400-307309/9-A**
**Matrix: Solid**
**Analysis Batch: 307530**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 307309**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| C10-C28 | 338 | 308 | | mg/Kg | | 91 | 63 - 153 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *o-Terphenyl* | *133* | | *27 - 151* |

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

**Lab Sample ID: 400-121955-1 MS**
**Matrix: Solid**
**Analysis Batch: 307530**

**Client Sample ID: MW-6 (14-15)**
**Prep Type: Total/NA**
**Prep Batch: 307309**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| C10-C28 | <11 | | 372 | 241 | | mg/Kg | ☼ | 65 | 62 - 204 |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *o-Terphenyl* | *100* | | *27 - 151* |

**Lab Sample ID: 400-121955-1 MSD**
**Matrix: Solid**
**Analysis Batch: 307530**

**Client Sample ID: MW-6 (14-15)**
**Prep Type: Total/NA**
**Prep Batch: 307309**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C10-C28 | <11 | | 370 | 215 | F1 | mg/Kg | ☼ | 58 | 62 - 204 | 11 | 30 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *o-Terphenyl* | *94* | | *27 - 151* |

**Lab Sample ID: MB 400-307725/6-A**
**Matrix: Solid**
**Analysis Batch: 308102**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 307725**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| C10-C28 | <10 | | 10 | | mg/Kg | | 05/27/16 07:35 | 05/31/16 21:57 | 1 |
| C28-C35 | <10 | | 10 | | mg/Kg | | 05/27/16 07:35 | 05/31/16 21:57 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *o-Terphenyl* | *121* | | *27 - 151* | *05/27/16 07:35* | *05/31/16 21:57* | *1* |

**Lab Sample ID: LCS 400-307725/5-A**
**Matrix: Solid**
**Analysis Batch: 308102**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 307725**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| C10-C28 | | | 338 | 311 | | mg/Kg | | 92 | 63 - 153 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *o-Terphenyl* | *124* | | *27 - 151* |

**Lab Sample ID: 400-122174-A-1-B MS**
**Matrix: Solid**
**Analysis Batch: 308150**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 307725**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| C10-C28 | 20000 | | 375 | 21500 | 4 | mg/Kg | ☼ | 389 | 62 - 204 |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *o-Terphenyl* | *602* | *X* | *27 - 151* |

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

**Lab Sample ID: 400-122174-A-1-C MSD** — **Client Sample ID: Matrix Spike Duplicate**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 308150** — **Prep Batch: 307725**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C10-C28 | 20000 | | 370 | 19600 | 4 | mg/Kg | ☼ | -118 | 62 - 204 | 9 | 30 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *o-Terphenyl* | *597* | *X* | *27 - 151* |

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 400-308530/1-A** — **Client Sample ID: Method Blank**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 308790**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | <20 | | 20 | | mg/Kg | | | 06/05/16 04:26 | 1 |

**Lab Sample ID: LCS 400-308530/2-A** — **Client Sample ID: Lab Control Sample**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 308790**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 100 | 97.4 | | mg/Kg | | 97 | 80 - 120 | | |

**Lab Sample ID: LCSD 400-308530/3-A** — **Client Sample ID: Lab Control Sample Dup**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 308790**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 100 | 97.2 | | mg/Kg | | 97 | 80 - 120 | 0 | 15 |

**Lab Sample ID: 400-121955-1 MS** — **Client Sample ID: MW-6 (14-15)**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 308790**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 26 | | 112 | 136 | | mg/Kg | ☼ | 98 | 80 - 120 | | |

**Lab Sample ID: 400-121955-1 MSD** — **Client Sample ID: MW-6 (14-15)**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 308790**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 26 | | 112 | 138 | | mg/Kg | ☼ | 101 | 80 - 120 | 2 | 15 |

# Lab Chronicle

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

TestAmerica Job ID: 400-121955-1

## Client Sample ID: MW-6 (14-15)

**Lab Sample ID: 400-121955-1**

**Date Collected: 05/18/16 09:10**

**Matrix: Solid**

**Date Received: 05/20/16 09:02**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | Moisture | | 1 | | | 307408 | 05/25/16 09:20 | JLB | TAL PEN |
| | Instrument ID: NOEQUIP | | | | | | | | | |

## Client Sample ID: MW-6 (14-15)

**Lab Sample ID: 400-121955-1**

**Date Collected: 05/18/16 09:10**

**Matrix: Solid**

**Date Received: 05/20/16 09:02**

**Percent Solids: 90.9**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.29 g | 5.0 g | 308053 | 05/31/16 12:42 | GRK | TAL PEN |
| Total/NA | Analysis | 8015B | | 1 | 5.29 g | 5.0 g | 308019 | 05/31/16 15:28 | GRK | TAL PEN |
| | Instrument ID: CH_RITA | | | | | | | | | |
| Total/NA | Prep | 5035 | | | 5.11 g | 5.0 g | 307541 | 05/25/16 12:00 | GRK | TAL PEN |
| Total/NA | Analysis | 8021B | | 1 | 5.11 g | 5.0 g | 307547 | 05/25/16 21:53 | GRK | TAL PEN |
| | Instrument ID: CH_RITA | | | | | | | | | |
| Total/NA | Prep | 3546 | | | 15.42 g | 2.0 mL | 307309 | 05/24/16 14:51 | RDT | TAL PEN |
| Total/NA | Analysis | 8015B | | 1 | 15.42 g | 2.0 mL | 307530 | 05/26/16 00:01 | RM | TAL PEN |
| | Instrument ID: Eva | | | | | | | | | |
| Soluble | Leach | DI Leach | | | 2.49 g | 50 mL | 308530 | 06/03/16 12:29 | TAJ | TAL PEN |
| Soluble | Analysis | 300.0 | | 1 | 10 mL | | 308790 | 06/05/16 05:35 | TAJ | TAL PEN |
| | Instrument ID: IC2 | | | | | | | | | |

## Client Sample ID: MW-2R (13-14)

**Lab Sample ID: 400-121955-2**

**Date Collected: 05/18/16 10:55**

**Matrix: Solid**

**Date Received: 05/20/16 09:02**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | Moisture | | 1 | | | 307408 | 05/25/16 09:20 | JLB | TAL PEN |
| | Instrument ID: NOEQUIP | | | | | | | | | |

## Client Sample ID: MW-2R (13-14)

**Lab Sample ID: 400-121955-2**

**Date Collected: 05/18/16 10:55**

**Matrix: Solid**

**Date Received: 05/20/16 09:02**

**Percent Solids: 80.1**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 4.73 g | 5.0 g | 308053 | 05/31/16 12:42 | GRK | TAL PEN |
| Total/NA | Analysis | 8015B | | 1 | 4.73 g | 5.0 g | 308019 | 05/31/16 15:55 | GRK | TAL PEN |
| | Instrument ID: CH_RITA | | | | | | | | | |
| Total/NA | Prep | 5035 | | | 5.14 g | 5.0 g | 307541 | 05/25/16 12:00 | GRK | TAL PEN |
| Total/NA | Analysis | 8021B | | 1 | 5.14 g | 5.0 g | 307547 | 05/25/16 22:20 | GRK | TAL PEN |
| | Instrument ID: CH_RITA | | | | | | | | | |
| Total/NA | Prep | 3546 | | | 15.21 g | 2.0 mL | 307309 | 05/24/16 14:51 | RDT | TAL PEN |
| Total/NA | Analysis | 8015B | | 1 | 15.21 g | 2.0 mL | 307530 | 05/26/16 00:11 | RM | TAL PEN |
| | Instrument ID: Eva | | | | | | | | | |

## Client Sample ID: MW-2R (13-14)

**Lab Sample ID: 400-121955-2**

**Date Collected: 05/18/16 10:55**
**Matrix: Solid**
**Date Received: 05/20/16 09:02**
**Percent Solids: 80.1**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Soluble | Leach | DI Leach | | | 2.42 g | 50 mL | 308530 | 06/03/16 12:29 | TAJ | TAL PEN |
| Soluble | Analysis | 300.0 | | 1 | 10 mL | | 308790 | 06/05/16 07:29 | TAJ | TAL PEN |
| | Instrument ID: IC2 | | | | | | | | | |

## Client Sample ID: MW-5 (13.5-14.5)

**Lab Sample ID: 400-121955-3**

**Date Collected: 05/18/16 13:20**
**Matrix: Solid**
**Date Received: 05/20/16 09:02**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | Moisture | | 1 | | | 307408 | 05/25/16 09:20 | JLB | TAL PEN |
| | Instrument ID: NOEQUIP | | | | | | | | | |

## Client Sample ID: MW-5 (13.5-14.5)

**Lab Sample ID: 400-121955-3**

**Date Collected: 05/18/16 13:20**
**Matrix: Solid**
**Date Received: 05/20/16 09:02**
**Percent Solids: 95.0**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.14 g | 5.0 g | 308053 | 05/31/16 12:42 | GRK | TAL PEN |
| Total/NA | Analysis | 8015B | | 1 | 5.14 g | 5.0 g | 308019 | 05/31/16 16:22 | GRK | TAL PEN |
| | Instrument ID: CH_RITA | | | | | | | | | |
| Total/NA | Prep | 5035 | | | 5.17 g | 5.0 g | 307541 | 05/25/16 12:00 | GRK | TAL PEN |
| Total/NA | Analysis | 8021B | | 1 | 5.17 g | 5.0 g | 307547 | 05/25/16 22:47 | GRK | TAL PEN |
| | Instrument ID: CH_RITA | | | | | | | | | |
| Total/NA | Prep | 3546 | | | 15.13 g | 2.0 mL | 307309 | 05/24/16 14:51 | RDT | TAL PEN |
| Total/NA | Analysis | 8015B | | 1 | 15.13 g | 2.0 mL | 307530 | 05/26/16 00:21 | RM | TAL PEN |
| | Instrument ID: Eva | | | | | | | | | |
| Soluble | Leach | DI Leach | | | 2.43 g | 50 mL | 308530 | 06/03/16 12:29 | TAJ | TAL PEN |
| Soluble | Analysis | 300.0 | | 1 | 10 mL | | 308790 | 06/05/16 07:51 | TAJ | TAL PEN |
| | Instrument ID: IC2 | | | | | | | | | |

## Client Sample ID: MW-1R (13.5-14.5)

**Lab Sample ID: 400-121955-4**

**Date Collected: 05/18/16 14:55**
**Matrix: Solid**
**Date Received: 05/20/16 09:02**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | Moisture | | 1 | | | 307408 | 05/25/16 09:20 | JLB | TAL PEN |
| | Instrument ID: NOEQUIP | | | | | | | | | |

# Lab Chronicle

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

TestAmerica Job ID: 400-121955-1

## Client Sample ID: MW-1R (13.5-14.5)

**Lab Sample ID: 400-121955-4**

**Date Collected: 05/18/16 14:55**
**Matrix: Solid**
**Date Received: 05/20/16 09:02**
**Percent Solids: 92.1**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.41 g | 5.0 g | 308053 | 05/31/16 12:42 | GRK | TAL PEN |
| Total/NA | Analysis | 8015B | | 1 | 5.41 g | 5.0 g | 308019 | 05/31/16 16:50 | GRK | TAL PEN |
| | Instrument ID: CH_RITA | | | | | | | | | |
| Total/NA | Prep | 5035 | | | 5.10 g | 5.0 g | 307541 | 05/25/16 12:00 | GRK | TAL PEN |
| Total/NA | Analysis | 8021B | | 1 | 5.10 g | 5.0 g | 307547 | 05/25/16 23:15 | GRK | TAL PEN |
| | Instrument ID: CH_RITA | | | | | | | | | |
| Total/NA | Prep | 3546 | | | 15.04 g | 2.0 mL | 307309 | 05/24/16 14:51 | RDT | TAL PEN |
| Total/NA | Analysis | 8015B | | 1 | 15.04 g | 2.0 mL | 307530 | 05/26/16 00:32 | RM | TAL PEN |
| | Instrument ID: Eva | | | | | | | | | |
| Soluble | Leach | DI Leach | | | 2.44 g | 50 mL | 308530 | 06/03/16 12:29 | TAJ | TAL PEN |
| Soluble | Analysis | 300.0 | | 1 | 10 mL | | 308790 | 06/05/16 08:14 | TAJ | TAL PEN |
| | Instrument ID: IC2 | | | | | | | | | |

## Client Sample ID: MW-7 (14-15)

**Lab Sample ID: 400-121955-5**

**Date Collected: 05/19/16 12:30**
**Matrix: Solid**
**Date Received: 05/20/16 09:02**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | Moisture | | 1 | | | 307408 | 05/25/16 09:20 | JLB | TAL PEN |
| | Instrument ID: NOEQUIP | | | | | | | | | |

## Client Sample ID: MW-7 (14-15)

**Lab Sample ID: 400-121955-5**

**Date Collected: 05/19/16 12:30**
**Matrix: Solid**
**Date Received: 05/20/16 09:02**
**Percent Solids: 76.3**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.62 g | 5.0 g | 307464 | 05/25/16 12:50 | GRK | TAL PEN |
| Total/NA | Analysis | 8015B | | 50 | 5.62 g | 5.0 g | 307479 | 05/26/16 20:23 | GRK | TAL PEN |
| | Instrument ID: CH_RITA | | | | | | | | | |
| Total/NA | Prep | 5035 | | | 2.60 g | 5.0 g | 307703 | 05/26/16 12:00 | GRK | TAL PEN |
| Total/NA | Analysis | 8021B | | 1 | 2.60 g | 5.0 g | 307634 | 05/26/16 21:46 | GRK | TAL PEN |
| | Instrument ID: CH_RITA | | | | | | | | | |
| Total/NA | Prep | 3546 | | | 15.46 g | 2.0 mL | 307309 | 05/24/16 14:51 | RDT | TAL PEN |
| Total/NA | Analysis | 8015B | | 1 | 15.46 g | 2.0 mL | 307530 | 05/26/16 00:42 | RM | TAL PEN |
| | Instrument ID: Eva | | | | | | | | | |
| Soluble | Leach | DI Leach | | | 2.58 g | 50 mL | 308530 | 06/03/16 12:29 | TAJ | TAL PEN |
| Soluble | Analysis | 300.0 | | 1 | 10 mL | | 308790 | 06/05/16 08:37 | TAJ | TAL PEN |
| | Instrument ID: IC2 | | | | | | | | | |

# Lab Chronicle

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

TestAmerica Job ID: 400-121955-1

## Client Sample ID: MW-3R(12-13)

**Lab Sample ID: 400-122067-1**

**Date Collected: 05/20/16 15:40**

**Matrix: Solid**

**Date Received: 05/24/16 09:20**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | Moisture | | 1 | | | 307684 | 05/26/16 16:14 | LEC | TAL PEN |
| | Instrument ID: NOEQUIP | | | | | | | | | |

## Client Sample ID: MW-3R(12-13)

**Lab Sample ID: 400-122067-1**

**Date Collected: 05/20/16 15:40**

**Matrix: Solid**

**Date Received: 05/24/16 09:20**

**Percent Solids: 72.3**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 3.09 g | 5.0 g | 307703 | 05/26/16 12:00 | GRK | TAL PEN |
| Total/NA | Analysis | 8015B | | 1 | 3.09 g | 5.0 g | 307635 | 05/26/16 21:19 | GRK | TAL PEN |
| | Instrument ID: CH_RITA | | | | | | | | | |
| Total/NA | Prep | 5035 | | | 3.09 g | 5.0 g | 307703 | 05/26/16 12:00 | GRK | TAL PEN |
| Total/NA | Analysis | 8021B | | 1 | 3.09 g | 5.0 g | 307634 | 05/26/16 21:19 | GRK | TAL PEN |
| | Instrument ID: CH_RITA | | | | | | | | | |
| Total/NA | Prep | 3546 | | | 15.49 g | 2.0 mL | 307725 | 05/27/16 07:33 | RDT | TAL PEN |
| Total/NA | Analysis | 8015B | | 1 | 15.49 g | 2.0 mL | 308102 | 05/31/16 22:50 | RM | TAL PEN |
| | Instrument ID: Eva | | | | | | | | | |
| Soluble | Leach | DI Leach | | | 2.51 g | 50 mL | 308530 | 06/03/16 12:29 | TAJ | TAL PEN |
| Soluble | Analysis | 300.0 | | 1 | 10 mL | | 308790 | 06/05/16 09:00 | TAJ | TAL PEN |
| | Instrument ID: IC2 | | | | | | | | | |

**Laboratory References:**

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

# Certification Summary

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

TestAmerica Job ID: 400-121955-1

## 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 | 06-30-16 |
| Arizona | State Program | 9 | AZ0710 | 01-11-17 |
| Arkansas DEQ | State Program | 6 | 88-0689 | 09-01-16 |
| California | ELAP | 9 | 2510 | 03-31-18 |
| 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 | 07-31-16 * |
| Kentucky (UST) | State Program | 4 | 53 | 06-30-16 |
| Kentucky (WW) | State Program | 4 | 98030 | 12-31-16 |
| 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 | 06-30-17 * |
| North Carolina (WW/SW) | State Program | 4 | 314 | 12-31-16 |
| Oklahoma | State Program | 6 | 9810 | 08-31-16 |
| Pennsylvania | NELAP | 3 | 68-00467 | 01-31-17 |
| Rhode Island | State Program | 1 | LAO00307 | 12-30-16 |
| 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 |
| Washington | State Program | 10 | C915 | 05-15-17 |
| West Virginia DEP | State Program | 3 | 136 | 06-30-16 |

* Certification renewal pending - certification considered valid.

# Method Summary

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

TestAmerica Job ID: 400-121955-1

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| 8015B | Gasoline Range Organics - (GC) | SW846 | TAL PEN |
| 8021B | Volatile Organic Compounds (GC) | SW846 | TAL PEN |
| 8015B | Diesel Range Organics (DRO) (GC) | SW846 | TAL PEN |
| 300.0 | Anions, Ion Chromatography | MCAWW | TAL PEN |
| Moisture | Percent Moisture | EPA | TAL PEN |

**Protocol References:**

EPA = US Environmental Protection Agency

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

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

**Laboratory References:**

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

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: Brad Barton | Lab PM: Edwards, Marty P | Carrier Tracking No(s): | COC No: 400-55304-24154.1 |
|---|---|---|---|---|
| Client Contact: Steve Varsa | Phone: 316 305 2789 | E-Mail: marty.edwards@testamericainc.com | | Page: Page 1 of 1 |
| Company: MWH Americas Inc | | Analysis Requested | | Job #: |
| Address: 11153 Aurora Avenue | Due Date Requested: Per ARF | | | 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 - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify) |
| City: Des Moines | TAT Requested (days): Per ARF | | | |
| State, Zip: IA, 50322-7904 | PO #: Purchase Order Requested | | | |
| Phone: 303-291-2239(Tel) | ~~WO#~~ ARF # ERG-MWH-04-28-16-PWO-01 | | | Other: |
| Email: steve.varsa@us.mwhglobal.com | Project #: 40005479 | | | |
| Project Name: Hammond #41A | SSOW#: | | | |
| Site: Hammond #41A | | | | |

| Sample Identification | Sample Date | Sample Time | Sample Type (C=comp, G=grab) | Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air) | Preservation Code: | Field Filtered Sample (Yes or No) | 8015B_DRO - DRO C10-C28 / ORO & Chloride | 8015B_GRO, 8021B | Total Number of containers | Special Instructions/Note: |
|---|---|---|---|---|---|---|---|---|---|---|
| MW-6 (14-15) | 5/18/16 | 0910 | G | Solid | | N | 1 | 1 | 2 | |
| MW-2R (13-14) | 5/18/16 | 1055 | G | Solid | | N | 1 | 1 | 2 | |
| MW-3R (14-15) | 5/18/16 | 1225 | G | Solid | | N | 1 | 1 | 2 | |
| MW-5 (13.5-14.5) | 5/18/16 | 1320 | G | Solid | | N | 1 | 1 | 2 | |
| MW-1R (13.5-14.5) | 5/18/16 | 1455 | G | Solid | | N | 1 | 1 | 2 | |
| MW-7 (14-15) | 5/19/16 | 1230 | G | Solid | | N | 1 | 1 | 2 | |
| | | | | ~~Solid~~ | | | | | | |
| | | | | ~~Solid~~ | | | | | | |

400-121955 COC

**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) Per ARF

Special Instructions/QC Requirements: Per ARF

| Empty Kit Relinquished by: | Date: | Time: | Method of Shipment: | | |
|---|---|---|---|---|---|
| Relinquished by: | Date/Time: | Company | Received by: | Date/Time: 5/20/16 902 | Company AA |
| Relinquished by: Brad Barton | Date/Time: 5/19/16 | Company MWH/Stantec | Received by: Fed Ex office | Date/Time: 5/19/16 | Company Fed Ex |
| Relinquished by: Fed Ex | Date/Time: 5/20/16 | Company Fed Ex | Received by: | Date/Time: | Company |

Custody Seals Intact: [ ] Yes [ ] No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 3.7°C IR6



6/8/2016

400-122067

SERIAL NUMBER: 83904

400-122067 COC

# 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 Americas, Inc | 11153 Aurora Ave. Des Moines, IA 50322-7904 | 1 | 1 |

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

| SAMPLED BY | CONTRACT / P.O. NO. |
|---|---|
| Brad Barta | ARF # ERG-MWH-04-28-16-CW0-01 |

| CLIENT PHONE | CLIENT E-MAIL OR FAX |
|---|---|
| 303 291 2239 | Steve.Varsa@us.mwhglobal.com |

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

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

REQUESTED ANALYSIS

| 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.) | 8015B DRO-ORO C10-C28 DRO + chloride | 8015B GRO 8021B | NUMBER OF CONTAINERS SUBMITTED | SPECIAL INSTRUCTIONS/ CONDITIONS OF RECEIPT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/20/16 | 1540 | MW-3R (12-13) | X | | | | | | | | | | | X | | | 1 | 1 | | Per ARF |

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

NO. OF COOLERS PER SHIPMENT: 1

LAB USE ONLY - SAMPLE NUMBER

| RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME |
|---|---|---|---|---|---|---|---|---|
| EMPTY CONTAINERS | | | Brad Barta | 5/23/16 | 0700 | Fed Ex | 5/24/16 | - |
| RECEIVED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) | DATE | TIME |
| EMPTY CONTAINERS | | | Fed Ex | 5/23/16 | - | | | |

LABORATORY USE ONLY

| RECEIVED FOR LABORATORY BY: | DATE | TIME | CUSTODY INTACT? Δ YES Δ NO | CUSTODY SEAL NO. | REMARKS: |
|---|---|---|---|---|---|
| | 5/24/16 | 920 | | | 1.2°C |

TAL-8251 (1207)

# Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 400-121955-1

**Login Number: 121955**

**List Source: TestAmerica Pensacola**

**List Number: 1**

**Creator: Benforado, Jessica L**

| 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 | 3.7°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 (excluding tests with immediate HTs) | 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"). | N/A | |
| 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: 400-121955-1

**Login Number: 122067**

**List Source: TestAmerica Pensacola**

**List Number: 1**

**Creator: Perez, Trina M**

| 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 | 1.2°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 (excluding tests with immediate HTs) | 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"). | N/A | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

# APPENDIX C

envirotech

# Bill of Lading

MANIFEST # 54561
GENERATOR El Paso
POINT OF ORIGIN Hammond 41A
TRANSPORTER Sierra
DATE 5-23-16 JOB # 14073-0015

PHONE: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FARMINGTON, NEW MEXICO 87401

| LOAD NO. | COMPLETE DESCRIPTION OF SHIPMENT | | | | | TRANSPORTING COMPANY | | | |
|---|---|---|---|---|---|---|---|---|---|
| | DESTINATION | MATERIAL | GRID | YDS | BBLS | TKT# | TRK# | TIME | DRIVER SIGNATURE |
| 1 | LFII | Cont. Soil | K1 | — | 9 | — | 22 | 11:55 | Jeremy Udelly |
| | | | | | 9 | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

| RESULTS | | | LANDFARM EMPLOYEE | NOTES |
|---|---|---|---|---|
| < 282 | CHLORIDE TEST | 1 | Gary Robinson EL | IN BBLS (9.) |
| | PAINT FILTER TEST | 1 | Certification of above receival & placement | |

**By signing as the driver/transporter, I certify the material hauled from the above location has not been added to or tampered with. I certify the material is from the above mentioned Generator/Point of Origin and that no additional material has been added or mixed into the load.**

Generator Onsite Contact _____ Phone _____

*Signatures required prior to distribution of the legal document.* DISTRIBUTION: **White** - Company Records, **Yellow** - Billing, **Pink** - Customer, **Goldenrod** - LF Copy

BASIN DISPOSAL

200 MONTANA, BLOOMFIELD, NM
505-632-8936 or 505-334-3013
Open 24 Hours per Day

NO. 663859
NMOCD PERMIT: NM -001-0005
Oil Field Waste Document, Form C138
INVOICE:

DATE 5-23-16

DEL. TKT#.

GENERATOR: El Paso

BILL TO:

HAULING CO. Sierra Chemical

DRIVER: Norman Hattley
(Print Full Name)

ORDERED BY: Joseph Wiley

CODES:

WASTE DESCRIPTION: ☒ Exempt Oilfield Waste ☒ Produced Water ☐ Drilling/Completion Fluids ☐ Reserve Pit

STATE: ☒ NM ☐ CO ☐ AZ ☐ UT TREATMENT/DISPOSAL METHODS: ☒ EVAPORATION ☒ INJECTION ☒ TREATING PLANT

| NO. | TRUCK | LOCATION(S) | VOLUME | COST | H2S | COST | TOTAL | TIME |
|---|---|---|---|---|---|---|---|---|
| 1 | | El Paso | 10 | .75 | | | '16 MAY 23 | 11:17 AM |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |

I, Norman Hattley representitive or authorized agent for the above generator and hauler hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination that the above described waste is RCRA Exempt, Oil field wastes generated from oil and gas exploration and production operations and not mixed with non-exempt waste.

☒ Approved ☐ Denied ATTENDANT SIGNATURE

san juan reproduction 188-6

BASIN DISPOSAL

200 MONTANA, BLOOMFIELD, NM
505-632-8936 or 505-334-3013
Open 24 Hours per Day

NO. 663981
NMOCD PERMIT: NM -001-0005
Oil Field Waste Document, Form C138
INVOICE:

DATE 5-25-16

DEL. TKT#.

GENERATOR: El Paso

BILL TO: ~~El Paso~~ MWH

HAULING CO. El Paso

DRIVER: Brad Barton
(Print Full Name)

ORDERED BY: Joseph Wiley

CODES:

WASTE DESCRIPTION: ☒ Exempt Oilfield Waste ☑ Produced Water ☐ Drilling/Completion Fluids ☐ Reserve Pit

STATE: ☑ NM ☐ CO ☐ AZ ☐ UT TREATMENT/DISPOSAL METHODS: ☒ EVAPORATION ☒ INJECTION ☒ TREATING PLANT

| NO. | TRUCK | LOCATION(S) | VOLUME | COST | H2S | COST | TOTAL | TIME |
|---|---|---|---|---|---|---|---|---|
| 1 | | El Paso | 2 gals | | | | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |

I, Brad Barton representitive or authorized agent for the above generator and hauler hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination that the above described waste is RCRA Exempt, Oil field wastes generated from oil and gas exploration and production operations and not mixed with non-exempt waste.

☑ Approved ☐ Denied

ATTENDANT SIGNATURE

san juan reproduction 168-6

# APPENDIX D

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: 400-120426-1
Client Project/Site: Hammond #41A

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

Attn: Steve Varsa

*Authorized for release by:*
*4/30/2016 10:39:32 AM*

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: 400-120426-1

## 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: Hammond #41A

TestAmerica Job ID: 400-120426-1

## Job ID: 400-120426-1

### Laboratory: TestAmerica Pensacola

**Narrative**

**Job Narrative**
**400-120426-1**

**Comments**
No additional comments.

**Receipt**
The samples were received on 4/19/2016 9:43 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.9º C.

**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: Hammond #41A

TestAmerica Job ID: 400-120426-1

## Client Sample ID: TRIP BLANK — Lab Sample ID: 400-120426-1

No Detections.

## Client Sample ID: MW-4 — Lab Sample ID: 400-120426-2

| Analyte | Result | Qualifier | RL | | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | 15 | | 1.0 | | ug/L | 1 | | 8021B | Total/NA |
| Xylenes, Total | 7.0 | | 5.0 | | ug/L | 1 | | 8021B | Total/NA |

This Detection Summary does not include radiochemical test results.

# Sample Summary

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

TestAmerica Job ID: 400-120426-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---|---|---|---|---|
| 400-120426-1 | TRIP BLANK | Water | 04/17/16 08:00 | 04/19/16 09:43 |
| 400-120426-2 | MW-4 | Water | 04/17/16 13:10 | 04/19/16 09:43 |

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

TestAmerica Job ID: 400-120426-1

**Client Sample ID: TRIP BLANK**
**Date Collected: 04/17/16 08:00**
**Date Received: 04/19/16 09:43**

**Lab Sample ID: 400-120426-1**
**Matrix: Water**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <1.0 | | 1.0 | | ug/L | | | 04/28/16 14:56 | 1 |
| Ethylbenzene | <1.0 | | 1.0 | | ug/L | | | 04/28/16 14:56 | 1 |
| Toluene | <5.0 | | 5.0 | | ug/L | | | 04/28/16 14:56 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | | ug/L | | | 04/28/16 14:56 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *a,a,a-Trifluorotoluene (pid)* | *96* | | *78 - 124* | | *04/28/16 14:56* | *1* |

**Client Sample ID: MW-4**
**Date Collected: 04/17/16 13:10**
**Date Received: 04/19/16 09:43**

**Lab Sample ID: 400-120426-2**
**Matrix: Water**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <1.0 | | 1.0 | | ug/L | | | 04/28/16 15:59 | 1 |
| **Ethylbenzene** | **15** | | 1.0 | | ug/L | | | 04/28/16 15:59 | 1 |
| Toluene | <5.0 | | 5.0 | | ug/L | | | 04/28/16 15:59 | 1 |
| **Xylenes, Total** | **7.0** | | 5.0 | | ug/L | | | 04/28/16 15:59 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *a,a,a-Trifluorotoluene (pid)* | *99* | | *78 - 124* | | *04/28/16 15:59* | *1* |

# QC Association Summary

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

TestAmerica Job ID: 400-120426-1

## GC VOA

### Analysis Batch: 303834

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 400-120426-1 | TRIP BLANK | Total/NA | Water | 8021B | |
| 400-120426-2 | MW-4 | Total/NA | Water | 8021B | |
| 400-120426-2 MS | MW-4 | Total/NA | Water | 8021B | |
| 400-120426-2 MSD | MW-4 | Total/NA | Water | 8021B | |
| LCS 400-303834/1001 | Lab Control Sample | Total/NA | Water | 8021B | |
| MB 400-303834/3 | Method Blank | Total/NA | Water | 8021B | |

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

### Lab Sample ID: MB 400-303834/3
**Matrix: Water**
**Analysis Batch: 303834**

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

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <1.0 | | 1.0 | | ug/L | | | 04/28/16 13:53 | 1 |
| Ethylbenzene | <1.0 | | 1.0 | | ug/L | | | 04/28/16 13:53 | 1 |
| Toluene | <5.0 | | 5.0 | | ug/L | | | 04/28/16 13:53 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | | ug/L | | | 04/28/16 13:53 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *a,a,a-Trifluorotoluene (pid)* | *95* | | *78 - 124* | | *04/28/16 13:53* | *1* |

### Lab Sample ID: LCS 400-303834/1001
**Matrix: Water**
**Analysis Batch: 303834**

**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 | 46.7 | | ug/L | | 93 | 85 - 115 | | |
| Ethylbenzene | | | 50.0 | 48.4 | | ug/L | | 97 | 85 - 115 | | |
| Toluene | | | 50.0 | 48.1 | | ug/L | | 96 | 85 - 115 | | |
| Xylenes, Total | | | 150 | 143 | | ug/L | | 95 | 85 - 115 | | |

| *Surrogate* | | | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|---|---|
| *a,a,a-Trifluorotoluene (pid)* | | | *104* | | *78 - 124* |

### Lab Sample ID: 400-120426-2 MS
**Matrix: Water**
**Analysis Batch: 303834**

**Client Sample ID: MW-4**
**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 | 49.0 | | ug/L | | 97 | 44 - 150 | | |
| Ethylbenzene | 15 | | 50.0 | 64.8 | | ug/L | | 99 | 70 - 142 | | |
| Toluene | <5.0 | | 50.0 | 49.2 | | ug/L | | 98 | 69 - 136 | | |
| Xylenes, Total | 7.0 | | 150 | 156 | | ug/L | | 99 | 68 - 142 | | |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *a,a,a-Trifluorotoluene (pid)* | *101* | | *78 - 124* |

### Lab Sample ID: 400-120426-2 MSD
**Matrix: Water**
**Analysis Batch: 303834**

**Client Sample ID: MW-4**
**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 | 48.0 | | ug/L | | 95 | 44 - 150 | 2 | 16 |
| Ethylbenzene | 15 | | 50.0 | 62.8 | | ug/L | | 95 | 70 - 142 | 3 | 16 |
| Toluene | <5.0 | | 50.0 | 47.2 | | ug/L | | 94 | 69 - 136 | 4 | 16 |
| Xylenes, Total | 7.0 | | 150 | 152 | | ug/L | | 97 | 68 - 142 | 2 | 15 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *a,a,a-Trifluorotoluene (pid)* | *101* | | *78 - 124* |

# Lab Chronicle

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

TestAmerica Job ID: 400-120426-1

## Client Sample ID: TRIP BLANK

**Lab Sample ID: 400-120426-1**
**Matrix: Water**
**Date Collected: 04/17/16 08:00**
**Date Received: 04/19/16 09:43**

| 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 | 303834 | 04/28/16 14:56 | MKA | TAL PEN |
| | Instrument ID: CH_CAROL | | | | | | | | | |

## Client Sample ID: MW-4

**Lab Sample ID: 400-120426-2**
**Matrix: Water**
**Date Collected: 04/17/16 13:10**
**Date Received: 04/19/16 09:43**

| 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 | 303834 | 04/28/16 15:59 | MKA | TAL PEN |
| | Instrument ID: CH_CAROL | | | | | | | | | |

**Laboratory References:**

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

# Certification Summary

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

TestAmerica Job ID: 400-120426-1

## 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 | 06-30-16 |
| Arizona | State Program | 9 | AZ0710 | 01-11-17 |
| Arkansas DEQ | State Program | 6 | 88-0689 | 09-01-16 |
| California | ELAP | 9 | 2510 | 03-31-18 |
| 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 | 05-31-16 * |
| Kentucky (UST) | State Program | 4 | 53 | 06-30-16 |
| Kentucky (WW) | State Program | 4 | 98030 | 12-31-16 |
| 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 | 12-31-16 |
| Oklahoma | State Program | 6 | 9810 | 08-31-16 |
| Pennsylvania | NELAP | 3 | 68-00467 | 01-31-17 |
| Rhode Island | State Program | 1 | LAO00307 | 12-30-16 |
| 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 |

* Certification renewal pending - certification considered valid.

# Method Summary

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

TestAmerica Job ID: 400-120426-1

| 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

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: Brad Bartlett / Clint Oberbroeckling | Lab PM: Edwards, Marty P | Carrier Tracking No(s): | COC No: 400-54745-21701.1 |
|---|---|---|---|---|
| Client Contact: Ms. Sarah Gardner | Phone: 316 634 1738 | E-Mail: marty.edwards@testamericainc.com | | Page: Page 1 of 1 |
| Company: MWH Americas Inc | | Analysis Requested | | Job #: |

| | | |
|---|---|---|
| Address: 1560 Broadway Suite 1800 | Due Date Requested: Per ARF | Preservation Codes: |
| City: Denver | TAT Requested (days): Per ARF | 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 - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify) |
| State, Zip: CO, 80202 | | |
| Phone: 303-291-2239(Tel) | PO #: Purchase Order Requested | |
| Email: sarah.gardner@mwhglobal.com | WO#: ARF # ERG-MWH-03-30-15-CWO-01 | |
| Project Name: Hammond #41A | Project #: 40005479 | |
| Site: Hammond #41A | SSOW#: | Other: |

400-120426 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) | 8021B - BTEX 8021 | Preservation Code: | Total Number of containers | Special Instructions/Note: |
|---|---|---|---|---|---|---|---|---|
| Trip Blank | 4/17/16 | 0800 | — | Water | N | N 2 | 2 | Per ARF |
| MW-4 | 4/17/16 | 1310 | G | Water | N | N 2 | 2 | |
| | | | | ~~Water~~ | | | | |
| | | | | ~~Water~~ | | | | |
| | | | | ~~Water~~ | | | | |
| | | | | ~~Water~~ | | | | |
| | | | | ~~Water~~ | | | | |

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

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

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

Special Instructions/QC Requirements: Per ARF

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

| Relinquished by: | Date/Time: | Company | Received by: | Date/Time: | Company |
|---|---|---|---|---|---|
| | | | | | |
| Brad Bartlett | 4/18/16 1530 | MWH | Fed Ex office | 4/18/16 1530 | Fed Ex |
| Fed Ex | 4/19/16 — | Fed Ex | | 4/19/16 0943 | TA |

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

Cooler Temperature(s) °C and Other Remarks: 29°C IR-5 IR-2 4/19

Page 14 of 15

4/30/2016

# Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 400-120426-1

**Login Number: 120426**
**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. | 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 | 2.9°C IR-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 (excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

# ANALYTICAL REPORT

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

TestAmerica Job ID: 400-128861-1
Client Project/Site: Hammond #41A

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

Attn: Ms. Sarah Gardner

Carol M Webb

*Authorized for release by:*
*10/27/2016 10:17:41 AM*

Carol Webb, Project Manager II
(850)471-6250
carol.webb@testamericainc.com

# Table of Contents

# Definitions/Glossary

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

TestAmerica Job ID: 400-128861-1

## 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: 400-128861-1

### Laboratory: TestAmerica Pensacola

**Narrative**

**Job Narrative**
**400-128861-1**

**Comments**
No additional comments.

**Receipt**
The samples were received on 10/18/2016 9:11 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.1° C.

**GC 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.

# Detection Summary

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

TestAmerica Job ID: 400-128861-1

## Client Sample ID: MW-1R — Lab Sample ID: 400-128861-1

No Detections.

## Client Sample ID: MW-2R — Lab Sample ID: 400-128861-2

No Detections.

## Client Sample ID: MW-3R — Lab Sample ID: 400-128861-3

No Detections.

## Client Sample ID: MW-4 — Lab Sample ID: 400-128861-4

| Analyte | Result | Qualifier | RL | | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | 2.0 | | 1.0 | | ug/L | 1 | | 8021B | Total/NA |
| Ethylbenzene | 18 | | 1.0 | | ug/L | 1 | | 8021B | Total/NA |

## Client Sample ID: MW-5 — Lab Sample ID: 400-128861-5

| Analyte | Result | Qualifier | RL | | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | 1.9 | | 1.0 | | ug/L | 1 | | 8021B | Total/NA |
| Xylenes, Total | 5.0 | | 5.0 | | ug/L | 1 | | 8021B | Total/NA |

## Client Sample ID: MW-6 — Lab Sample ID: 400-128861-6

No Detections.

## Client Sample ID: MW-7 — Lab Sample ID: 400-128861-7

No Detections.

## Client Sample ID: TB — Lab Sample ID: 400-128861-8

No Detections.

This Detection Summary does not include radiochemical test results.

# Sample Summary

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

TestAmerica Job ID: 400-128861-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---|---|---|---|---|
| 400-128861-1 | MW-1R | Water | 10/15/16 11:30 | 10/18/16 09:11 |
| 400-128861-2 | MW-2R | Water | 10/15/16 11:34 | 10/18/16 09:11 |
| 400-128861-3 | MW-3R | Water | 10/15/16 11:39 | 10/18/16 09:11 |
| 400-128861-4 | MW-4 | Water | 10/15/16 11:44 | 10/18/16 09:11 |
| 400-128861-5 | MW-5 | Water | 10/15/16 11:48 | 10/18/16 09:11 |
| 400-128861-6 | MW-6 | Water | 10/15/16 11:52 | 10/18/16 09:11 |
| 400-128861-7 | MW-7 | Water | 10/15/16 11:55 | 10/18/16 09:11 |
| 400-128861-8 | TB | Water | 10/15/16 00:00 | 10/18/16 09:11 |

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

TestAmerica Job ID: 400-128861-1

**Client Sample ID: MW-1R**
**Date Collected: 10/15/16 11:30**
**Date Received: 10/18/16 09:11**

**Lab Sample ID: 400-128861-1**
**Matrix: Water**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <1.0 | | 1.0 | | ug/L | | | 10/26/16 08:55 | 1 |
| Ethylbenzene | <1.0 | | 1.0 | | ug/L | | | 10/26/16 08:55 | 1 |
| Toluene | <5.0 | | 5.0 | | ug/L | | | 10/26/16 08:55 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | | ug/L | | | 10/26/16 08:55 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *a,a,a-Trifluorotoluene (pid)* | *94* | | *78 - 124* | | *10/26/16 08:55* | *1* |

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

TestAmerica Job ID: 400-128861-1

**Client Sample ID: MW-2R**
**Date Collected: 10/15/16 11:34**
**Date Received: 10/18/16 09:11**

**Lab Sample ID: 400-128861-2**
**Matrix: Water**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <1.0 | | 1.0 | | ug/L | | | 10/26/16 09:30 | 1 |
| Ethylbenzene | <1.0 | | 1.0 | | ug/L | | | 10/26/16 09:30 | 1 |
| Toluene | <5.0 | | 5.0 | | ug/L | | | 10/26/16 09:30 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | | ug/L | | | 10/26/16 09:30 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *a,a,a-Trifluorotoluene (pid)* | *94* | | *78 - 124* | | *10/26/16 09:30* | *1* |

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

TestAmerica Job ID: 400-128861-1

**Client Sample ID: MW-3R**
**Date Collected: 10/15/16 11:39**
**Date Received: 10/18/16 09:11**

**Lab Sample ID: 400-128861-3**
**Matrix: Water**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <1.0 | | 1.0 | | ug/L | | | 10/26/16 10:05 | 1 |
| Ethylbenzene | <1.0 | | 1.0 | | ug/L | | | 10/26/16 10:05 | 1 |
| Toluene | <5.0 | | 5.0 | | ug/L | | | 10/26/16 10:05 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | | ug/L | | | 10/26/16 10:05 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *a,a,a-Trifluorotoluene (pid)* | *94* | | *78 - 124* | | *10/26/16 10:05* | *1* |

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

TestAmerica Job ID: 400-128861-1

**Client Sample ID: MW-4**
**Date Collected: 10/15/16 11:44**
**Date Received: 10/18/16 09:11**

**Lab Sample ID: 400-128861-4**
**Matrix: Water**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Benzene** | **2.0** | | 1.0 | | ug/L | | | 10/26/16 10:38 | 1 |
| **Ethylbenzene** | **18** | | 1.0 | | ug/L | | | 10/26/16 10:38 | 1 |
| Toluene | <5.0 | | 5.0 | | ug/L | | | 10/26/16 10:38 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | | ug/L | | | 10/26/16 10:38 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *a,a,a-Trifluorotoluene (pid)* | *100* | | *78 - 124* | | *10/26/16 10:38* | *1* |

**Client Sample ID: MW-5**
**Date Collected: 10/15/16 11:48**
**Date Received: 10/18/16 09:11**

**Lab Sample ID: 400-128861-5**
**Matrix: Water**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <1.0 | | 1.0 | | ug/L | | | 10/26/16 11:13 | 1 |
| **Ethylbenzene** | **1.9** | | 1.0 | | ug/L | | | 10/26/16 11:13 | 1 |
| Toluene | <5.0 | | 5.0 | | ug/L | | | 10/26/16 11:13 | 1 |
| **Xylenes, Total** | **5.0** | | 5.0 | | ug/L | | | 10/26/16 11:13 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *a,a,a-Trifluorotoluene (pid)* | *98* | | *78 - 124* | | *10/26/16 11:13* | *1* |

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

TestAmerica Job ID: 400-128861-1

**Client Sample ID: MW-6**
**Date Collected: 10/15/16 11:52**
**Date Received: 10/18/16 09:11**

**Lab Sample ID: 400-128861-6**
**Matrix: Water**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <1.0 | | 1.0 | | ug/L | | | 10/26/16 11:48 | 1 |
| Ethylbenzene | <1.0 | | 1.0 | | ug/L | | | 10/26/16 11:48 | 1 |
| Toluene | <5.0 | | 5.0 | | ug/L | | | 10/26/16 11:48 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | | ug/L | | | 10/26/16 11:48 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *a,a,a-Trifluorotoluene (pid)* | *95* | | *78 - 124* | | *10/26/16 11:48* | *1* |

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

TestAmerica Job ID: 400-128861-1

**Client Sample ID: MW-7**
**Date Collected: 10/15/16 11:55**
**Date Received: 10/18/16 09:11**

**Lab Sample ID: 400-128861-7**
**Matrix: Water**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <1.0 | | 1.0 | | ug/L | | | 10/26/16 12:23 | 1 |
| Ethylbenzene | <1.0 | | 1.0 | | ug/L | | | 10/26/16 12:23 | 1 |
| Toluene | <5.0 | | 5.0 | | ug/L | | | 10/26/16 12:23 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | | ug/L | | | 10/26/16 12:23 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *a,a,a-Trifluorotoluene (pid)* | *94* | | *78 - 124* | | *10/26/16 12:23* | *1* |

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

TestAmerica Job ID: 400-128861-1

**Client Sample ID: TB**
**Date Collected: 10/15/16 00:00**
**Date Received: 10/18/16 09:11**

**Lab Sample ID: 400-128861-8**
**Matrix: Water**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <1.0 | | 1.0 | | ug/L | | | 10/26/16 02:26 | 1 |
| Ethylbenzene | <1.0 | | 1.0 | | ug/L | | | 10/26/16 02:26 | 1 |
| Toluene | <5.0 | | 5.0 | | ug/L | | | 10/26/16 02:26 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | | ug/L | | | 10/26/16 02:26 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *a,a,a-Trifluorotoluene (pid)* | *94* | | *78 - 124* | | *10/26/16 02:26* | *1* |

# QC Association Summary

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

TestAmerica Job ID: 400-128861-1

## GC VOA

### Analysis Batch: 328221

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 400-128861-1 | MW-1R | Total/NA | Water | 8021B | |
| 400-128861-2 | MW-2R | Total/NA | Water | 8021B | |
| 400-128861-3 | MW-3R | Total/NA | Water | 8021B | |
| 400-128861-4 | MW-4 | Total/NA | Water | 8021B | |
| 400-128861-5 | MW-5 | Total/NA | Water | 8021B | |
| 400-128861-6 | MW-6 | Total/NA | Water | 8021B | |
| 400-128861-7 | MW-7 | Total/NA | Water | 8021B | |
| 400-128861-8 | TB | Total/NA | Water | 8021B | |
| MB 400-328221/2 | Method Blank | Total/NA | Water | 8021B | |
| LCS 400-328221/1001 | Lab Control Sample | Total/NA | Water | 8021B | |
| 400-128860-A-1 MS | Matrix Spike | Total/NA | Water | 8021B | |
| 400-128860-A-1 MSD | Matrix Spike Duplicate | Total/NA | Water | 8021B | |

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

### Lab Sample ID: MB 400-328221/2
**Matrix: Water**
**Analysis Batch: 328221**

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

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <1.0 | | 1.0 | | ug/L | | | 10/26/16 01:14 | 1 |
| Ethylbenzene | <1.0 | | 1.0 | | ug/L | | | 10/26/16 01:14 | 1 |
| Toluene | <5.0 | | 5.0 | | ug/L | | | 10/26/16 01:14 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | | ug/L | | | 10/26/16 01:14 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *a,a,a-Trifluorotoluene (pid)* | *95* | | *78 - 124* | | *10/26/16 01:14* | *1* |

### Lab Sample ID: LCS 400-328221/1001
**Matrix: Water**
**Analysis Batch: 328221**

**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 | 45.8 | | ug/L | | 92 | 85 - 115 | | |
| Ethylbenzene | | | 50.0 | 46.8 | | ug/L | | 94 | 85 - 115 | | |
| Toluene | | | 50.0 | 46.8 | | ug/L | | 94 | 85 - 115 | | |
| Xylenes, Total | | | 150 | 137 | | ug/L | | 91 | 85 - 115 | | |

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

### Lab Sample ID: 400-128860-A-1 MS
**Matrix: Water**
**Analysis Batch: 328221**

**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 | 36 | | 50.0 | 93.5 | | ug/L | | 115 | 44 - 150 | | |
| Ethylbenzene | 180 | | 50.0 | 225 | | ug/L | | 94 | 70 - 142 | | |
| Toluene | 33 | | 50.0 | 90.6 | | ug/L | | 116 | 69 - 136 | | |
| Xylenes, Total | 72 | | 150 | 233 | | ug/L | | 108 | 68 - 142 | | |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *a,a,a-Trifluorotoluene (pid)* | *94* | | *78 - 124* |

### Lab Sample ID: 400-128860-A-1 MSD
**Matrix: Water**
**Analysis Batch: 328221**

**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 | 36 | | 50.0 | 92.2 | | ug/L | | 113 | 44 - 150 | 1 | 16 |
| Ethylbenzene | 180 | | 50.0 | 245 | | ug/L | | 134 | 70 - 142 | 9 | 16 |
| Toluene | 33 | | 50.0 | 92.3 | | ug/L | | 119 | 69 - 136 | 2 | 16 |
| Xylenes, Total | 72 | | 150 | 240 | | ug/L | | 112 | 68 - 142 | 3 | 15 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *a,a,a-Trifluorotoluene (pid)* | *86* | | *78 - 124* |

# Lab Chronicle

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

TestAmerica Job ID: 400-128861-1

## Client Sample ID: MW-1R
**Date Collected: 10/15/16 11:30**
**Date Received: 10/18/16 09:11**

## Lab Sample ID: 400-128861-1
**Matrix: Water**

| 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 | 328221 | 10/26/16 08:55 | SAB | TAL PEN |
| | Instrument ID: CH_JOAN | | | | | | | | | |

## Client Sample ID: MW-2R
**Date Collected: 10/15/16 11:34**
**Date Received: 10/18/16 09:11**

## Lab Sample ID: 400-128861-2
**Matrix: Water**

| 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 | 328221 | 10/26/16 09:30 | SAB | TAL PEN |
| | Instrument ID: CH_JOAN | | | | | | | | | |

## Client Sample ID: MW-3R
**Date Collected: 10/15/16 11:39**
**Date Received: 10/18/16 09:11**

## Lab Sample ID: 400-128861-3
**Matrix: Water**

| 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 | 328221 | 10/26/16 10:05 | SAB | TAL PEN |
| | Instrument ID: CH_JOAN | | | | | | | | | |

## Client Sample ID: MW-4
**Date Collected: 10/15/16 11:44**
**Date Received: 10/18/16 09:11**

## Lab Sample ID: 400-128861-4
**Matrix: Water**

| 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 | 328221 | 10/26/16 10:38 | SAB | TAL PEN |
| | Instrument ID: CH_JOAN | | | | | | | | | |

## Client Sample ID: MW-5
**Date Collected: 10/15/16 11:48**
**Date Received: 10/18/16 09:11**

## Lab Sample ID: 400-128861-5
**Matrix: Water**

| 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 | 328221 | 10/26/16 11:13 | SAB | TAL PEN |
| | Instrument ID: CH_JOAN | | | | | | | | | |

## Client Sample ID: MW-6
**Date Collected: 10/15/16 11:52**
**Date Received: 10/18/16 09:11**

## Lab Sample ID: 400-128861-6
**Matrix: Water**

| 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 | 328221 | 10/26/16 11:48 | SAB | TAL PEN |
| | Instrument ID: CH_JOAN | | | | | | | | | |

# Lab Chronicle

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

TestAmerica Job ID: 400-128861-1

## Client Sample ID: MW-7

**Lab Sample ID: 400-128861-7**

**Date Collected: 10/15/16 11:55**

**Matrix: Water**

**Date Received: 10/18/16 09:11**

| 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 | 328221 | 10/26/16 12:23 | SAB | TAL PEN |
| | Instrument ID: CH_JOAN | | | | | | | | | |

## Client Sample ID: TB

**Lab Sample ID: 400-128861-8**

**Date Collected: 10/15/16 00:00**

**Matrix: Water**

**Date Received: 10/18/16 09:11**

| 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 | 328221 | 10/26/16 02:26 | SAB | TAL PEN |
| | Instrument ID: CH_JOAN | | | | | | | | | |

**Laboratory References:**

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

# Certification Summary

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

TestAmerica Job ID: 400-128861-1

## 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 | 06-30-17 |
| Arizona | State Program | 9 | AZ0710 | 01-11-17 |
| Arkansas DEQ | State Program | 6 | 88-0689 | 09-01-17 |
| California | ELAP | 9 | 2510 | 03-31-18 |
| Florida | NELAP | 4 | E81010 | 06-30-17 |
| Georgia | State Program | 4 | N/A | 06-30-17 |
| Illinois | NELAP | 5 | 200041 | 10-09-17 |
| Iowa | State Program | 7 | 367 | 08-01-18 |
| Kansas | NELAP | 7 | E-10253 | 10-31-17 |
| Kentucky (UST) | State Program | 4 | 53 | 06-30-17 |
| Kentucky (WW) | State Program | 4 | 98030 | 12-31-16 |
| Louisiana | NELAP | 6 | 30976 | 06-30-17 |
| Maryland | State Program | 3 | 233 | 09-30-17 |
| Massachusetts | State Program | 1 | M-FL094 | 06-30-17 |
| Michigan | State Program | 5 | 9912 | 05-06-17 |
| New Jersey | NELAP | 2 | FL006 | 06-30-17 |
| North Carolina (WW/SW) | State Program | 4 | 314 | 12-31-16 |
| Oklahoma | State Program | 6 | 9810 | 08-31-17 |
| Pennsylvania | NELAP | 3 | 68-00467 | 01-31-17 |
| Rhode Island | State Program | 1 | LAO00307 | 12-30-16 |
| South Carolina | State Program | 4 | 96026 | 06-30-16 * |
| Tennessee | State Program | 4 | TN02907 | 06-30-17 |
| Texas | NELAP | 6 | T104704286-16-10 | 09-30-17 |
| USDA | Federal | | P330-16-00172 | 05-24-19 |
| Virginia | NELAP | 3 | 460166 | 06-14-17 |
| Washington | State Program | 10 | C915 | 05-15-17 |
| West Virginia DEP | State Program | 3 | 136 | 06-30-17 |

* Certification renewal pending - certification considered valid.

# Method Summary

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

TestAmerica Job ID: 400-128861-1

| 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

SERIAL NUMBER: 80983

681-Atlanta

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10/27/2016

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: EPC GP
ADDRESS:
PAGE: 1 OF 1

PROJECT NAME: Hammond
PROJECT NO.: 105088834
CLIENT PROJECT MANAGER: Clint Oberbroeckling
PROJECT LOC. (STATE): NM

SAMPLED BY: CWO
~~CONTRACT / P.O. NO.~~ ARF #: ERG-MWH-09-23-16-CWO-01
CLIENT PHONE: 5157104299
CLIENT E-MAIL OR FAX:

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

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

REQUESTED ANALYSIS: 13TEX 8021B

400-128861 COC

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

NO. OF COOLERS PER SHIPMENT:

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 | SPECIAL INSTRUCTIONS/ CONDITIONS OF RECEIPT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/16 | 1130 | MW-1R | | X | | | | | | | | | X | | | | 2 | |
| | 1134 | MW-2R | | X | | | | | | | | | X | | | | 2 | |
| | 1139 | MW-3R | | X | | | | | | | | | X | | | | 2 | |
| | 1144 | MW-4 | | X | | | | | | | | | X | | | | 2 | |
| | 1148 | MW-5 | | X | | | | | | | | | X | | | | 2 | |
| | 1152 | MW-6 | | X | | | | | | | | | X | | | | 2 | |
| | 1155 | MW-7 | | X | | | | | | | | | X | | | | 2 | |
| ↓ | ← | TB | | X | | | | | | | | | X | | | | 2 | |

| RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME |
|---|---|---|---|---|---|---|---|---|
| EMPTY CONTAINERS | | | | 10/17/16 | 0800 | | | |
| 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: |
|---|---|---|---|---|---|
| | 10/18/16 | 0911 | △ YES △ NO | | 2.1°C IR6 |

TAL-8251 (1207)

# Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 400-128861-1

**Login Number: 128861**
**List Number: 1**
**Creator: Chambers, Cheryle A**

**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 | 2.1°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 (excluding tests with immediate HTs) | 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 | |